DUFAY IN ANALYSIS OR — WHO INVENTED THE TRIAD?

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A word of caution

This paper evolved from a Graduate Seminar directed by Margaret Bent at Princeton University during the Fall of 1988, thus owing something to both her scholarship and her provocative insights into the thorny subject being covered. It is presented here with only minor cuts, corrections and clarifications, retaining essentially the same contents, form, and faults, of the 1989 version; a minimal bibliographical update is given at the end. It is a typically youthful work: doctrinal, judgmental, rebellious, unbalanced, hurriedly argued, too intricate and disjunct to follow easily, and yet ambitious, far-reaching and proudly innovative. The title is to be heard as if 'Defying Analysis'. In fact, Dufay is here both the subject and the pretext for a redefinition of analytical concepts used to describe fourteenth- and fifteenth-century polyphony. It upholds two-voice counterpoint as the main theoretical reference (in the wake of Apfel, Crocker and Bent, among others) against analytical approaches based on the recognition of chords (the Besseler-Lowinsky school followed by Blackburn), but criticizes both Bent's and Blackburn's competing views of *res facta*. Once this has been done, it is paradoxically shown that in one particular context, Dufay's use of perfect triads already implies the concept of chord. The irony is that the analytical bias, opposed to Lowinsky's stand, paves the way for the acknowledgment of his intuition concerning the ultimate origins of tonal materials. Too much of a burden for a first-year student; and consequently, the paper remained unpublished until I decided that it was time to assume its paternity, in spite of all its shortcomings. It is now your opportunity to judge it: like every youth, it is hard to come to terms with; but the effort, I hope, will not be without reward.

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1. *Introduction*

The type of analysis I am here concerned with is both musicological and historically-oriented. By 'musicological', I mean having music as its object and reasoning as its form of validation. By 'historically-oriented', I mean aimed at the understanding of music as experienced by people who used it in the past as a means of communication. The latter definition implies that I am interested not only in music as a sound product, but also in its inception, perception and meaningfulness; my object is, in short, music as a cultural phenomenon.[1]

Let me then ask: 'How was a certain kind of music heard by those who operated it as culture?' We should bear in mind that our perception and understanding of music which originated in a different historical context does not necessarily coincide with the historical agents' experience of it. We may safely assume that there are psychological invariants operating in music, but these do not prevent musical experience from being shaped by culturally-based mental schemes. There is no more neutral listening than there is neutral conceptualization. In fact, active hearing cannot be isolated from inherited concepts about music. It rests on stable stances and expectations, unconscious though they may be; these involve constructs (like 'melody') that give rise to perception strategies. Once we realize this and identify the conceptual framework of a certain

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[1] The questions 'How did this music sound?' and 'How did this musical circle hear it?' can be taken independently, but seeking answers for one of them often yields clues to the other. Choosing here to address one at a time, privileging the latter, is but a methodological strategy; eventually the former question will come to the fore.

listening experience, we can try to suspend one's own listening categories, and search for evidence of those that were in use among particular historical agents.[2]

It is possible, for instance, to use contemporary written sources, such as music theory. Theory should, however, be historically evaluated; for a writer is a historical agent and is no more neutral than we are. From what intellectual or pedagogical tradition does he stem? What is his relationship to particular musical centres and musicians? How biased or representative of contemporary musical thinking are his statements? No writer should be quoted as an authority unless the position he occupies in relation to the particular context we are studying has been established as authoritative.

Musicologists face still another problem: even if a certain corpus of music theory has been shown to be relevant to the repertory analysed, it can not be assumed that this corpus includes all those concepts involved in the process of communication that are needed to make sense of the music. Theory as written, with certain needs in view, cannot be equated with theory as implied in the musical activity. Every musical tradition, as modern ethnomusicology has shown, takes for granted a part of its theory; some fail to verbalize it; others are reluctant to write it down. Historically-oriented analysis can show not only how acknowledged theory operates in the music, but also what other hidden concepts may be operating in it.

Let us take counterpoint as an example of acknowledged theory for two-part composition in early Renaissance clerical and courtly circles. Many aspects of polyphonic writing in the fifteenth century can be explained as instances of contrapuntal procedures. Yet the musical results aimed at by the composers can imply concepts that in no way derive from the techniques used. And it is also possible that composers experimented with unconventional techniques. The problem here is: how are we to recognize the cases that escape the given theoretical framework, and how are we to describe them?

Counterpoint, in late Medieval and early Renaissance sources, gives two-part rules that imply a certain amount of predictability. Yet three- or more part writing on the basis of counterpoint is largely unpredictable, making more evident the ever-changing dimensions of style and taste. Our expectations concerning multiple-part composition are moulded not by written theory alone, but also by acquaintance with works analysable as contrapuntal in technique within a certain time-period, which defines limits for stylistic change. If a regularly occurring musical characteristic is not predictable on the basis either of contrapuntal theory or of the related style, one can plausibly suppose that another kind of compositional approach is implied. Our description of what may be implied can use either concepts taken from another family of contemporary theoretical writing, or concepts not documented at the time. But if we accept

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[2] This is incidentally the way I once learned to love jazz.

Skinner's remark that «to employ a concept is always to appraise and classify our experience from a particular perspective and in a particular way»,[3] we should be careful not to use concepts that imply an improbable listening focus or more musical characteristics than those observed, unless alternatives are not available to us, for this could easily be misleading.[4]

I do not claim that an adequate description can recover a lost conceptual reality; it can at best get us closer to it. Adequacy is correspondence, not reflection: intended homology, not equality. An adequate historical approach sets hypotheses that try to meet the available information on a chosen subject and can be put into use, allowing further refinement, redefinition, or rejection. Making sense out of history means, then, for musicology, confront it with workable and sound hypotheses.[5] Since descriptive tools are among the hypotheses most easily mistaken for axioms, one should be especially careful when using them.[6]

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[3] Quentin SKINNER, 'A reply to my critics' in *Meaning and Context: Quentin Skinner and His Critics*, ed. James Tully, Cambridge, 1988, pp. 231-288 [249].

[4] For instance, adopting the symbolic expression 'V – I' to characterize a fifteenth-century cadence in which the penultimate and last lowest notes are a descending fifth or an ascending fourth apart as defended by Don Michael RANDEL, 'Emerging Triadic Tonality in the Fifteenth Century' *The Musical Quarterly*, 57, 1971, pp. 73-86, may be misleading, for 'V – I' implies a listening stance that privileges the lower voice movement at the expense of the cadence-defining contrapuntal progression. The expression could be used to describe just a pattern of sound but since its historical significance is not taken into account and a tonal-like listening attitude is easily implied, it naturally leads us to substitute a tonal story for the historically documented listening focus. See also Leeman L. PERKINS, 'Mode and Structure in the Masses of Josquin' *Journal of the American Musicological Society*, 26, 1973, p. 195, n.23.

[5] The simpler the hypothesis, the easier its application and development, which is not to say the more akin to truth; nor does an elegant formulation have to do with truth at all, only with intellectual attractiveness and communicative punch. A hypothesis presupposing that musical history is encapsulated in scores, and that its notes are all the information we need to account for (as in RANDEL, 'Emerging Triadic Tonality…', cit.) can be pleasingly simple and elegant; but if we realize that music is a socially-based, cultural phenomenon and not a pattern of sound alone, such a hypothesis can hardly claim to be historically adequate. Randel is of course aware of the problem; yet he chooses to remove it from sight by stating that «the problem is not just that the eighteenth-century's vocabulary is somehow inadequate for talking about fifteenth-century music, but that it may also be inadequate for talking about eighteenth-century music» (RANDEL, 'Emerging Triadic Tonality…, p. 81). If everything is fiction, Randel seems to reason, let us be assumed fictionists. Musicology would thus essentially link recognizable musical features in a familiar way, selected information being integrated in our world by being allowed to articulate its vocabulary and play upon its contours. To this static story-telling attitude I am here opposing the standpoint of history-making: using all information relevant to the scrutinized musical phenomena, musicology goes beyond our world only to provide it with an wider horizon that enhances both self-consciousness and sensitivity to otherness, elevating the human condition from an immediate context-determined stance to a more universal one.

[6] Benjamin BORETZ, 'Meta-Variations: Studies in the Foundations of Musical Thought (I)' *Perspectives of New Music*, 8, 1969, pp. 1-74, has dealt with this problem. Two of his statements are here to be recalled: «[...] inseparability of the 'fact' from its relational description is perhaps the principal contribution of twentieth-century philosophy to all fields whose domains are empirical phenomena of any kind, and its recognition makes it impossible to sustain an intellectual attitude that ignores conditions, standards, or characteristics of discourse in confronting 'objects of thought'[...] As to what basis exists for asserting that the thing is 'there', or even to distinguish 'it' as a 'thing', a rigorous relativism requires one to admit that all musical 'things' more complex than the single 'atomic sound-element' are, precisely, inferred complexes of such 'sound-elements' interpreted as 'significative events'. But even the decision as to the sizes of the 'degree-slices' in the various perceptual-dimension continua that will determine what counts as

2. 'Tonal' framework[7]

2.1 The quest for the origins of modern tonality lead some musicologists to approach sixteenth- and fifteenth-century music from the point of view of tonal theory.[8] The analogies arrived at fail however to provide convincing historical explanations, either because the characteristics dealt with are predictable on the basis of Renaissance theory, or because the concepts involved in the analogy imply more than can be historically shown to apply.[9] The question nevertheless remains, 'where does Renaissance polyphonic music stand in what concerns overall pitch-organization?' The compositions by Guillaume Dufay (c.1400-1474) have been analysed by several historically-oriented scholars from this point of view.

2.2 Leo Treitler and Patricia Carpenter have attempted to uncover the overall pitch-organization principles embodied in Dufay's music (its 'tonal' framework) on the basis of late-medieval and fifteenth-century modal theory.[10] This theoretical corpus is certainly relevant to melodic analysis,

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a 'simple' (or rather what will be the least degree of discernible difference among sound-events that will be also considered to represent a 'syntactical' distinction), is ultimately an 'interpretative' matter as well [...]» (pp. 9, 46).

[7] I will be using 'tonal' in the general sense of 'characterized by a hierarchical and/or functional overall pitch organization', as opposed to tonal: exhibiting the principles of modern tonality. By 'modern tonality' I mean the tonal system in use in Western music since about the end of the seventeenth-century.

