Settling Some Old Scores

The Recomposition of Renaissance Polyphony

By Graham Lack, composer and Consultant Editor ICB

A welcome trend in the performance of Renaissance polyphony in our own times is surely the manner in which historically informed approaches to and practical realisations of the music have begun to merge. They never were mutually exclusive in the first place. We have gained, too, a sense of critical distance from the incredible revival of early music that began almost half a century ago. Choral directors no longer necessarily face the choice between a 'scholarly edition' and a 'performing edition' of particular works. That gainsaid, some differences between the various printed versions are bound to remain.

Most recent musicological research confirms that singers' training in the Renaissance must have differed largely to vocal studies in the present day. It is clear that a choir in those days would have sounded radically different to a modern one.

A common opinion held by many scholars is that the masses of Guillaume Dufay are best interpreted with no more than about ten men and boys, while those of Josquin are better rendered by two to three singers per part, making some 15-20 voices, and works in this genre by Palestrina and Lassus probably performed ideally by choirs with some 20 to 25 singers. The weight of historical information is in favour of such views. Surely, the roaming and ornate melodies conjured up by Dufay in the upper voices require great flexibility, one which can only really be met by highly trained soloists. As for the

music of the three latter composers, each voice in what is often a five-voice texture seems just as important as the others – textual declamation in all parts is evidence of this.

Generally, the music of the 16th century is less fussy than that of the previous century. Turning to England for a moment, choirs in pre-Reformation times were not large by modern standards. According to Hugh Benham:

"At Eton College the choir in 1476 numbered seven men and ten boys…there would have been only one singer to some of the men's parts in the few largest antiphons from the College's choirbook…The boys, who sang the top two parts in the majority of pieces, were in good supply, but the larger number of their weaker voices was necessary to maintain balance…Taverner's choir at Tattershall Collegiate Church had six men and six boys…The size of his other choir, at Wolsey's Cardinal College, Oxford, with twelve clerks and sixteen choristers, clearly reflected the Cardinal's general desire for magnificence."[1]

But if we think that it is an easy task to duplicate original performing conditions and that the 'true character of the music' will be immediately revealed only when we come close to 'what the composer imagined', we will, as choral directors and singers, face immense frustration for a number of reasons.

By its very nature, Renaissance polyphony demands a special kind of precision from the singer. The days are long gone when the standard way of performing polyphonic vocal music was with a fulsome vibrato. And we must take on board the pioneering work carried out by many early music ensembles, e.g. The Tallis Scholars, which were founded in 1973. Polyphonic music of the Renaissance is just so full of detail, and unless a sense of clarity is inculcated in the singers, this will not be heard. Vibrato is not our enemy, and a moderate use may be indicated for certain repertoires. If, however, it is too hefty and no longer merely modulating the timbre, the vocal

lines will surely become muddy and any detail obscured.

In an age in which editions of Renaissance music are readily available on the Internet, CPDL being an excellent example, we must nonetheless realize that the plethora of choirs attempting to sing this kind of polyphony will share immensely different backgrounds and traditions. Howard Mayer Brown picked up on this some three decades ago:

"Many choirs in the world today cultivate sounds derived from their own local histories. German choirs seem to have grown from the 19th-century tradition of singing academies and associations of amateurs, Italian groups from opera choruses, and American groups either from college glee clubs (which is why they sometimes call to my mind memories of football games in the autumn) or from the German or Scandinavian singing societies that sprang up in many American cities during the late 19th and early 20th centuries."[2]

He is not sparing either in his criticism of English choirs in the larger churches the present author notes, and proffers a slightly snide term, the "cathedral hoot".

