Frank Bridge :

the String Quartets

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String Quartet No. 3

Exactly ten years were to elapse between the completing of the G minor quartet and the starting of the third quartet. In that time, Bridge produced mainly small scale works, some part songs, piano works, incidental music and two relatively slight arrangements for string quartet, also as orchestral versions, "Two Old English Songs" and "Sir Roger de Coverley". In fact, he wrote virtually no instrumental chamber music at all in these ten years. The only important works to come from 1915 to 1925 are the 'cello sonata, piano sonata, the tone poem "Summer", the beginning of the opera "The Christmas Rose" and the last of the solo songs, including "Journey's End", "Goldenhair" and the "Three Tagore Songs".

Bridge started work on the new quartet in the spring of 1925 with no direct commission. He completed the first two movements fairly readily but had difficulties with the finale. The development of his highly worked style during the early twenties resulted in a certain drying up of inspiration: at least, works seemed to flow less easily from his pen. After he had abandoned the new quartet, his American friend Elizabeth Sprague Coolidge expressed an interest in the work

and enquired whether it would be ready for the chamber music festival that she was organizing. It was not completed in time but she arranged two performances in Europe instead.

As Bridge was receiving financial support from this American patroness of the arts, he dedicated the third quartet to her. The first performance took place on the 17 September 1927 in Vienna. The original plan had been a first performance in America the preceding autumn. Bridge had been approached by the Flonzaley String Quartet who had expressed an interest in the work. In the event, the quartet was rejected, possibly because of its technical difficulties. Bridge did decide to revise some of the more difficult passages in July 1927, before its premiere by the Kolisch Quartet.

The first performance went fairly well and Edwin Evans wrote thus in the "Musical Times" in November 1927 <1> -

'Two years ago, at Mrs. Coolidge's instigation, he engaged upon a String Quartet, with which rumour has been busy. It received its first performance at Vienna on September 17, and proved the outstanding work of the programme. Naturally it has more in common with the recent Pianoforte Sonata than the earlier Quartets; but it is an advance upon the former. Possibly the quartet medium compels a greater discipline than the keyboard; but whatever the reason, this work has a much stronger hold upon the listener. Particularly the slow movement made a deep impression. It has that quality which is

the hall-mark of the musician who is a composer by vocation: a use of device that is so skilled that it achieves its purpose almost imperceptibly, and leaves one to absorb the poetical content undisturbed by the thought of "how it is done". Probably Bridge has written nothing better.'

This article reveals no hint of the bitter and acrimonious response to Bridge's music which emanated from a number of sources during the twenties and thirties. In fact, it is clear from the article that Evans obviously regarded Bridge as one of Britain's leading musical lights and wrote in glowing terms of the new work.

A second performance of the quartet sponsored by Elizabeth Coolidge was less successful. The Pro Arte Quartet played the work in Paris and this was a great disappointment to Bridge. However, in 1928 two fine performances were given by the Roth and Brosa Quartets. The latter performed at the Siena Festival of Modern Music and the following extract from the article by Hubert J. Foss in the "Musical Times" of October 1928 records the event <2> -

'.....The obvious sincerity of Frank Bridge's Quartet No.3 won it praise in certain unexpected quarters. The performance was as good as one could wish, and the Brosa Quartet distinguished itself as the finest ensemble present.....'

Stylistically, the third quartet inhabits a different realm from that of the second. There is more dividing these two works than any two previous quartet works by Bridge. The flowing manner of the G minor quartet is replaced by something more fragmentary. That is not to say that there is a lack of continuity or that the ideas do not make for a satisfying developmental structure. Short motives link apparently different ideas and the main thematic idea of the first movement links all three movements. However, the sense of flow is disturbed by the complexity of the contrapuntal writing. To relieve the intensity of continual motivic working, Bridge alternates chordal writing with complex counterpoint and also continually varies the four-part layout. Furthermore, the chromaticism is more all-pervading than in the G minor quartet, which results in a harder edged sound. The thematic and accompanying ideas are constructed in this way and there is greater freedom of tonal relationships. However, this is still tonal music for individual pitches as pedals underpin much of the music. Nevertheless, a greater number of passages bear allegiance to no tonality. The lyrical aspect of his style, as witnessed in the central movement, is converted into something more wistful and inconclusive. The harmony shows a development of earlier procedures too. As before, conventional diatonic and chromatic chords stand next to more individual structures but now there is greater variety in type. One particular feature is the structure that contains two triads a tone apart and usually involving major and minor modes. The presence of the tritone is very marked now as it is used as the basis of thematic germs as well as harmonically and intervallically. The idiom is tauter than before as a result of the interdependence of

theme, and harmony, on the tonal principles of the work. Now, it is no longer just the structurally important moments of the movements that point to the underlying intellectual order.

No working manuscripts for this quartet have survived but what does exist is the first version of the work, the revisions having been carried out in July 1927. The title page bears the words "All wrong" and Bridge's initials. However, much of the final version is contained here. Most of the final alterations concern rearranging the parts, altering time signatures and rhythms, thus creating different emphases, and creating more sense of spaciousness; this latter effect is achieved by lengthening passages by inserting extra bars. Most of the changes, which concern mostly the outer movements, are small and relatively insignificant but there are one or two changes that have greater importance, notably, the end of the third movement, and these I shall discuss in tandem with the relevant passages from the final version.

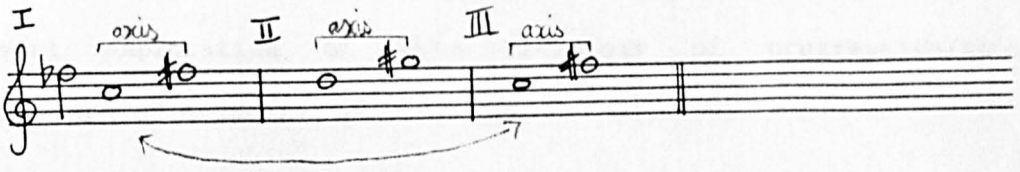
Like the second quartet, this work is in three movements although there is a more traditional layout of fast - slow - fast. Formal ambiguity now concerns the internal structure of the individual movements. The first movement combines elements of sonata and arch forms, the former in the basic subdivisions of exposition, development and recapitulation with all that that implies, the latter by dint of the central section forming a pivot as it contains new material and by

reversing the order in the recapitulation to ensure that the first subject recurs at the very end. The Andante con moto has a continually shifting form which suggests a sort of ritornello as the opening material recurs. The finale seems to have no conventional form, but again, there is a recurrence of some of the material which suggests a kind of rondo. As in the second quartet, material heard earlier in the work is reintroduced in the last movement, here from both first and second movements. The work ends with a reference to the main idea of the first movement, thus creating an overall cyclic structure.

Despite the obvious changes, the music remains tonal if not always clearly so and so my method of describing the music is the same as that for the preceding work. However, unlike its predecessor, it is not possible to describe the present work as being in any one key; Bridge named the work via number, after all. The language is more chromatic than previously which results in greater use of unconventional chords and motivic thematic writing. Interval relationships bind tonality, harmony and theme together. The music is not diatonic and tonality is established as a result of individual pitches being emphasised. Frequently these pitches are sustained as pedals but sometimes a conventional bass line V - I progression provides a tonality. Themes which stress a particular pitch are tonal. In fact, there are many occasions in the work when Bridge presents more than one tonality as more than one pitch is highlighted. This creates great ambiguity but Bridge does not remove the sense of

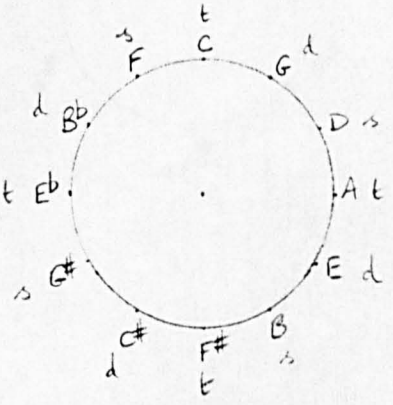
tonality except in certain, short passages. Sequences, an important pointer to tonal procedures, also feature.

For most of the quartet, the music is centred or based on one or more tonal pitch. The work has a sense of progression as these pitches relate to one another via intervals of symmetry. Also, each of the movements has an overall tonal pitch progression, as shown in Figure 1.



Significantly, all three movements involve a tritonal progression, C to F# in the outer movements and D to G# in the middle movement. As F# is the goal of the work, it is valid to consider this the tonic of the quartet. The obvious use of the tritone as a structuring tool suggests that pitches can be organised into tonal axes and be given tonic, dominant and subdominant status accordingly.

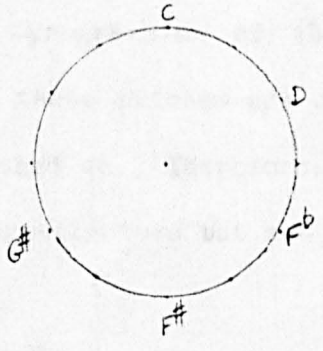
Figure 2.



Using this method of organising pitches, it emerges that the introduction to the first movement presents a dominant tonality, Fb, which resolves onto the tonic C at the start of the first subject. This movement, while having a tonal progression from C to F#, can also be said to be tonally static as both pitches have tonic status. The slow movement is also pitch progressive and tonally static but now using the subdominant axis. The finale repeats the overall tonal progression of the first movement but without the opening dominant. This idea of pitch progression of a movement was not new. In the G minor quartet, the finale began in E and ended in G, both tonic axis pitches, a minor third apart. However, the third quartet presents a more overt exploration of this dichotomy of progression/non progression and of symmetry.

By placing just the main tonal pitches of the work on the circle of fifths, a significant order emerges.

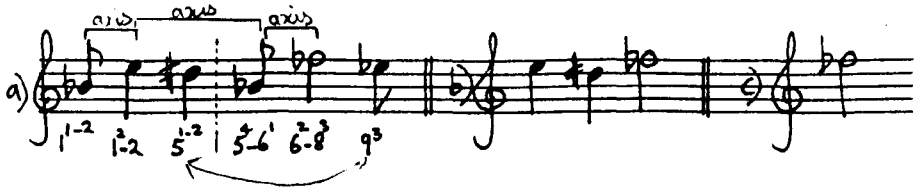
Figure 3.



Firstly, the pitches form a whole tone series, an interval of symmetry and one which, in the present ordering, incorporates a structure of interlocking major thirds and two tritones. Secondly, the arrangement is symmetrical and Fb lies at its centre. This points to the introduction to the first movement having a considerable importance, being tonally based on this pitch. Furthermore, it is possible that structuring in the quartet will refer to this pitch, Fb/E, as the centre of symmetry. In the G minor quartet, the implied axis of symmetry, A/Eb, was the crucial underpinning of the work. In the former work, the introduction to the finale was of great significance in the way that it reinforced the implied structural underpinning. In the present work, it seems that the introduction to the first movement will take on this role and by bringing this section to the front of the work, its emphasis is more overt.

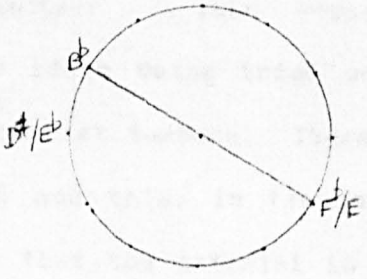
The introduction to the first movement, which is only played once, is nine bars long but within this short span there is considerable tonal fluidity and there is a sense of ideas being tried out. The overall tonal progression of the section is a perfect fourth, from Bb to Eb but these pitches are relatively unimportant as they are only briefly touched on. Therefore, convention is presented in the small scale tonal architecture but not emphasised.

Figure 4.



Only three tonalities are used in the section, Fb/E, D#/Eb and Bb, the first being the most important.

Figure 5.



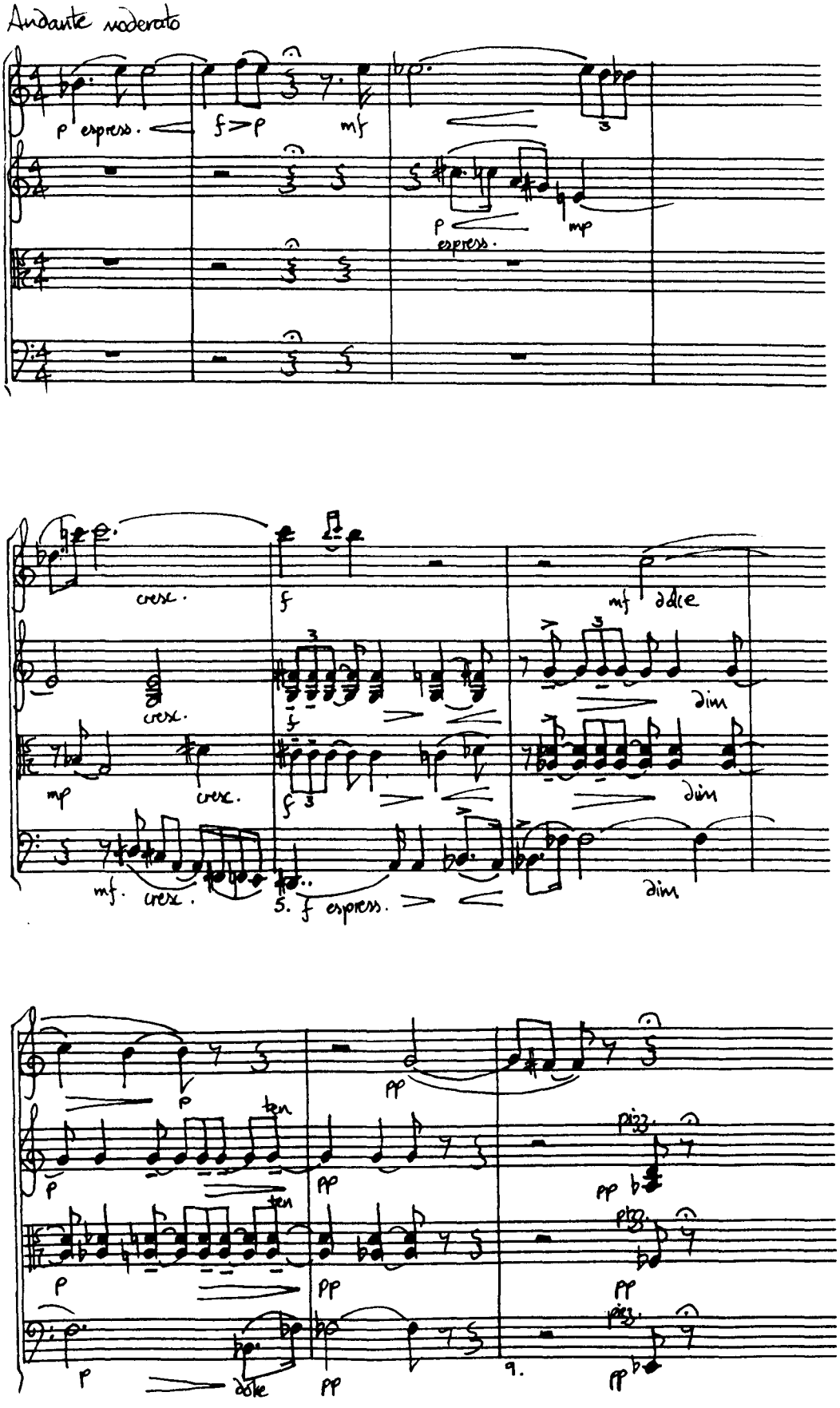
This example shows that fourth and tritone are put together, very much in the manner of the second quartet where G, as the tonic, was put with Db and D as tritone and fifth. This means that the fifth/tritone conflict concerned the main tonality of the work. In the introduction to the third quartet, the fourth and tritone relate to Bb which is not the main tonality of the piece but is the counterpole of the underlying centre of symmetry of the quartet. The E/Fb to D#/Eb move is important as it is used twice, in bars 1(2) - 5(2) and 6(2) - 9(3). With Bb preceding this progression on both occasions, the introduction is split into two nearly equal halves. Bb is important therefore, as it begins both the work and the second half of the introduction. It is also the counterpole of Fb/E.

The introduction clearly demonstrates Bridge's new approach to thematic writing. The ebb and flow of the opening of the G minor

quartet is replaced by a more fragmentary idiom, achieved by short motives, rests and octave displacement within a thematic idea. The style is more chromatic too. There is no coming together of the parts either; the outer parts have completely independent lines and the two inner parts share another. This separateness reinforces the impression of thematic ideas being tried out and also demonstrates Bridge's new ideas on quartet texture. There is none of the lyricism of the earlier quartet and this, in tandem with the fragmentation, leads to an impression that the material is structured on intervals. Indeed, this introduction demonstrates the way in which Bridge was drawing together the intervallic makeup of tonality, theme and harmony.

Figure 6 overleaf.

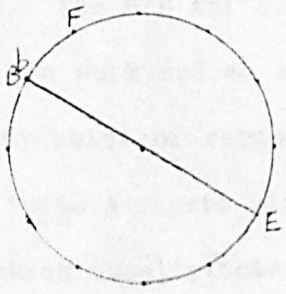
Figure 6.


Andante moderato
p espress.
f>p
mf
p espress.
mp
cresc.
f
mf dolce
dim
mp
cresc.
mf. cresc.
5. f espress.
p
ten
pp
pizz.
dolce

The first version of these bars was largely the same as this final version which removes the alternating 4/4 - 3/4 time, adds the triplet rhythm in the inner parts in bars 5 - 7 and the first two notes of violin 2 in bar 3. The most significant alteration, however, involves the 'cello part in bars 6 - 9(3). The original version comprised a sustained Eb/Bb perfect fifth which was placed below Fb with Db in the viola. Thus Fb, Bb and Eb, the three tonal pitches of the section were put together harmonically. Rearranging the inner parts in these bars permits the placing of Bb to Fb in the bass and thus a more overt reference to tonal structuring is achieved.

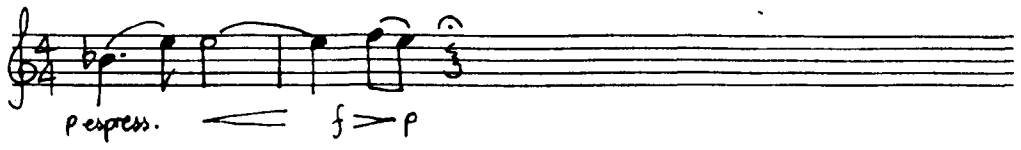
The opening unaccompanied line in violin 1 puts together tritone with semitone. This is the same tritone as that of the tonal structuring of the section and is therefore a reference to the centre of symmetry of the work. [See Figure 5.] The extra pitch, F, is not part of this; it replaces Eb as being another semitone from E [Fb]. The upper semitone from E creates the need to resolve downwards, thus requiring a repetition of E. The lower semitone, Eb, would form its own point of resolution.

Figure 7.



The layout of this small fragment has a particular relevance as the tritone has greater importance than the fifth. In the G minor quartet, Db, the tritone to G, seemed to be a chromatic inflexion of D, the dominant. In this theme, F is the chromatic inflexion of E which forms the tritone with Bb. This may point to Bridge's altered concept of the importance of these two intervals, the radical now taking precedence over the traditional. However, there is some ambiguity here as the dynamics emphasise the fifth. Nevertheless, the tritone is the point of repose. Another point concerns this fragment. It seems to foreshadow the main motive of the work as only the third is absent and the order of fifth and tritone is reversed.

Figure 8.



The F in bar 2 is the start of a falling chromatic line with an F to B tritonal outline. This is disguised by the octave displacement in bar 4. This line is the first example of the division of the tritone but this is something that is important to the thematic structuring of the quartet. The F/B tritone is a fifth away from the Bb/E tritone which opened the work and so again fifth and tritone are placed together. The first point of repose in the chromatic descent is the Eb in bar 3. This forms a fourth with the opening Bb and links with it and the E as the three tonal pitches of the introduction. The

Eb also possibly anticipates the D# in the bass in bar 5 which is the start of another tritonal outline.

C is the next thematic point of repose and this is highlighted by the rising seventh. This may be to anticipate the use of this pitch as the opening tonality of the first subject in bar 10. So far in this introduction, the important thematic pitches are those which have tonal significance. This device is made possible by the use of a motivically organic style. This is one way in which the third quartet has moved on from the G minor quartet. The C to B semitone is repeated down the octave, to reinforce the importance of these two pitches. The final pitches of this thematic line are the G to F# in bars 8 - 9 and these comprise a sequential repeat at the interval of a fourth. This is, therefore, another traditional reference. These two pitches also link to the start of the first subject where violin 1 continues the falling chromaticism by moving onto Gb - F (as a rising seventh again). G and F# are also important pitches in the main motive of the work [See Figure *20*] and therefore it is surely no accident that they are chosen to end the introduction. F# is the tonal goal of both this movement and of the work and it is also the thematic goal of the introduction.

An overt tritonal line occurs in the bass in bars 5 - 8. The opening D# A Bb A has the same pattern as the opening violin line in bars 1 - 2. The 'cello line is a fifth below the violin which means

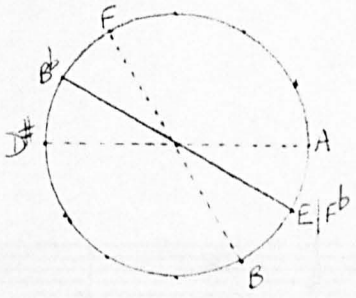
that the sequencing has been conventional so far. The 'cello rhythm is new to the idea and the use of enharmony disguises the origins of the material and the fifth relationship. This Bb D# fifth is reinforced by the repetition of the original tritone in the 'cello line in bars 6 - 8. Now the upper semitone is omitted and the tritone is played twice alone. This gives Fb, as the final pitch, an altered emphasis. Eventually, bar 9, the bass moves down to Eb.

The D#/A tritone is approached from the same axis in bar 4. The D# C# A comprises interlocked major third with tritone. This structure, which also incorporates the whole tone, is derived from the tonal architecture of the work although the pitches are different. A is a pivotal pitch in this line as it concludes the above structure but also starts another, comprising falling minor third followed by falling semitones onto D#, A F# F E D#, thus creating another tritonal outline. This way of dividing the tritone into two balanced but unequal halves is an important feature of the work which permeates the middleground rather than the foreground. It represents two ways of dividing the augmented fourth, chromatically and into two minor thirds. The two halves of this bass line combine both methods.

In summary, the outer parts of this short introduction are based on three tritones. The main one, that is most used, is Bb/E/Fb which is also the basis of the tonal framework. The other two tritones are

B/F and A/D# which are the two adjacent tritones to Bb/E/Fb on the circle of fifths.

Figure 9.

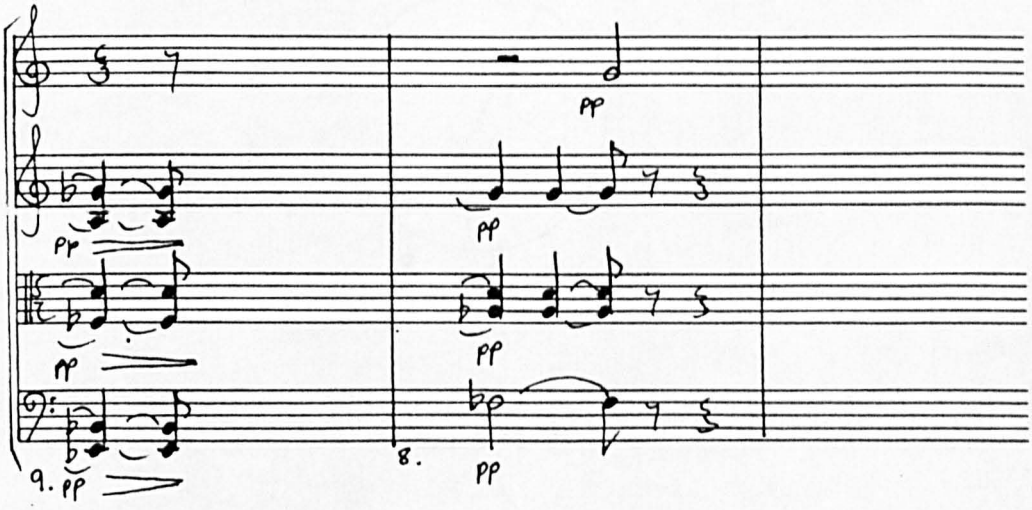


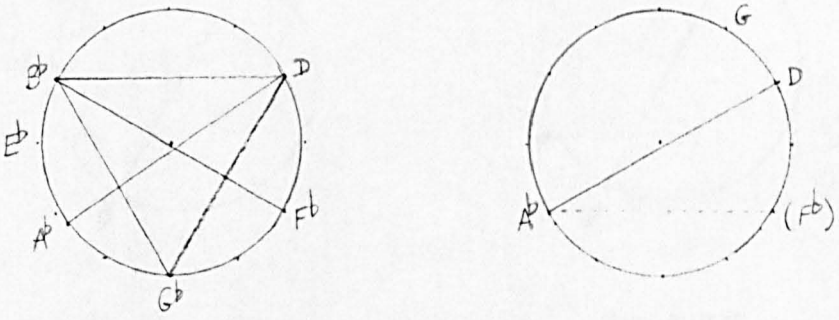
The inner parts form a unity. This is clear from the writing in bars 5 - 8 where they move rhythmically together. Violin 2 has a crescendo onto E in bar 3 which stresses this important pitch. In addition, this is retained throughout bar 4. The other pitches of violin 2 and viola in these two bars form important intervals with E. C#, C, G# and G are all thirds, A and Bb are fourth and tritone and D# is a semitone. In addition, Bb and D# are tonal pitches of the section. The use of fourths, tritones and thirds points to the main motive of the work which uses these intervals.

Bar 5 contains the climax of the introduction. This coincides with the start of chordal structures in the inner parts. In the first version, there was less clarity as the inner parts were not obviously delineated. In fact in bars 6 and 7 all four parts came together and the writing concluded in bars 8 and 9 with a six part chord in the three lower instruments. The type of structures used in this first

version are similar in type to those of the final version but the extra pitches obscured the definition. This is perhaps most clearly seen in the final chord of the passage in both versions.

Figure 10.