[8] Among them Heinrich BESSELER (*Bourdon und Fauxbourdon: Studien zum Ursprung der niederländischen Musik*, Leipzig, 1950), Edward E. LOWINSKY (*Tonality and Atonality in Sixteenth-Century Music*, Berkeley, 1961, and 'Canon Technique and Simultaneous Conception in Fifteenth-Century Music: A Comparison of North and South' in *Essays on the Music of J. S. Bach and Other Divers Subjects: A Tribute to Gerhard Herz*, ed. Robert L. Weaver, New York, 1981, pp. 181-222), Wolfgang MARGGRAF ('Tonalität und Harmonik in der französischen Chanson zwischen Machaut und Dufay' *Archiv für Musikwissenschaft*, 23, 1966, pp. 11-31) and Massimo MILA (*Guillaume Dufay, I: Canzoni e Mottetti*, Torino, 1972). To give only one example, in his 1981 article Lowinsky stated that three sections of Dufay's motet *Nuper rosarum flores* share a harmonic plan, step for step, with only minor variations, the emphasis on tonic, dominant, relative major and its dominant illustrating a «strong tonal tendency». He felt justified in his account because although he recognized that Dufay's technique is not to be equated with later harmonic thought, «the sonorous effect is the same» (p. 190). Sonorous effect alone is however, as I just pointed out, nothing but the raw material of music perception. A musical phenomenon implies a culture-based listening framework. Just playing the notes from a fifteenth-century motet on the piano, or singing them, or having a computer do it, produces a pattern of sound events, yet it is our mind that turns it into a musical phenomenon, and gives support to a comparison of musical phenomena.

[9] Musicologists like Rudolf von FICKER ('Zur Schöpfungsgeschichte des Fauxbourdon' *Acta Musicologica*, 23, 1951, pp. 93-123), Bernhard MEIER ('Die Harmonik im cantus-firmus-haltigen Satz des 15. Jahrhunderts' *Archiv für Musikwissenschaft*, 9, 1952, pp. 27-44), Ernst APFEL ('Der klangiche Satz und der freie Diskantsatz im 15. Jahrhundert' *Archiv für Musikwissenschaft*, 12, 1955, pp. 297-313, and 'Über den vierstimmigen Satz im 14. und 15. Jahrhundert' *Archiv für Musikwissenschaft*, 18, 1961, pp. 34-51), Richard CROCKER ('Discant, Counterpoint, and Harmony' *Journal of the American Musicological Society*, 15, 1962, pp. 1-21), Carl DAHLHAUS (*Untersuchungen über die Entstehung der harmonischen Tonalität*, Kassel, 1968) and others have criticised the tonal-oriented approach before. I feel therefore no need to elaborate further on this subjec

[10] Leo TREITLER, 'Tone System in the Secular Works of Guillaume Dufay' *Journal of the American Musicological Society*, 18, 1965, pp. 131-169, 440; Patricia CARPENTER, 'Tonal Coherence in a Motet of Dufay' *Journal of Music Theory*, 17, 1973, pp. 2-65.

but one should not expect it to provide undisputable analytical clues for polyphonic 'tonal' construction; the rare authors who mentioned the possibility of polyphony being subject to modal contrivances did not elaborate much on the subject.[11] Among them, Tinctoris has the most detailed remarks. In the twenty-fourth chapter of his *Liber de natura et proprietate tonorum* (written in 1476 in Naples) he states that

> commixture and mixture of tones are made not only in plainsong [*simplici cantu*] but also in composed [song], so that if the music [*cantus*] be composed with two, three, four, or more parts, one part will be of one tone, another of another, one authentic, another plagal, one mixed, another commixed. Hence, when some mass or chanson [*cantilena*] or whatever other composition is made of different parts carried through in different tones, if anyone asks of what tone such a composition downrightly [*absolute*] may be, he [who is] interrogated ought to reply according to the quality of the tenor, because that is the principal part and the foundation of the whole relationship [*fundamentum totius relationis*]. And if one be asked in particular, about some part, of what tone it may be in a composition of this sort, he will reply, this [tone] or that. For, if anyone were to say to me, 'Tinctoris, I ask you, of what tone is the song [*carmen*] "Le Serviteur"?' [by Dufay], I would reply 'in general [*universaliter*], of an irregular first tone [*c* protus authentic], because the tenor, the principal part of the song, is of such a tone'. If however he were to ask in particular, of what tone the superius or contratenor might be, I would reply in particular, [that] the one and the other were of the second tone, also irregular [*c* protus plagal].

In his *Liber de arte contrapuncti* (1477), Tinctoris postulates that the making of a cadence should take mode into account:

> The fifth rule [of counterpoint] is that above absolutely no note, be it medium, superior, or inferior, should a [concluding] perfection be taken by which a deviation from its mode [*distonatio*] can happen.[12]

Apart from these passages, there is very little in fourteenth- and fifteenth-century theory that can elucidate the relationship between mode and polyphony. Moreover, the statements quoted are problematic. When defining in general of what tone is such and such a composition, Tinctoris may be answering not to the question 'what is the overall principle of pitch-organization in this song?' but to the question 'what to say in short about this song's modality?', which would justify his reductionist answer. Choosing the contrapuntally central tenor as reference does not imply, as Harold Powers remarks, that this is the chief melodic part or the first to be written down;[13] nor does it suggest that <mark>Tinctoris saw less of a distinction between authentic and plagal modes</mark> in

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[11] See Harold S. POWERS, 'Mode' in *The New Grove Dictionary of Music and Musicians*, ed. Stanley Sadie, 6th ed., 20 vols., London, 1980, vol. 12, pp. 376-450, and id., 'Tonal types and Modal Categories in Renaissance Polyphony' *Journal of the American Musicological Society*, 34, 1981, pp. 428-470.

[12] TINCTORIS, *Liber de natura et proprietate tonorum*, xxiv; *Liber de arte contrapuncti*, III, v (edition *Johannes Tinctoris: Opera theoretica*, 3 vols., ed. Albert Seay, Corpus scriptorum de musica 22, n.p., 1975, pp. 85-86, 150). Translation by Harold S. POWERS, 'Mode', cit., pp. 400-401, reproduced with minor changes.

[13] POWERS, 'Mode', cit.

polyphony than in plainchant. Bernhard Meier states that in songs by Dufay included in the MS Porto 714 the primacy belongs to the superius, not to the tenor part, which puts in doubt the analytical value of Tinctoris's generalization; on the other hand, he proposes that these compositions exhibit a rhetorical use of modal affect that tends to unify text and melody, a hypothesis that removes modal usage from the domain of 'tonal' structure to that of detailed melodic shape.[14]

2.3 In fact, modern scholars may be too eager to classify polyphonic pieces under 'tonal' headings; did early Renaissance music follow pre-compositional 'tonal' schemes? Treitler's analysis of eighty secular works by Dufay concludes that different voices in the same piece can be seen as belonging to the same pentachord-tetrachord pair, which would result in «a number of discrete tonalities which tend to be marked by final, range distribution of parts, and signature».[15] Patricia Carpenter's claim that 'tonal' coherence in Dufay's motet *Nuper rosarum flores* derives from 'a certain relation or "affinity" between Modes I/II and VII/VIII based on a similarity of their characteristic structural intervals', attaches this level of 'tonal' organization to individual characteristics in the piece rather than to a generalized pre-compositional scheme.[16]

Other scholars took an alternative approach to 'tonal' consistency on the basis of contrapuntal theory. Frederick J. Bashour was able to show that the overall distribution of cadential points in Dufay's secular pieces is a variable feature following a chronological pattern of its own.[17] The same year, Friedemann Otterbach pointed out that the scales implied in contrapuntal cadences constitute a more or less strongly defined 'tonal' system independent from and competing with modal organization, while Caldwell proposed that a key-scheme, supported by cadential organization provided the composer with an alternative means of 'tonal' control.[18]

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[14] Bernhard MEIER, 'Die Handschrift Porto 714 als Quelle zur Tonartenlehre des 15. Jahrhunderts' *Musica Disciplina*, 7, 1953, pp. 175-197, analyses the following songs by Dufay: *Je triumphe de cruel duel, Adieu m'amour, Va t'en mon cuer*, *Per le reguard de vos beaux yeux*, and *Qu'est devenue leaulté*. These rondeau settings are considered by David FALLOWS, *Dufay*, 2nd ed., New York, 1988, to be late in Dufay's career; he dates them after 1450.

[15] TREITLER, 'Tone System…', pp. 166-167.

[16] CARPENTER, 'Tonal Coherence…', p. 47.

[17] Frederick Joseph BASHOUR, *A Model for the Analysis of Structural Levels and Tonal Movement in Compositions of the Fifteenth Century*, Ph.D. diss., Yale University, 1975. Bashour's interpretation of the data pays tribute to the Schenkerian concept of prolongation; his analysis is nonetheless based on fifteenth-century contrapuntal theory.

[18] Friedemann OTTERBACH, *Kadenzierung und Tonalität im Kantilenensatz Dufays*, Freiburger Schriften zur Musikwissenschaft VII, München, Salzburg, 1975, pp. 56 ff., especially 69, 95; John CALDWELL, 'Some Aspects of Tonal Language in Music of the Fifteenth and Sixteenth Centuries' *Proceedings of the Royal Musical Association*, 110, 1983-1984, pp. 10 ff.

3. 'Successive' versus 'simultaneous' composition

3.1 The concepts of 'successive' and 'simultaneous' composition have been pervasive tools in discussions of Renaissance music ever since they were first introduced by Edward Lowinsky on the basis of early theoretical statements about compositional successive procedures (in late medieval and Renaissance sources) and compositional global thinking (in sixteenth-century sources).[19] Yet these concepts can be criticized as originally ambiguous; as having often been used improperly; and as being not supple enough as analytical or descriptive devices.