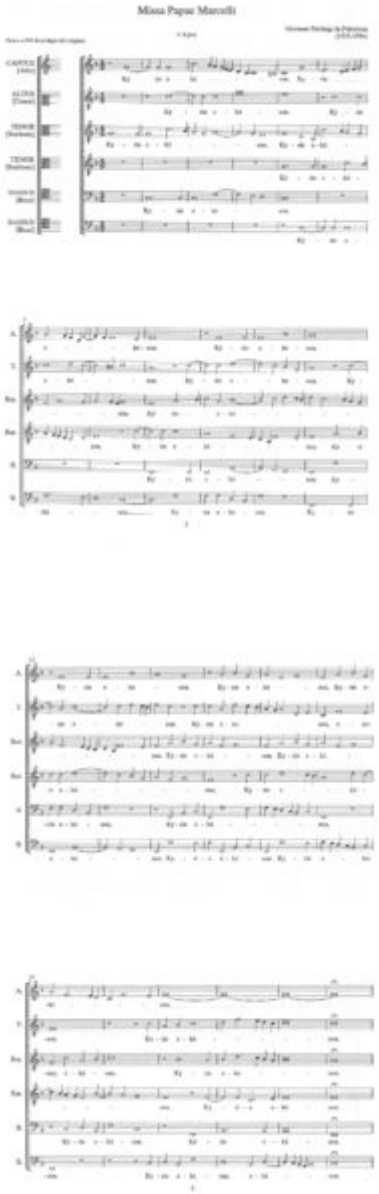
Members of the small, specialised ensemble employing one singer to a part, or perhaps two at the most when a small section of unbroken voices or girls' voices takes the upper voice in five-voice music and the two upper voices in six-part works, might well be advised at this point not to read on, my aim here being to offer to larger mixed voice choirs some practical advice on how to solve some thorny issues discussed below.

Historically, Renaissance music was written at two differing visual pitches, called the 'high clefs' and 'low clefs'. These were, respectively, the *chiavi alti*, also known as *chiavi trasportati* (lit. transposing keys[3]) or simply *chivavette*, and the *chiavi naturali* (lit. natural keys). The low clefs share a 'clef code' of C1, C3, C4, F4 and suit music written

for the established Renaissance choir of adult male voices, but the high clefs use a clef code of G2, C2, C3, F3 or C4 and appear not to fit any particular ensemble, the result with modern voices leading to much strain and stress. In fact, both these codes might actually equate to one and the same pitch for a present-day choir. This is because the high clefs – it was assumed until quite recently – signified that the music needed to be transposed, carried out by moving the clefs to the lower or upper third; but there is also at least some evidence that transposition downwards was required, *alla quarta bassa* or *alla quinta bassa*, i.e. down a perfect fourth or perfect fifth. The transposed top parts of high clef music do not often go below *c'* and are usually manageable by sopranos and altos acting in tandem. The music of Palestrina and Lassus now takes on a more friendly look. As Gustave Reese explains:

"Actually, although adopted for the benefit of singers and applied to vocal music, the *chiavette*…had a greater bearing on the tasks of instrumentalists than of vocalists: the organist had to transpose consciously, whether at the keyboard or on paper, deriving his part through one of…several procedures…, whereas the singers found significance in the staff-degrees less with regard to fixed pitch than with regard to relative pitch."[4]

(Click on the images to download the full score)



Palestrina, Missa Papæ Marcelli, Kyrie I. Edition by Lewis Jones held by the Choral Public Domain Library. Transposed down a perfect fifth according to the chiavette principle.

In recent times some so-called ‘high clef’ performances of Renaissance works have been questioned, and viewed as music rendered at spurious pitch. Here the gravitas and sonority of the music is absent apparently and works by composers discussed so far, and even by Monteverdi, is – it is claimed – being ‘sold’ to an audience as edgy and brilliant. The reverse may even be the case, the music actually characterised by

sonorous and dark timbres. Even the venerated Denis Stevens once believed – perhaps erroneously as it turns out – that there was no need to transpose Monteverdi…despite a high amount of evidence and common sense that says otherwise. Recent studies have shown that the clef codes had a much more practical use. As long ago as 1969, a visionary scholar, Willi Apel, had this to say:

"The significance of the *chiavette* has raised considerable controversy among musicologists", adding that earlier theories seem to be without historical foundation and claiming that "the clefs were moved mainly in order to avoid the use of ledger lines".[5]

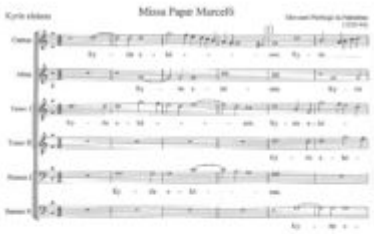
But the discussion is in a way entirely futile, since it depends on there being an absolute pitch in the 16th century, about which nothing is known and which probably did not exist.