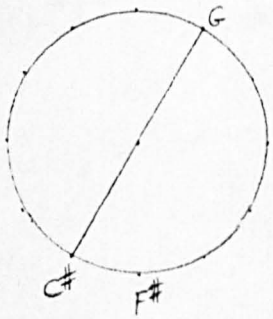


1st version 2nd version

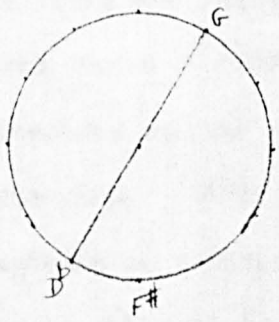
[The bracketed Fb in the above example is a bass pitch which is gradually incorporated into the structure.]

The chords in the final version comprise tritone and fourth/fifth which reflects both the tonal structuring and thematic writing of the section. The progression, which lasts until bar 9(3), and which incorporates bass pitches from bar 6(2), involves chromatic sliding.

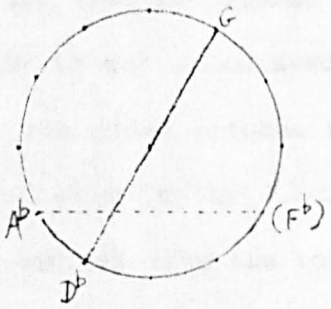
Figure 11.



Bar 5(1-3)

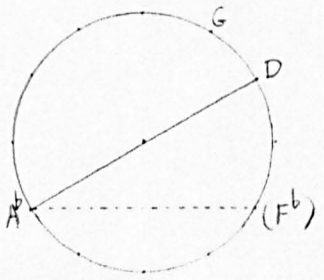


Bar 5(4)

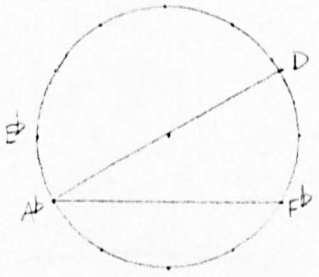


Bar 6-7(2)

Figure 11 contd.



Bar 7(2)-8(3)



Bar 9(3)

[The bracketed Fb is a bass pitch which is sustained through most of bars 6(2) - 8(3).] The tritones move once, from G/C#/Db to D/Ab. The use of enharmony in bar 5 leads to the new structure in bars 6 - 7(2). The added fifth in these two bars is the basis of the tritone in the next chord and the G of the former tritone becomes the added fourth. From bar 5 - 7(2), the tritone is not associated with the tonal architecture of the work. It is the added pitches which have their origins here. With the change of axis in bar 7, there is a shift of emphasis as the tritone is now derived from the tonality and the added pitch is not. Ultimately, the combination of fourth with tritone is replaced by major third with tritone. This results in all three pitches being taken from the tonality of the work. This is therefore the goal of this progression. Significantly, the F# which was used as an added pitch at the beginning of the progression is omitted from this final chord, F# being the goal of the quartet.

The first subject which follows is, in one respect, like that of its counterpart in the G minor quartet. Both are organic, taut expressions. Figure 12 shows the tonal makeup of this section.

Figure 12.

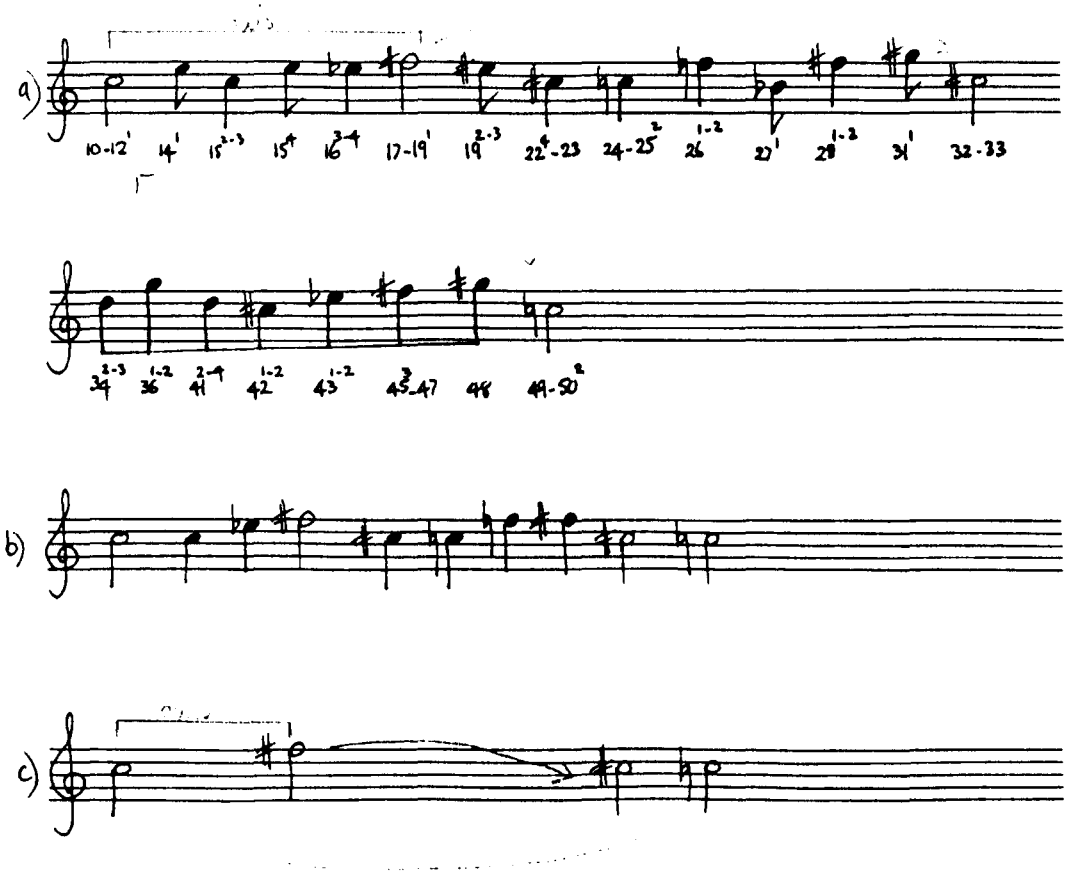


Figure 12 contd.

d)

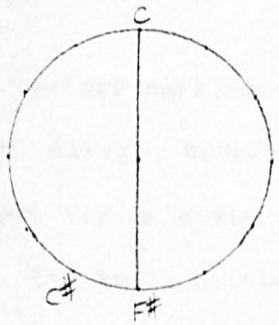


Figure 12a) shows all the tonalities of the first subject and this clearly indicates the tonal fluidity that exists. It also shows that there are four tonal pillars: this is made clearer in Figure 12c). By placing these important pitches on the circle of fifths, Figure 12d) can be shown to have an affinity with Figures 3 and 5. Both the tonal architecture of the introduction, Figure 5, and that of the first subject, Figure 12d), are derived from the overall tonal architecture of the work. Thus, the large and small scale structuring is interlinked. Also, the concept of tritone with added fourth/fifth is common to both introduction and first subject, although in the longer section, this is filled out with other pitches. There is a whole tone progression from the E/Fb/Bb tritone of the introduction to the C/F# of the first subject and from the added fourth/ fifth, from Eb to C#. Whereas the introduction was based on the work's centre of symmetry, Fb, the first subject takes the tonal symmetry of the movement. Figure 12c) shows that the first subject in the exposition is weighted towards C, being tonally cyclic on that pitch. C is put with its

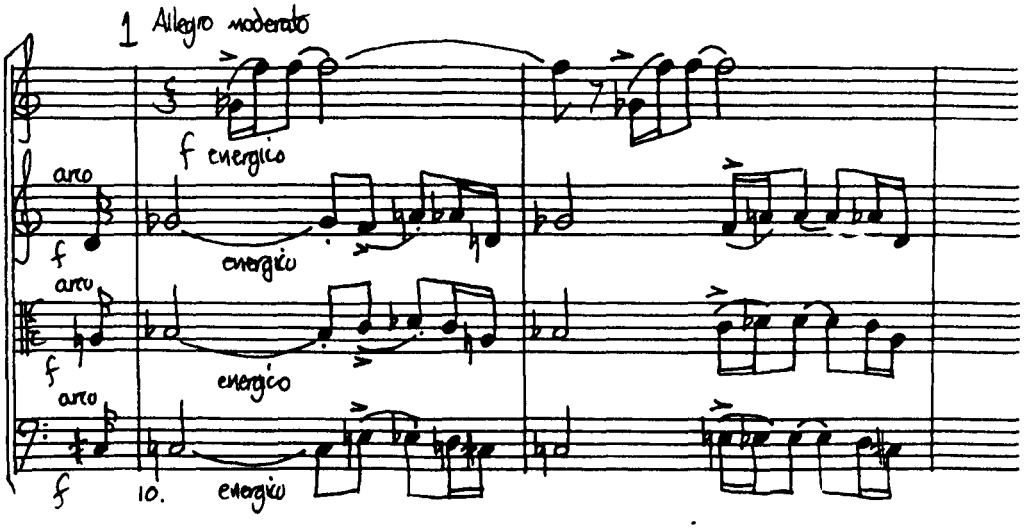
counterpole, F#, the goal of the movement, and its fifth, C#, which is also the counterpole of the true dominant of C, G.

A change of speed and texture mark the start of the first subject as Andante moderato becomes Allegro moderato. The inner tension of the introduction is changed for a style that is overtly taut and displaying nervous energy. The music unfolds in this section in short fragments. This is like the introduction but this characteristic is more marked in the longer section. Apart from slight changes of time signature and part writing in bars 10 to 16, bars 12 - 29 of the first version were essentially the same as this final version.

The opening of the first subject has clear links with the tonal structure of fifth/fourth with tritone. The three lower parts continue to form a unity, the first violin is rhythmically quite different.

Figure 13 overleaf.

Figure 13.



The three lower parts begin with two chords, the first being the anacrusis at the end of bar 9. This combines major third with fourth and involves a tritonal shift from Eb to A and a fourth from Ab to C# from the previous chord.

Bar 10 is given a virtual repeat in bar 11. This, combined with a forte dynamic marking and accents, indicates an important statement. Although the three lower parts move in a similar rhythm in these bars, each line has its own motivic character which, because of their intervallic makeup, strives towards the main motive of the movement and of the work. The second violin line shows this most clearly. It is based on a rearrangement of -

D F/Gb A Ab

At this point, the motive oscillates between major and minor third. Gb is the stressed pitch, at the beginning of the bar. As F#, this pitch is the second main tonality of the section and the goal of the movement as a whole. This version of the theme, with Gb having a stronger influence as the major third has the following intervallic makeup -

D Gb A Ab

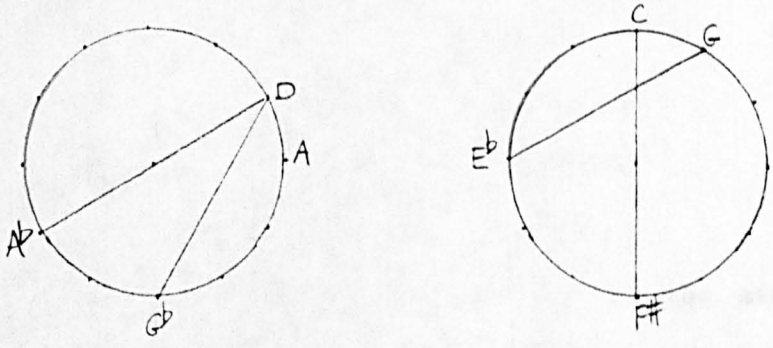
4 3 1

The final version of the motive has the following pitches -

C Eb G F#

3 4 1

The final version is preferred perhaps because of its stronger structure. This can be seen when the pitches of both versions are placed on the circle of fifths.



It is interesting that the idea is being tried out at this point on the D/Ab axis; the motive is introduced in its final form, and indeed is repeated many times in the work on these pitches, on the C/F# axis.

D/Ab is a whole tone from C/F# and both axes feature in the tonal architecture of the quartet.

Another point about this emerging theme, is its relation to the opening thematic fragment of the introduction. E/Bb relates to D/Ab and C/F# as pitches of the tonal architecture of the whole work. Also, both ideas are based on the conflict of fifth with tritone. The working in the first subject adds an intervening third.

The 'cello presents a thematic fragment which has a major third outline which is then filled in chromatically. This may be a reference to the 'cello line in bar 4 where there was a similar procedure with a minor third. Then, the whole had a tritonal outline; in the present idea, the line is cyclic.

Bar 4 - A F# F E D#

3 1 1 1

Bar 10 - 11(1) - C E Eb D C# (C)

4 1 1 1 1

The arrangement of major third and semitone at the start of this motive suggests a link with the main thematic fragment of the work. To reinforce this, I have added A as the extra pitch at the beginning to complete the intervallic pattern. There is further justification for this as the writing is approached from Eb in the bass in bar 9, the counterpole of A.

(A) C E Eb (D C# C)

3 4 1 1 1 1

Main motive - C Eb G F#

3 4 1

Both fragments are based on tonic tritones.

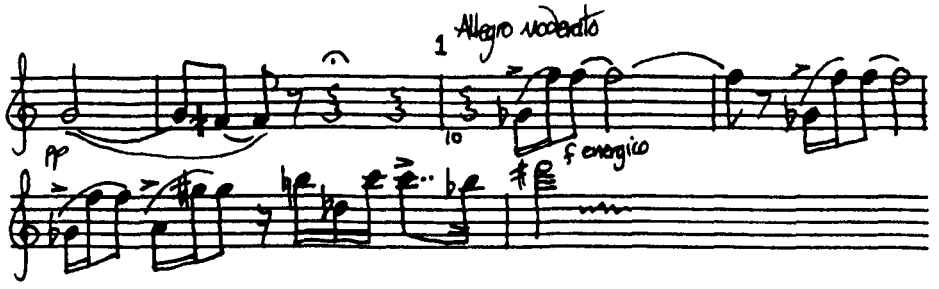
The viola in bars 10 - 11 implies a version of this motive on Gb, which is a reversal of the final version. The opening pitch is omitted.

(Gb) A Db C

3 4 1

Violin 1 continues the chromatic writing of the introduction. The last two pitches of the first section are G to F#. Bridge retains this important last pitch as Gb at the start of the first subject. The falling chromaticism continues until bar 12 and the full range of pitches from bar 8(3) gives a Db to F outline.

Figure 14.

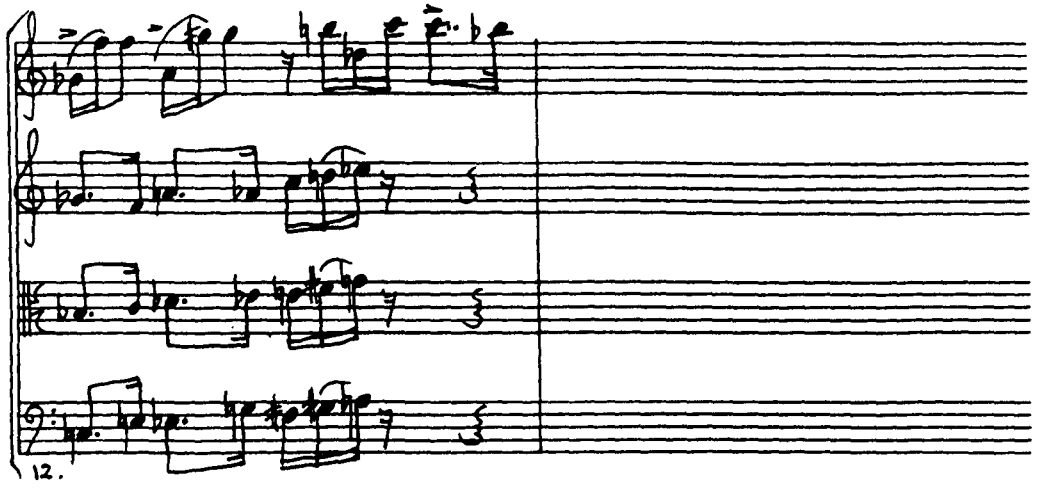


Db C B Bb A G# G F# F

This links with the F to B chromatic line in the first violin in bars 2(2) to 5(2). With F as the common pitch, an interlocking tritone and major third is produced. F is highlighted at the beginning of the first subject by being the upper pitch of the rising seventh. Its importance seems to be that of a unifying pitch, linking introduction and first subject. The F/B axis lies between the E/Bb tonal axis of the introduction and the C/F# tonal axis of the first subject. The use of this rising seventh also joins the two sections as this was introduced in bar 4 of the introduction.

Bar 12 is based on the two previous bars; here the material is treated sequentially.

Figure 15.



This is the first time in the work that the sequential patterning is not conventional; all parts rise up in minor thirds. The first violin sevenths move up from Gb to F and A to G#. The next two pitches are played in reverse order and separated by Db. The final pitches in the pattern, Eb to D may be present in the violin 2 semiquavers. By inserting Db into the first violin line, the sequencing pattern is broken but there may be two reasons for this. Firstly, this pitch completes the chromatic line with the major third outline mentioned above. Secondly, the opening pitches of the rising seventh figure now have an order of Gb A C Db which, when slightly rearranged have a link to the quartet's main thematic idea, being a reversal of it.

(Gb)/F# A (Db)/C# C

3 4 1

Main motive - C Eb G F#

3 4 1

The upper pitches of the rising seventh present another aspect of this idea.

F (G#)/Ab C B

This gives further support to the concept of F/B as a background unifying force at this stage of the work.

The main motive is more clearly seen emerging in the 'cello in this bar as a C to F# outline is clearly visible. [This is the axis on which the fragment is generally based in the quartet as a whole.] Again, the motive is somewhat obscured by the rhythm and the addition of extra pitches. The inner parts also have tritonal outlines. Gb to

C in violin 2 and Bb to E in the viola, the two axes underpinning the tonality of first subject and introduction respectively.

In bar 13 there is a return to the fragment that opened the quartet, in an altered rhythm. By placing this in close proximity to the emerging first subject theme, Bridge is perhaps indicating their common basis of tritone with fifth/fourth. The fragment is placed in the inner parts in octaves. This type of doubling of important thematic material was much favoured by Bridge but its origins lie in the flowing lyricism of the earlier works. At this point, Bridge is using an older technique with the new way of constructing thematic material. The pitches are as before but the idea is now placed against an upper F# pedal. This is an important tonal pitch but also this is the thematic goal of the emerging motive and in this way, Bridge draws the two ideas together. By putting the three pitches of the opening thematic fragment with the F#, a pattern emerges that demonstrates one way of dividing the tritone -

Bb E F F# Bb

6 1 1 4

As before, the Bb E F E figure is followed by falling chromaticism. This time the line does not fall from F to B but from F to C# which forms a major third interlocked with the earlier tritone and is the same outline as that in violin 1 in bars 8(2) - 12, with different inner pitches.

F E Eb D C# A

1 1 1 1 4

This demonstrates a balanced sub-division of interlocking major thirds. The putting together of two identical intervals and dividing one semitonally is a new technique to the structuring process. The result is balanced motivic writing based on intervals of symmetry. The A which follows the semitonal line, links with F and C# to form interlocked major thirds, as shown above. A is highlighted by being approached from the minor sixth below. This technique of stressing important pitches by incorporating them into wide spaced intervals is another new one for Bridge.

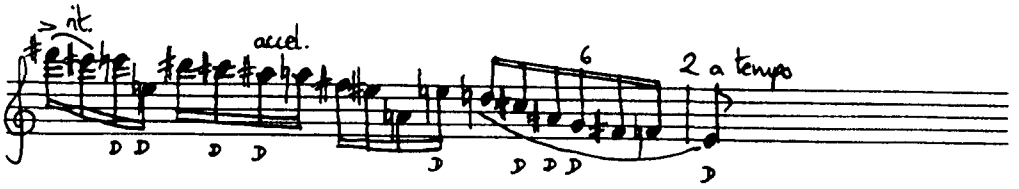
The 'cello in bars 13(2) - 14(1) further cements the link of the two motives, that of the opening of the work and of the emerging first subject. Bridge achieves this by rearranging the pitches of the latter on the E/Bb axis. The sounding order is G E Bb EB, the last two pitches sounding together. The order can be rearranged to form the first subject motive -

E G B Bb

3 4 1

This use of the dominant axis is continued into bar 14 where the two inner parts have a chord of G C# A#. This structure is approached from a unison G in these parts at the end of 13. The unaccompanied first violin line is also based on these three dominant pitches -

Figure 16.



The full range of pitches in this cadenza figuration is -

C# D D# E F F# G A A#

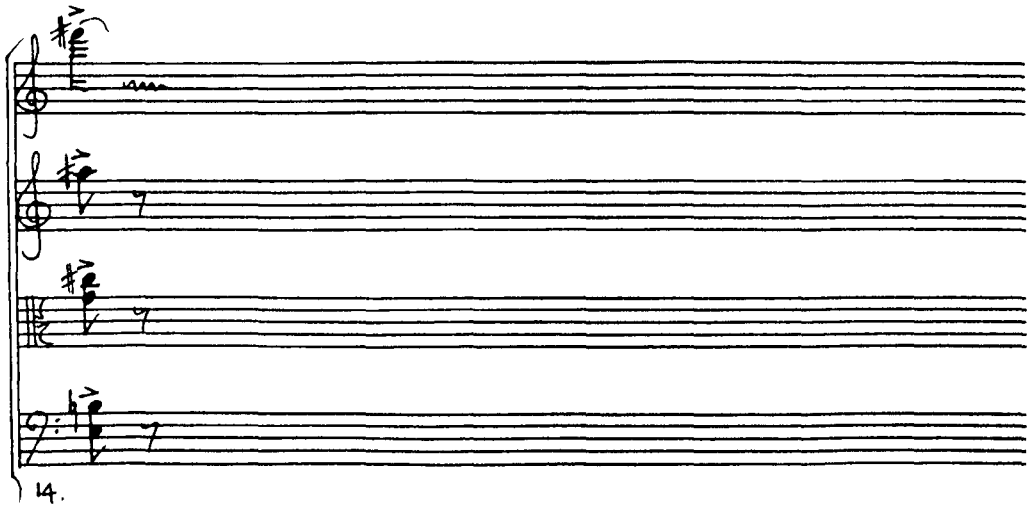
1 1 1 1 1 1 2 1

G# is omitted from the pattern, possibly to draw attention to the tritonal importance of the structuring and to highlight the G C# A# basis of the line.

A final point about bar 14 concerns the chord at the start. Although mention has been made of the constituent parts, which can be explained in terms of Bridge's radical methods, the coming together of the four parts, briefly, at the start of the first beat, forms a chord of F# major11. This reinforces F# as a forthcoming tonality as chordal textures have been rarely used so far. However, the arrangement of the pitches implies that there are two conventional triads here, E minor and F# major. This way of pairing conventional triads is new to the medium but is a technique that Bridge was to develop and explore more fully and overtly in the fourth quartet.

Figure 17 overleaf.

Figure 17.



E and F# are important tonal pitches in the quartet, the former as the centre of symmetry of the work, the latter as the tonal goal of both this movement and of the whole work. The pitches of the two triads form a palindromic symmetry -

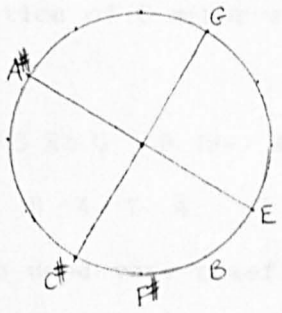
E G B F# A# C#

3 4 7 4 3

Another way of explaining this structure is as paired dominant axes, with added fourth and fifth. This reflects the sort of tonal structuring of both introduction and first subject. [See Figures 5 and 12.] The continued use of the dominant axis also refers to the implied tonal symmetry of the quartet, as E.

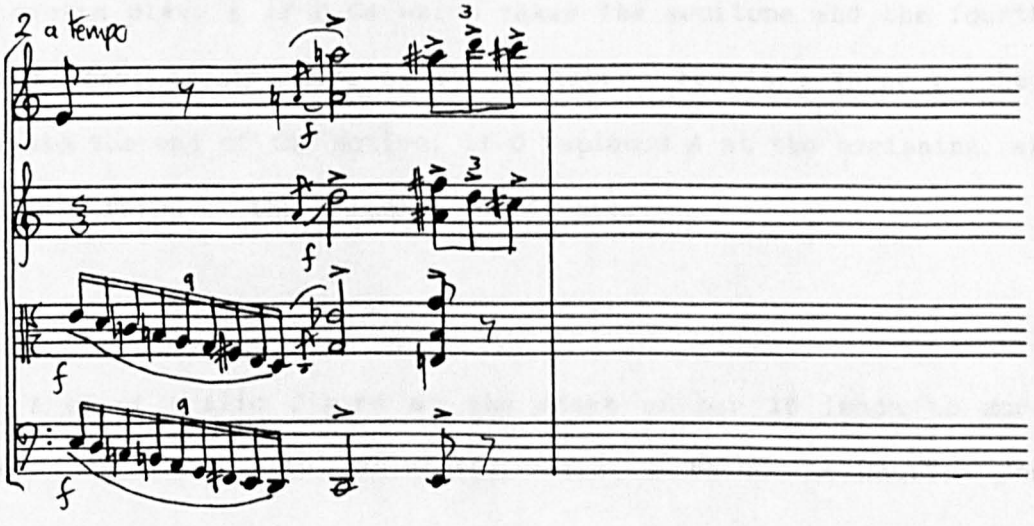
Figure 18 overleaf.

Figure 18.



The downward run in violin 1 is passed over to viola and 'cello in octaves at the beginning of bar 15. New pitches are used which comprise rearranged added fifths with a C to F# outline, thus reflecting the tonal architecture of the section. Also, the sounding order has an E to C outline which reflects the tonal progression of the introduction to the first subject.

Figure 19.



This downward motion culminates in two emphasised chords. Both are similar structures to that at the beginning of bar 14. The first of these implies a combination of C minor and D major triads, with F# omitted.

C Eb G D (F#) A

3 4 7 4 3

The second chord, which is used very briefly, is the same as that at the beginning of the previous bar. This results in intervallic symmetry from the pitches involved in this progression in bar 15.

C Eb G D (F#) A E G B F# A# C#

3 4 7 4 3 7 3 4 7 4 3

Also, the progression comprises four triads a whole tone apart whose roots are taken from the tonal architecture of the quartet, C D E and F#. This tritonal outline reinforces the tonal makeup of the section too.

The accented thematic fragments in the violins at the end of bar 15 are based on intervals used in the quartet's main motive. The first violin plays A A# D C# which takes the semitone and the fourth from the tonal architecture of the section. The last three pitches constitute the end of the motive; if G replaced A at the beginning, an authentic version of the fragment would result.