Ambiguity can be illustrated by quoting *The New Harvard Dictionary of Music* on successive composition: «A process of composition in which voices or parts are largely composed one after another rather than more or less simultaneously and with a view to the harmonies created from moment to moment by all parts at once». Successive composition is thus primarily characterized as a process, but by being presented in opposition to both simultaneous procedures and simultaneous conception, it is secondarily characterized as a class of musical thinking. The dual nature of the concepts is confirmed by the frequent shift in musicological arguments, since their introduction by Lowinsky, between the expressions 'simultaneous composition' and 'simultaneous conception', 'successive composition' and 'successive conception', used indistinctively as synonyms. Not surprisingly, such a dual nature enabled these concepts to be used in connection with two distinct controversies: that over the origins of score notation and that over the origins of triadic thinking (sometimes too readily and unjustifiably understood as an instance of tonal harmonic thinking) — adding to confusion between different historical issues. Equating 'simultaneous' conception or composition with 'harmonic' conception, and 'successive' with non-harmonic conception, or having the former concept exclusively associated with the Renaissance and the latter with the Middle Ages, raises more historical problems than it solves narrative ones. This kind of conceptual misuse is dealt with in the continuation of the above entry: «Some music of the Middle Ages seems to have been composed in this [successive] way, and the Renaissance has sometimes been characterized as the result in part of a shift to simultaneous composition. This view is made plausible by the remarks of some theorists and the absence of scores from before about 1500. The music of these periods suggests, however, that the distinction has often been too rigidly applied and that the control of simultaneities is as careful in much music from well before 1500 as it is in music composed thereafter».

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[19] See Edward E. LOWINSKY, 'The Concept of Physical and Musical Space in the Renaissance (A Preliminary Sketch)' *Papers of the American Musicological Society, Annual Meeting, 1941*, n. p., 1946, pp. 66-68, and id., 'On the Use of Scores by Sixteenth-Century Musicians' *Journal of the American Musicological Society*, 1, 1948, pp. 20-22.

In addition to being ambiguous and loaded with misleading associations, the opposition 'successive' versus 'simultaneous' is, in the present author's view, too limiting as an analytical and descriptive tool. The following discussion of Tinctoris's statements on counterpoint and *res facta* will attempt both to show these limitations and suggest how to overcome them through a new set of conceptual distinctions.

3.2.1 The expressions *res facta* and *cantare super librum*, found in Tinctoris's *Liber de arte contrapuncti* (1477), have been long understood by modern scholars as standing respectively for written composition and uncontrived improvisation on a given tenor. Ernest T. Ferand first acknowledged that this interpretation is hardly supported by Tinctoris's own definitions, problematic as they may be. Tinctoris states, in brief, that counterpoint is made either in writing or in the mind; that counterpoint mentally generated is said to be sung upon the book, in which case it suffices that each part be consonant with the tenor (although variety between them is to be praised); and finally, that written counterpoint is commonly called *res facta*, although this differs from counterpoint in that in *res facta* all parts are mutually obliged to each other.[20] Alerted by Ferand's remark, Margaret Bent proposed a new explanation of the terms based on Tinctoris's treatise and on his *Diffinitorium*.[21] She rightly remarks that «our heavy dependence on writing as a means of preserving and transmitting music, serving us as a substitute for both memory and aural control, should not blind us to the possibility of music fully or sufficiently conceived but nevertheless unwritten»; and reminds us that «to sing music from written notation required knowledge of the same rules of measure and consonance that would have governed music devised in the singer's own head. In both cases, he had to listen to what was going on and to use his knowledge of counterpoint in order to respond and adjust to what he heard. The singer thus neither merely sang the written notes nor departed from them, but, using them as a starting point, he applied his knowledge of counterpoint and *musica ficta*, familiarity with the piece gained in rehearsal, experience of the style, and aural judgment, to the end of making the music sound

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[20] See Ernest T. FERAND, 'What is "Res facta"?' *Journal of the American Musicological Society,* 10, 1957, pp. 141-150. The most relevant passages in Tinctoris's treatise are as follows: «[...] tam simplex quam diminutus contrapunctus dupliciter fit, hoc est aut scripto aut mente. Contrapunctus qui scripto fit communiter resfacta nominatur. At istum quem mentaliter conficimus absolute contrapunctum vocamus, et hunc qui faciunt super librum cantare vulgariter dicitur. In hoc autem resfacta a contrapuncto potissimum differt, quod omnes partes reifacte sive tres sive quatuor sive plures sint, sibi mutuo obligentur [...] Sed duobus aut tribus, quatuor aut pluribus super librum concinentibus alter alteri non subiicitur. Enimvero cuilibet eorum circa ea, que ad legem ordinationemque concordantiarum pertinent, tenori consonare sufficit. Non tamen vituperabile immo plurimum laudabile censeo si concinentes similitudinem assumptionis ordinationisque concordantiarum inter se prudenter evitaverint[...]» (*Liber de arte contrapuncti*, II.xx; *Johannes Tinctoris: Opera theoretica*, cit., pp. 107-110, with corrections).

[21] Margaret BENT, '*Resfacta* and *Cantare Super Librum*' *Journal of the American Musicological Society*, 36, 1983, pp. 371-391.

correctly». She therefore finds it appropriate to consider «unwritten and written composition or counterpoint as stages in a continuous line of endeavour, based on the same training, rather than as the separate elements implied by our written-versus-improvised antithesis».[22]

3.2.2 This argument is convincing as it stands. But Bent goes on to conclude that *super librum* singing is a successive procedure «in which only one part at a time can be added to what is already worked out, whether written or not».[23] In support of this interpretation she claims that «counterpoint was put together sucessively, as the instructions [by Tinctoris] for the use of vertical fourths show».[24] Yet his instructions — concerning *cantare super librum* — only imply that singers react to what they hear and may anticipate typical melodic moves.[25] Bent's basic assumption seems to be that any kind of counterpoint, written or unwritten, is by nature successive in procedure, even admitting that experienced composers could conflate procedural layers which normally would be successive; therefore *super librum* counterpoint must be successively worked out. This reasoning, however, rests on a fallacy, the equation of conception and procedure. What apparently prevents her from recognizing it is the ambiguity of the 'successive composition' idea. Tinctoris's instructions and his remarks on counterpoint can be thought to imply successive procedures because they imply an additive conception of polyphonic invention: since these two levels are indistinguishable in the 'successive composition' idea, one easily allows one to take over the other.

Now, if singing *super librum* is seen to be successive in procedure, it follows that it is to be considered a «carefully-structured» activity requiring «advance planning and preparation».[26] This conclusion can clarify what superficially seems to be a purely terminological issue in Bent's article: her disposal of the term 'improvisation' when describing *super librum* singing. It was not only because she had in mind the conventional idea of uncontrived improvisation that she found it necessary to deny *cantare super librum* any improvisatory character;[27] as Bonnie Blackburn remarked, the term 'improvisation' as it tends today to be understood can be used to describe largely predetermined music.[28] Dropping the term 'improvisation' seems, on the contrary, to be a negative

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[22] Bᴇɴᴛ, '*Resfacta…*', pp. 377-378.

[23] Id., pp. 387, 391.

[24] Id., p. 389.

[25] Tinctoris says, for instance, concerning the eighteenth, that «in contrapuncto non admittitur nisi aliquis multorum super librum concinentium audito ab alio infra tenorem diapente quod frequentissime in penultima nota fit, ea uti voluerit postquam immediate concordantia proximior et convenientior assumetur» (I, xv; *Johannes Tinctoris: Opera theoretica*, cit., p.74).

[26] Bᴇɴᴛ, '*Resfacta…*', pp. 387-388.

[27] According to Willi Aᴘᴇʟ, *The Harvard Dictionary of Music*, 2nd ed., Cambridge, Mass., 1969, improvisation is «the art of performing spontaneously, without the aid of manuscript, sketches, or memory».

[28] Bonnie J. Bʟᴀᴄᴋʙᴜʀɴ, 'On Compositional Process in the Fifteenth Century' *Journal of the American Musicological Society*, 40

consequence of Bent's idea of counterpoint — including its more typical manifestation, *cantare super librum* — as 'successive composition', the modern concept of composition being tradition-ally opposed to improvisation.

We may nevertheless subscribe to a slightly modified version of Bent's definition of singing upon the book as «the singing of counterpoint, following strict rules of interval combination in relation to a tenor and, with experience and skill, to other parts as well», whether 'pre-existing' or not, whether requiring «careful, successive preparation» or not.[29]

3.2.3 Concerning the concept of *res facta*, Margaret Bent rightly argues that it is not distinguished from *cantare super librum* or counterpoint in general «by being written as opposed to unwritten»; the difference between the two, she continues, «is that the parts of *res facta* are 'mutually obliged' with respect to the law and ordering of consonances, while the minimum requirement for *cantare super librum* is that each voice be consonant with the tenor, not needing to be subject to other voices».[30] So far, there is no difficulty: Tinctoris is correctly paraphrased. But the fact that Tinctoris, in his *Diffinitorium*, does not mention writing in the definition of *cantus compositus* (= *res facta*) or of what a compositor does, should not prevent us, as Bent implies, from trying to identify *res facta* as being written or non-written.[31]

Can we deduce from the propositions {counterpoint can be made either in writing or in the mind}, {*res facta* differing from it in what concerns compositional requirements}, that {*res facta* can be made either in writing or in the mind}? No: since compositional requirements are not said to be the only difference between counterpoint and *res facta*, the latter might also differ from counterpoint in how it can be made. Are there any clues supporting the idea of a non-written *res facta*? No: on the contrary, both the term and its common (mis)use as meaning written counter-point suggest that it properly refers to a certain kind of written composition. One can then assume that *res facta* normally was a written composition. To summarize, according to Tinctoris, *res facta* differs from counterpoint not because one is written and the other is not (one probably is, the other could be), but because it is a polyphonic piece in which all the relationships between the voices are under consideration by the composer.

1987, p. 258. In Bruno NETTL, 'Thoughts on Improvisation: A Comparative Approach' *The Musical Quarterly*, 60, 1974, pp. 1-19, one already finds the explicit idea of polyphonic improvisation in which «the model may be a tune sung by one voice (against which the other is to improvise) and a set of allowable harmonic intervals as well as their characteristic sequences» (p. 12). See also Lawrence GUSHEE, 'Analytical Method and Compositional Process in Some Thirteenth and Fourteenth-Century Music' *Forum Musicologicum*, 3, 1982, pp. 165-191, and NETTL, 'Improvisation, extemporization' in *New Harvard Dictionary of Music*, ed. Don Michael Randel, Cambridge, Mass., 1986, pp. 392-394.

[29] BENT, '*Resfacta*…', p. 391; the original definition states «[...] to other pre-existing parts as well».