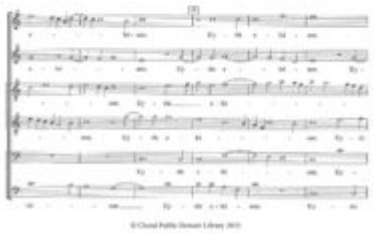
In any case, by the middle of the 16th century a majority of pieces were notated in *chiavette*, not in 'normal' clefs. Two-thirds of Palestrina's entire *œuvre* is notated this way. And, as Jeffrey G. Kurtzmann points out:

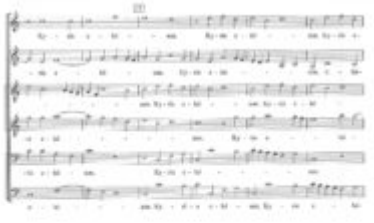
"Despite the many studies devoted to *chiavette*, no fully satisfactory explanation has…yet been offered as to why [they] emerged in vocal polyphony in the early 16th century in the first place. Clearly, the avoidance of ledger lines in notation is a significant factor. But ledger lines can also be avoided simply by changing clefs in the course of a single vocal part: such clef changes are not uncommon in 15th-century manuscripts. Why should an entire separate set of clefs have been used to notate parts in a visually higher register than the *chiavi naturali*, or normal set of clefs? On the surface, the question appears even more puzzling when one considers that no standards of absolute pitch existed, that vocal music of the period need not have been accompanied by fixed-pitch instruments (which were forbidden in the Sistine Chapel), and

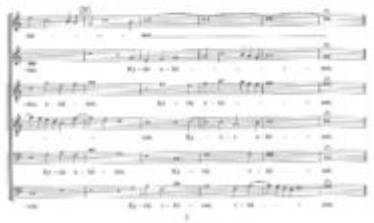
that singers set their pitch for any given piece in the register that was most comfortable for their voices. Even with organ accompaniment or alternation of organ and choral verses, the comfort of the singers was the critical factor in determining pitch, requiring the organist to be competent at transposition.”[6]

(Click on the images to download the full score)









Palestrina, Missa Papæ Marcelli, Kyrie I. Edition by David Fraser held by the Choral Public Domain Library. Music not transposed, remaining at 'visual pitch'.

As late as the 19th century, universally recognized pitch standards did not exist. What was used in one part of Europe varied greatly from traditions maintained in another. There is even evidence that it varied from one city to another within a single country or limited geographical area, with the same music being rendered at entirely different pitches. Generally speaking, in the Baroque Era, pitch levels ranged as high as A=465 (in 17th century Venice), and as low as A=392 (in 18th century France). Thankfully, it is possible to generalise a little: pitch was high in North Germany and lower in South Germany, it was low in Rome but high in Venice, and pitch in France depended on whether chamber music, opera or sacred music was being performed.

As Herbert Myers puts it so rationally: "…performance pitch was not considered a moral issue in the Renaissance, and it should not become one now…", continuing: "there is no virtue to adhering to any one standard."[7]

Another view worthy of note is put forward by Roger Bowers, who argues convincingly that, in late Renaissance music in England for example:

"Decisions taken by the musicians themselves…lay probably within their discretion", and "reveal much about the nature of the choral balance and of the vocal scoring that they envisaged as appropriate for their music, and also – by inference from the latter – its sounding pitch"[8]

The apt remarks of John Caldwell help us in this regard:

"In the early seventeenth century a double standard of pitch

existed in English churches where polyphonic music was sung: that of the choir and that of the organ. The former was rather less than a minor third higher than that of the present day, and the latter rather more than a major third lower; in other words, they were a fifth apart. This at least was the normal state of affairs."[9]

Whether one opts for a transposition down by a fourth, or up by a minor (sic) third – to take two common solutions applicable to a vast body of the choral repertoire – the director is still confronted by the fact that late Renaissance and early Baroque pitch lies almost a semitone lower, with A=415 not 440. This conflation puts paid to any claim of academic propriety.