A short scalic figure at the start of bar 16 leads to more chords. The three note descending scale, C Bb A, is doubled for

emphasis and yet this does not appear to have links with the previous scalic writing in bars 14 - 15. It is possible that this fragment has its origins in the scalic fragment in the second violin in bar 12. Both begin on C and have a tone - semitone arrangement, one ascending, the other descending. Together, the two lines form a symmetry round C.

A Bb C D Eb

1 2 2 1

The first chord in bar 16 repeats that of 15(2-3), the combination of C minor and D major triads. It is followed by a combined Eb minor with F major on the third beat of the bar. This means that the progression differs from the previous one as it is not made up of four triads a whole tone apart but two pairs of whole tones a semitone apart -

C D Eb F

2 1 2

This intervallic arrangement links the whole tone from the overall tonal architecture of the quartet with the semitone relationship from the tonality of the first subject. The pitches of the four triads also have an implied symmetry although F# is omitted again; this pitch is about to assume the tonality.

C Eb G D (F#) A Eb Gb (Bb) F A C

3 4 7 4 3 6 3 4 7 4 3

This time, the tritone is at the centre of the symmetry, replacing the perfect fifth, which continues the interplay of these two intervals.

The augmented fourth lies ouside the intervallic makeup of the triads, the fifth is a part of it.

The incidence of A E Eb at the centre of these chordal progressions in bars 15 - 16 links with the split scalic ouline mentioned above, bars 12(3) and 16(1). The final chord in bar 16 has no basis in convention as it comprises whole tones from the tonal architecture of the work, D E F# and Ab. This has a symmetry round B and it leads directly to F# tonality from the start of bar 17. This is a new way of expressing a IV - I progression.

The bass notes in bars 16(2) - 17(2) are important as they indicate the emerging motive, C Eb F#. The octave displacement conceals the link. The fifth, G, is omitted. The complete motive is then presented in the bass in bars 17 - 18.

Figure 20.

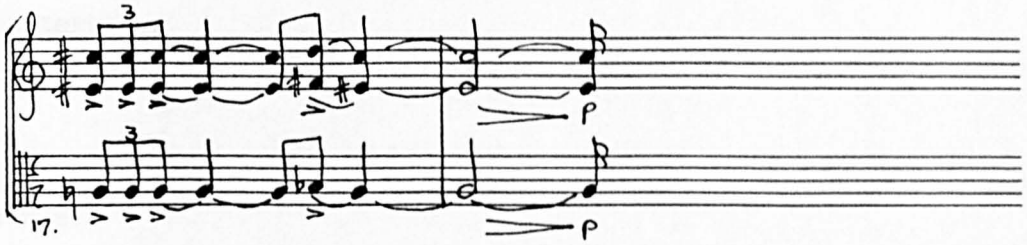
In bar 18, the motive is passed on to viola and then violin 2. This theme is the source of the tonality, F#, and is thus one instance of

Bridge unifying these two elements. This motive comprises a triad and tritone, thus incorporating intervals of semitone, major and minor thirds, perfect fifth and tritone. The opening thematic fragment of the introduction placed the tritone before the fifth. In the present motive, this order is reversed and the fifth is filled in with the third. The pitches are also similar to those of the tonal architecture of the section. The C/F# tritone is common to both. G in the theme replaces C#, its counterpole, from the tonality. Eb, as an axial third to C and F#, is extra to the tonal pattern. The theme is not symmetrical but is based on intervals of symmetry and furthers the conventional/radical conflict by presenting fifth/triad with augmented fourth. The combination of a C minor triad with F# may refer back to the chord structures in bars 15(2-3) and 16(2) where F# was actually omitted.

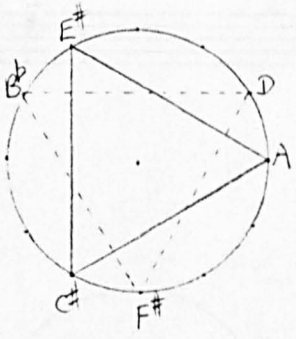
Above the theme, the texture is chordal. As in the introduction, the inner parts move together in the same rhythm and therefore suggest a unity. As previously, they use a triplet rhythm but the structures are different as augmented triads, which consist of interlocked major thirds, are employed. The favoured structure is A C# E#, which alternates with Bb D F#. This represents a kind of plagal progression as all three pitches move by a fourth and back on the circle of fifths.

Figure 21 overleaf.

Figure 21a)



b)

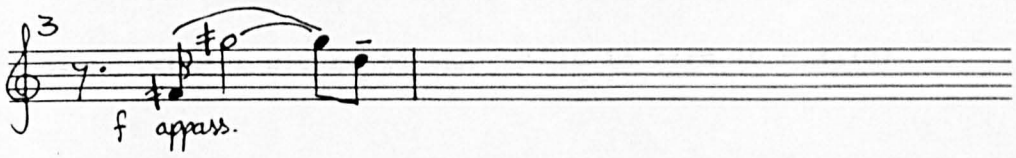


The plagal progression is important to the quartet as the three movements have tonic subdominant tonic tonalities. The main chord, on A, foreshadows the final chord of the work, especially as it is put with F# and G# in the outer parts which produces a symmetry on C#. [F# and G# are important tonal pitches in the quartet.] This is new to the quartet at this point but it is the final symmetry of the piece, like E, a dominant pitch. This important chordal structure is placed with the first playing of the quartet's motive.

The motive is dropped in bar 19 and F# is weakened as a tonality as it becomes an upper pedal in violin 2. Violin 1, meanwhile, has a rising ninth from F# to G#. Once again, Bridge uses a wide spaced

interval to point to important pitches. The G# is retained and then resolved onto D at the end of the bar and thus tritone and major third are put together.

Figure 22a).



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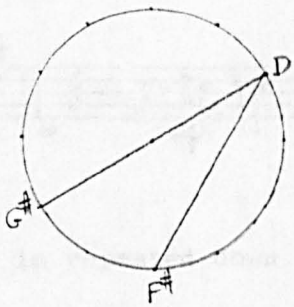


Again, this is inner working derived from the overall tonal architecture. The D actually links with the pitches in bar 20 but it is separated from them by rests. With the C# B# B and G#, a balanced division of the tritone is achieved, a concept introduced by the 'cello in bar 4 of the introduction.

Violin 1 - 19-20 G# D C# B# B G#

6 1 1 1 3

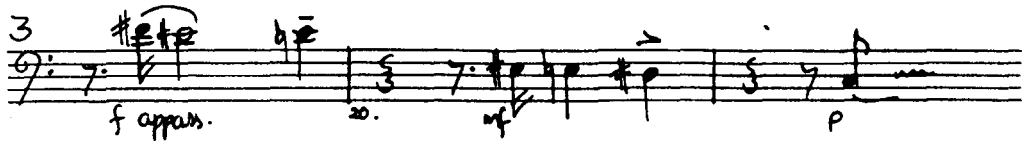
Bridge has presented the tritone and then subdivided it into semitones and minor third. This may relate to the tonal structuring of the first subject.

C C# F# = C C# (D D#) F#

1 1 1 3

A similar process occurs in the 'cello in bars 19 - 21(2).

Figure 23.



The downward chromaticism is repeated down the octave and followed by a minor third.

F# E# E D# C

1 1 1 3

This thematic structuring is interlinked with the first subject tonality and theme, having the same axis as its basis. With the first violin, tritones on F# and G# are presented.

The viola line in bar 19 uses the F#/C axis too.

Figure 24.

This fragment is based on the main motive but the major third is replaced by the whole tone. [The major third can be subdivided into two whole tones.]

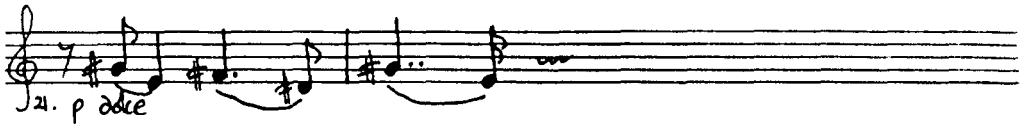
F# A B C replaces F# A C# C

3 2 1 3 4 1

The main motive is taken up again in bar 20 by the viola at original pitch, starting on C. Like violin 2 in bars 18 - 19, it leads to an F# pedal figure.

The dynamics are drastically reduced in bar 21. Up to this point, the first subject has maintained the forte established at the beginning. The mood is less aggressive now as the energico and appassionato markings are replaced by dolce. Bars 21 - 26 present this quieter expression but then the music builds up again for the return of the main motive in bar 28. Some new material is introduced in bar 21 but it probably has its roots in the motive. The first violin idea in bars 21 - 22(3) is seemingly relatively unimportant at this point but from bars 28(4) - 30(2) it is given great prominence.

Figure 25.



The fragment is based on major and minor thirds which links it with the main motive. However, this is a falling rather than a rising theme and the interval arrangement is reversed. Another feature is revealed in bar 22 where the fragment is repeated. Here, it becomes clear that the idea is based on F# and G# as the latter is placed on the beat and given greater value. F# and G# stem from the overall tonal plan of the quartet, E and D# from that of the introduction where they were placed with Bb. If counterpole replacement is used to exchange E for A#, the motive in bars 22 - 23 is more clearly shown to derive from the main motive.

Actual version - D# F# E G#

3 2 4

With counterpole replacement - D# F# A# G#

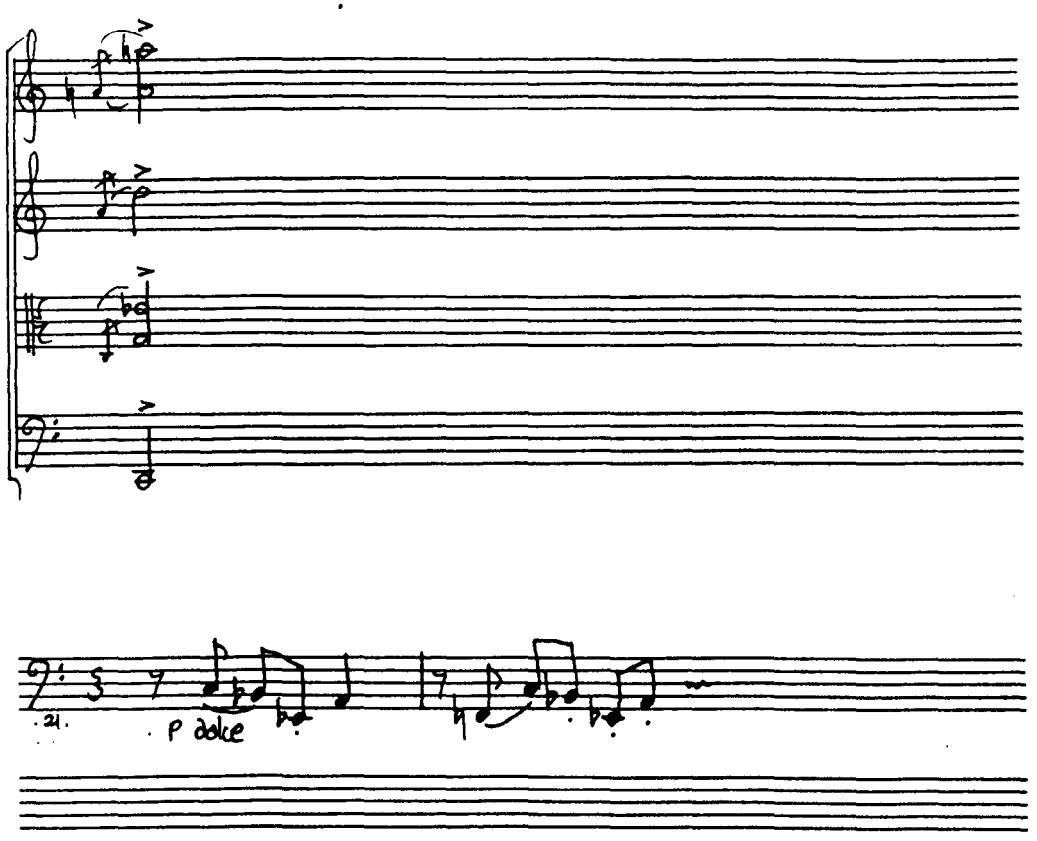
3 4 2

The whole tone at the end replaces the semitone.

The bass line in the same bars, 21 - 22(3), is based on the adjacent Eb/A axis. Once more, the repeat of the material in bars 28(4) - 30 clarifies the working. The pitches A Eb Bb F and C combine the tritone with added fifths. A similar arrangement, which has its origins in the tonal scheme of the section, was used harmonically in

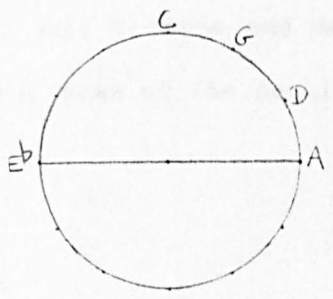
bar 15(2-3). At that point, the same axis was used but the fourths are a mirror image of the pitches used in the 'cello theme in bars 21 - 22(3).

Figure 26.

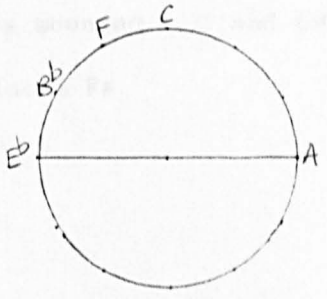


contd.

Figure 26 contd.



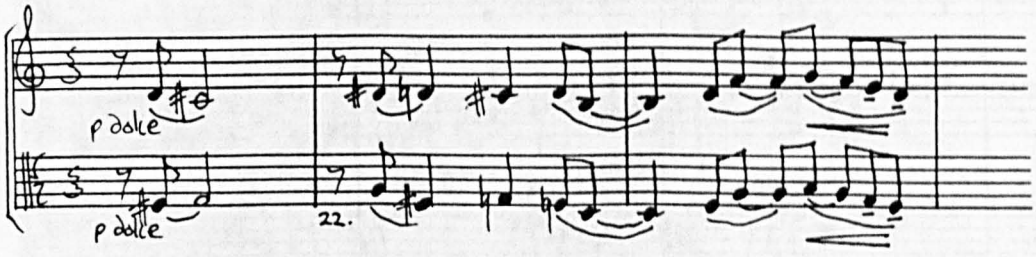
Chord 15(2-3)



'Cello 21-22

The inner parts in bars 21 - 23 move together once more and therefore imply a unity. All the pitches in these parts form a symmetry on E, the centre of symmetry of the work.

Figure 27.

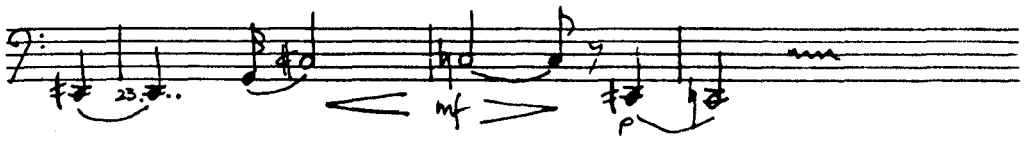


E F F# G A B C# D D# E

1 1 1 2 2 2 1 1 1

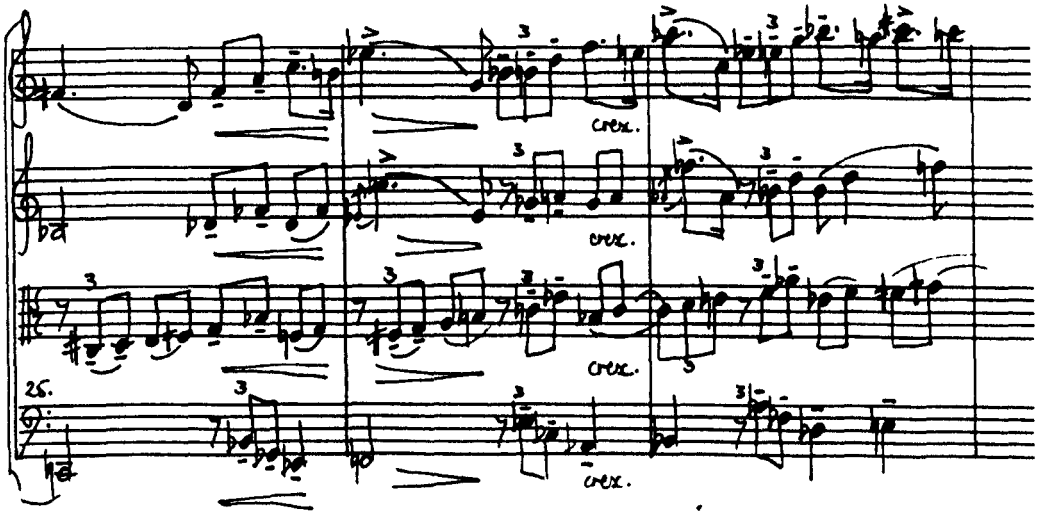
The 'cello in bars 22(4) - 25(3) clearly articulates the dominant axis which seems to support the above symmetry on E. The pitches C# G C once more combine tritone with fourth although the way the line is structured only tritone and semitone are sounded. C and C# originate in the tonal plan of the section, G replaces F#.

Figure 28.



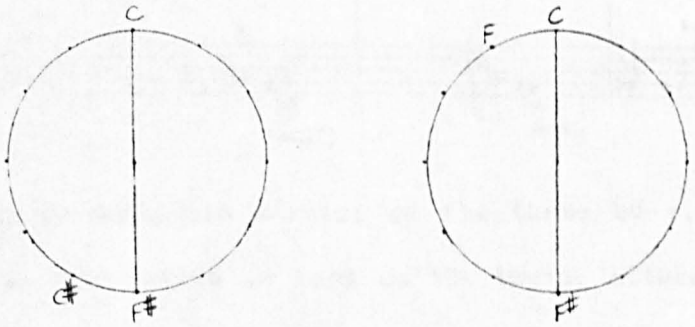
From bars 25 - 27 Bridge uses conventional sequencing. This is clearly pointed by the opening 'cello pitches of each bar.

Figure 29.



The pattern is broken in bar 28 with a major third move replacing the fourth. This means that the bass pitches have a C to F# progression, C F Bb F#, which is derived from tonal structuring of the first subject. C F and F# are in fact a mirror image of the C F# C# of the tonality.

Figure 30.



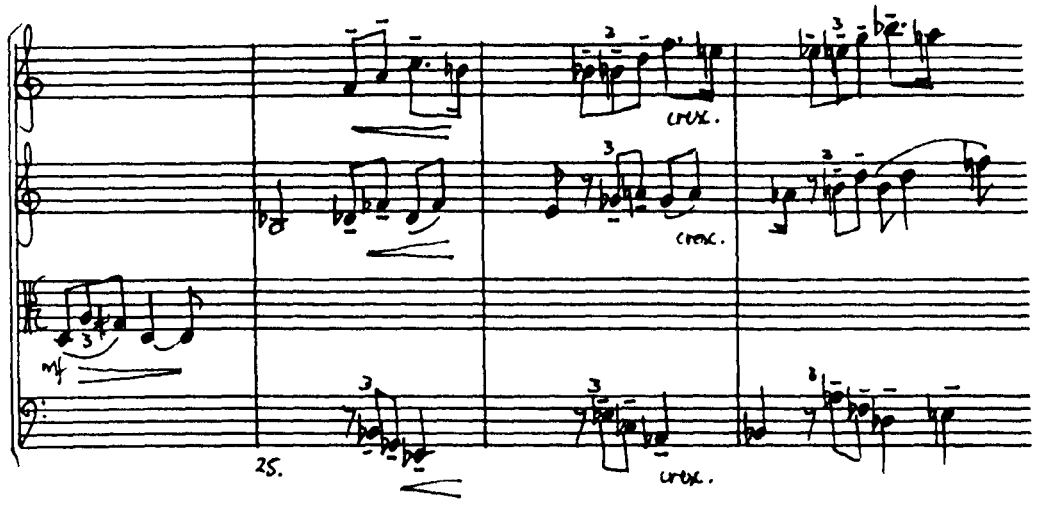
Tonality Bass

Bb provides the major third which interlocks with the augmented fourth. All these pitches except for F# were used in the bass line in bars 21 - 22. F# replaces Eb as an axial third.

The sequences in these bars contain a number of references to the main motive but all are in a different rhythm to the original and all are incomplete.

Figure 31 overleaf.

Figure 31.



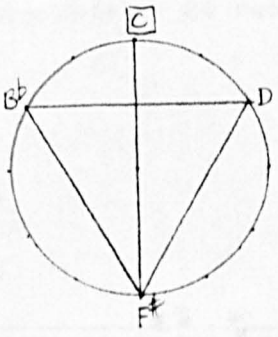
These lead to an authentic version of the theme by violin 2 in bar 28(3-4). Here, the motive is back on the tonic, although not at the original pitch, having an A to D# outline. The use of this axis may relate back to the Eb/A bassline progressions in bars 21 - 22. So far in the movement, the only authentic playings of the motive have had tonic axis outlines.

Another way that the sequencing is highlighted is the coming together of the upper parts at the beginning of each bar with a dotted rhythm, dotted crotchet to quaver in bars 24 - 26 and 28 and dotted quaver to semiquaver in bar 27. In each case, the pitches of the two parts form a structure of interlocking major thirds. These form a progression of fourths. The bass pitches in these bars provide the tonalities and these form a tritone with one of the violin pitches.

Figure 32 overleaf.

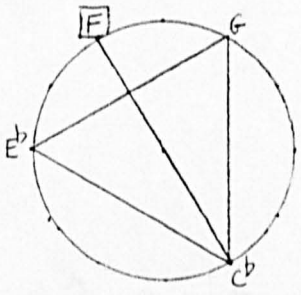
Figure 32.

a)



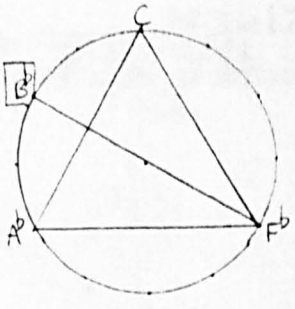
24(1-3)/25(1-2)

b)



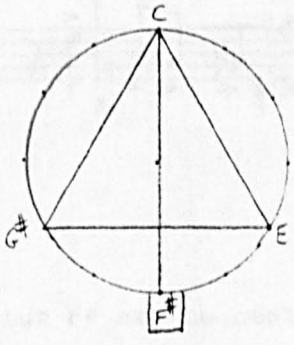
26(1-2)

c)



27(1)

d)



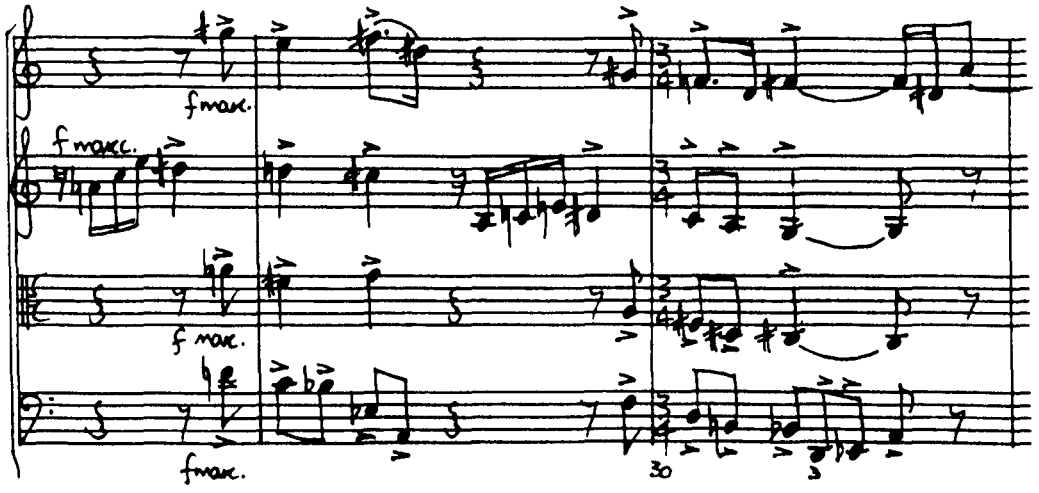
28(1-2)

Boxed pitches indicate tonality.

These sequential bars, while seeming to be rooted in tradition are, therefore, actually combining this with more radical ways of structuring.

The unaccompanied playing of the main motive in bar 28(3-4) marks a return to a more agressive style and the dynamics are forte once more. Bars 28(4) - 30 repeat 21 - 22 but with certain alterations.

Figure 33.



The violin 1 line is still symmetrical but F# as the central point is replaced by F/F#.

D D# F F# G# A

1 2 1 2 1

These pitches form fourth/fifth, tritonal and third relationships.

The bass line has certain changes from bar 29(4). The original F Eb/A is followed by a retrograde version of the main motive.

F D B Bb D (Eb A)

3 3 1 4

The first four pitches can be rearranged as -

F D Bb B

3 4 1

which shows the descending theme more clearly. The repeat of D after Bb in bar 30 points to the rearranged pitches.

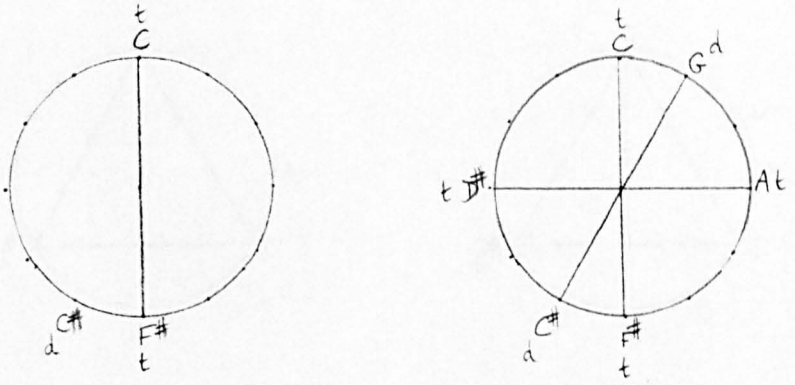
The inner parts in bars 28(3) - 29 are as before with two playings of the main motive on A added. In bar 30 the writing is altered to form a progression of augmented fourths. This takes up the A/D# at the end of 29. Two more references to tonic axes lead to the dominant -

A/D# → F#/C → D#/A → C#/G

This represents an amplification of the tonal architecture of the first subject.