[30] BENT, '*Resfacta*…', pp. 383, 390.

[31] Id., p. 380.

This definition relates to the 'non-quartal style' found in a substantial number of polyphonic compositions written between c.1460 and c.1520. Charles Warren Fox characterized it as one where there are no essential fourths between any pair of voices.[32] This degree of consonance control implies 'mutual obligation' between all the voices and can hardly be achieved without visually checking each polyphonic part. That Tinctoris — a contemporary of the style — had primarily other characteristics in view is proved by the licenses granted to *res facta* concerning the use of the fourth; but given a non-quartal piece, one cannot but classify it under the *res facta* heading, for the compositional demands it implies perfectly meet Tinctoris's definition.

Such a general definition is nevertheless open to more than one interpretation, and naturally so. Margaret Bent feels that although «the 'mutual obligation' of the parts in *res facta* almost suggests that we might find here a statement about simultaneous conception [...] none of Tinctoris's examples of *res facta* gives us a good justification for claiming that they have broken with the successive principles that so clearly apply to his "pure" counterpoint».[33] From a different point of view, Bonnie Blackburn suggests that what Tinctoris is describing is a process of 'harmonic composition' in which «no matter where the parts are put together, they must be carefully adjusted so that no improper dissonances appear between any of the voices».[34]

Let us first consider Blackburn's idea of *res facta* as implying 'harmonic' thinking: a compositional approach that follows dissonance rules embracing relationships between more than two voices. For her, «we should be able to tell whether a composition has been written successively or harmonically by the composer's treatment of dissonance. If there are no contrapuntal faults between the voices, then the composition was most likely written harmonically».[35] If we analyse Tinctoris's examples from this point of view, we may find sevenths between the upper voices in those illustrating *res facta* (e.g. II, xx, m. 14) and *super librum* singing (III, iv, m. 5) as well as nonqualified diminished counterpoint (II, xxiii, mm. 2, 4, 6...). These are not contrapuntal faults, of course, being a result of step-wise resolving suspensions; we obviously missed the point. What Blackburn means is that whenever three- or more part polyphony breaks the dissonance rules set by Tinctoris, it mirrors successive, note-against-note composition; what this implies is that correct three- or more part polyphony is to be equated with *res facta*, i. e. 'harmonic' thinking. Therefore, all three- or more part examples in Tinctoris's treatise are to be taken as *res facta*, irrespective of their being originally classified as *res facta* or counterpoint, which is of course untenable. Yet

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[32] Charles Warren Fox, 'Non-Quartal Harmony in the Renaissance' *The Musical Quarterly*, 31, 1945, pp. 33-53. See, besides Fox, Ernst Apfel, *Grundlagen einer Geschichte der Satztechnik vom 13. bis zum 16. Jahrhundert*, 1, Saarbrücken, 1974, pp. 216-217.

[33] Bent, '*Resfacta*…', p. 387.

[34] Blackburn, 'On Compositional Process…', p. 266.

[35] Id., p. 267.

Blackburn goes on to say that «if the upper voices form fourths with the tenor we can be sure that the composer was proceeding harmonically — assuming that a lower voice turns those fourths into consonances».[36] A fourth above the tenor, followed by a concord, is, however, something that Tinctoris explicitly associates with collective singing upon the book, which makes it hard to accept as a feature proper to *res facta*.

Why did not Blackburn compare the examples of *cantare super librum* with those of *res facta* in order to uncover their objective differences? Concentrating on Tinctoris's definitory statements, she relied on the 'successive-versus-simultaneous' antithesis as a clue to their interpretation. Equating counterpoint with 'successive composition',[37] she identified the contrast between counterpoint and *res facta* with the contrast between 'successive' and 'simultaneous' conceptions. And since for her 'simultaneous conception' is more or less synonymous with 'harmonic conception', *res facta* was identified as an instance of harmonic thinking. Lastly, finding that Tinctoris's dissonance rules provided an appropriate yardstick for harmonic analysis, she imposed on the concept of *res facta* a content solely derived from her own assumptions.

3.2.4 It should by now be clear how misleading can the 'successive-versus-simultaneous' antithesis be. It is time to introduce a new set of distinctions designed to help us deal with fifteenth-century sources.

In the first place we should distinguish between two planes: (i) polyphonic invention and (ii) polyphonic conception. Polyphonic invention embraces (i.i) the singing of non-written counterpoint, (i.ii) composing in writing new counterpoint and (i.iii) the making of *res facta*. Polyphonic conception may be characterized as being (ii.i) additive, (ii.ii) integrative or (ii.iii) concomitant. 'Additive' denotes a conception in which two voices are worked out to make complete contrapuntal sense, other voices being added to this core duo as potentially disposable textural developments. 'Integrative' refers to the cases where two voices together make almost complete contrapuntal sense, another part or parts being sometimes integrated in the contrapuntal skeleton to fulfil particular needs or expectations like «absence of fourths between the lower voices» or «cadences forming 6-8, 10-8 or 3-1 intervallic progressions».[38] 'Concomitant' I take to mean a conception that evenly distributes contrapuntal functions among more than two voices or that

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[36] Ibid.

[37] Blackburn, 'On Compositional Process…', p. 252.

[38] These cases are quite frequent, for instance, in pieces including a *solus* tenor. On this subject see Andrew Hughes, 'Some Notes on the Early Fifteenth-Century Contratenor' *Music & Letters*, 50, 1969, pp. 376-387, and Margaret Bent, 'Some Factors in the Control of Consonance and Sonority: Successive Composition and the *Solus* Tenor' in *International Musicological Society: Report of the Twelfth Congress, Berkeley, 1977*, Kassel, 1981, pp. 625-634.

otherwise can be shown to evade a two-part structural framework. Mixed conceptions are to be considered as well. These different classes of polyphonic conception are to be taken as abstract categories with no value judgment or chronological implication attached to them. Additive conception underlies some of the most admirable Western polyphonic art up to the early fifteenth-century. Integrative conception is already found in Machault, as pointed out by Kurt von Fischer and Ernst Apfel.[39] Machault can illustrate concomitant conception as well: his rondeau "Ma fin est mon commencement" is a clear, albeit exceptional, expression of it. Mensural canons should also be considered concomitant in conception.

Secondly, one should distinguish invention (the act of producing anew) from procedure (the way of producing). Singing upon the book may have involved successive procedures, but professional singers would probably not need to work it out that way; they could have used instead a convergent procedure similar to what we find in jazz performance today. Writing newly-composed counterpoint would probably imply a successive procedure. The making of *res facta* under a non-concomitant conception would plausibly imply a successive procedure,[40] but we really do not know much nor can we assume much about compositional procedures under a concomitant conception; even in the absence of scores, composers could use instruments or imagination to work out more than two voices at the same time, or they could still work them out successively, keeping in mind the parts already composed as well as those to be composed.

If we now confront Tinctoris's examples of *super librum* singing[41] with those of *res facta*,[42] we will find that the former seems to follow stricter rules for intervals below the tenor than the latter (there appear no intervals other than the 3rd, the 5th and the octave). This certainly relates to the fact that, as remarked by Margaret Bent, «more licenses are granted [by Tinctoris] to *resfacta* than to counterpoint».[43] Collective singing upon the book also allows more parallel movement than *cantus compositus*.This confirms what was already implied in Tinctoris's remarks on the avoidance of similarity in improvised counterpoint: that *res facta* pursues textural variety. In what concerns underlying conception of polyphony in the *res facta* examples, we find mirrored in them both

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[39] Kurt von FISCHER, 'On the Technique, Origin, and Evolution of Italian Trecento Music' *The Musical Quarterly*, 47, 1961, pp. 41-57; APFEL, *Grundlagen…*, cit.

[40] My assuming written counterpoint and the writing of *res facta* under non-concomitant conceptions as successive in procedure stems from Margaret Bent's 1981 discussion of compositional scores being absent from fifteenth-century musical and theoretical sources. A recent and [in 1989] yet unpublished paper by Bonnie Blackburn presented to the AMS 1988 meeting in Baltimore adduced some new data about the use of scores in the sixteenth-century, while reporting an interesting historical debate on the art of composition. However nothing in it directly supports the idea of a score providing partial control of simultaneities in fifteenth-century compositional practice.

[41] Book I, chapters v, x, xv; and III, iv.

[42] Book I, chapters v, x, xv; II, xx; and III, iii, vi. Other examples are either qualified as counterpoint or not explicitly labeled.

[43] BENT, '*Resfacta…*', p. 386.

additive and integrative approaches. The five-part composition in Book II, chapter xx (Example 1) is instructive in this respect. Cadential 6-8 progressions from measures 6 to 7, 12 to 13, 14 to 15,

EXAMPLE 1. Tinctoris, *Liber de arte contrapuncti*, cap. xx

and 18 to 19 between tenor and superius establish these voices as constituting the core contrapuntal duo in this piece. A pattern also emerges of contrapuntal periods being framed by multiples

of two measures (2+4+6+2+4) until the final sonority is reached. As a symptom of an integrative conception we have the *countertenor primus* supporting an otherwise dissonant fourth between the main parts in measure 8, and the initial contrapuntal role of the other countertenor voices, which replace the tenor/superius duo before they enter at measure 3. These countertenor voices (*secundus* and *tertius*) are called forth afterwards to shape the above-mentioned periodic symmetry, but the core duo plus *countertenor primus* remain contrapuntally self-sufficient. Musically, the three secondary parts all contribute to build the sense of a two-measure metrical frame by participating in regularly spaced cadential gestures between the main contrapuntal punctuations: the countertenor *secundus* forms 6-8 progressions with the *tertius* and the tenor respectively from measures 2 to 3 and 10 to 11, and the *tertius* participates in a syncopated 3-1 progression with the superius from measures 16 to 17. We can thus conclude that this piece is typically integrative in conception, while nothing in it indicates that the compositional procedure implied was unconventional, which seems to confirm Bent's diagnosis of *res facta* as not necessarily involving a concomitant polyphonic conception or procedures other than sucessive.

To summarize our observations about *res facta*, we can affirm that this concept normally refers to a complete written composition in which the interdependence of parts concerning both the use of concords according to contrapuntal rules (supported fourths, allowed intervalic progressions...) and their overall arrangement in time (regular, periodic spacing of cadences...) is enhanced; and in which textural variety (non-parallelism, flexibility in choosing intervals) is pursued.