So, let us assume that choir directors today should assemble a group of the correct size, with an 'authentic' distribution of voice parts, and having taken to heart the conclusions by musicologists about performing pitch, and even after having rationalized the lack of castrati, they will still be confronted with the well-nigh insoluble problem of discovering or imagining how singers in the 15th and 16th centuries actually produced their voices. We simply have to admit that singers are at an immense disadvantage when attempting to recover lost techniques. They are confined to reading descriptions of singers and of singing. Instrumentalists at least have the physical objects in their hands, can examine built-in clues and readily learn about limitations. A voice described as 'sweet-sounding' in the 16th century will probably not correspond to what we think of as sweet. And which, in any case, are the appropriate adjectives to describe the voice of any given living singer? Our opinions are strongly subjective, and we can only guess as to what earlier writers meant. Nobody has yet built a time machine, and there exists no certainty as to the veracity of our conjectures.

The modern names of 'soprano', 'alto', 'tenor' and 'bass'

meant either precious little or entirely different things in the 16th century. To us they are highly characteristic of four particular voice types. They relate in general terms to the older names as follows: 'S' = *cantus*, a falsettist or castrato; 'A' = *altus*, a high tenor; 'T' = *tenor*, our Tenor II today, or a high baritone; and finally 'B' = *bassus*, a 'true' bass, with a range extending down to *D* or even *C* at times.

Any perceived unwillingness by a modern choir director to accept this historical state of affairs is usually caused by a confrontation with a mixed voice choir that is a jack of all trades but master of none. This SATB group has, for better or worse, become the norm. Several approaches on how such an ensemble can best sing polyphony of the high Renaissance – where 'normal' vocal scoring started with music in five parts and extended to works in 19 voices[10] – have been drawn up over the years; some, like the curate's egg, are good in parts.

The objection to women singing tenor is based on evidence that many, if not most, females cast in this role were not taught how to use properly the other registers of their voice. If the singers were young enough, they could, one supposes, be retrained to allow the mid-range to be the range they considered 'normal'. But the issue of time management and the ensuing emotional upheaval within a choir certainly outweigh the benefits. It is not fair to demand that women 'do' this to their voices.

To cite one Jim Loos:[11]

"…the major issue, other than the singer's vocal health, is that female voices in chest voice do not have the same timbre as male voices in the upper middle and head registers. Therefore, in a group which is large enough to allow individual timbres to become part of the greater whole, the issue is not as important as it is in a smaller ensemble, where there may be three singers on a part. Even then, the

issue is one of timbre preference. I prefer not to mix the timbres when the group is small and individual voices are a greater percent of the whole. I have the same opinion about males singing alto."[12]

As for the possibility of 'training up' the high tenors in a mixed voice choir to sing falsetto where needed, there surely are not the resources – in terms of time and effort – to make this a viable alternative. Moreover, the issue of vocal health arises again: mature voices will be subjected to stress and strain and tenors in school choirs and youth choirs will be pushed in a direction not necessarily beneficial to any subsequent vocal career.

Another big issue concerns the vocal range and the *tessitura*[13] demonstrated by each voice in a polyphonic texture. In a typical Renaissance work in five parts, a single voice part usually extends over an octave and a fourth. Soprano I and Soprano II will often go from *d'* to *g"*, the Alto from, say, *c'* to *f"*, the Tenor from *g* to *c"*, and the Bass from *G* to *c'*. The real problem, as ever, is the second or third voice down. It seems singers in those days were simply able to 'do different things' with their voices.

Theorists also indicate that the vocal range of each voice type as well as the total gamut had natural limits. Gioseffo Zarlino, in his famous *Istitutioni armoniche*, declares that it would be good if each of the parts did not:

"…exceed eight notes and remained confined within the notes of its diapason. But parts do exceed eight notes, and it sometimes turns out to be of great convenience to the composer…The parts can at times be extended up or down by one step, and even, if necessary, by two or more steps beyond their diapason, but one should take care that the parts can be sung comfortably, and that they not exceed in their extremes the tenth or eleventh note, for then they would become forced, tiring, and difficult to sing."