Figure 34 overleaf.

Figure 34.



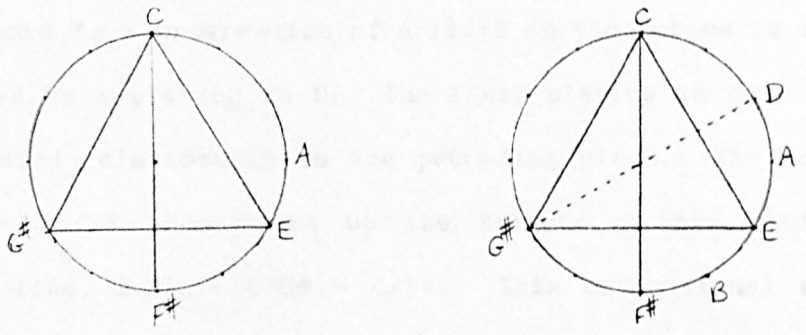
Tonality of section Axis progression

D#/A is used in the outer parts in this short passage too, as Eb/A in the 'cello in bar 29 and as D#/A at the end of 30 in violin 1.

A emerges as an important pitch from bar 28(3). This pitch subdivides the C/F# tonal axis of the first subject. [It is also to be an important element in the final chord of the work as it forms the basic chordal framework with C# and E#.] Apart from the tritonal writing on A/D#/Eb in bars 28(3) - 30, there is a climax at the beginning of bar 31 on a chord based on an A minor triad, with F# and G# added. This is followed by a scale of A melodic minor in violin 1 which leads to a pedal A in bars 31(3) - 33(3). This scale features F# and G# and so chord and scale are interlinked.

Figure 35 overleaf.

Figure 35.



Chord 31(1) Scale 31(1-3)

The scale amplifies the chord pitches with the addition of adjacent fourths/fifth.

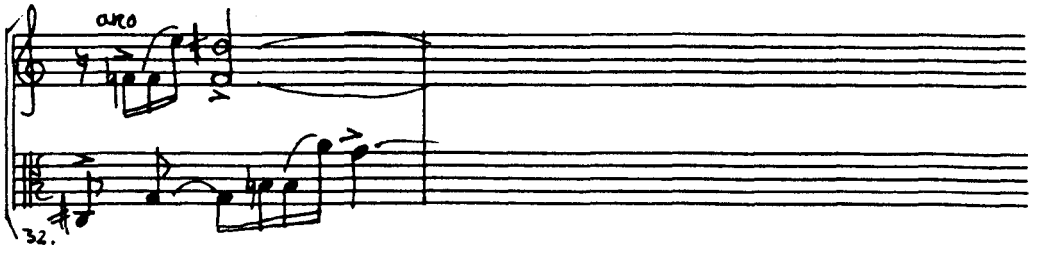
A number of points can be made concerning the two structures above. Firstly, both are clearly derived from the tonal architecture of the quartet [See Figure 3]. The emphasis of F# and G# is a reference to these pitches being the tonal goals of the three movements. A lies outside the tonal structuring of both the large and small scale but it represents another aspect of the tonic on which the movement is based. It also has a plagal relationship with E, the work's centre of symmetry, and in the scale, the presence of B results in the restatement of that symmetry.

The scale leads to a short passage on the main motive in bars 31(3) - 34(3). This passage contains authentic versions of the motive

starting on dominant and subdominant pitches. This is the first time that other axes have been used for stating this idea in its original version. There is a progression of a fifth as the motive is begun on G and followed by a playing on D. The final playing is on F which has an axial third relationship to the preceding pitch. The 'cello line in 34(3) - 35(2) then takes up the tritone of the motive for a descending line. D/Ab → G/C# → C/F#. This conventional sequencing draws fourth and tritone together again.

Two fragments in the inner parts link to the tritonal activity. Both occur in bar 32. The second violin takes up the rising seventh used earlier in the movement but now this resolves down a semitone.

Figure 36.



D# links with the A in violin 1, as its counterpole. This axis was used considerably in the preceding bars. This suggests that the other two pitches in the idea, E and F, form a unity with A and D#. In fact, E and F begin a semitonal division of the tritone.

D# E F A

1 1 4

The viola in the same bar subdivides the G/C# tritone into whole tones.

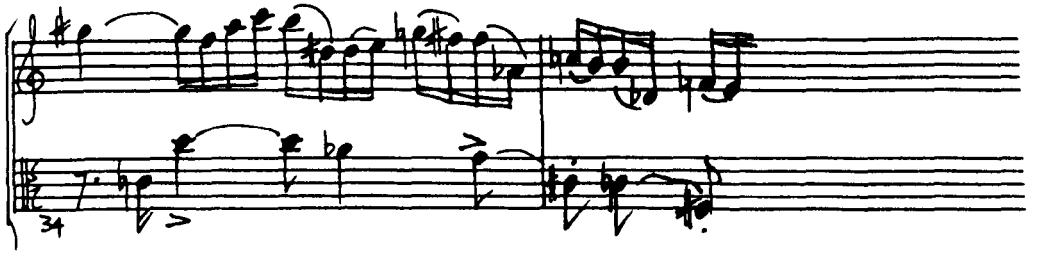
G A B C#

2 2 2

The line is rearranged so as to make this less obvious but this whole tone writing clearly links two statements of the main motive by the viola with a G to C# outline.

The violins are brought together, sounding an octave apart, from 34(3) - 35(2) with what appears to be new material. It is, in fact, based on the end of the main motive but E as an extra pitch near the beginning and the falling sixths obscure this.

Figure 37.



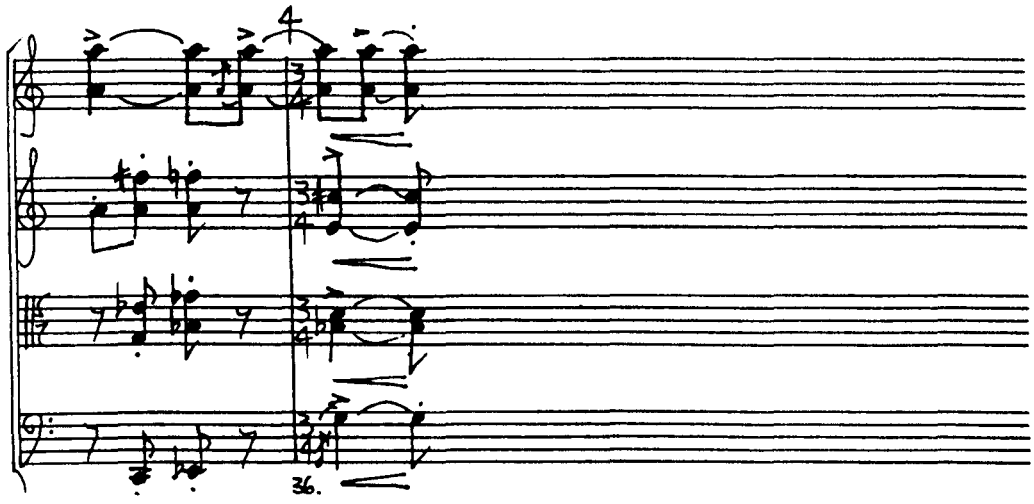
D# (E) G F# Ab C B Db F E

4 1 4 1 4 1

Again conventional sequencing at the interval of the fourth is used.

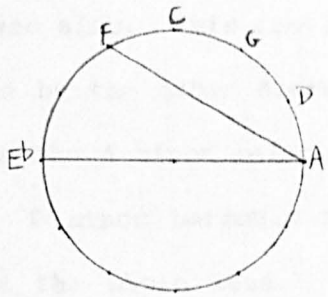
There is a return to the upper pedal A in bars 35(3) - 36(2). This time chord progressions are placed underneath.

Figure 38.



There is a reference to the main motive in the bass pitches here, C Eb G, which is approached from F# on the second beat of bar 35. The chords are similar to the earlier progressions, bar 15(2-4) and 16(2-3). By incorporating the pedal A, two triads a tone apart emerge, one minor one major. This is most clearly articulated at the beginning of bar 36 where G minor is put with A major. The two preceding pairs are C minor with D major and Eb minor with F major. The roots of these triads have an outline of interlocked tritone and major third, with A as the common pitch, filled in with adjacent fifths.

Figure 39.



The paired triads still form 3 4 7 4 3 symmetry but the full symmetry of the progression is broken by Eb, the counterpole of A, which forms a tritonal link instead of a fifth.

C Eb G (D) F# A Eb Gb Bb F A (C) G Bb D A C# E

3 4 (7) (4) 3 6 3 4 7 4(3) (7) 3 4 7 4 3

[Bracketed pitches are not sounded.] Were the progression to retain the correct intervallic makeup, the roots of the six triads would be C D E F# G# and A#, the whole tones that, apart from the last, form the tonal architecture of the quartet.

The E which was replaced by Eb in this progression is used as the starting pitch of another rising scale in bar 36. This does not feature in the first version of the work but its function is explained partly by the omission of E from the chord progression and partly for the importance of the pitch as the centre of symmetry of the quartet. The scale is similar to that on A from bar 31 which means the repeat is at the interval of a fifth. However, although E is the starting pitch, this is actually a harmonic minor scale on D. [These two

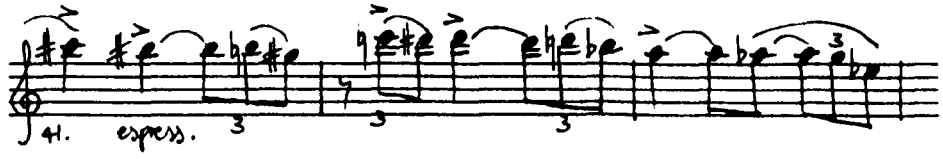
pitches are derived from the tonal architecture of the work.] The final resolution is delayed also. This results in an E to Bb tritonal outline which is followed by the other dominant axis, C# to G at the start of bar 37. Whereas the A minor melodic featured F# and G#, two important tonal pitches, D minor harmonic features Bb and C#. The minor third has replaced the whole tone. In fact, Bb is the only "wrong" note. If B were used instead, the scale would have the same intervallic makeup as before.

After the tritonal C#/G outline in violin 1 at the start of 37, violin 2 and 'cello play an ascending scale beginning on F#. In the first version of the quartet, this was followed by a pedal F# which lasted for eight bars. Bridge clearly decided to weaken the effect of this tonic pitch in order to delay and heighten its effect. F#, also from the tonal plan of the quartet, is a whole tone from the E of the previous scale. Like its predecessor, the starting pitch is not the root of the scale; this is an A major scale which refers back to the original scale in bar 31. The F# G# of the former are common to both melodic minor and major scales on A and it is these two important pitches that begin this scale in bar 37. F# as the opening pitch leads to G# as the final one and which is the start of another tritonal outline. The repeated use of the G#/D tritone in bars 37(4) - 38, may point to the absent D in the preceding scale. This part of the first subject shows the way that Bridge was using conventional, diatonic scales but in a manner that alters their emphasis.

The G#/D tritone in violin 2 and 'cello in bar 38 is put against the main motive with a C to F# outline in the other parts. This is followed by a return of the material from bar 20 et seq. It is played by violin 2 and doubled at the octave by the 'cello. The pitch is as before in bar 39 but the rhythm is slightly altered. The material is repeated up a minor third in the next bar but the sequential repeat is not exact as the final interval is altered from minor to major third. This means that the outline of the theme is a perfect fourth in bar 39 and a tritone in bar 40. This results in another interpretation of the fourth/tritone conflict which is presented in the tonal architecture of the first subject.

This idea is repeated in a varied form by the first violin in bars 41 - 43.

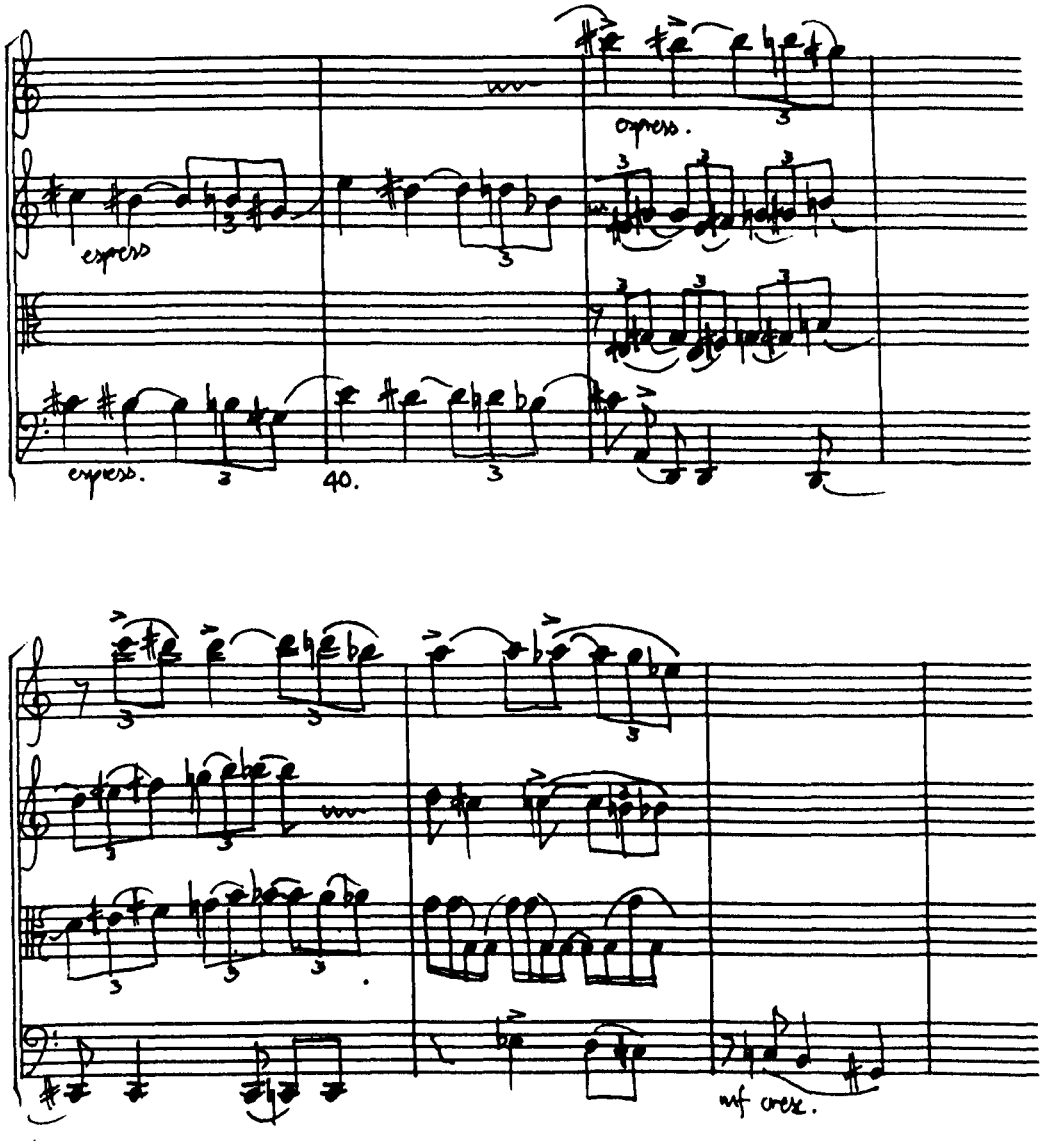
Figure 40.



The extra playing is a fifth below the preceding bar which means that the implied sequencing in these bars uses conventional and radical intervals. The extra bar also has a tritonal outline which gives emphasis to it over the perfect fourth.

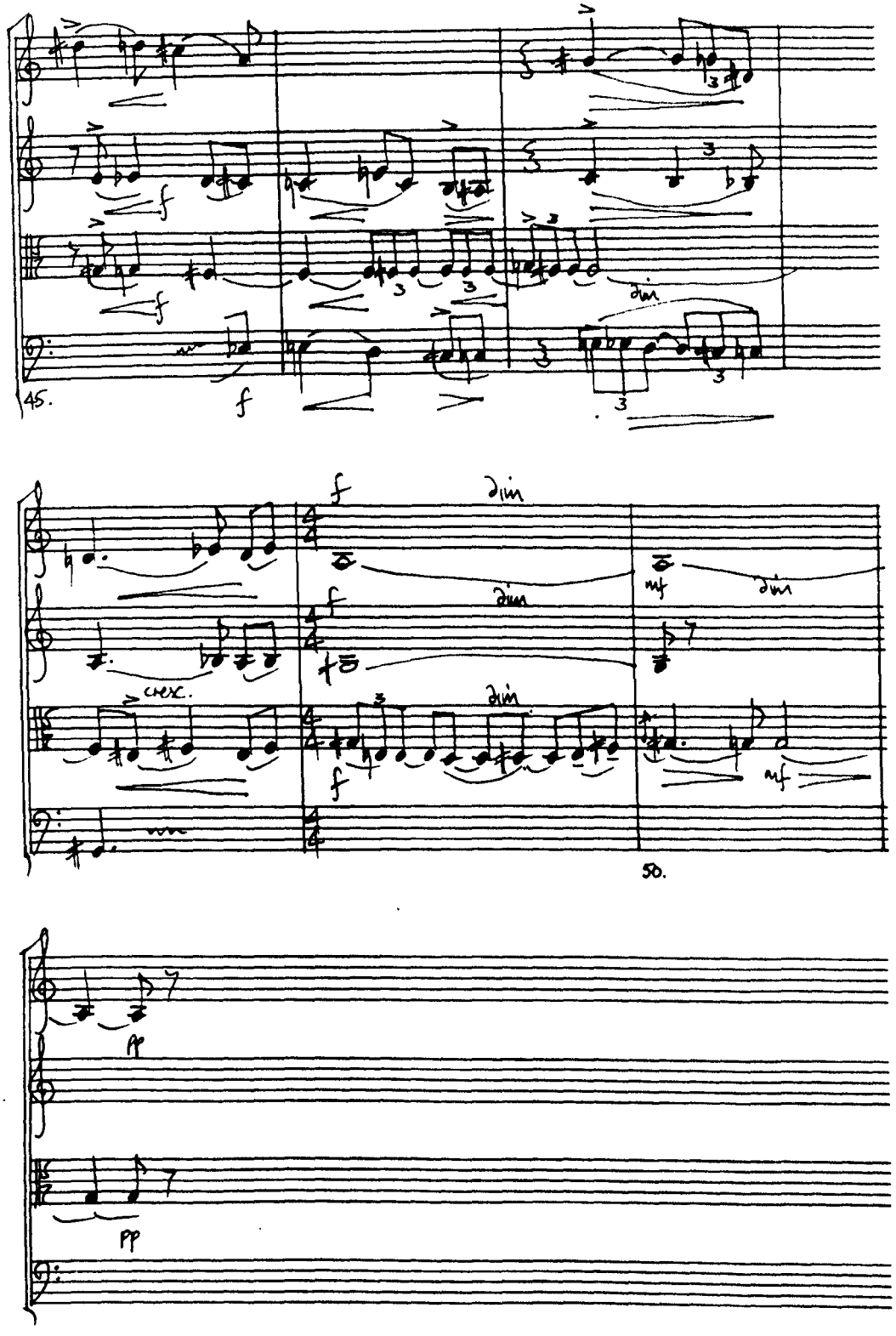
In fact, this material is now part of more general structuring in this way. This lasts from bar 39 to bar 51(2), the end of the first subject.

Figure 41.



contd.

Figure 41 contd.



Each of the fragments quoted above comprises falling semitones frequently put with a falling major or minor third. The overall outline of the fragments is major or minor third, perfect fourth or tritone. Most of the writing is clearly put together in this way but the viola in bars 41 - 43 contains a rearranged pattern. E# G# E# F# G G# B in 41 can be rearranged as E# F# G G# B with a 1 1 1 3 balanced pattern which has a tritonal outline. It is followed by two linked fragments which have G as the overlapping pitch - D E F# G → G B Bb A Ab G. These have 3 1 1 and 4 1 1 1 1 interval patterns respectively.

Most of the motivic structuring here is based on intervals of symmetry but the context is asymmetrical. One exception occurs in the 'cello figure in bars 45(3) - 49. The pitches are rearranged initially but are presented in their true order in bars 47 - 48, E Eb D C# C G#. This comprises a subdivided major third followed by its interlocked counterpart. A balanced structure results, 1 1 1 1 4, with E C and G# as the crucial pitches.

Another point of interest occurs in violin 1 in bars 48 - 51(2). The pitches are a rearranged semitone and perfect fourth, Eb D A. This results in pole/counterpole with added fourth, a structure taken from the tonal architecture of the section. Once again, it is the secondary tonic axis that is used, thus reinforcing its importance in the second half of the first subject.

Already, it is possible to see that the material is much more tightly knit than in the previous quartet. Three main ideas have been presented so far. The first of these is the opening fragment of the introduction which comprises augmented fourth with semitone to create an outline of a perfect fifth. The main motive of the first subject comprises minor third, major third and semitone which forms a tritonal outline. The perfect fifth results from the triadic outline contained here. The final fragment, which has emerged in the second half of the first subject, comprises semitones and third forming a tritonal outline. This is subject to many variants, unlike the first two which do not seem to suggest treatment in this way. The first two motives are interlinked, as mentioned earlier, and draw on tonal pitch relationships. The latter is concerned with subdividing intervals of symmetry, the tritone, major and minor thirds, into two balanced but asymmetrical halves.

Despite the presence of conventional fourths and fifths in the thematic outlines, the structuring is more radical than anything in the second quartet. The themes are motivic rather than melodic. This suggests that the fifth/fourth was used for its property of dividing the octave symmetrically, as a circle of fifths, rather than for its tonal implications. However, there are traditional touches, such as the sequencing, diatonic scales and triadic chord structures. Thematically, the triad is put with the tritone. Harmonically, triads are paired to form structures of symmetry. Whole tone relationships from this pairing of triads derive from the tonal architecture of the

quartet. Chords which comprise interlocked major third and tritone also derive from this source.

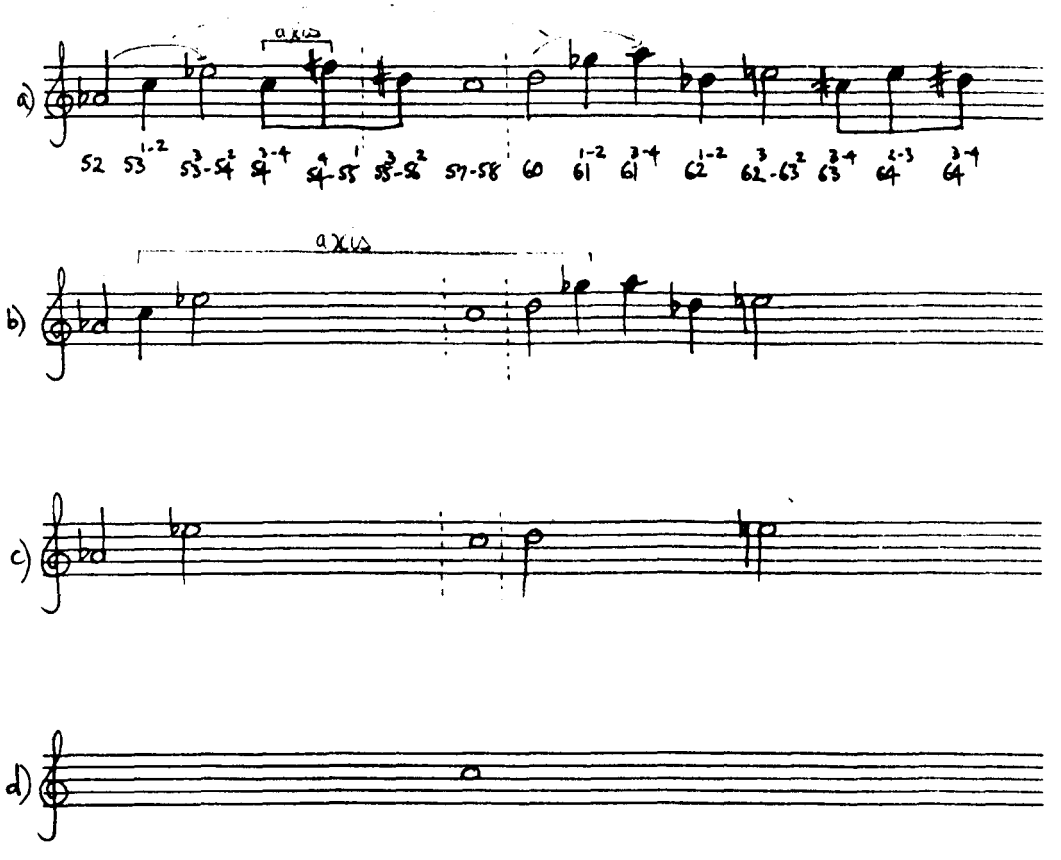
So far, the quartet has presented thematic and harmonic structuring which has derived equally from the tonal intervallic relationships of the large and small scales. The only interval which is common to both is the tritone. The whole tones of the overall architecture result in major thirds and tritones. The local tonal arrangement of both introduction and first subject comprise tritone and fourth/fifth.

The transition contains no alterations from the first version. It is short, just thirteen bars long. In such an organic style, it could be said that a transition is unnecessary. In the G minor quartet, this section was aiming to link two dissimilar musical styles. The writing in the third quartet is much more unified. The brevity of the transition here suggests a relative lack of importance. The transition in the G minor quartet created a feeling of expectancy by using an extended F# pedal towards the end. The present transition lacks the intensity of the earlier work. The opening bars continue the quietude of the end of the first subject. The middle is more animated but the quieter mood returns at the end with a repeat of the opening material. The more clearly delineated formal plan is a contrast to the organic writing of the first subject. Also, the idiom

is more smooth flowing than that of the preceding section and therefore less motivic in thematic construction.

The tonal structure is different to both the introduction and the first subject. As one would expect, the music continues to be tonally very fluid.

Figure 42.



Contd.