4. *Relative sonority and triadic thinking*

4.1 The expression 'relative sonority', coined in 1949 by Oliver Strunk to be used with reference to three- or four-part polyphony, is to be understood «as meaning the frequency of the complete triad, or — more precisely — the ratio between the duration of the three- or four-part writing as a whole and the duration of that fraction of it during which the complete triad is, as Zarlino puts it, 'actively present'».[44] Strunk's study shows that there was a gradual increase in 'relative sonority' between c.1450 and c.1550, which is interpreted as being «in some measure dependent upon other style-changes that were taking place at the same time» like «the expansion of the normal

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[44] Oliver STRUNK, 'Relative Sonority as a Factor in Style-Critical Analysis [1450-1550]' *Studi musicali*, 2, 1973 (repr. in id., *Essays on Music in the Western World*, New York, 1974), p. 71.

complement of voices from three to four and four to five [...] the simplification of the rhythmic detail, the stylization of the dissonance».[45] However, «as an unconscious habit, a result of routine, a part of the composer's métier, [relative sonority] can be expected to remain relatively stable in the work of a particular individual at a particular time, little affected by the varying conditions of composition. And precisely because it is involuntary and relatively stable, it can provide a basis for comparing things otherwise scarcely comparable».[46] The author finally proposes that, among other uses, the measurement of 'relative sonority' in works of known authorship «should prove a useful and reasonably dependable means for establishing a rough chronological sequence».[47]

Strunk's words are as lucid an account of sonority changes in Renaissance music as one can expect. His idea of sonorous fullness as a result of compositional habits related to other style-changes should prevent our claiming a distinctive conceptual status for compositions conspicu-ously full in sonority, unless (i) this feature is demonstrably atypical for a certain composer at a certain time and (ii) contrapuntal principles are unable to account for it. Don M. Randel, reccur-ing to the concept of 'inversion', remarked that the major and minor perfect triads and their in-versions happen to be the only aggregates of more than two pitch-class elements which can be derived, without involving a dissonance, from the consonances acknowledged in the fifteenth-cen-tury.[48] (It is also worth noting that the triad in root-position includes thirds, which have long been considered consonances, whereas its non-quartal inversions require a larger ambitus and in-volve sixths, traditionally taken to be closer to dissonance and which Tinctoris, in spite of *fauxbourdon*'s precedent, still feels, heard by themselves, are somewhat harsh[49]). It is then not surprising to find, along with the expansion of normal polyphonic texture and the growing enforcement of contrary motion rules in *res facta* composition related to it, a gradual increase in relative sonority in fif-teenth-century music, which privileges the most concordant and potentially supple triadic forma-tion, that in root position.

4.2 I have been using the concepts 'triad' and 'triad inversion' as labor-saving descriptive devices with no ontological implications. Yet the hierarchical kinship between these two concepts in-evitably moulds our vision of what is being referred to. Strunk's 'complete triad' is the perfect major or minor triad in root position; his concept of 'full sonority' has nothing to do with what

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[45] Id., pp. 71, 73.

[46] Id., p. 72.

[47] Id., p. 78.

[48] Don Michael RANDEL, 'Emerging Triadic Tonality…', pp. 78-79.

[49] «Porro omnis sexta, sive perfecta sive imperfecta, sive superior sive inferior fuerit, apud antiquos discordantia rep-utabatur, et ut vera fatear, aurium mearum iudicio per se audita, hoc est sola, plus habet asperitatis quam dulcedinis». Book I, chapter vii (*Johannes Tinctoris: Opera theoretica*, cit., p. 33).

we call a triad inversion. In this he is conforming to Zarlino's statement that «[...] è necessario [...] che nella Compositione perfetta si ritrovino sempre in atto la Quinta, & la Terza, ouer le loro Replicate».[50] Yet when I first read Strunk on 'relative sonority' I thought he was referring to triadic formations regardless of position. It is very difficult to separate the concept 'triad' from the concept of 'triad inversion'. Nevertheless the reasons for doing so are strong. A triad in second inversion would have been considered dissonant in the early sixteenth century, and a triad in first inversion would then have fulfilled, as we will shortly see, a function that betrays its 'imperfection'. It is therefore inadequate to suppose a kinship between these three formations. Accordingly, I will confine my use of 'triad' and 'triadic' to mean respectively a perfect triad in root position and what relates to it. But since a triad is a chord, I will be still supposing that my object can be adequately described as such. Before I attempt to show under what conditions this might be the case, the more neutral expression 'full sonority' will be preferred.

It is however worth asking why full sonority before Zarlino should be seen as necessarily «involuntary» and contributing «nothing to expression», as Strunk put it.[51] His claim seems to derive from the apparent neutrality of the statistically revealed trend in 'relative sonority'. Yet the statistical reduction of an object to an idea consummated by history, if it is taken to deny the autonomy of the object, amounts to sheer idealism. Just take the chromatic trend in nineteenth-century music: it can be regarded both as increasingly consummating the idea of chromaticism, and as a part of the composer's métier, little affected by the varying conditions of composition. Can we conclude that it was 'involuntary' and contributing 'nothing to expression'? No. Nor can we assume that full sonority was meaningless for Renaissance musical circles. Was it impossible for a Renaissance composer to use sonority as colour? Or as part of his basic materials, like a building block? Putnam Aldrich remarked that «while the concept of chord progressions was unknown [...] it is fallacious to assume that musicians were not concerned with harmony, in the sense of [...] sonority of all tones sounding simultaneously at a given moment».[52] Harold S. Powers cites triads as being, together with pitch-classes, a primary 'tonal' element of Renaissance music.[53] A primary element is not merely a by-product of counterpoint that by a fortunate coincidence we are able to describe with our anachronistic analytical apparatus. It is a basic element of vocabulary and as such it can only be used voluntarily. If 'Renaissance' is taken to include most of fifteenth-

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[50] Zarlino, *Istituzioni armoniche*, III, xxxi, quoted by Strunk, 'Relative Sonority…', p. 70.

[51] Strunk, 'Relative Sonority…', p. 72.

[52] Putnam Aldrich, 'An Approach to the Analysis of Renaissance Music' *The Music Review*, 30, 1969, p. 7.

[53] Powers, 'Tonal types…', p. 428.

century music, Powers's assertion contradicts Strunk's account of the problem even more radically than Aldrich's.

The only way to support Strunk's position is to claim that since (i) the concept of perfect fullness of sound is not theoretically acknowledged before the middle of the sixteenth-century (in Dressler's and Zarlino's treatises); (ii) the idea of triad appears later still (in Avianius Isagoge [1581]); and (iii) this idea is not central to music theory before the beginning of the seventeenth-century (in Harnisch's and Lippius's systematizations),[54] a related concept would certainly not be in use as far back as the fifteenth-century. However this reasoning supposes that written theory is a fair reflection of all theory involved in more or less contemporary musical practice, which should not be assumed to be true. We must therefore conclude that, on the one hand, a relatively high full sonority in a composition may be an involuntary result of changes in style and related compositional habits; but that on the other hand, it may be a voluntary compositional feature as well, either primary or colouristic.

The problem, then, is to show how full sonority can be diagnosed as a colouring device or a primary lexical element in the absence of contemporary written theory recognizing it as such. Having suspended our own listening framework, what is there to guide us? I answer: acknowledged theory and our experience of contemporary polyphonic styles. This need not be a vicious circle. When we project a given theoretical framework on an object we have both what is illuminated and what it left in the dark. Instead of looking only at the positive image, we may as well look at the negative contour. This contour can be taken as a trace of what is there to find. If the positive image is formed on a certain plane, the negative contour will belong to this plane too. Since our sources do not allow a positive image to be formed on the plane of tone-colour, hypothesis relating to this plane will have to find support elsewhere, and will essentially be conjectural in nature. However positive images do appear at the structural level. It should then be possible to find negative traces of triadic primary elements.

4.3 To return to traditional approaches to the problem, we have Edward Lowinsky's assertion that a prevailing presence of triads in root-position in a given piece mirrors «harmonic rather than contrapuntal conception».[55] But full sonority is in no way antithetical to counterpoint, being explainable as an outcome of style-changes which occurred within its framework. It is achievable

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[54] See Benito V. RIVERA, *German Music Theory in the Early 17th Century. The Treatises of Johannes Lippius*, Ann Arbor, 1980, chapter VI, and Appendix.

[55] LOWINSKY, 'Canon Technique…', p. 182.

through both additive and integrative conceptions of polyphonic invention, using successive or convergent procedures. To contend with Lowinsky that «successive invention of voices gave place to simultaneous conception of triadic harmony with the root in the bass»[56] is to overlook, in the first place, that invention and conception belong to distinct planes, and secondly, that full sonority can be a by-product of additive and integrative polyphonic conceptions.

Lowinsky further remarked that in Dufay's *Ecclesiae militantis* (1431) «one can detect the beginnings of a harmonic texture searching for the sound of triadic harmony with the root in the bass»; and claimed that when writing *Nuper rosarum flores* in 1436 Dufay «already had a precise vision of four-part triadic harmony based on the root of the chord».[57] If we discard Lowinsky's assumption that to find triads in root position in a relatively high number implies their having been harmonically thought as triads, this amounts to observing a high relative sonority in certain passages by Dufay. Two questions nevertheless remain: (i) did Dufay conceive these passages as primarily composed of triads, or primarily composed of superposed dyads? (ii) in this last case, did he use full sonority as a colouring device? Analysis of the examples 8a, 8b, 11a and 11b given by Lowinsky shows these passages to be highly integrative in conception, which seems to support the dyadic hypothesis. There are however two striking facts in *Nuper rosarum*: (i) there is no contrapuntal cadential gesture at mm. 47-48 over the name Eugenius, marking a phrase ending: instead we find two self-sufficient full combinations;[58] and (ii) the Amen (mm. 169-70) is analysable as being almost totally composed of triads in root position.[59] Substitution of full sonority for expected contrapuntal progressions may be an indication of concomitant, primary triadic thinking. And use of full sonority immoderate in relation to what we would expect of a given composer in a given time-period may indicate that he calculated it as a meaningful effect. Yet two isolated facts constitute feeble evidence for such far-reaching claims. We need to approach Dufay's use of sonority in a less impressionistic way.