Of great interest to the present discussion – and to view his writings in the light of present day practices – are these further comments:

"In computing the lowest note of the bass in a composition and the highest note of the soprano, a composer should take care not to exceed the nineteenth note, although it would not be very inconvenient if he reached the twentieth note, but not beyond that. When this is observed, the parts will remain within their limits and will be singable without any effort."[14]

As a composer, it is clear to me that the 'ideal' five-part scoring for a modern choir is SSATB or SAATB, i.e. three women's voices and but two men's. In much Renaissance music the result – if most of the scholarly editions are anything to go by – is usually SATTB or SATBarB, an inversion of this 'best' distribution. In six-part music composed in our own times, I am convinced that most choirs would welcome SSATBB or SSATTB,[15] if not SSAATB, this latter voicing must be understood not as a situation *in extremis*, but as a pragmatic acceptance of the sound so many choirs in the 21st century can best attain. Renaissance works in six parts usually end up, in terms of their vocal scoring, as SATTBB, exactly that which the choir director least wishes.

Be all of this as it may, the conductor of an 'average' mixed voice choir – whatever that might be – is confronted with the task of either choosing a performing edition with transpositions that are effective for the ensemble and the task at hand, or making his or her own editions. On many an occasion, one's hands are well and truly tied: a cornucopia of polyphonic settings will work in but one particular transposition: the soprano voice will go as high as *g*" and the bass part as low as *F*. These notes act as effective limits for a contemporary choir. Sometimes there is a modicum of room for manoeuvre, and the overall range of a score is a whole tone

less, allowing Hobson's choice: the Soprano extends to *g*" and Bass goes down to *G*, or the Soprano rises to an *f*" and the Bass reaches low *F*.

The problem, as ever, concerns the inner voices. This is the crux of the matter. Whatever a conductor or editor/arranger decides as the best transposition and scoring, the second or third voice down in a five-voice texture will not only use a range of an octave and a fourth, but either, in its *tessitura*, venture uncomfortably low and linger there awhile, or stray adventurously high, only stubbornly to remain there. To take an invented but not fictitious example: an 'alto' line that ranges from *g* to *c*" or *a* to *d*".

Up to now, I have not discussed the idea of using countertenors. A true countertenor is a *rara avis* indeed, and the choir lucky enough to have some – assuming they have not already been poached by a specialist vocal ensemble – is in an unusual position of strength. This voice part covers naturally the problematic range just mentioned. It is the only vocal solution. Period. It also does not help most choir directors, as they generally will not have these voices at their disposal.

Now that we have effectively excluded both the use of women singing tenor lines in their boots – a 'baritonal', to coin a term, and in my mind and ear quite unpleasant sound, – and men crooning away in falsetto in a forlorn attempt to manage a countertenor line, I would like to put forward an innovative but perhaps not really radical solution: the re-composition of these lines, in order to arrange five-voice music that needs six voice parts, and six-voice music that requires seven or even more. This amounts to a minimal invasive method, as a cosmetic surgeon might put it. My idea is to simply rescore, say, an alto part in an SSATB texture for two discrete voices in the choir: thus, 'A' produces two parts, 'A' and T I', the original 'T' now becoming 'T II'.

With a little jiggery-pokery,[16] and going ‘beyond the notes’, it is usually possible to fix the ‘new’ voices so that they take part in the polyphony in a meaningful way and do not stop abruptly halfway through a line. Occasionally they can simply ‘rove’ and mesh in to an already existing part, a ‘T II’ voice homing in on the bass voice and even joining it for a few notes. Cadences must be observed of course: it would be strange if some members of the chorus were not to take part at such key points in the score; and at the end of the entire work, it is also necessary that all singers are actually ‘doing something’.

In practical terms, what this means is that an inner voice that goes too high even for the high tenors who originally started out with it, is passed to the previously *tacet* low altos, who continue for as long as the line remains capable of being sung. The new tenor line, as noted above, can not simply stop, but must be recomposed so as to merge with, say, the bass, and thus arrive at a fitting cadential point. It is vital that no new notes appear in the harmony, the aim being to ‘poach’ notes from neighbouring parts. If there appears no way out of melodic dilemma, a pitch not otherwise present in the harmonic structure may be introduced, but this shall perforce be limited to doubling at the octave. The aural result will not be picked up by many an audience and surely will not disturb a highly discerning one.

Choir directors have busy lives, and are usually not trained composers. But I am certain that the vast majority, given the chance and an HB pencil, will be capable of distributing a single inner voice between two vocal parts in such a way that: the music continues to make sense, the singers use the best part of their range, and nobody listening is even aware of the fact that five-part music has been rescored for six voice parts, and six-voice works for what are effectively seven or eight vocal lines.