Figure 42 contd.

e)

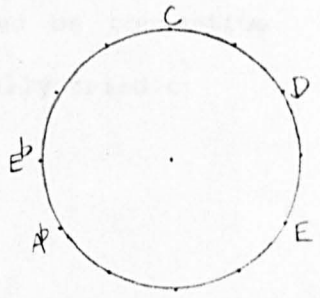
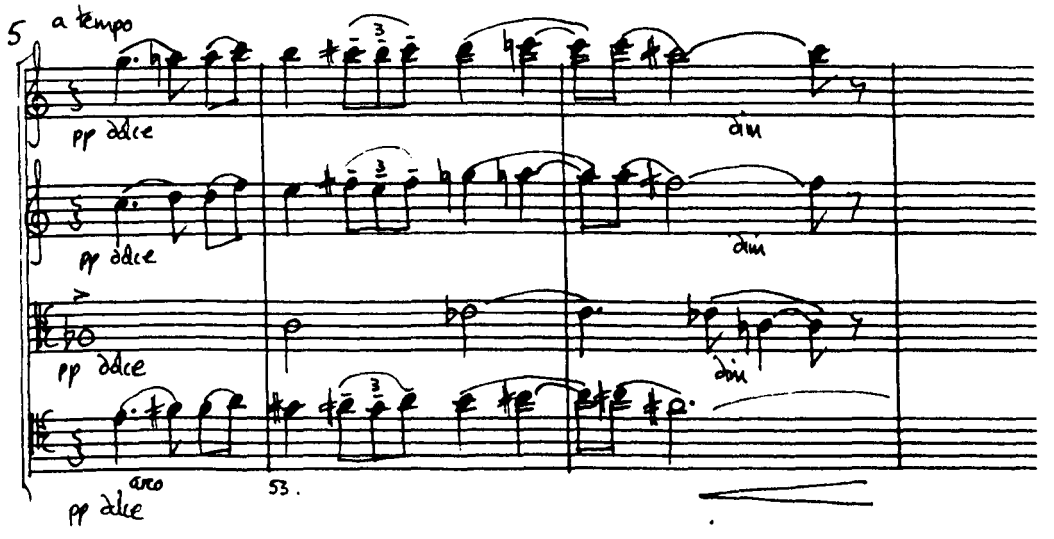


Figure 42c) shows all the main tonalities of the section and e) places these pitches on the circle of fifths. The latter shows how, for the first time, the small scale tonal structuring reflects that of the quartet as a whole. [See Figure 3.] Only Eb is extra to the overall architecture, which replaces F# as an axial third. As F# was an important pitch in the first subject it is logical that it should be removed at this point in the movement. Eb forms relationships of semitone, fifth and minor third with other tonal pitches. The interlocking major third is important in the section. The main tonalities have an Ab to E progression which links with C as the final tonality of the first subject and as the most important and central tonality of the transition. These three pitches, in their C Ab C E order, have a I IV I V function. Significantly, E is presented in an important position again.

A new quartet texture is presented to mark the start of the new section. The violins and 'cello move rhythmically together to provide

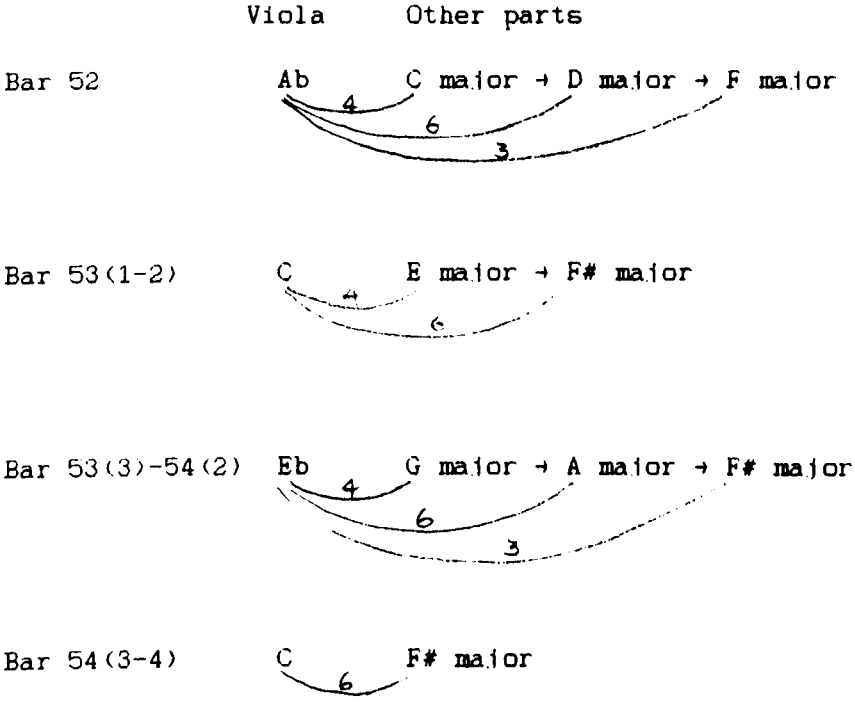
a foil to the slow moving viola line. This three against one texture is not new to the work but the singling out of the viola is. The writing is clearly based on convention. The viola line is quasi-thematic but it is actually triadic.

Figure 43.



The Ab major triad that the viola presents is not so distant from the triadic outline contained within the main motive of the first subject. The addition of D at the end would draw the two themes together further. The three other parts together form first inversion triads whose roots form third and tritonal relationships with the viola pitches. For the first time in the work, the horizontal line is secondary to the vertical.

Figure 44.

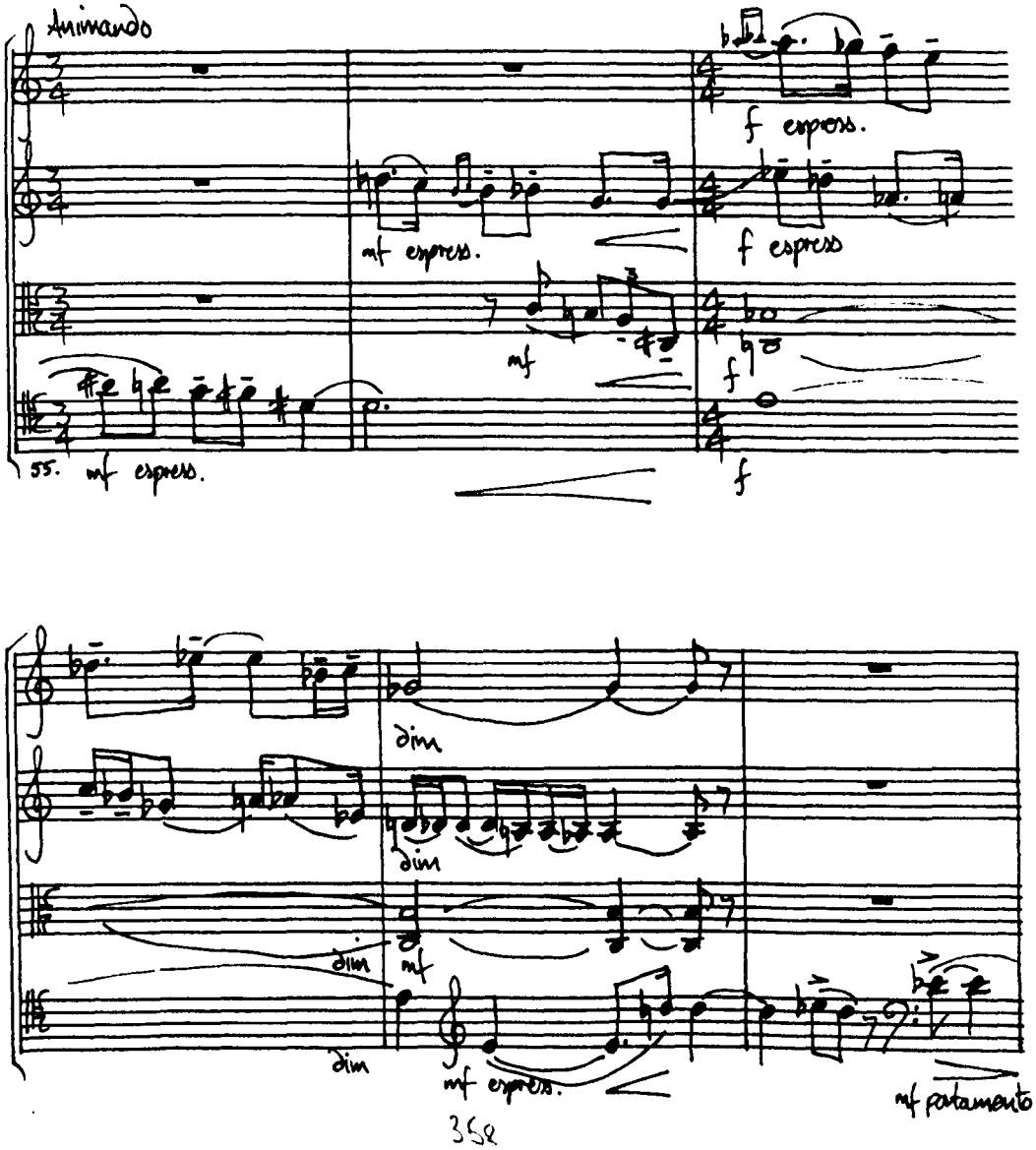


The tritone is the common factor here as each of the viola pitches is put with a triad whose root is an augmented fourth away. In addition, the first inversion triads are arranged to form a tritonal C to F# progression in bars 52 - 54. The final combination of C with an F# major triad in bar 54 may well be a reference to the main motive of the first subject. There C Eb G led to F#; here, F# A# C# is put with C. The violin and 'cello lines have tritonal outlines too in bars 52 - 54, G to C#, C to F# and E to A#. The latter axes are particularly important to the tonality of the quartet. The placing of the triads in first inversion may be to highlight the perfect fifth, which is placed at the top of the texture, and the major third, which is put at

the bottom. The latter interval is fundamental to the tonal structuring of the section.

The central part of the transition is at a faster tempo and includes the climax of the section at bar 57(1-3). It is freely chromatic and contrapuntal, in contrast to the first part of the transition.

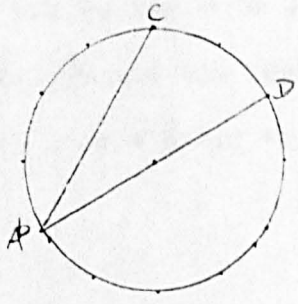
Figure 45.



This is the part of the transition that most prepares for the second subject. The triadic makeup of the first part had greater links with the first subject. The 'cello line is a continuation from the first part. Its pitches are essentially G D A and E with D# and G# as added counterpoles. Once again, the dominant axis features, as the outline of the added fifths. E is the point of repose towards the end. This leads to D as the opening pitch of the repeat of the first part of the transition in bar 60. D is also approached from Eb, in bar 59, which represents an extension of V - I, A being replaced by its counterpole.

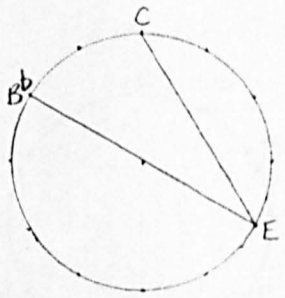
The other three parts have entry pitches of D C and Ab in bars 56(1), 56(2) and 57(1) respectively. These three pitches derive from the overall tonal architecture of the work [See Figure 3.] and of the section.

Figure 46.



These pitches link with the chord structure in the two lower parts in bars 57 - 58(3), C E Bb, to form a whole tone pattern. Significantly, F# is omitted again.

Figure 47.

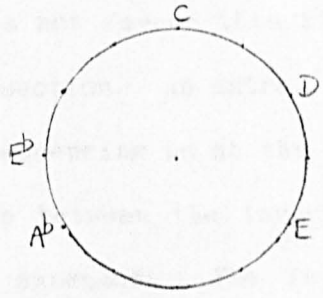


This type of structure will feature in the second subject. The chord alters in bar 58(3) to become three whole tones, Bb C D, with a major third outline. This is still derived from tonal structuring.

Violin 1 has a whole tone Ab to Gb outline in bars 57 - 58. These are enharmonic equivalents of G# and F# which featured in the first subject. The D to Ab tritonal outline of violin 2 in bars 56 - 58 is reinforced at the end by the D Db A Ab. The viola also has a whole tone outline, C to C/Bb and the 'cello has a tritonal A to Eb. These outline pitches are very similar to the main tonalities of the section.

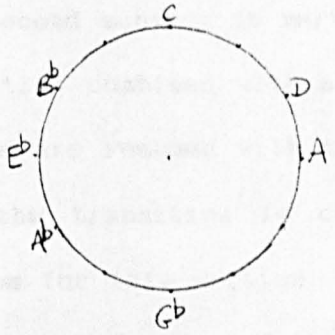
Figures overleaf.

Figure 42e)



Main tonalities of the transition

Figure 48.



Thematic outlines of section B

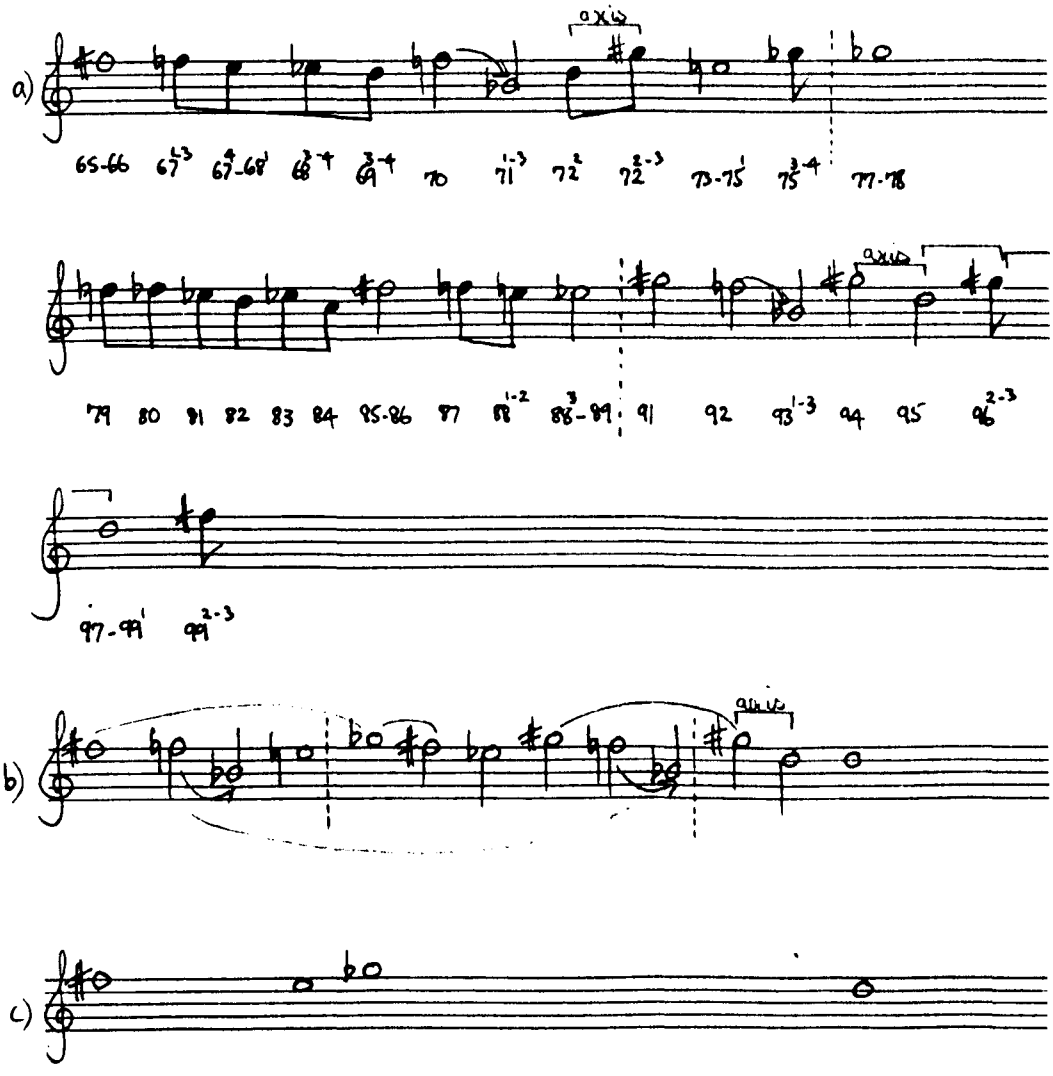
The repeat of the first part of the transition is two bars longer than the original but the basic principle is the same. Bars 60 - 61 is a counterpole repeat of bars 52 - 53. The parts are rearranged so that the first inversion triads are in the three upper parts and the

thematic triad is in the 'cello. The inverted triads begin on F# major, which is where the first section ended. This presents the expectation of an F# to C outline but this would form a closed structure and Bridge does not favour this kind of writing. Also, the transition is a leading section. An extra, sequential bar is added at 62 to avoid this. The sequencing is at the conventional interval of a fifth. The relationship between the inverted triads and the single line is as before but extended. The inverted chords now have a semitonal instead of a tritonal outline because of this extension, F# to G instead of C to F#. The 'cello line has a D major9 outline instead of a basic triad.

The start of the second subject is marked by a reduced texture at the end of the transition combined with a ritardando. The tempo and the four part texture are resumed with the second subject. The more flowing style of the transition is continued in the second subject, an expected idiom for this section. Whereas in the G minor quartet there was an abruptness because of the change of style between the two sections, the present transition provides more of a stylistic preparation and the second subject fuses a lyrical expression with an organic method. The thematically more relaxed writing is put with more organic accompanying material. Intervallic and motivic references link this with the first subject. However, the longer phrase spans are new to the work.

The second subject comprises two varied statements of the thematic material which begin in bars 65 and 77. The tonal divisions match this formal layout.

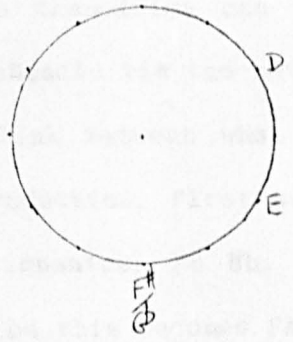
Figure 49.



contd.

Figure 49 contd.

d)



The downward tonal chromaticism from F#/Gb to D occurs at the beginning and recurs from bar 77. The start of this pattern comes again in bars 85 - 89. Although the second part of the tonal layout is not an exact repeat, there are notable points of reference, the F to Bb of 70 - 71 recurs at 92 - 93 and the D to G# axis progression is repeated in an extended form at 94 - 96. Both parts are tonally cyclic, F# to Gb from 65 - 75 and Gb to F# from 77 - 99.

Figure 49c) shows the main tonal pillars and d) shows them to be a series of whole tones, D E F#. This clearly links with the chromatic tonal progression at the beginning of both parts of the section as this has an F# to D outline. In this way, Bridge is linking small scale to larger scale in the tonal working. This whole tone pattern refers back to both the transition and, more particularly, to the overall architecture of the quartet. It also represents a completely different method of structuring from the introduction and the first subject, both of which combined

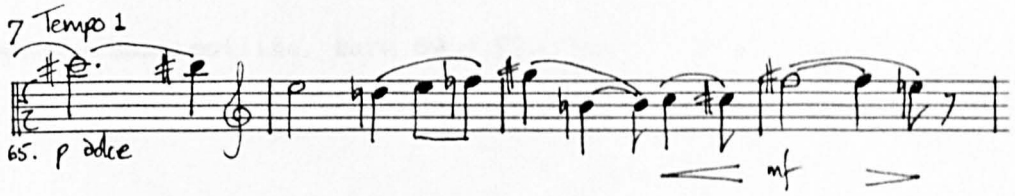
fourth/fifth with tritone. This combination occured in the transition too with D/Ab Eb. It also contained the same sort of whole tone pattern with C D E. The transition can therefore be seen to be linking first and second subjects via the method of tonal structuring. There is another implied link between what has gone before and the present section. The introduction, first subject and transition all contain fourth/fifth relationships, Bb Eb, F# C# and Ab Eb. As a pattern of consecutive fifths this becomes F# C# Ab Eb Bb. The second subject does not contain this kind of relationship but comprises a whole tone pattern F# E D. Both patterns begin on F#, the tonal goal of the work.

The tonal arrangement of the second subject is clearly centred around E which is the same centre of symmetry as that of the tonal architecture of the quartet as a whole. This is the first section to be tonally centred around a single pitch.

The final version of the second subject is unchanged from the first. The first part of the section falls into three subdivisions. The first of these lasts from bars 65 - 68 and it is marked by a viola theme.

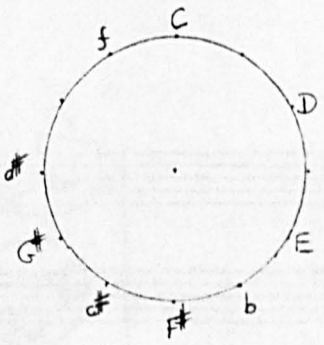
Figure 50 overleaf.

Figure 50.



Bridge frequently gives this type of thematic writing to the viola. It is essentially based on Bridge's early style but now the context is different. The theme is not built on motivic fragments: this method is used in the accompaniment. The theme is chromatic and has a D# to E semitonal outline. These pitches were featured as an unaccompanied rising seventh at the end of the transition. By placing all the viola pitches on the circle of fifths, the whole tones from the tonal architecture of the work emerge.

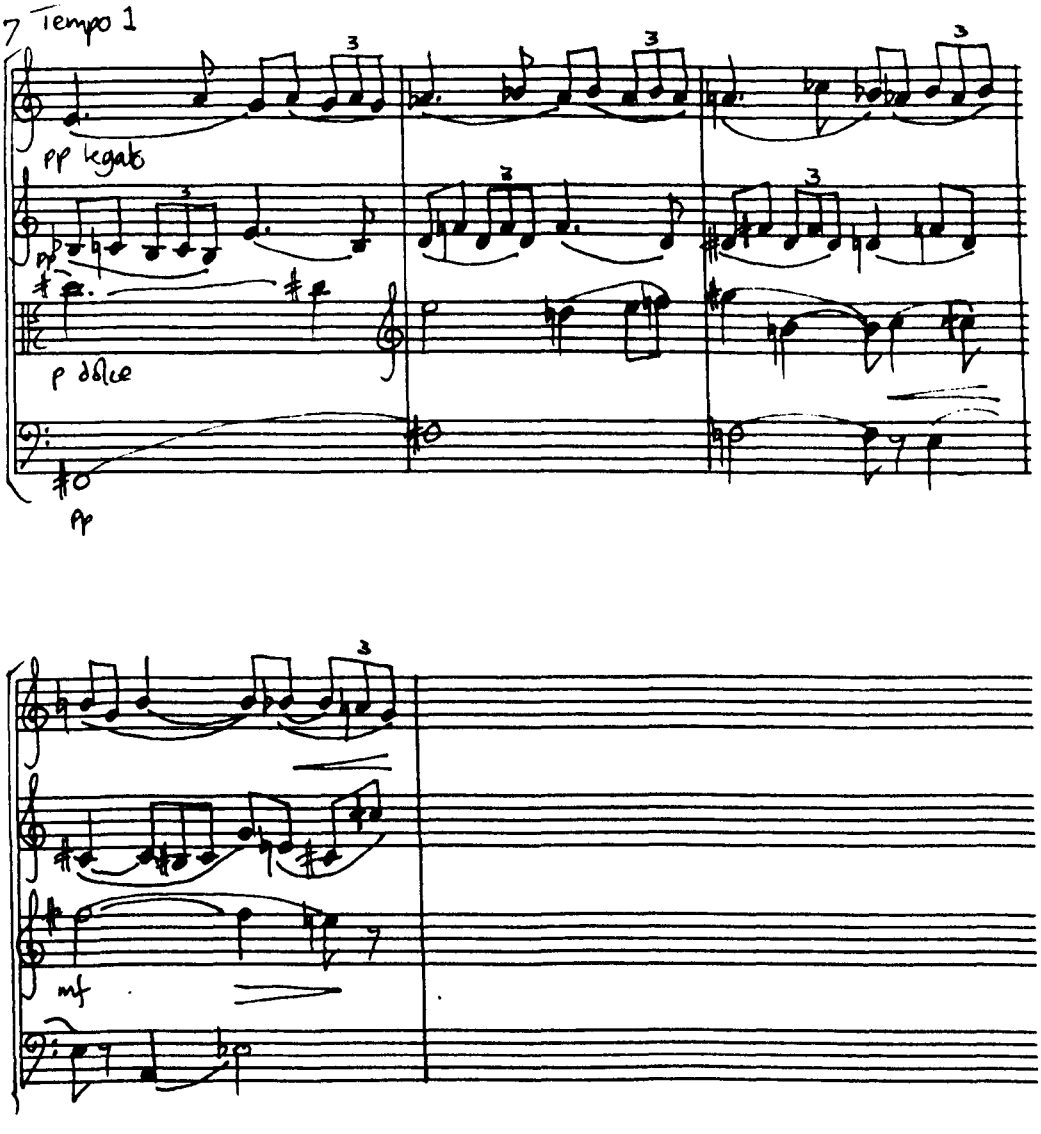
Figure 51.



The other pitches form part of the other whole tone pattern on the circle. Its tritonal B to F outline foreshadows the second phrase which has the same outline, bars 69 - 72.

There are a number of different motivic fragments in the accompaniment in the first four bars.

Figure 52.



Violin 1 has a a series of whole tone figures in bars 65 - 67. This is approached from E. the tonal centre of symmetry of the section. The whole tone pitches form a pattern of semitones with a major third G to Cb outline.

G Ab A Bb Cb

1 1 1 1

There is a change of method in bar 68 although the principle is still that of dividing the same major third. The pitches form a balanced but assymetrical division of that interval.

B Bb A G

1 1 2

This kind of balanced division of an interval was used as a structuring device in the first subject where the augmented fourth was treated in this way.

Violin 2 starts with a whole tone pattern in bar 65, put with a tritone, Bb C E. This kind of structure was used as a way of making chords in the transition, in the lower parts in bars 57 - 58(3). This links the two sections as the former foreshadows devices in the latter. Bars 66 and 67 are based on the minor third but all four pitches together form another major outline, that of the tonal architecture of the section.

D D# F F#

1 2 1

Violin 2 in bar 68 plays a motive that seems to be derived from the main motive of the quartet. The pitches B# C# E and G can be rearranged as a retrograde version of the idea.

C# B# E G

1 4 3

The original version of the motive was -

C Eb G F#

3 4 1

This reference to earlier material is an oblique way of unifying the quartet.