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[56] LOWINSKY, *Tonality and Atonality…*, p. 3.

[57] LOWINSKY, 'Canon Technique…', pp. 189-193.

[58] Id., example 8a, p. 215.

[59] Id., example 8b, p. 216.

5. *Dufay's use of sonority*

5.1 Finding a clear, easily observable, diachronically extended sample of Dufay's treatment of sonority posed no difficulty, since he chose to write sequences of fermata-marked simultaneities in eighteen works.[60] It is immaterial for my present analytical purposes whether or not there used to be any improvisation around their tones as suggested by Charles W. Warren,[61] since there is no reason to suppose that the meaning of the fermata-signs would affect intervallic structure. I shall later return to this subject.

Table I below lists the compositions including sequences of fermata-marked simultaneities. References between round brackets are to Besseler's edition,[62] giving the volume number and that of the work within the volume. Groups refer to Hamm's chronology of Dufay's compositions.[63]

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[60] I count as a fermata-marked passage one in which there are at least three fermata-marked succeeding simultaneities. I include among them the Gloria listed 12 by Rudolf BOCKHOLDT (*Die frühen Messenkompositionen von Guillaume Dufay*, 2 vols., Münchner Veröffentlichungen zur Musikgeschichte V, Tutzing, 1960) and 29 by BESSELER (*Guglielmi Dufay: Opera omnia*, Corpus Mensurabilis Musicae, series I, vol. iii [a]: *Missarum pars altera: apparatus criticus*, Rome, 1962) in spite of its allegedly doubtful authorship, for its fermata-passage style completely agrees with can be predicted of it on the basis of my discussion of Dufay's remaining seventeen compositions in the continuation of this chapter. Besseler, while publishing the composition among the works of doubtful authorship, already had the suspicion that it had been written by Dufay, in virtue of its general stylistic features.

[61] Charles W. WARREN, 'Punctus Organi and Cantus Coronatus in the Music of Dufay' in *Papers Read at the Dufay Quincentenary Conference, Brooklyn College (CUNY), December 6-7, 1974*, ed. Allan W. Atlas, New York, 1976, pp. 128-143, 179-181.

[62] Heinrich BESSELER, ed., *Guglielmi Dufay: Opera omnia*, 6 vols., Corpus Mensurabilis Musicae, series I, Rome, 1951-1966.

[63] Charles E. HAMM, *A Chronology of the Works of Guillaume Dufay Based on a Study of Mensural Practice*, Princeton, 1964, repr. New York, 1986. This chronology maintains to the present day [1989] its validity as a general outline, in spite of some of its details having been challenged by recent scholarship. For an almost complete bibliography on Dufay until 1986 see FALLOWS, *Dufay*, cit. Fallows himself sometimes diverges from Hamm's datings; for example, a number of pieces thought by the latter to be earlier than 1424 are referred to by the former as being possibly as late as 1430. Refinements within Hamm's proposed datings are also to be expected on the basis of codicological studies in progress or new historical hypotheses. If, for instance, the *Portugaler* contrafact of the ballade *Or me veult bien* is related to the European journey (1425-28) of the Portuguese prince D. Pedro, Hamm's *terminus ad quem* for this piece, whose relation to Dufay is problematic anyway, would be anticipated five years. This hypothesis will be pursued elsewhere.

TABLE I. Dufay works containing fermata passages

Motet *Flos florum* (i - 2)	3 voices	Group 1 (c.1415-23)
Motet *Ave virgo* (i - 3)	3 v.	
Ballade *Resvelliés vous* (vi - 11)	3 v.	
Mass *sine nomine* [*Resvelliés vous*] (ii - 1)	3 v.	
Gloria - Credo pair (iv - 4)	4 v.	
Alma redemptoris mater I (v - 47)	3 voices	Group 2 (1423–29)
Gloria (iv - 21)	3 v.	
Gloria - Credo pair (iv - 5)	4 v.	
Gloria (iv - 29)	3 voices	Group 2b (1423-33)
Alma redemptoris mater II (v - 48)	3 [4] v.	
Mass *Sancti Jacobi* (ii - 2)	2 v. (Gloria) 3 v. (Credo)	Group 3 (1426-31)
Motet *O beate Sebastiani* (i - 4)	3 voices	Group 4 (1426-33)
Motet *Supremum est mortalibus* (i - 14)	3 v.	
Sequence *Rex Omnipotens* (v - 5)	3 voices	Group 5 (1433-35)
Kyrie *Cunctipotens* (iv - 10)	3 v.	
Gloria *Spiritus et alme* (iv - 24)	3 [4] v.	
Motet *O proles Hispaniae* (i - 6)	4 voices	Group 6 (1433-45)
Mass *Ave Regina caelorum* (iii - 10)	4 [5] voices	Group 9 (c.1454-74)

5.2 I have been referring to the fermata-marked passages as being composed of simultaneities. This supposes that vertical sonority is central to their conception.[64] Homorhythm and use of long note-values may be invoked to support this assumption. 'Simultaneity' does not imply, as 'aggregate' certainly does, that the tones simultaneously sounded were conceived to go together. We can never be sure of that in additive compositions. Yet the compositions by Dufay here under consideration are non-additive in conception; with two exceptions,[65] there are reasons to think that no voice was originally conceived as a mere textural development. Take for instance Example 2: the countertenor supports two fourths between cantus and tenor, forms a 6-8 progression with the cantus over the main syllable-accent of the underlying word, and goes on to produce with the tenor the only perfect consonant interval found in the last simultaneity. Then, generally speaking, 'aggregate' seems a historically adequate term to describe these simultaneities.

'Aggregate' does however not imply, as 'chord' certainly does, that the aggregated tones were conceived as a whole, as a single element. 'Chord' also implies etymologically, an aesthetic judgment — that the tones involved produce a concordant sonority — and from usage, an analytical one — that this sonority constitutes a kind of building block. In order to find whether the concept of 'chord' is adequate or not as a descriptive tool we must approach the music with three questions in mind: (i) can such and such aggregates be taken as tone-units? (ii) are they to be viewed as concordant? and (iii) do they function as primary lexical elements? Historically adequate use of the term 'chord' pressupposes affirmative answers to each of these questions.

On what basis shall we decide of an aggregate whether or not it can historically be described as a tone-unit? Let me ask for the moment a related question: how can we know whether it is adequate to talk of simultaneously sounding dyads or of vertical intervals alone? A dyad is a subsistent collection of two tones, an interval is the relative distance between two given tones. Intervals may involve one and the same tone, but when involving two different tones these may constitute a dyad or not. In fifteenth-century music cadences made through 6-8, 13-15, 3-1 or 10-8 intervallic progressions are functionally equivalent; although the intervals differ, the same 2+1 tones are involved in each case. Cadential function correlates the two initially superposed tones; such a correlation being imprinted on memory, these tones could be subsumed under a dyadic
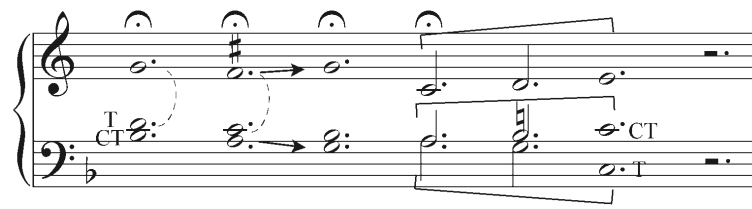
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[64] Boretz, 'Meta-Variations…', cit., classifies 'simultaneity' as a «fully observational» term in a «more-to-less observational» scale of musical terms, 'chord' and 'triad' exemplifying «theoretical language». It is not the term 'simultaneity' that implies an assumption about the nature of the musical object; what carries this implication is my stating that the object is composed of simultaneities.

[65] The Gloria/Credo pairs iv/4 and iv/5. Their countertenors seem in these passages to have been additively conceived; and besides, they produce parallel octaves otherwise absent. Concerning the Gloria/Credo pair iv/5 see also Apfel, *Grundlagen…*, p. 266.

EXAMPLE 2. *Alma redemptoris mater* II, m. 63

concept. Therefore, for each tone in a scale used as the final goal in a regular cadence it is adequate to talk of a preceding obligatory dyad. As a first criterion to distinguish tone-units from mere aggregates we have thus functional equivalence in a given context of distinct versions of a tone-collection.

When more than two notes are involved a new problem arises: part-hierarchy. This problem has been overlooked by scholars dealing with the origins of chordal formation.[66] Such a neglect allowed them to present the fourteenth-century treatise *Ars discantus secundum Johannem de Muris* as being the first to deal with chords.[67] Yet its anonymous author contrasts two kinds of superposition using exactly the same intervals, according to the position occupied by the tenor: this being the lowest voice, one is told to avoid superposing over it a major third and a major tenth; the tenor being in the middle, the same intervals (reckoned from the bottom voice) are found to be good.[68] We could symbolically represent this distinction by saying that

$$\frac{10}{3} \text{ is different from } \frac{\underline{8}}{3},$$

the dash being used to indicate the voice taken as reference.[69] These aggregates are therefore conceived as superpositions rather than as tone-units. As a second criterion

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[66] Helen E. BUSH, 'The Recognition of Chordal Formation by Early Music Theorists' *The Musical Quarterly*, 32, 1946, pp. 227-243; RIVERA, *German Music Theory…*, cit.

[67] *Scriptorum de musica medii aevi, novam seriem*, ed. Edmond de Coussemaker, Tomus III, Paris 1869 (repr. Hildesheim, 1963), pp. 68-113.

[68] Id., pp. 92-95.

[69] The same method could be used to represent other instances of contrapuntal thinking, namely cadences. Leeman PERKINS, 'Mode and Structure…', p. 227, remarked that «where the structural framework of the cadence is the contrapuntal progression of sixth to octave, the pitch in octave duplication was taken to be the cadential goal even when another pitch is written below; otherwise the lowest note of the terminating combination was given that distinction». Thus a final cadential progression traditionally described as

$$\begin{array}{ll} 10 \ 15 & 6 \ 8 \\ 8 \ 10 \quad \text{would appear as} \quad \underline{4} \ \underline{3} \\ 5 \ 8 & 5 \ 8 \end{array}$$

. The latter form allows us to easily detect the cadence-defining progression, while still clearly showing the other intervals involved.

to distinguish tone-units from mere aggregates we have thus equality in use irrespective of part-distribution.