I trust that the examples below will give ample evidence of

the benefits of this approach.

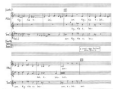
The moment the singers in a modern mixed voice choir open the music and start to sing, many a compromise will already have been made. Choir directors will have chosen a Renaissance work that was originally sung either with just male voices, or with trebles taking the highest part or top two lines. Either way, countertenors would have been part of the proceedings – be it as the upper voices in the former case, or the inner ones in the latter, assuming, say, we are dealing here with polyphony in six real parts and upwards. The problems of pitch, clefs, vocal scoring, range and tessitura have all been discussed in detail, above. We concluded that a new approach is needed.

The work I have chosen for this experiment (and this may come as no surprise) is the *Missa Papæ Marcelli*, by Palestrina. There are two reliable editions held by the Choral Public Domain Library (www.cpdl.org), and these are in stark contrast to each other. In the first, the editor, Lewis Jones, has assumed *chiavette*, and transposed, rightly or wrongly, the music down a perfect fifth. The result is an ATBarBarBB scoring. Clearly, this can only be sung convincingly today by a male voice ensemble. There is nothing wrong with that. In the second version, edited by David Fraser, the music has been transcribed at original 'visual pitch'; the result is a score calling for SATTBB forces, although the two 'T' parts are only nominally tenor lines, considering their range and tessitura.

The actual visual ranges of the six voices in the *chiavette* scoring are as follows: Cantus = *g-c″*, Altus = *c-f′*, Tenor I = *B flat-d′*, Tenor II = *B flat-d′*, Bassus I = *F-g*, Bassus II = *F-g*. In the 'original' scoring these are: Cantus = *d′-g″*, Altus = *g-c″*, Tenor I = *f-a′*, Tenor II = *f-a′*, Bassus I = *c-d′*, Bassus II = *c-d′*.

Even a cursory glance at this latter version reveals some musical difficulties. The bass part goes no lower than *c*, and extends as high as *d′*, not a happy sing as it were for many men. (I used to hate parts like that as a student.) My intuitive reaction is transpose this version down a minor third, giving the bass a range from *A-b*, but this causes problems with the soprano range, which would then become *b-e″*. Although there is nothing wrong with high *e″* as a top note; it could be quite bright, with good use of the mask. There is no reason why every piece sung in a programme must extend *de rigueur* to *g″* in the soprano.

(Click on the image to download the full score)



Palestrina, Missa Papæ Marcelli, Kyrie I, bars 14-19. Altus recomposed as two discrete voices: 'A I' and 'T II' in a modern transcription. Music transposed down a tone from 'visual pitch'. Original Tenor I notated as small notes for reference. Upper voice of the two 'new' voices notated in small notes where it has 'roamed' to original Tenor I and is in unison with this part, in normal notes where it takes original Altus line. Lower voice of the two 'new' voices notated in small notes where it has entered with original Tenor I and is in unison with this part, in normal notes where it has 'roamed' to the original Altus line.

Perhaps, then, a transposition down by a whole tone is best. The entire setting of this mass now admits an overall vocal compass extending from *B flat* in the bass to *f″* in the soprano. A music director must choose the best key – to use a modern term – in which to sing the music. A high key will produce a performance that is brilliant and dramatic, an interpretation favoured by some scholars, whereas a low key will engender a sense of reverence, a more fitting rendition of the music other musicologists would maintain. With a new key signature of two flats (the music down a tone) as opposed to three sharps (the music down a minor third) the score looks quite benign. The basses, let us note, now have a range *B flat–c′*, and no longer need to work at getting from *c′* to *d′* cleanly, this being the moment where chest voices runs over into head voice, much like the somewhat higher *passagio* that all tenors have to conquer.

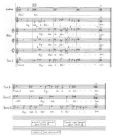
Let us now turn to the inner voices, 'T I' and 'T II', both of which now extend from *e flat* to *g′*. A good choir with some real tenors, not high baritones, will now be able to tackle one if not both of these parts. (Specialist Bach choirs will no doubt manage the 'original', with no need for further downward transposition and the tenors' range remaining *f-a′*.) A less able choir should be able to mix the timbres of alto and tenor in these two tenor voices; the tone downwards transposition alleviates the need – one hopes – for falsetto singing by the tenors, even if the large range belies *prima vista* a high tessitura.