The 'cello part does not match in length to the other three parts as it is lengthened by sequential repetition of the last bar. The pitches are an arrangement of a downward chromatic line with an F# to D outline again. Once again, the tonal plan of the second subject is used for inner working. F# is the opening pitch and this provides the tonal base. This pitch was the tonal goal of the first subject theme although it was not greatly emphasised then which explains its use again here. There is further justification for using this tonic pitch for the beginning of the second subject as it is this material that opens the recapitulation. The first subject and transition were weighted towards C as a tonality and so this use of F# forms a tritone. This relationship is short lived as F follows in bar 67. This pitch is later used tonally at the start of the second phrase of the first part of the second subject, bar 70. The 'cello's first phrase ends in bars 67(4) - 69 with two rearranged tritone/fifth

patterns, A E Eb and Ab Eb D. This structure was previously used for the local tonality of both introduction and first subject.

The 'cello in bar 70 starts a conventional V - I progression, F to Bb. This time no tritone is put with it but it is followed by an A D G# bass progression in 71(4) - 72(3). This refers back to the bass in bars 67(4) - 69 where the same axis was used but A replaces Eb as the extra pitch. This in turn leads to falling chromaticism from F to Eb in bars 72(4) - 75(2). This is another whole tone although not from the tonality. It further reinforces the replacement of F# by F. The 'cello finishes the first part of the second subject with major and minor thirds onto Eb which is another tonic pitch. This is approached from E at the climax of the first part, bars 73 - 74. From bar 75, the two lower parts come together, firstly as a triad of Eb Gb Bb and latterly as Eb G B, an augmented chord of interlocked major thirds.

The viola has an overt reference to C G F# at the start of the third phrase of the first part, bar 73. This is the same tritone as that used in the main motive and, as there, it is put with the perfect fifth. This means that the only pitch from the main motive that is omitted is Eb, which features in the 'cello from bar 75. The omission of the third draws together the motive with the fifth/tritone tonal structuring in the quartet so far. The C G F# fragment is placed at the start of the climax of the first part and it is marked agitato.

The climax of the first part of the second subject comes on E, the quartet's tonal centre of symmetry. The rising seventh in bar 72, F to E, points to the important pitch. The upper parts start to play oscillating minor thirds which are a tritone apart, C to D# with F# to A. These are both tonic axes, the former of which is particularly important to the work. The second violin third is prefaced by F# G# and this returns, marked espress., in bar 75. These whole tones have tonal importance too, as mentioned earlier. Their use in bar 75 is the beginning of a sequence of whole tones -

F# G# A G Ab Bb

This refers back to the whole tones in violin 1 in bars 65 - 67. Then, the progression had a G B major third outline. The F# Bb, being placed at the end of the first part of the second subject, may reflect the D F# tonal outline of the section as a whole. Violin 1 continues the minor third pattern in bars 75 - 76 but now moves up chromatically.

C D# C# E D F

Bar 76 repeats the last part of the previous bar which emphasises C# E D F as the first violin minor thirds and G A Ab Bb as second violin whole tones. Both these patterns are rearranged symmetrical orders.

C# D E F	G Ab A Bb
1 2 1	1 1 1
Violin 1	Violin 2

The 'cello figure in bars 75 - 76 is based on a rearrangement of pitches with the same makeup as violin 1

Eb E Gb G

1 2 1

This important moment is marked by a ritardando in the typical Bridge manner. It is accompanied by B as a dominant pedal in the viola in 75 - 76. The resolution is avoided as the tonality at the start of the second part of the second subject is Gb, a whole tone from E.

The second part of the second subject begins in bar 77. The theme is transferred from viola to violin 1 and in bars 77 - 81 it is very similar to that in bars 65 - 68. The accompanying whole tone writing in violin 2 is also similar to the opening of the section. This lasts for 4 bars and the pitches comprise a semitonal division of the Ab C major third.

Ab Bb A B Bb C = Ab A Bb B C

2 1 2 1 2 1 1 1 1

Bb is clearly the centre of symmetry of this semitonal pattern and this is the counterpole of E, which was the implied tonal goal at the start of this part of the second subject. Two whole tone figures have been used in the second subject so far, violin 1 in bars 65 - 67 and violin 2 in bars 75 - 80. Put together, all the pitches of these figures form a semitonal division of the C/F# tritone.

Bars 65 - 67 - G Ab A Bb B

Bars 75 - 76 - F# G G# A Bb

Bars 77 - 80 - Ab A Bb B C

All pitches - F# G Ab A Bb B C

The semitonal descending bass line in bars 77 - 82 has a Gb to D outline. This is the same major third that was used by the 'cello in a similar line at the beginning of the first part. This time, the falling line is clearer which subtly implies Fb as its centre of symmetry.

Gb F Fb Eb D

1 1 1 1

With the Bb of the whole tone figuration, pole and counterpole are presented in this six bar passage. In addition, the major third outlines of these two ideas form the tonal axes of the overall architecture of the quartet.

Ab C and Gb D = D/Ab and C/Gb

A new broken chord figure is introduced by the viola in bar 77. This lasts until bar 96, near the end of the section, although from bar 82 the 'cello shares the idea. A variety of structures are used, conventional triads, diminished chords, one augmented chord and structures of interlocking major third and tritone. There is much semitonal alteration so that one chord slides into the next.

Figure 53 overleaf.

Figure 53.

77 - C E Bb

78 - D F Bb

79 - D# F# B

80 - D Ab Bb

81 - C# A G

82 - D A F#

83 - C# A G

84 - C E G

85 - A# E F#

86 - Bb D F#

87 - B D# F

Bb D F

88 - G C# E

89 - A C# Eb

90 - C F#

91 - D C F#

92 - A C F#

Eb C Gb

Eb A G

93 - Fb Ab Bb

Eb G Bb

Eb G A

94 - D# G# A

95 - D F# A

96 - C F#

The progression falls into two unequal parts, marked by the C/F# tritone at the end of each part. The lowest sounding notes in the first part are a rearrangement of a semitonal division of this tritone. There is no obvious regular ordering of the structures in this passage. Apart from the one augmented chord in bar 86, all the other structures have a perfect fifth or tritonal outline. However, there is one chord that lies outside this. It occurs in bar 94 and comprises tritone with added fourth. This clearly links with the other structures but also it refers back to the tonal structuring in the first subject and introduction.

After the descending line in the 'cello in bars 77 - 82, there is a C F# F progression in bars 84 - 87. This combines tritone and fourth again. So far in the second subject, there has been considerable reference to this axis which was the tonal foundation of the first subject. The semitonal move from F# to F is the start of another chromatic descent. It appears to be another F# to D outline but this time the latter is not reached. The lowest pitch is Eb and this is followed, conventionally, by G# [Ab] in bar 91 which is the counterpole of D. D is eventually reached, via G#, in bar 95. This tritonal progression is repeated in bars 96 - 97. The second subject ends in bar 99 with a D to F# progression in the 'cello. This creates an arch structure as the second subject began with a descending line with an F# to D outline. D to F# also reverses the tonal progression of the second subject.

Bars 91 - 95 repeat the thematic material with the F to B tritonal outline originally played in bars 69 - 72. The line ends with F F# B which is also the start of the final theme in the second subject beginning in bar 97. Once again, the small thematic fragments of the line are intervallically based on tonal structures. Semitones are put with perfect fourths and fifths and tritones. The semitone is common to each fragment, the other interval is gradually increased -

Bar 97 = F F# B Bar 98(1-3) = C C# G Bar 98(4)-99(2) = F# B Bb

1 5 1 6 Bb B F#

1 7

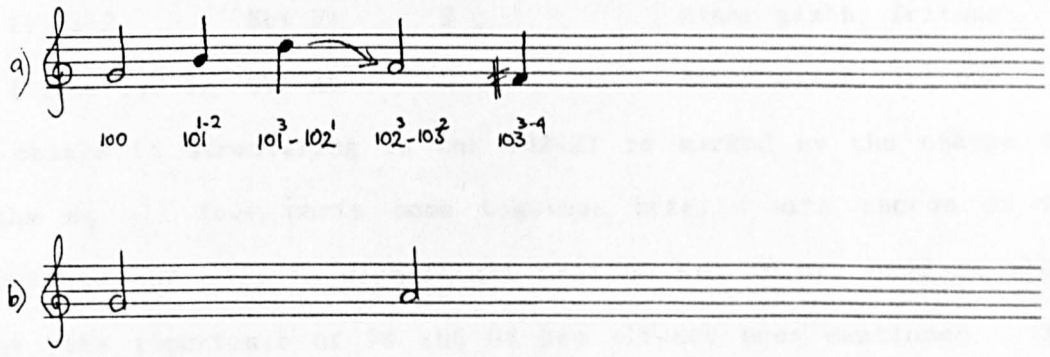
The overall outline is therefore increased too, from the FB tritone of bar 97 through the perfect fifth CG to the minor sixth BbF# at the end. With the pitches rearranged in bars 98(4) - 99(2), a reordered fifth progression is revealed in the starting pitches, F C Bb = Bb F C.

All the parts come together for the final chord of the second subject in bar 99(3) to form a C major triad with F# as an added counterpole. This originates in the main motive of the quartet but this kind of structuring was also used in the transition, the first phrase ends in bar 54 with F# major with C as the added counterpole. In bar 99, the structure marks the end of the second subject but, more importantly, marks the start of the codetta which is based on transition material.

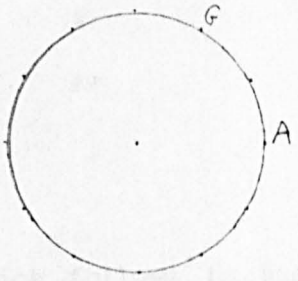
The codetta is short, lasting from 99(4) to 103. Tonally, it is essentially based on a whole tone progression.

Figure 54 overleaf.

Figure 54.



c)



This whole tone is not taken from the overall tonal architecture of the work but from the second whole tone arrangement on the circle of fifths. The transition was tonally constructed around the whole tone arrangement of the quartet's tonal architecture. The material is based on the opening phrase of the transition with triads in the three upper parts and single pitches in the 'cello which form a broken chord initially. Unlike the start of the transition, however, the first triad gradually evolves in bar 100(2-3). After this, the triads and 'cello pitches are clearly presented until bar 102(2).

	Triads	'Cello pitches	
Bar 100	Db+ Fb+	G	Tritone, Minor Third
Bar 101(1-2)	Eb+ F+	B	Minor sixth, Tritone
Bar 101(3)-102(1)	Gb+ Ab+	D	Minor sixth, Tritone

The change in structuring in bar 102(2) is marked by the change in rhythm as all four parts come together briefly with chords of Gb major7 and Ab7. It is significant that Gb and Ab are used at this point; the importance of F# and G# has already been mentioned. The original patterning of the passage is resumed in bar 102(3).

	Triads	'Cello pitches	
Bar 102(3)-103(2)	Db+ Eb+	A	Minor sixth, Tritone
Bar 103(3)-104(1)	C+	F#	Tritone

The development which follows is based on first subject and introduction material. These themes appear to have more development possibilities than the more flowing second subject which will open the recapitulation. The development is tonally even more fluid than anything so far in the work and there are longer passages that avoid tonal reference, for example bars 168 - 177.

Figure 55 overleaf.

Figure 55.

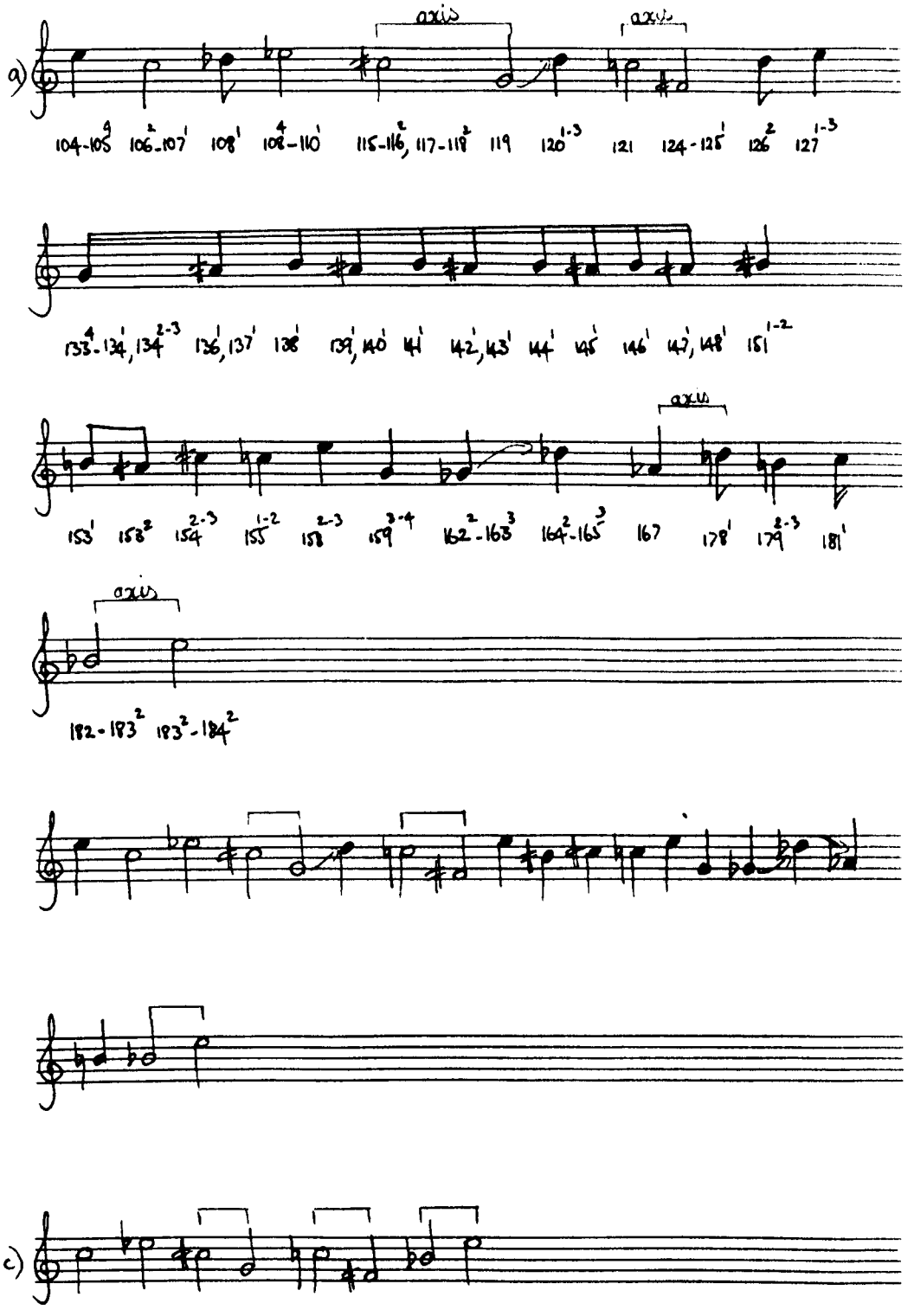

a)
axis
axis
104-105 106-107 108 108-110 115-116, 117-118 119 120 121 124-125 126 127
133-134, 134 136, 137 138 139, 140 141 142, 143 144 145 146 147, 148 151
153 158 154 155 158 159 162-163 164-165 167 178 179 181
axis
182-183 183-184
b)
c)

Figure 55 contd.

d)

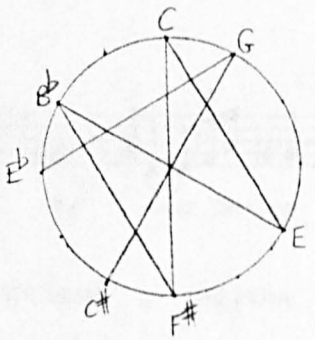
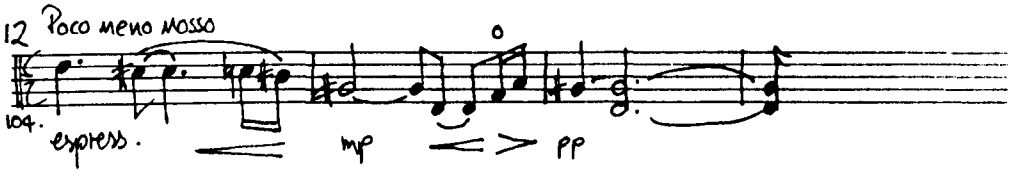


Figure 55 shows that there are no particularly significant pitches. Overall, the section is tonally cyclic, see 55 a) and b), on E, the quartet's implied centre of symmetry. The first of these is approached conventionally, from A at the end of the codetta. Otherwise, there are hardly any such relationships in the section. What becomes apparent in Figure 55c) is the third and tritone relationships that underpin the development. Figure 55d) clarifies this and shows that the section combines the tonal frameworks of the introduction, E/Fb Bb Eb, and the first subject, C F# C#. Therefore, tonality and thematic material of these two sections are brought together for the development.

There is an immediate reference to the introduction in the viola line in bars 104 - 106. There are two E to A# outlines here, the original tritone of the introduction in reverse, and they form the final pitches also.

Figure 56 overleaf.

Figure 56.



The first E to A# comprises a falling line divided into three semitones and minor third, bars 104 - 105(3). E, as the opening pitch, is taken from the C major triad at the end of the codetta. The second fragment, which begins in bar 105(3), is a version of the main motive on E. These two thematic fragments are highlighted as they are unacompanied but separated by a chord in the other parts in bar 105(2). This comprises two triads, E minor and F# major. This combination was first used in bar 15(4) and forms a 34743 symmetry. The roots of the triads come from the tonal architecture of the work. After the main motive on E, another chord is used which combines C major and F# minor. The roots of these triads also originate in the overall tonal architecture. This pairing of triads a tritone apart forms a 43134 symmetry. The use of E/A# and C/F# is another reference back to the tonalities of the introduction and the first subject.

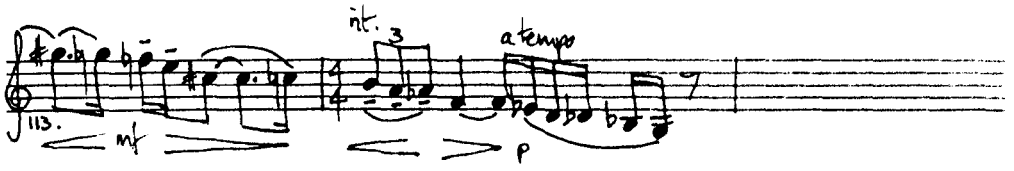
The development continues with the main motive on different axes, D to G# and G to Db in bars 107 - 108(1). It is followed by the rising seventh figure onto C and G#, two pitches from the overall tonal architecture. The latter figure is repeated in bar 111. The music settles on an Eb tonality in bar 109 and there is evidence of axis structuring on this pitch in several ways from here to bar

112(3). In bar 109, the bass Eb is put with A in the first violin, thus polarising the tritone. The bass line in 110 moves chromatically from G to Eb and is followed in bars 111(4) - 112(3) by a chromatic descent from A to D#. [D# leads onto B at the start of 113 to complete the major third structure implied by the bassline in 110 which had a G to Eb outline.] The rising seventh figure in 109 and 111 begins on A. The use of the implied A/Eb axis in these bars continues the tritonal working started at the beginning of the development. The axes used from 104 - 112 are C/F#, G/Db, D/G#, A/Eb and E/A#. This collection of axes has a major third outline of added fifths, C to E and F# to A#. These pitches have their origins in the overall tonal architecture of the quartet.

Chordal writing occurs in the three lower parts in bars 110 and 111(4) - 113(1). The structures are similar in both cases and some are used in both passages. No regular pattern emerges and none of the chords can be adequately explained in conventional terms. All combine major third with either perfect fourth or tritone. Of the latter, only E/Bb is not used in these two progressions.

An unaccompanied thematic line follows in violin 1 in bars 113 - 114. This comprises sequential writing at the interval of a major third. The line begins on G and repeats on B from the beginning of 114. This major third links back to the G Eb B structuring in the bass line in bars 110 - 113(1), mentioned above.

Figure 57.



The writing also contains tritonal outlines as the opening G leads to C# as a point of repose and B leads to F similarly. These two tritones are divided by pitches that form balanced but dissimilar parts -

G F E C# B A Ab F

2 1 3 2 1 3

A third playing of the sequential fragment is implied on Eb to link with G and B, beginning at 114(3), but this breaks the pattern in a number of ways. Intervallically these final five pitches are different; the extra semitone removes the whole tone at the start and the tritonal outline is replaced by minor sixth. Also, the way that this outline interval is divided is unbalanced -

Eb D Db Bb G

1 1 3 3

The balanced division of the tritone may be explained by the fact that the interval is the same, and therefore balanced, in inversion. The minor sixth inverts as major third.

The 'cello from 114(4) takes up the fragment with the G to C# outline stated by violin 1 in 113. It is now given a new rhythm but the intervallic makeup is as before. It is restated by the 'cello in bars 116(3) - 117 but prefaced by G# which puts fourth and tritone

together once more. This version of the fragment is repeated sequentially in bars 118(2) - 119. This is a conventional repeat at the interval of a fourth, beginning on C#. However, the axis content is the same although reversed, G to C# becomes C# to G. This last version is altered intervallically to form a symmetrical division of the tritone -

C# C B Bb G

1 1 1 3

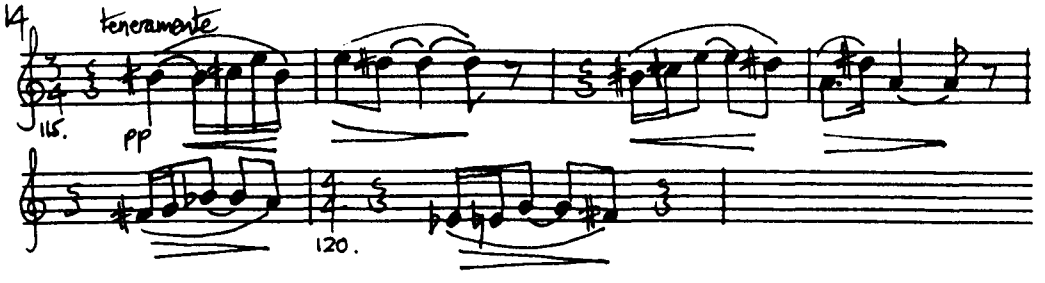
One more fragment using this tritone occurs at the end of bar 120. This also divides the tritone symmetrically -

G F# D C#

1 4 1

Violin 1 takes up a fragmentary line in bars 115 - 120 that is probably based on the main motive of the work; bar 120 indicates this to be the case.

Figure 58.



The opening fragment is symmetrical -

B# C# E D#

1 3 1

This time the symmetry is not achieved as a result of dividing the interval outline. The fragment is repeated in altered rhythm in bar 117 and followed by a restatement of the A/D# tritone. The fragment is repeated sequentially in bars 119 and 120 at the interval of a tritone and a minor third. It is this last playing on Eb that is most clearly like the main motive.

C Eb G F# Eb E G F# = (C) Eb (E) G F#

Main motive Bar 120

The inner parts in bars 115 - 120 move together in the same rhythm and therefore form a unity. In bars 115 - 117 violin 2 plays G and Ab and viola plays B A#/Bb A. All these pitches put together form a division of the major third used in bars 110 - 114 with a symmetry round A -

G Ab A A# B

1 1 1 1

Bar 118 is largely based on the same pitches but with E added as a link to 119 where violin 2 plays C# and D and viola plays F E Eb. Putting these pitches together produces -

C# D Eb E F

1 1 1 1

which is a tritonal repeat of the preceding bars with Eb at the centre of symmetry. In bar 120 the complete range of pitches is -

A# B C C# D

1 1 1 1

which is a minor third repeat of the preceding bar. This retains tonic pitches at the centre of symmetry, A → Eb → C.

Bar 121 almost returns to the first violin material from 113 . Now the idea is stated by the three upper parts together for emphasis. An altered version is taken up by the 'cello at the end of the second beat of the bar. The idea is then treated sequentially in bars 122 and 123 starting on F and G. This results in an intervallic progression of minor third and whole tone as the original D to G outline of bar 121 becomes F to Bb and G to C. All these pitches form added fifths with a major third outline, Bb to D.

Further sequencing occurs in the viola in bars 122 - 123. The idea has a major outline which is divided in a balanced way -

Gb Fb Eb D → Ab Gb F (E in 'cello, 124)

2 1 1 2 1 1

Sequencing at the interval of a whole tone occurs in the 'cello in these bars too with a figure on Bb and C. These two pitches form major thirds with the viola starting pitches.

Following this sequencing, the second violin and 'cello come together chordally at the start of 124 with a structure of

interlocking tritone and major third. This incorporates the whole tone too, F# A# E. These three intervals, which originate in the overall tonal architecture of the quartet, are the basis of the structuring in bars 113 - 124(1).

The downward scalic writing in bars 124 - 125 leads to a repeat of material from earlier in the development. Bars 126 - 135 are based on bars 108 - 121. The first two bars and two beats are the same as 108 - 110 but up a semitone. This represents a slight change to the first version of the quartet. Up to this point, the developments of the two versions have been much the same with just small differences, such as rearranging the parts. In the first version, the rising seventh figure started on Bb Db E and C#, all dominant axis pitches, a minor third apart. In the final version, the starting pitches are Bb D F and A, from all three tonal areas. However, these pitches also form a symmetry, one which incorporates major and minor thirds -

Bb D F A

4 3 4

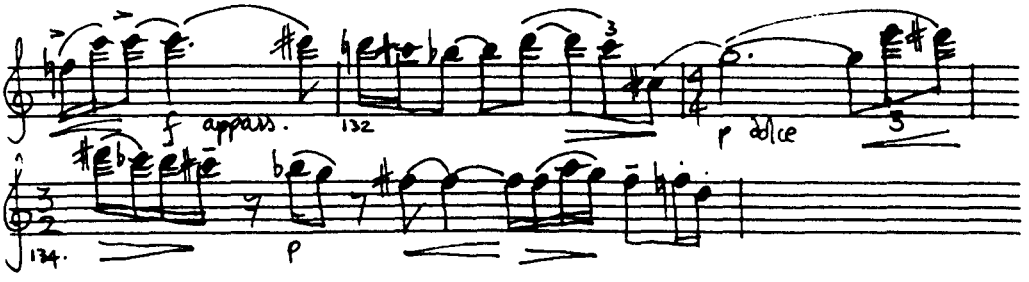
The lower parts are not significantly different but the first violin continues to be so for approximtely two bars.

Figure 59 overleaf.