In his fermata-marked passages, Dufay is heir to Johannes Ciconia's two-part parallel progressions in thirds, as it is clear if we compare the latter's Gloria no. 7 (3-3; 3-3-1) with the Gloria in Dufay's *Missa Sancti Jacobi* (3-3-3-5).[70] Here we find the only example of a two-part fermata sequence by the French composer; its 3-3-3-5 structure could have been the archetype for his three- and four-part fermata-marked passages. It seems judicious then not to regard this progression when occurring in a three-part context, the countertenor being the middle voice, as an internal 'projection' of a parallel sixths-to-octave structure between cantus and tenor.[71] This caution is further justified by the chronological pattern of Dufay's adherence to such a progression. In two of his earlier three-part fermata passages (Mass *sine nomine* and motet *Ave virgo*) the cantus and tenor produce a 3-3-3-5 succession. This sequence, complete or in a shortened version, is in later works carried on by tenor and countertenor (*Alma redemptoris mater* I, Gloria/Credo 4, Gloria 21) simultaneously with a parallel sixths-to-octave progression, and finally abandoned (Gloria/Credo 5, *Alma redemptoris mater* II, *O beate Sebastiani*, Kyrie *Cunctipotens*) before it is recuperated by tenor and countertenor (*Rex omnipotens*, Gloria *Spiritus et alme*) and eventually restored between cantus and tenor (motet *O proles Hispaniae*). The sequences (3-3)-3-5 and (6-6)-6-8 should therefore be viewed on the one hand, as equivalent, and on the other, as alternative.

What should we think then of superposed (3-3)-3-5 and (6-6)-6-8 progressions? How are we to decide, from these two concurrent clauses, which one is the dominant? If tenor and cantus consistently produce one of these sequences, we can chose it on contrapuntal grounds. But the succession

$$
\begin{array}{cccc}
(6 & 6 & 6 & 8 \\
3 & 3) & 3 & 5
\end{array}
$$

as used by Dufay in distinct fermata contexts[72] may be indifferent to part-distribution. For instance, in his Gloria 21 (Example 3) the lowest voice is either the tenor, the countertenor or even the cantus, while the cantus or, in this last case, the countertenor occupy the upper voice. Is Dufay using the three-sixth major or minor aggregates as tone-units? They are not interchangeable with the six-tenth aggregate and their minor or major intervallic content is not indifferent

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[70] For Ciconia's Gloria, see *The Works of Johannes Ciconia*, ed. Margaret Bent and Anne Hallmark, Polyphonic Music of the Fourteenth Century 24, Monaco, 1985, p. 40. A possible connection between parallel thirds and old organal style is hinted at by Kurt von FISCHER, 'Organal and Chordal Style in Renaissance Sacred Music: New and Little-Known Sources' in *Aspects of Medieval and Renaissance Music: a Birthday Offering to Gustave Reese*, ed. Jan LaRue, New York, 1966, pp. 173-182.

[71] As proposed in OTTERBACH, *Kadenzierung und Tonalität…*, p. 30.

[72] *Flos florum*, *Alma r. mater* I, Gloria 21, *Alma r. mater* II, *Missa Sancti Jacobi*, Gloria *Spiritus et alme*, *Rex omnipotens*, *O proles Hispaniae*.

EXAMPLE 3. Gloria iv/21, end

to a cadence-defining two-part progression, i.e. is not functionally equivalent. It can therefore be thought that the three-six aggregates constitute a secondary sonority attached to a double contrapuntal function disseminated among the voices.

If we now examine the use Dufay makes, in his fermata-marked passages, of three-tone aggregates involving intervals forming with the lowest note a major third and a perfect fifth, or a major tenth and a perfect fifth, or a major third and a perfect twelfth, or a major tenth and a perfect twelfth, or a minor third and a perfect fifth, etc., we find no functional differentiation whatsoever.[73] His use of full aggregates is also indifferent to part-distribution. It seems therefore historically adequate to describe such a triadic correlation as a subsistent single sonority.

The second question — can these full sonorities count as concordant? — is easily answerable. The intervals involved being regarded as consonances, and their superposition having no influence on their status, the resulting overall sonority would be naturally regarded as concordant. The third question — were these triadic sonorities used as primary lexical elements? — can only be positively answered if their occurrence escapes contrapuntal function, i. e. if we can ascertain their self-sufficiency. I will not be able to show in which context this might be the case unless we go on to examine in closer detail Dufay's fermata sequences.

5.3 In Dufay's fermata-marked passages the relative importance of three-tone (dense) sonority when compared with two-tone (thin) sonority depends basically on the number of voices involved. Roughly speaking, three-part textures tend to balance dense and thin sonority (Example 4a). Four-part textures generally present three dense aggregates out of four. Five-part aggregates are always dense. Yet in the case of three-part texture this is an oversimplified picture of the situation; in the ballade *Resvelliés vous* there is only one dense sonority against three thin aggregates (Example 4b), while the sequence *Rex omnipotens* presents five dense simultaneities against a couple of thin ones. On the other hand, we have already seen that what we would usually call a triad in first inversion is a secondary sonority attached to a double contrapuntal function; if we are looking for primary uses of triadic sonorities, we should consider three-sixth aggregates apart from triads in root position.

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[73] Already in the above-mentioned *Ars discantus* treatise seven simultaneities involving a third and a fifth (in close position or openly spaced) are considered to be good, two of them with the tenor as lowest voice, the others having it as middle voice:

    10 12   3   3   6   10 10
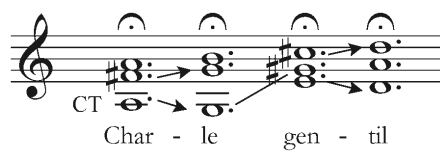   5 10   3 10 5   3   10   . The function of triadic sonorities in Dufay's fermata passages will be

clarified in the continuation of this chapter.

EXAMPLE 4. *Flos florum*, *Resvelliés vous*, *Supremum est mortalibus*, Gloria iv/21 mm. 126-128, 87-90
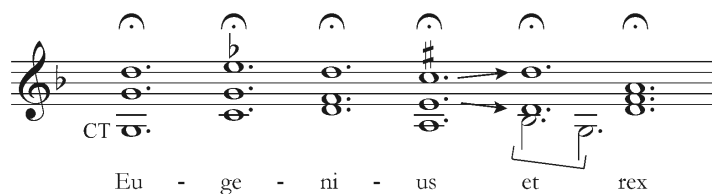
4a

Mi – se – re – re

4b

CT

Char – le   gen – til

4c

CT

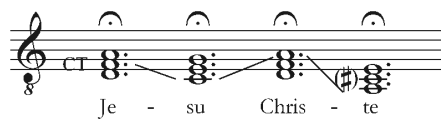Eu – ge – ni – us   et   rex

4d

CT

4e

CT
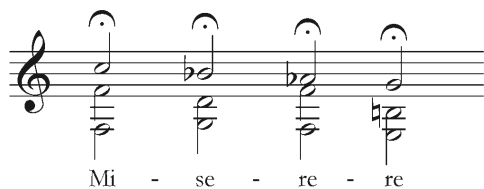
Je – su   Chris – te

A statistical survey of full versus thin sonorities in fermata-marked passages provides a slightly different and clearer picture of the situation: sequences of three-note aggregates tend to balance both types of combination or show instead an unmistakable predominance of thin sonority. Four-part textures present a clear majority of full sonority (proportion 2:1 or more). The prevailingly five-part passage in *Ave regina caelorum* has but full aggregates.

There is however one exception to this pattern. Three-part Gloria 21 has not only a relatively dense sonority (thirty-three dense aggregates against fourteen thin ones) but an unusual proportion of full sonorities (twenty-five). There is no change in texture to account for this fact. Before an explanation is proposed, let us have a look at our collection from other points of view, beginning with final or sub-final sonorities. By 'final sonority' I mean one that closes a fermata-marked passage, and by 'sub-final sonority' one that closes a section of it.

Generally speaking, sonorities preceding a sub-final pause or a contrasting intermediary section, and closing a sub-sequence of at least three aggregates are either full or thin. Neither type outnumbers decisively the other, and no clear pattern of preference emerges from their distribution. On the other hand, final sonorities are, in three-part textures, always thin. This rule still applies when a fourth, complementary part is added, as in both Gloria/Credo pairs. Exceptions to what can be interpreted as a 'final = thin sonority principle' occur (i) when the cantus divides into two; (ii) when a final sonority resolves contrapuntally into the following section, as in the motet *Supremum est mortalibus*, and most importantly, (iii) when the sixth-to-octave contrapuntal progression resolves in the penultimate, text-accented aggregate. This only happens with underlying invocations of persons: *Ave **mater*** (motet *Ave virgo*) and *Jesu **Christe*** (Mass *sine nomine*, paired Gloria 4). Moreover, for them to appear correctly stressed they must appear in isolation; if such a name is presented as a repetition or as part of a larger sentence, it will receive the contrapuntal stress on the last syllable, or none at all.[74] We realize then that a conventional musical principle is put aside by the composer if an aesthetic effect related to the underlying text is judged to apply.

Another possible analytical focus is the treatment of dissonance, namely vertical fourths (avoided between the lower voices from the late 13th century onwards, their traditionally consonant status was increasingly challenged afterwards). I will be considering here the sequences and sub-sequences composed of at least five aggregates, which excludes four compositions: the motet *Ave virgo*, the ballade *Resvelliés vous*, and the Masses *sine nomine* and *Ave regina caelorum*. If we follow an approximate chronological order, we will find that: the motet *Flos florum*, the

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[74] Here we can assume that the underlying syllables correspond to such and such an aggregate since their number is, generally speaking, the same. Unfortunately, scholars tend to overlook this elementary caution, often endangering valuable insights like those found in Don Michael RANDEL, 'Dufay the Reader' in *Music and Language: Studies in the History of Music*, I, New York, 1983, pp. 38-78.