The voice I would actually like to recompose is, of course, the second one down: Altus, in the original MS. Whether one stays with Fraser's transcription, the pitch of which is the 'visual' one, or sings this down a whole tone, the part remains a beast – *g-c′* or *f-b′ flat*. It just can not be sung adequately by the altos, and nor by the tenors. I would opt strongly for transposition down a whole tone. And I would then distribute the voice in two discrete parts. Using modern clefs, the higher passages in this alto part remain 'A', whilst the lower ones become 'T I'.

There is a knock-on effect: one could now consider notating 'T I' and 'T II' as baritone parts, in bass clefs, even if this produces more extra ledger lines than when reading in tenor clefs. Also, the highest voice – Cantus in the original and soprano in a modern transcription – has a not unproblematic range: from *c′* to *f″*, and this could well be recast as two discrete parts, 'S' and either 'A I ' or 'MSop'. Thus, the six-voice texture could appear on the page as music for seven, eight or even nine voices. As ever, the proof of the pudding is in the eating, as Cervantes put it in *Don Quixote*.

The CDPL website offers both Sibelius and Finale files, presumably for download, and these could surely form the basis for a choral director's new bespoke version. And volunteers should step forward now.

(Click on the images to download the full score)



Palestrina, Missa Papæ Marcelli, Kyrie I, bars 21-24. Altus recomposed as two discrete voices: 'A I' and 'T II' in a modern transcription. The 'new' lower voice offered in three variants, A, B and C. Original Cantus, Tenor I, Tenor II, Bassus I and Bassus II included to complete full score. Upper voice of the two 'new' voices notated in normal notes because it takes only original Altus line. Lower voice of the two 'new' voices notated in small notes where it has entered with original Tenor I, 'roamed' to original Tenor II, moved back to original Tenor I and 'roamed' again to Tenor II at the cadence (version A); notated in normal notes where it has entered with original Tenor I, 'roamed' to original Tenor II, moved back to original Tenor I and finally joined the original Altus at the cadence (versions B and C).

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[1] Hugh Benham, *Latin Church Music in England*, Barrie & Jenkins, London, 1977, p. 31.

[2] Howard Mayer Brown, 'Choral Music in the Renaissance', *Early Music*, Vol. 6, No. 2, (April 1978), Oxford University Press, p. 166.

[3] The latter word denoting clefs, not key signatures in the modern sense.

[4] Gustave Reese, *Music in the Renaissance*, J. M. Dent & Sons, London, 1954, p. 531.

[5] Willi Apel, *The Harvard Dictionary of Music*, Heinemann, London, 1969, 2nd. ed., p. 149.

[6] Jeffrey G. Kurtzman, 'Tones, Modes, Clefs and Pitch in Roman Cyclic Magnificats of the 16th Century', in *Early Music*, 1 November 1994, p.7.

[7] Herbert Myers, 'Pitch and transposition', in *A Performer's Guide to Renaissance Music*, Jeffery T. Kite-Powell, (Ed.), Indiana University Press, IN, USA, 2007, 2nd ed., p. 299.

[8] Roger Bowers, ‘The Vocal Scoring, Choral Balance and Performing Pitch of Latin Church Music in England, c. 1500-58’, *Journal of the Royal Musical Association*, Vol. 112, No. 1, p. 9.

[9] John Caldwell, ‘The pitch of early Tudor organ music’, in *Music and Letters*, Vol. 51, No. 2, April 1970, p. 156.

[10] The motet *O bone Jesu* by Robert Carver (ca. 1485–ca. 1570) is contained in the Carver Choirbook, MS Adv. 5.1.15.

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[12] In discussion with the author.

[13] Not quite the same thing.

[14] *Le Istitutioni harmoniche* (1558). A useful edition is *The Art of Counterpoint*, *Part Three of ‘Le Istitutioni harmoniche’,* Guy A. Marco and Claude V. Palisca (trans.), Norton, New York, 1976.

[15] The ‘SSA’ might just as well be ‘SAA’, but this is not the point and quite academic at this stage.

[16] An obscure term, possibly rooted in early Silesian.