Figure 59a)

First version, bars 124(2) - 126(3)

b)



Final version, bars 131 - 134(2)

The first version seems to be constructed around the interlocking Ab C/F# structure -

axis

C B A Ab F E Db C F#

1 2 1 3 1 3 1 6

This is the important tonal axis of the first subject and the movement as a whole. The final version appears to be constructed around the interlocking E/Bb D structure, this axis representing the centre of symmetry of the quartet -

E D# D C# Bb D C# G F# Eb D C# Bb G F#

1 1 1 3 4 1 6 1 3 1 1 3 3 1

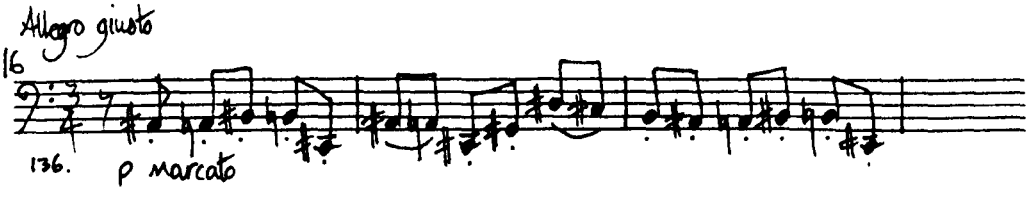
The pattern at the end, which is anticipated earlier, seems to be a retrograde version of the main motive -

C# Bb G F# instead of C# Bb F# G

3 3 1 3 4 1

A new part of the development begins in bar 136 and lasts until bar 149. This is structured over a two bar 'cello ostinato. This is a new feature in Bridge's music but one that was frequently used by other composers at the time, such as Bartok, to provide a stability in late tonal works. Initially, the ostinato is played unaccompanied. This is a change to the first version where these two bars were omitted. The pitches of the ostinato form a semitonal division of the G# C# fourth with D# added as the fifth.

Figure 60.



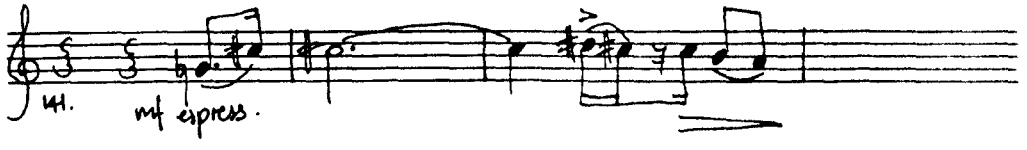
G# A A# B B# C# D#

1 1 1 1 1 2

Each bar begins on A# or B, the pitches at the centre of the G# C# division.

After two bars the first violin and viola are added and their three bar material is taken from bar 115 which was based on the main motive. 141 - 143 repeat these bars with the parts exchanged. From 141 a second violin part is added and this is based on pitches from the ostinato, C# and D#, now put with G instead of G# to produce tritone and minor sixth. The second violin fragment in bars 141 - 143 consists of a whole tone division of the minor sixth, expressed as two tritones, G to C# and D# to A.

Figure 61.



Bars 138 - 143 are repeated in a slightly altered form in bars 144 - 147 with a new rhythm. In 148 - 149, the ostinato is played by both lower instruments in octaves for emphasis. The upper parts, meanwhile, take pitches from the end of their previous idea to create a new idea. The pitches here are E G D# A which, in ascending order, divide the tritone assymetrically.

D# E G A

1 3 2

These pitches form interlocking tritone with major third and added fifth.

From bar 150 there is a more obvious use of the main motive. It is begun in the 'cello on F#, the counterpole of the original version. The idea moves down chromatically in bars 152 - 153, starting on F and E. The motive is taken up again in 155 with a series of overlapped statements, firstly in the lower parts but rising through all parts eventually, as far as bar 158. This passage is started on E and there are further entries on this important pitch and on Bb, its counterpole as far as bar 156(2). At this point, chromatic alteration results in an entry on B. In 157, the overlapped entries are resumed, now on the other dominant axis, C#/G. This is ended at 158(1) with a statement on the first beat on G. This emphasises the first pitch rather than the last as, in its original version, it is an anacrusis idea.

The upper parts in bars 150 - 151 together form an intervallic symmetry -

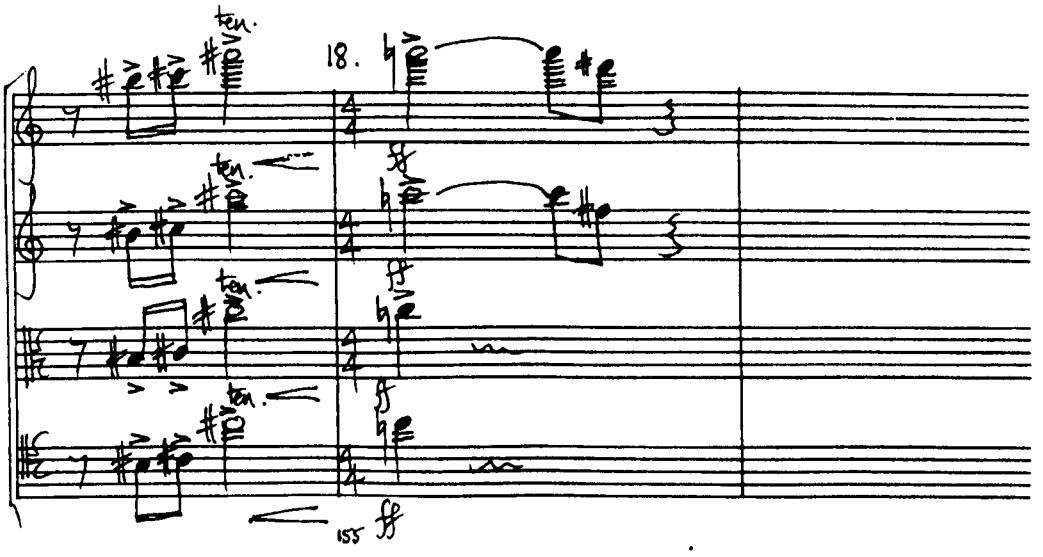
Violin 1 - C E D# E D# A

5 8 8 8 8 5)

Violin 2 - G Ab G Ab G E

The intervals used here are minor sixth and perfect fourth. Bars 152 - 153 rework this idea but replacing C and G with their enharmonic version and counterpole respectively, B# and C#. These latter pitches originated in the 'cello in bar 151 but there they were almost imperceptible. The B# to C# is made more emphatic by octave doubling, eventually in all four parts in bar 154 which is the start of the main climax of the development. The full range of pitches here constitute a I - V - I progression.

Figure 62.



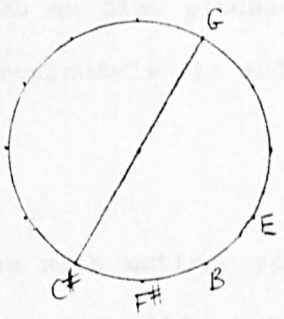
B# C# C# C F#

T D D T T

The viola in bars 150 - 152 takes pitches from the ostinato of the preceding passage.

Following the passage built on the main motive, all four parts are once more brought together briefly, bar 158(2-4). The minim chord on beats two and three implies the combined triads of E minor and F# whose roots are taken from the tonal architecture of the work and this combination was used in the first subject in the exposition. This use is a little different as the F# chord is incomplete, the third is omitted. The expectation is for F# major as previous pairings put one major and one minor triad together. The omission of the third results in a structure of added fifths with an added counterpole which once again puts fifth and tritone together.

Figure 63.

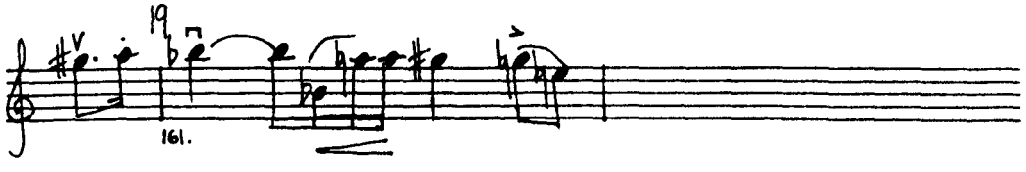


The second chord, 158(4), is more ambiguous as it comprises a G# minor triad with A# and D. The first chord is repeated at 159(2) and followed by a structure of G minor with A major which incorporates both dominant axes and therefore forms a link with the preceding writing on the C#/G axis. The final quaver of 159 employs a different kind of chord structure, whole tones with an F#/C outline. G in the bass is extra to this. This structure combines tritone and fifth from the section's tonal architecture and the whole tones from the overall tonal architecture. The final chord occurs on the first beat of bar 160 and this comprises two interlinked triads, Bb minor and F major. This combination forms interlocked major thirds with added fourth and fifth which results in a symmetry on F. The last three chords of this passage were subtly different in the first version. The paired G minor and A major was less defined in the final version as D from G minor was omitted. The whole tone structure which follows omitted the added G in the first version and the final chord, by omitting Bb in the first version, presented a structure of interlocked major thirds with only the fifth added. This resulted in a chord on Db not interlinked triads of Bb and F. The most obvious difference between

the two versions is the way that the final version highlights the dominant pitches of G and Bb as bass pitches. The two versions come together after this for approximately six and a half bars.

Bar 161 returns to the main motive, now on the subdominant Ab/D axis. The motive is then used in 162 as the start of sequencing at the interval of a fourth up to bar 165. The motive is followed by oscillating whole tones which form interlocked tritone and major third with the opening pitch of the motive. In 162, these three pitches originate in the quartet's tonal architecture, C D Ab. A significant line in violin 2 occurs in bars 160(4) - 161. It is not obviously important although it is the highest sounding instrument and the line incorporates the rising seventh. However, the pitches are a rearrangement of a balanced division of the E/Bb tritone -

Figure 64.



E G G# A Bb

3 1 1 1

This is followed by a flowing 'cello line in bars 162 - 163 whose pitches form a rearrangement of an unbalanced division of the perfect fourth -

Eb F Gb G Ab

2 1 1 1

Bars 166 - 167(2) are a virtual repeat of bars 157 - 158(1). Initially the later passage appears to be up a semitone from the former but the D/Ab axis replaces G/C# which produces a fifth relationship. The first version included extra working at the corresponding point to 167(2). This consisted of five beats of forte writing which correspond to bars 158(2) - 159(2). The cut passage ended with paired F minor and G major triads which would have formed double third progressions with the Ab minor and Bb major triads of bar 167(3-4). This latter structure incorporates both subdominant axes which links to the use of the main motive on the D/Ab axis from bar 161.

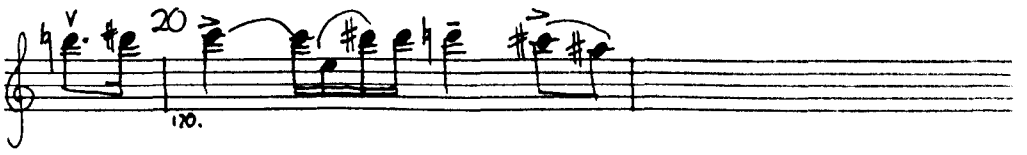
Bars 168 - 170 are a virtual repeat of bars 160 - 161, up a semitone. The main motive is reintroduced in the 'cello in bar 169 on E. This is approached from a fragment which divides the tritone in a balanced way -

Bb B C C# E

1 1 1 3

Here, the pitches are played in this order for emphasis. This is followed by the use of this axis in reverse in violin 1 in bars 169(4) - 172(2).

Figure 65.



A# C# D D# E

3 1 1 1

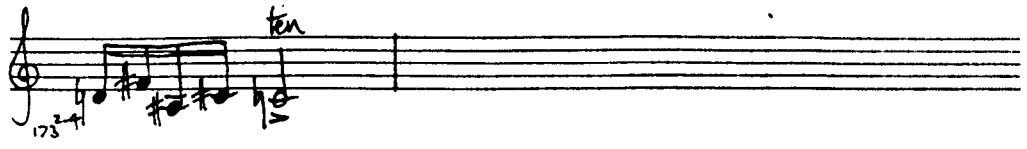
This time the pitches are rearranged. This axis was used previously in a similar manner in bars 160(4) - 161. The only division of this tritone not employed so far is A# G F# F E. The repeated use of this axis is due to E being the centre of symmetry of the quartet. E is a particularly emphasised pitch in this fragment. In the first version of the work, the second playing of this violin idea was separated by a chord on the first beat of the bar, a combination of G and A major triads.

Various entries of the main motive occur in bars 169 - 170, including false entries in the viola on G and F#. The rising viola scale in 171 has a D to Ab outline. [The original version had a C to Ab outline and so tritone has replaced major third.] Ab is only introduced as the final pitch and up to this point the scale had a symmetry on A and so Bridge subtly implies fifth/tritone conflict.

A subdominant version of the main motive occurs in violin 2 on Ab at the beginning of 172. It leads to writing based on a balanced

division of the C#/G tritone at 172(2) - 173(1). This in turn is followed by a version of the main motive in the same part but with the order of the thirds reversed and octave displacement to disguise its origins.

Figure 66.



F# A# C# C

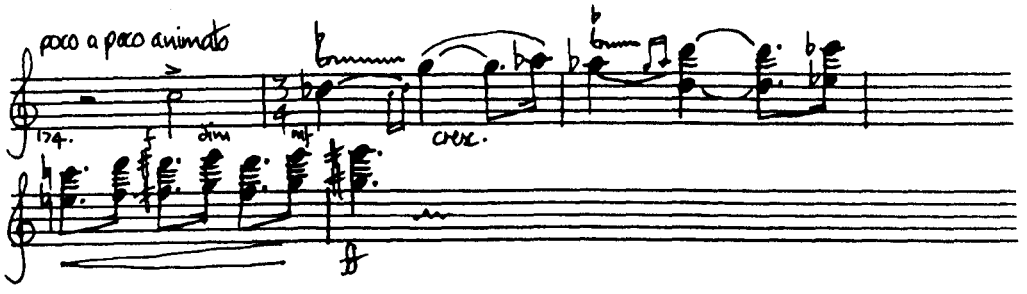
4 3 1

Bar 174 is a virtual repeat of bar 164 and now the main motive in combination with the oscillating whole tone is treated sequentially at the distance of one bar, not two, until bar 176. The opening pitches of the oscillation from bar 162 are Ab Eb Bb and F which presents a conventional pattern of fifths. The final whole tone pair, A and B in 176, are developed in 177 to form a larger whole tone pattern which has an A/D# outline -

AB → BC# → C#D# = A B C# D#

An interesting semitone/tritone pattern emerges in violin 1 in bars 174 - 177.

Figure 67.

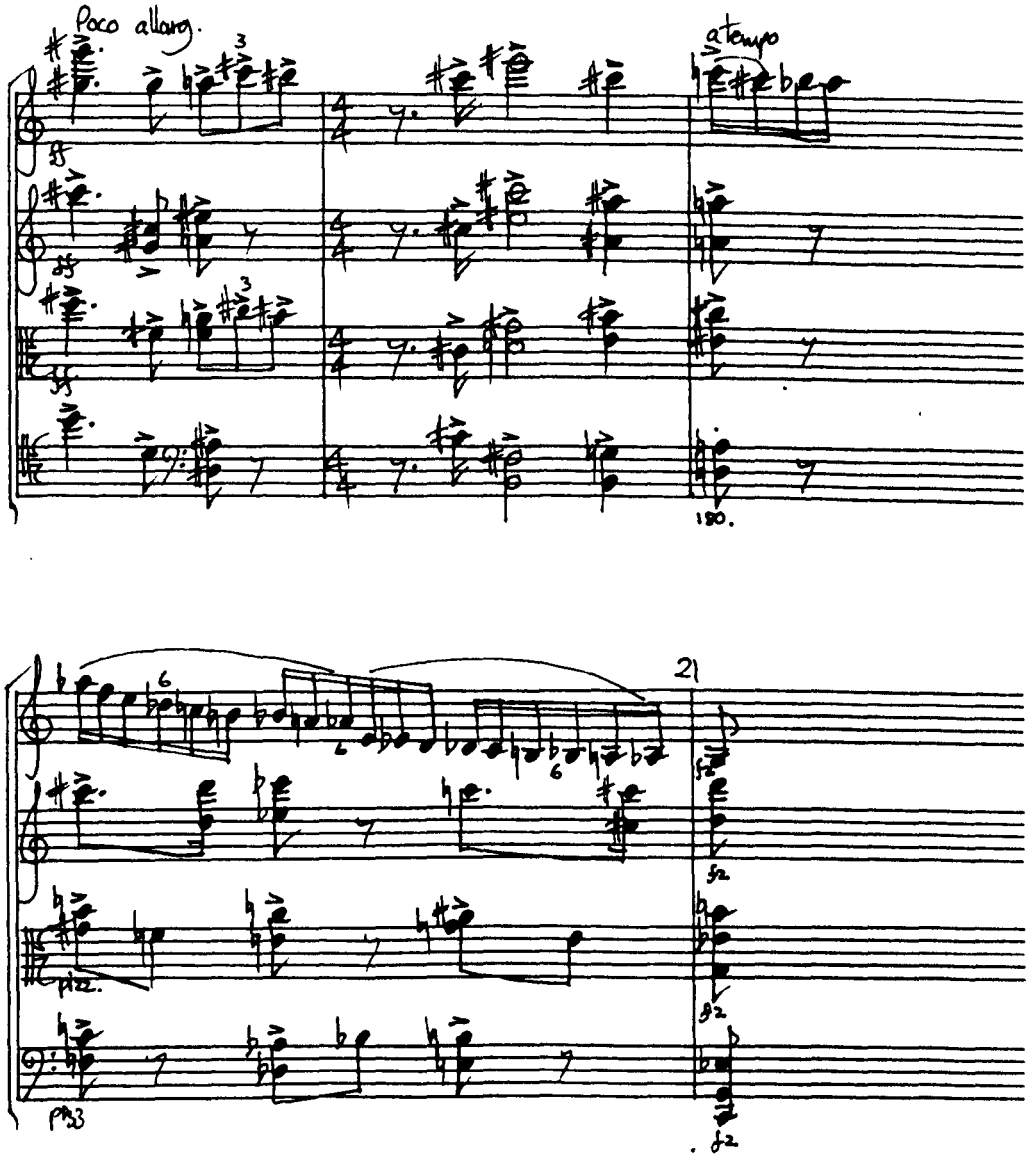


The two opening fragments combine semitone and tritone to form an overall fifth. C Db G and G Ab D. The latter tritone is then subdivided into semitones. In the same bars, 176 - 177, the viola subdivides the perfect fourth semitonally, F to Bb.

Bars 174 - 177 are a passage of building up; both speed and dynamics are gradually increased. The climax comes with the parts coming together chordally.

Figure 68 overleaf.

Figure 68.



The first chord comprises added fifths with D as a counterpole to G#. This can also be explained as interlocking tritone and major third with C# as added fourth/fifth. The same structure occurs on the last quaver of the second beat. Following the G#C# fourth at the start of 179, paired triads are used for the central part of the bar, B minor and C# major. The chord structures on the last beats of 178 and 179 are similar in makeup. Both are slightly altered from the original

version: pitches which clarify the construction are omitted in the final version. The structures seem to combine a triad with whole tones, in the first instance D# minor with E# G and A and then E minor with A# and B#. [The first version also included G# and D to emphasise the pattern of whole tones.]

The downward figure in violin 1 in 180 contains all pitches except F#. It leads to a chord on C, the F# counterpole. The tonic presence is strengthened by the line in violin 2 in bars 180 - 181(1) which is constructed out of a division of the Eb/A tritone -

Eb D C# C A

1 1 1 3

The 'cello line in 180 has a double symmetry when the upper and lower pitches are separated -

D F Db E = Db D E F A C Ab B = Ab A B C

1 2 1 1 2 1

This is symmetrical division of the major third.

At 181(1) there is a final coming together of the parts in the development on a C minor9 chord. This conventional structure can be subdivided into overlapped C minor and G major triads which means that it can be linked to the structures at 160(1) and 168(1). The three chords rise semitonally -

Bar 160(1) - Bb minor F major F = centre of symmetry

Bar 168(1) - B minor F# major F# = centre of symmetry

Bar 181(1) - C minor G major G = centre of symmetry

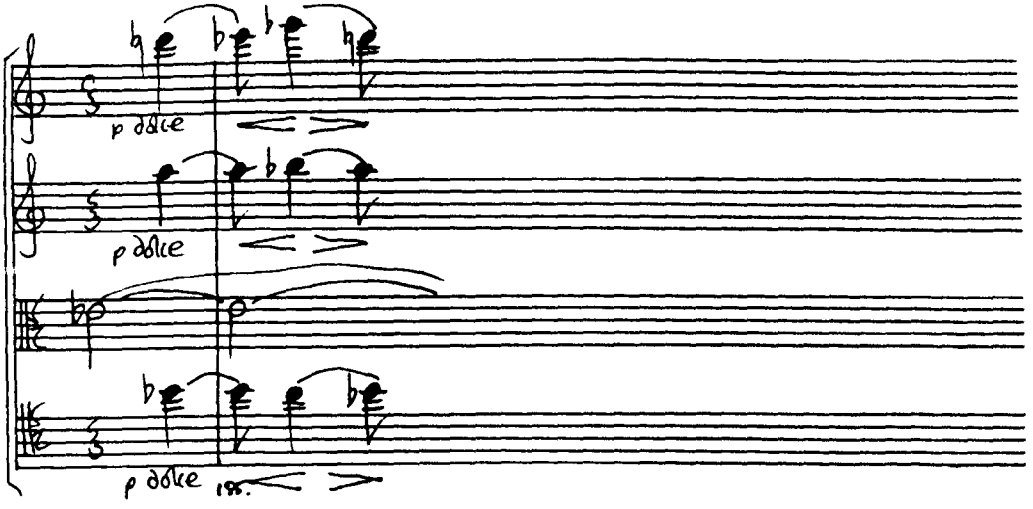
This is followed by a bassline built on the A/Eb axis in bars 181 - 182. G A Eb interlinks with Eb D Db C A. The former joins tritone, whole tone and major third, the latter divides the tritone into 1113 once more. Above this, the main motive is played with an F# to C outline, the reverse of the original playing. The entries occur in viola, violin 2 and violin 1 and are overlapped. This passage suggests a kind of recapitulation, particularly as the final playing of the motive in 183 reverses the outline, C to F#, but this is misleading.

Further suggestion of a recapitulation occurs with the viola theme which begins in bar 183(3) on Bb. The expectation is for a return of the introductory material with a Bb/E outline. In fact, Eb replaces E in the idea which ends on Bb too.

Part of the way through this viola theme, bars 184(4) - 185(2), there is an imperfect cadence in C. The 'cello pitches are Db C Db which presents Db as the counterpole replacement of G, the true dominant. The chords here are unconventional, comprising major third with perfect fourth and interlocked tritone and major third. The

intervallic makeup forms symmetry although the pitches themselves do not.

Figure 69.



Db A D	→	Db A Eb	→	C Bb Gb	→	Db A D
4/5		4/6		4/6		4/5

Both axes used here are tonic.

Chordal writing continues in bars 186 - 187 but now this is placed in the three upper parts only. The structures are the same as above but the pitches are different and the progression is no longer cyclic -

Bar 186 -	Ab E	→	Ab E Bb	→	G F Db	→	Gb E C
	4		4/6		4/6		4/6

Bar 187 - F Db Gb → Gb D C

4/5 4/6

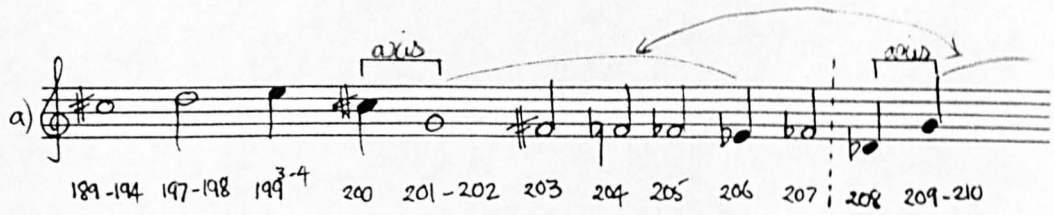
These bars also represent a kind of perfect cadence as bar 186 presents two dominant axes, E/Bb and G/Db, followed by the tonic Gb/C. Bar 187 repeats this tonic axis. Therefore, this progression can be shown to be a variation of the previous perfect cadence.

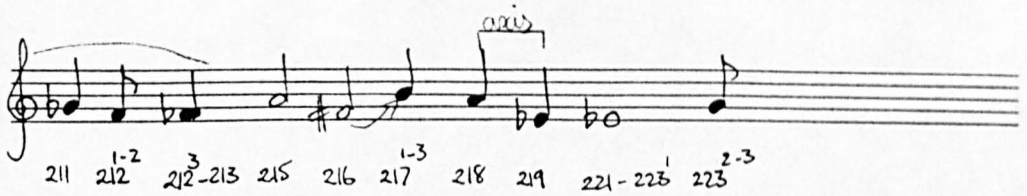
The 'cello has a separate part in these bars and continuing into 188. It is this line that ends the development. It begins with a bb to E progression which implies a return to the movement's introduction but this time the fifth, F, is omitted and the line moves on to bb again and C and C#. These last two pitches were used as tonic and dominant earlier, as Db C but now the order is reversed so that the development can end on V to lead to the tonic at the start of the recapitulation. [In fact C# is retained initially.] The four pitches of the 'cello line, E Bb C and C#, are taken from the tonal architecture of the introduction and the first subject in the exposition.

The recapitulation begins in bar 189 with the second subject. In such a fluid, organic style, there is no tonal reason for this reversal of material and therefore Bridge may have felt that the terser idiom of the first subject was more suited to the end of the movement. The second subject begins with a new tonal passage, bars 189 - 200.