Gloria/Credo pair no. 4 (in both the three- and four-part versions) and the first antiphon *Alma redemptoris mater* allow vertical fourths; some passages in the Gloria 21 behave in the same manner; the four-part version of the Gloria/Credo pair no. 5 uses them, but not so its three-part version; the second antiphon *Alma redemptoris mater*, the Mass *Sancti Jacobi* and the Kyrie *Cunctipotens* mostly avoid them; the motets *O beate Sebastiani* and *Supremum est mortalibus* (Example 4c) have none; and finally, the sequence *Rex omnipotens*, the Gloria *Spiritus et alme* and the motet *O proles Hispaniae* again exhibit vertical fourths. It seems then that Dufay moves gradually toward a non-quartal style (Example 4b) and then decides to set it aside.

And what about closing procedures? Regular cadential progressions are found in every composition dealt with here (Example 4b, c, d); but irregular procedures are proper to the Gloria 21, the Gloria/Credo pair no. 5, and the second antiphon *Alma redemptoris mater*. What do these procedures consist of? The closing of sub-sequences is not marked by a conventional cadential progression, but by a triadic aggregate alone (Example 4e). One can find triadic aggregates at the end of sub-sequences already in *Flos florum*; but these sub-sequences are paired to form contrapuntally closed larger units corresponding to underlying textual segments (*Pasce/**tuos**, Succure/**tuis**, Miserere/**tuorum**; bold characters indicate the goal of 6-8 progressions). Total absence of contrapuntal closing progressions is a license appearing only in works belonging to groups 2 or 2b in Hamm's chronology, thus roughly coinciding in time with Dufay's experiments in non-quartal style and with his discarding the archetypal 3-3-3-5 progression. Since the regular cadential gesture is suspended, one might ask whether its closing function is suspended too, or whether it is transferred instead to triadic sonority. The fact that Dufay uses triads in root-position both to serve as sub-final sonority and to go with an accented penultimate syllable in isolated names, just like the final aggregate of a 6-8 progression, suggests that the closing function may have been transferred, in the context of non-quartal style, to triadic sonority. But considering that in our limited sample the choice between these alternatives is not completely predictable, we should be satisfied to conclude that triadic aggregates in root-position are functioning here as self-sufficient sonorities, building blocks of a kind.

Full aggregates can thus be regarded, in fermata-marked passages dating around c. 1425-30 and c. 1435, whenever they are substituted for cadential progressions, as single, concordant and self-sufficient sonorities, i. e. as chords. In such a context it is adequate to describe them as triads. If Dufay did not invent the triad, he was certainly among the first to explore it artistically. Generally speaking it is nonetheless wise to approach triadic simultaneities as simple aggregates. Now, however, once the self-sufficiency of triads has been established in a very particular context, these

aggregates can be regarded as potentially referring to chordal sonority. The question now is: which is the content of chordal sonority that these aggregates could be referring to?

5.4 An answer can be found if we now return to the Gloria 21 (Example 3), distinguished by the predominance of full aggregates, and examine it in detail. The first, isolated sub-sequence of fermata-marked aggregates above the words *Jesu Christe* is composed of three triads followed by a thin vertical combination. An isolated invoked name requires, as we already know, a stress on the accented syllable. But here Dufay does not have recourse to a conventional contrapuntal progression; instead he uses the ascending melodic movement of both cantus and countertenor to create a triadic climax, followed by a descent in all the voices. The fermata-marked aggregates appear afterwards as an echo of *miserere nobis*, 'have mercy on us'. Appropriately, Dufay sets the text in non-quartal style using descending movement, avoiding any melodic stress and the driving character of a cadential progression; this last is postponed to resolve on the initial notes of the next section. The fermata aggregates return to mark the beginning of an exhilarating, celebratory section: *Tu solus dominus, tu solus altissimus*, 'You alone are the Lord, You alone are the highest'. Accordingly, Dufay returns here to the conventional contrapuntal style, allowing fourths and dynamic cadential progressions. But when the name of the Lord is to be pronounced, again he chooses a triadic, non-quartal harmony, gently stressing the penultimate syllable through melodic contrastive movement (Example 4e). The concluding *Amen* section starts with a non-quartal, predominantly triadic style, but gradually cadential contrapuntal progressions appear — ambiguous at first (Example 5), then crystal-clear — vertical fourths return, and a climactic finale is gloriously attained.

EXAMPLE 5. Gloria iv/21, mm. 113-115
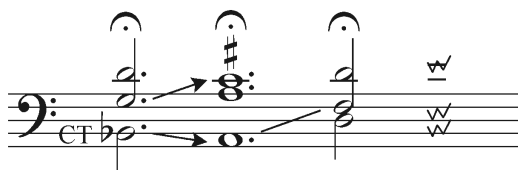
Thus the high proportion of full aggregates appears to be a result of aesthetic priorities grounded in the expressive rendering of the text. Dufay's use of triadic chords was not arbitrary; he had artistic motives to substitute them for contrapuntal progressions. We can find the same

aesthetic motives working behind fermata passages in other works belonging to this experimental period. For instance, in the Gloria/Credo pair no. 5, *Jesu Christe* appears twice: first it is treated in non-quartal, mostly triadic style, with gentle melodic stress on the penultimate syllable; in the repetition fourths are allowed, and two cadential gestures interwoven to produce a climactic finale on *-te* (Example 6).

EXAMPLE 6. Gloria from Gloria/Credo pair no. 5
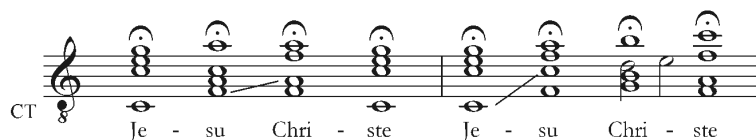
It seems therefore that between c. 1425-30 and c. 1435 Dufay conceived of predominantly triadic, non-quartal sonority, freed from cadential drive, as a chordal means of expressing the upmost gentleness or introspective spiritual quality; and used the conventional contrapuntal framework to render jubilant, celebratory feelings. Triads were used as plastic and static sonorities, while quartal aggregates fulfiled dynamic and resolutive ends. Charles van den Borren's description of the fermata-marked passage in *Alma redemptoris mater* II, with its non-quartal beginning punctuated by sub-final triads over *Sumens illud ave* and its contrapuntal closing section with a built-in final crescendo (division of cantus) over *peccatorum miserere*, comes to the mind: «Les dernières mesures (*Sumens illud ave*) [...] marquent un point culminant dans l'expression de l'extase et du ravissement».[75]

The odd features in *Nuper rosarum flores* (1436) can now be explained as mirroring Dufay's experiments during the previous decade. The triadic sonority on the word *Eugenius*, the pope's name, is to be understood as a static and self-sufficient chordal expression of beatitude, needing by its nature no further resolution. The triadic sonority that pervades the final *Amen* may conjecturally be seen as a colouring device adding spiritual flavour to a quartal and contrapuntal dynamic finale. The work appears then to mirror both concomitant and integrative conceptions, the latter being predominant; which is substantially not far from Lowinsky's own view of *Nuper rosarum*.[76]

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[75] Charles VAN DEN BORREN, *Guillaume Dufay: son importance dans l'évolution de la musique au XVe siècle*, Bruxelles, 1926, p. 189.

[76] LOWINSKY, 'Canon Technique…', p. 191: «The sections for full choir must have been conceived in a mixture of simultaneous and successive procedures».

5.5 Dufay's use of two contrastive styles to express contrastive moods in fermata-marked passages seems to disallow Charles Warren's interpretation of the fermata-sign, since extemporaneous embellishment would cancel the aesthetic effect called for by the composer. Dynamic contrapuntal drive would be obstructed and static triadic perfection would be disturbed. It is more likely that the fermata-sign would mean, as it often does when isolated, 'all together here', implying perhaps a tempo *ad libitum*. This meaning would enable singers to enhance the aesthetic quality of given fermata passages according to their style and underlying text.

TABLE II. A chronology of style in Dufay's fermata passages

Periods	Hamm's groups	Progressions		
		Conventional	Non-quartal	Chordal
A (c. 1415 to c. 1425-30)	1	*Flos florum* *Ave virgo* *Resvelliés vous* *Sine nomine* Gloria - Credo 4 *Alma r. mater I*		
B (c. 1425-30 to c. 1435)	2	- - - - - - - - -	Gloria 21 - - - - -	- - - - - - - - - -
		. . . .	Gloria - Credo 5	- - - - - - - - - -
	2b		*Alma r. mater* II	- - - - - - - - - -
			Gloria 29	
	4		*O beate Supremum*	
	3		*Sancti Jacobi*	
	5		*Cunctipotens*	
C (c. 1435 to 1474)	5	*Spiritus et alme Rex Omnipotens*		
	6	*O proles Hispaniae*		
	9	*Ave Regina*		

Table II presents above a chronology of Dufay's style in fermata-marked passages according to the observations in this chapter. Three periods are distinguished: A (c. 1415 to c. 1425-30), characterized by a conventional contrapuntal approach; B (c. 1425-30 to c. 1435), in which non-quartal harmony, total disposal of the 3-3-3-5 structure, and chordal sonority are experimented with; and C (c. 1435 to 1474), marked by a conservative return to normal procedures but exhibiting a superior control of 'mutual obligation' between the parts (while the Gloria/Credo pairs had parallel fifths between the cantus parts, neither *O proles* nor the Mass *Ave regina* allow them).

This picture is congruent with David Fallow's remarks on the evolution of Dufay's style: «[...] about 1435 [...] he began to rebuild his technique [...] was losing interest in the intense complexity of some of his earlier motets and striving for a simpler kind of musical expression [...] The cycles of hymns, sequences and Kyrie settings that seem to date from the years immediately after 1433 correspondingly show an attempt to refine his technique, almost to return to first essentials with the most economic means [...] The composer who until then had shown the most extraordinary range of techniques and styles in his music was now limiting himself, carefully exploring the simplest counterpoint».[77] Otterbach also observed that among Dufay's *rondeaux*, those presenting the less conservative cadential characteristics would have been composed, according to Hamm's chronology, before 1434.[78] On the other hand, this study provides objective evidence for a stylistic change in Dufay's music during the mid- and late-1420s, and traces for the first time the origins and probable aesthetic motivations of the non-quartal and chordal styles that were to influence all subsequent fifteenth-century music.

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[77] David FALLOWS, sleeve notes for EMI's record *Dufay* by The Hilliard Ensemble, Köln, 1987, p. 6; id., *Dufay*, cit., pp. 100, 135, 143 (see also pp. 115-117).

[78] OTTERBACH, *Kadenzierung und Tonalität…*, pp. 96-97.

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