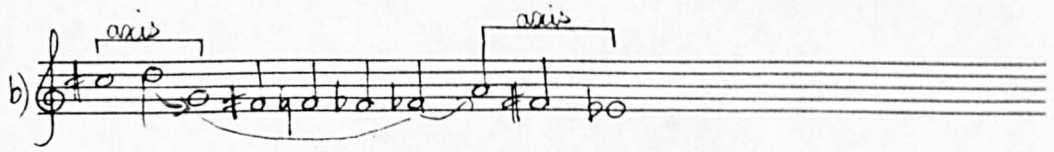
Figure 70.

a)

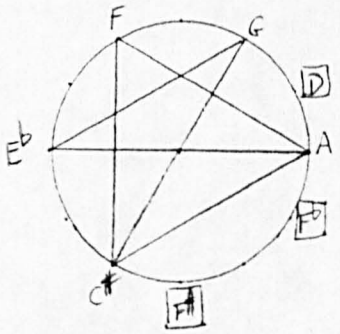




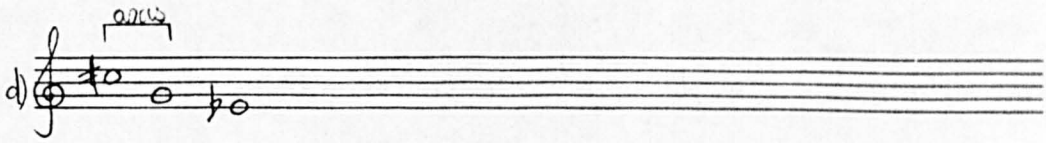
b)



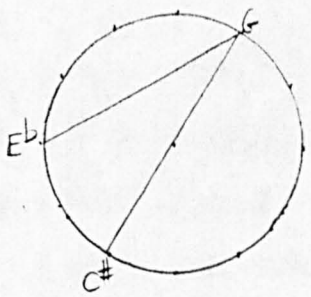
c)



d)



e)



Although this writing is extra to the original, the thematic material is based on the exposition. The return to C# in bar 200 sets up a tritonal relationship with the G that starts the falling chromaticism that originated in the exposition. Bars 201 - 206 are virtually equivalent to bars 65 - 69 but raised a semitone. However, the stronger bass pitches now result in clearer tonal definition. By starting this passage on G rather than F#, Bridge is avoiding a tonal recapitulation. It was not unusual to withhold the tonic for as long as possible in the recapitulation. The tritonal progression is used again to introduce the falling chromaticism in bars 209 - 213. This is less sharply defined than the earlier playing in the recapitulation. This time, the chromaticism is followed by a fourth relationship which is repeated up a whole tone in 216 - 217(3). This conventional progression originates in the original section. The second perfect fourth is closely followed by a further tritone progression. The section ends with a major third progression, as before, but now Eb to G replaces D to F#. At the beginning and end of this section, therefore, Bridge appears to be replacing the F# that was used on these occasions in the exposition: F# as tonic is replaced by G as dominant to prepare for the repeat of the first subject in the tonic.

Figure 70b) highlights the tritone/fifth relationship to G at the start of the second subject. This explains the addition of the extra tonal writing now. 70b) also clarifies the fact that the downward chromaticism is flanked by two tritonal progressions, C# to G and A to

Eb. 70c) shows that the section contains three pitches from the overall tonal architecture of the work, D, Fb and F#. However, there are more pitches from the other whole tone series on the circle of fifths.

Figure 70d) shows the three main tonalities of the second subject to be an interlocked tritone and major third. This type of structure originates in the overall tonal architecture of the quartet although the pitches do not. These are derived from the development [see Figure 55d)]. However, Eb and C# were used tonally in the introduction and first subject of the exposition and in this way Bridge links all three parts of the quartet. G, C# and Eb are dominant and tonic pitches respectively with the weighting on the former. This presents the possibility of tonic resolution in the ensuing first subject.

As in the exposition, there are no differences between this and the first version. In addition, there are few differences between the recapitulation and the exposition of the second subject. Bars 189 - 192 are conventionally phrased, as at 65 - 68 but now down a whole tone on the former. The theme is played by the 'cello, the chordal accompaniment by the three upper parts. The accompaniment overlaps with the start of the second phrase at 193. In the course of this second phrase, the pedal C# in the viola is changed to C at 195 and then down chromatically to Bb. Each of the upper parts in bars 189 -

195 is a rearrangement of a chromatic line with an outline of major third, perfect or augmented fourth or perfect fifth.

Violin 1 [upper pitches] - D G# tritone

Violin 1 [lower pitches] - D F# major third

Violin 2 [upper pitches] - F Bb perfect fourth

Violin 2 [lower pitches] - G# D# perfect fourth

Viola [upper pitches] - F C perfect fifth

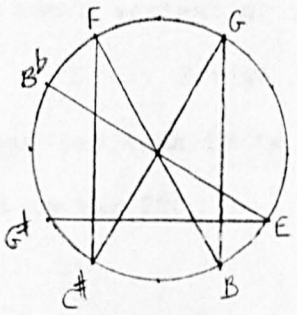
In bars 189 - 194 each unconventional chord structure lasts for one bar. The interlocked tritone and major third [which links to the tonal architecture of the section] is the common feature, with added fourths and fifths. The harmonic movement speeds up in bar 195 but the chords are still structured in the same way.

The second thematic phrase lasts from 193 - 196 and has a tritonal outline, Eb to A. This is still a whole tone lower than the original passage which began in bar 69. The resulting tonic axis is more suited to the recapitulation.

The whole tone relationship is continued in the 'cello until bar 200 but the other parts change from bar 196. It is the violin music that changes first. New figuration in violin 1 in bar 196 is partly linked to bar 195 where Bb A G# leads to Bb G# G to form a complete line of Bb A G# G. The remaining pitches in 196 form a semitonal division of the C# F major third. Violin 2 pitches in the same bar are a rearrangement of a semitonal division of the E G# major third. The

last two quavers in these upper parts form the B/F subdominant tritone which leads to the two dominant tritones in oscillation in 197 - 198. All three tritones link with the preceding major thirds which is a further reference to the tonal structuring of the section.

Figure 71.



These oscillating tritones are a semitone higher than the original in bars 72 - 73.

The second part of the second subject begins in bar 201 and is also a semitone higher than the original. Essentially, bars 201 - 223 are the same as 77 - 99, but with new pitches. One slight difference occurs at the cadence in bar 200. This is as a result of changing from repeating exposition material up a whole tone to down a semitone. The alterations concern the lower two parts whose C# A leads to G in the bass in 201. These pitches form interlocked tritone and major third and is very similar to the structure of the tonal architecture of the section. [See Figure 70e)] In the exposition, G and B led to

Gb. This combination of semitone and perfect fifth did not link with tonal structuring of the section.

The transition continues the repetition up a semitone but instead of repeating the corresponding section from the exposition, Bridge repeats the codetta which was a variant of the former. However, there seems no clear reason why Bridge did not merely repeat the original transition as that led tonally to F#, the pitch used at the start of the first subject in bar 230.

Figure 72.

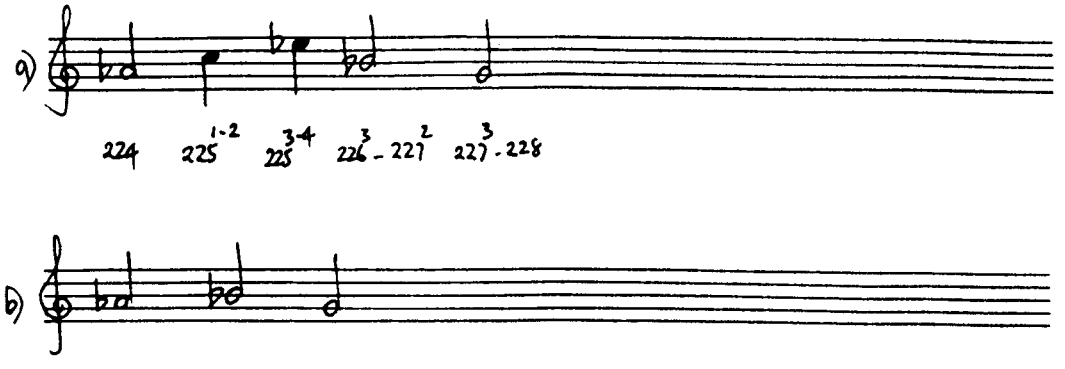
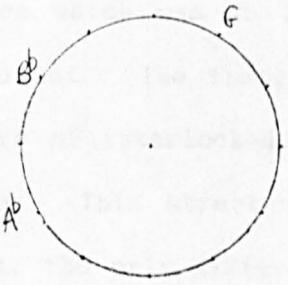


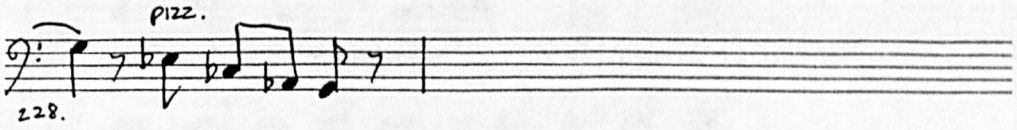
Figure 72 contd.

c)



By raising a semitone, the four bar phrase, 224 - 227, ends on a Db major triad over G in the bass. This can be interpreted as V of F#, with Db as an enharmonic C#. Following this structure, Bridge reintroduces the main motive as a way of linking these two sections, for the first subject does not begin until bar 230. The motive is played by the viola on the B/F subdominant axis. F is derived from the Db chord. The last time this axis was used was to lead to the oscillating dominant tritones in the second subject, bar 196. A variant of the motive is played in the 'cello in the next bar, 228. This has a major third outline, Eb to G.

Figure 73.



The last pitch, as a form of V in F#, replaces A which would conclude a more accurate reversal of the motive. The transition ends with an

unaccompanied line in violin 2. This is an extension of what Bridge wrote in the first version which was Eb to Db, a whole tone shift representing tonic to dominant. The final version adds F A and Ab. This results in a structure of interlocked major thirds, Db F A with Ab and Eb as added fifths. This structure is very similar to the final chord of the quartet, the only difference being the replacement of F# by its tonic counterpart Eb. The chord has dominant symmetry, the unaccompanied line is asymmetrical. Db is the final pitch of the transition and this forms a conventional, but enharmonic, dominant to the F# at the start of the first subject.

The recapitulation of the first subject is based largely on tonic pitches, as one would expect.

Figure 74.

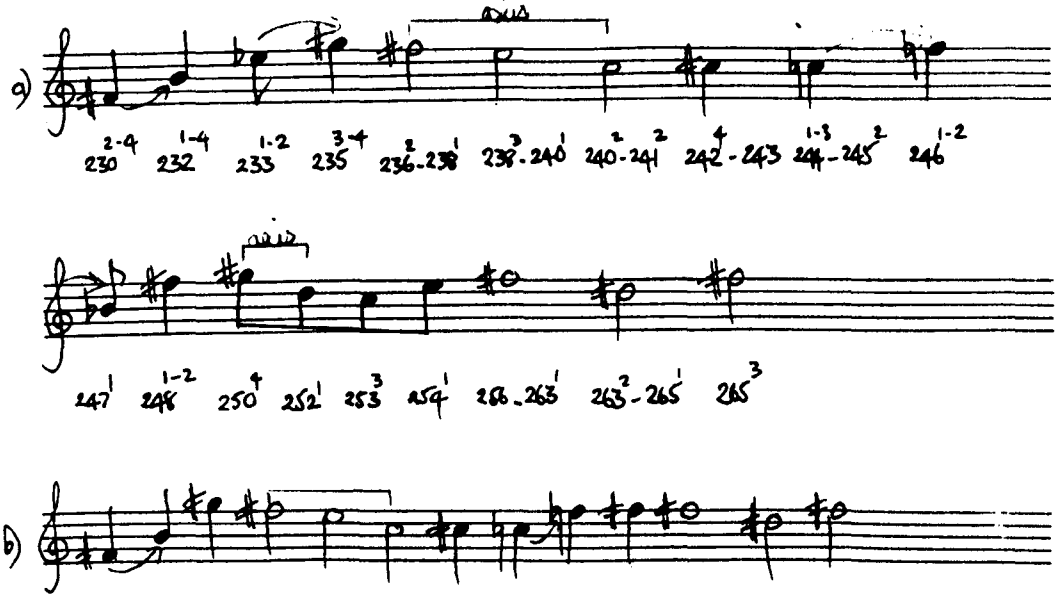
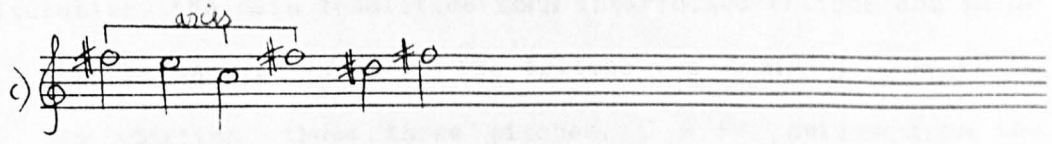
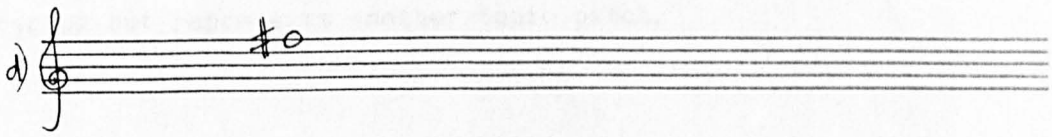


Figure 74 contd.

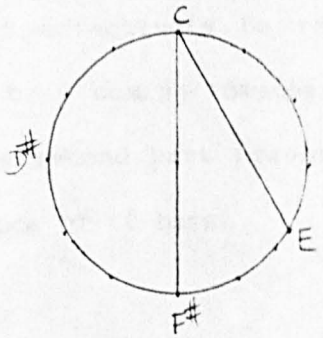
c)



d)



e)



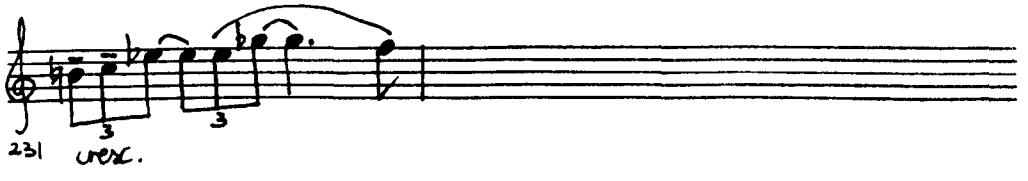
From the above example it is clear that C D# and F# are the most used pitches, the latter being the preferred tonic. The only pitch used that is not tonic is the dominant E, the pitch at the centre of the quartet's symmetry. Some of the recapitulation is an exact tonal repeat of the exposition, bars 242(2) - 250(4) correspond to 22(4) - 31(1). Even at this late stage in the movement, there is considerable lack of tonal definition and unsettled writing. Bars 247(1) - 254(1) are particularly shifting. Like the first subject in the exposition,

the section is tonally cyclic but it is at a tritone distance from the former. F# has replaced C. Like the second subject in the recapitulation, the main tonalities form interlocked tritone and major third. In the earlier section, the tritone was dominant, now it is tonic. In addition, these three pitches, C E F#, derive from the overall tonal architecture of the quartet. D# lies outside this structuring but represents another tonic pitch.

The first subject is in two parts, 230 - 240 and 241 - 265. The beginning is not clearly defined as the first subject as it is quite different to the original. This is inevitable as the gradually evolving style could not effectively be repeated. The end of the first part of first subject is marked by a coming together of all four parts and a molto rit. bar 240. The second part resumes the tempo. The second part ends with a quasi coda of 10 bars.

The main motive is presented in an understated and varied way in the second bar by violin 2.

Figure 75.



This version of the theme is built on a symmetrical arrangement of pitches with a B/F outline -

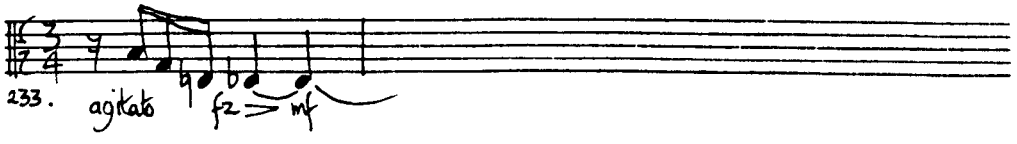
B C Eb Gb F

1 3 3 1

This tritone was a feature of the closing bars of the transition. It is perhaps significant that Bridge has obscured this symmetrical ordering of the motive.

There is further working of the motive in the next three bars. An authentic version in the 'cello in 232 with a tonic A/Eb outline is followed by a variant in the viola -

Figure 76.



This version is achieved by reversing the order of the thirds and reversing the semitonal direction -

B G E Eb

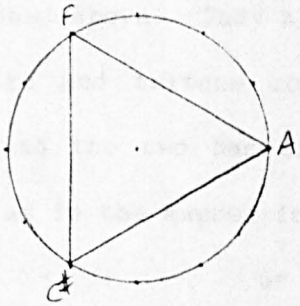
4 3 1

This kind of working shows clearly that intervallic manipulation is fundamental to the structuring in this quartet. The above version has a minor sixth outline which replaces the tritone and is further evidence of the importance of the way these two intervals, often as major third with tritone, are interlocked. This is followed by

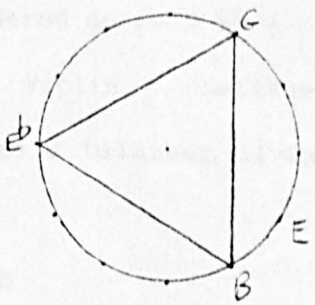
another authentic version with a tonic C to F# outline in 234, also in the viola. This bar ends with a further attempt of this particular version in violin 2 but it is incomplete.

Another direct reference to exposition material occurs in the violins in bar 232. This is the major third figure originally in dotted rhythm. The placing of this material here puts this interval in close proximitv to the tritonal outline of the main motive. The violin fragment uses the F A C# structure. It is possible that this material links to the viola fragment mentioned above, the version of the main motive with the major third outline as the viola reverses the violin structure.

Figure 77.



Violins bar 232



Viola bar 233

Following the slowing of the tempo in bar 235, the music becomes more like the exposition, from bar 17. An important thematic G# at

the start of 236 points to this. The main motive is stated in the 'cello at original pitch in the same bar. The inner parts move together in triplet rhythm, as before, but the pitches are altered which results in the absence of the major third structures. Now the inner parts employ perfect fifths and so these combine with the tritone of the motive. However, the fifths oscillate between DA and EbBb and in scalic order these pitches form tritone and major third relationships -

D Eb A Bb

1 6 1

In 237, the 'cello continues the original main motive while the inner parts take up this rhythm at the end of the bar with the fifth pitches mentioned above. They are reordered as Bb D Eb A to reinforce the major third and tritone content. Violin 1 continues from the previous bar and the two bar line forms a balanced division of the G#/D tritone, as in the exposition -

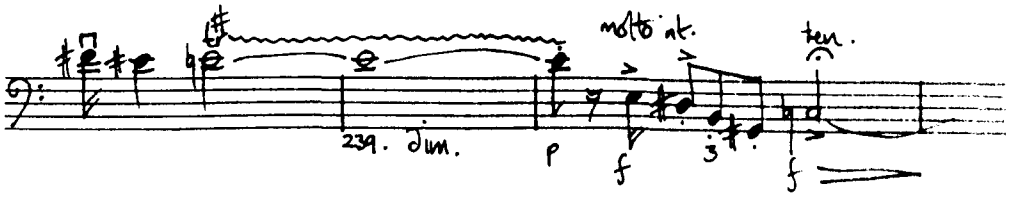
G# B C C# D

3 1 1 1

The four parts come together at the start of 238 on a chord of interlocked tritone and major third, D F# G#. The F# in the 'cello is the beginning of two overlapped ideas that last until the end of the

first part of the first subject. The first comprises a division of the tonic F#/C tritone and the second is a symmetrical figure.

Figure 78.



F# E# E D# C

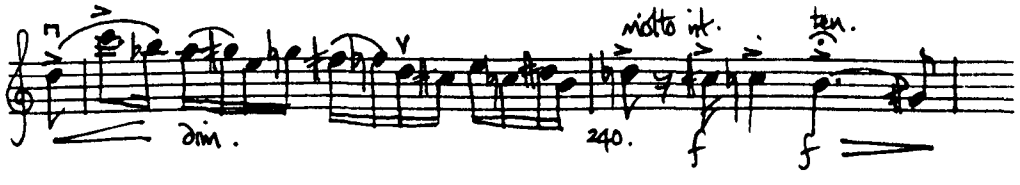
1 1 1 3

D# B G# C

4 3 4

There is a secondary F#/C outline in the viola in 238 and the three lower parts come together in bars 238(3) - 240(1) on F#/C E, a chord derived from the main tonalities of the section. This is a much used structure and here it is made more so by its position and by the use of these particular three pitches. E, as the bass note of the structure, provides the tonality. Trills in the lower parts add D which, with E, divides the tritone into whole tones. Above this static underpinning the first violin weaves a chromatic figuration that was added to the final version.

Figure 79.



This contains two fragments based on dividing the tritone. The first of these is a balanced division which puts tritone and major third together again -

Bb A G# E

1 1 4

The second is unbalanced and puts perfect fifth and minor third with tritone -

G F# F D C#

1 1 3 1

These fragments are followed by a symmetrical pattern of thirds which links with the 'cello fragment mentioned above -

E C D# B

4 3 4

The first violin ends with a balanced division of the D/G# tritone -

D C# C B G#

1 1 1 3

The inner parts in 240 are a major third apart and separately each has a major third outline too -

Violin 2 - D E F F# Viola - F# G# A A#

2 1 1 2 1 1

The end of the first part was subject to certain revisions. Bar 240 is more pointed in the final version by the addition of a molto

rit and a pause on the final beat. Originally, the bar was quite chordal but Bridge has altered this texture and separated the strands. The most significant change is the removal of the F# pedal in the viola which lasts throughout the corresponding bar to 240. Bridge clearly decided to delay the use of this pitch. In the final version, all parts come together at the end of the bar on the C E G# structure of interlocked thirds. These pitches derive from the overall tonal architecture of the quartet and C and E from that of the section.

This chord is retained to form an overlap with the second part of the first subject. Bars 241 - 252 are much like bars 21 - 35 of the exposition. Bar 243 ends with new writing and bar 249(3) introduces new rising scales with a minor sixth outline. The progression of tritones in bar 252 adds an extra C at the end to avoid F#.

So far, the second part of the first subject has incorporated a gradual building up of the dynamics. The music breaks off at fortissimo at the end of 252 to highlight the reintroduction of the opening motive of the introduction at the start of the next bar. This playing is marked forte and con fuoco, doubled in octaves and unaccompanied which is in marked contrast to its originl playing marked p espress. In its continuation, this is much like its playing in bar 13 but the accompaniment is changed. Combined E minor and F# major triads are put into the start of the third beat of 253. This is one of few occasions in the movement that both triads are complete and

thus symmetry is achieved. At this late stage in the movement, the main tonal pitch and the work's centre of symmetry are placed in this prominent position. This is immediately followed by a Bb to E version of the main motive in the outer parts. This is clearly another way of bonding the introduction material with the first subject motive. The introduction motive originally led to falling chromaticism and initially this is carried out as before. However, on its repeat, A# replaces A and the symmetry of the line is broken -

Original version - F E D# D C# A Altered version - F E D# D C# A#

1 1 1 1 4 1 1 1 1 3

There is further pairing of triads in 254. Initially the pairing comprises an axial third repeat of that in the previous bar, G minor and A major replace E minor and F# major. The new roots, although a tone apart, do not derive from the quartet's tonal architecture. At the end of the bar there is a new combination of triads a fifth apart, B minor and F# major. However, symmetry is retained although the central fifth of the previous combination is replaced by a common pitch.

B D F# F# A# C#

3 4 - 4 3

Unusually, F# lies at the centre of symmetry here. This combination is different to that in the original version which put Bb minor and Eb major together with A as an extra pitch. This was not a symmetrical arrangement of pitches.

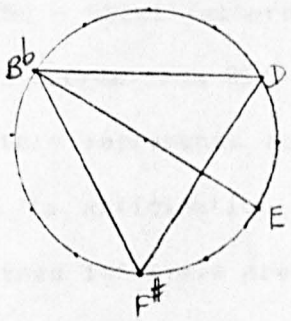
The alteration to the final version continues for one more bar. Bar 243 of the first version was essentially a tone lower than the final 255 which leads more neatly into the return of the F# in 256. Bar 255 changes the texture from outer and inner to upper and lower. The upper are chordal, initially on G major which links with the F minor broken chord in the lower parts to form symmetry -

F Ab C G B D

3 4 7 4 3

The upper parts form an unconventional chord on the last beat of the bar.

Figure 80.



Clearly, this is an important structure, being based on E as the centre of symmetry and incorporating its counterpole and two other pitches from the overall tonal architecture.

The F minor broken chord in the lower parts should lead to B to complete the main motive on the subdominant but the expected pitch is replaced by F#, a fifth from it. F# follows C at the end of 254 to

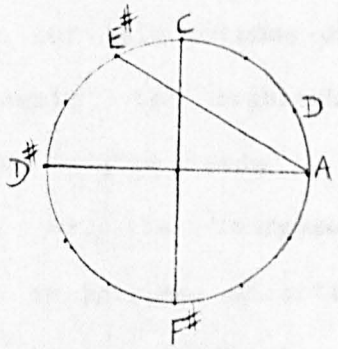
create a tritonal bassline progression and so fifth and tritone are once again linked.

Bars 256 - 265 are like a coda although there is no break to indicate a separate section. The tempo is increased. These bars are built almost exclusively on the main motive at original pitch, onto F#. In fact the motive is treated as an ostinato as it is reiterated in the 'cello from 256 - 263(1). [Eventually, the other parts join in.]

The inner parts in 256 - 258(1) alternate two interlocked major third structures, as broken chords from 257, A C# E# and Bb D F#. If A and Bb are the roots, this represents an alternation of I and V. Violin 1 is based on G#, in anticipation of the second movement's tonality. Gradually increased intervals are put with this pitch from minor third to minor seventh but tritone and perfect fifth are omitted from the pattern. From the last semiquaver of 257 to the first quaver of 258, the two major third chords mentioned above are formed in the three upper parts to conclude their use. This is followed by a clear coming together of the three upper parts to play F# G# D in octaves. These pitches originate in the tonality. This is followed by a balanced division of the D/G# tritone which was stated before, in bars 19 - 20. This time, it is reinforced by its doubling.

In bars 260(3) - 261 the upper parts gradually take up the main motive so that by 262 all four parts are playing in octaves onto F#. They end on an F# at the start of 263 and a semiquaver repeat leads to a chord structure on D#. In the exposition, F# led to G# but this is removed as G# is to feature tonally in the next movement. D# is another tonic pitch and as this chord is the final one of the movement, leading to another unison F#, there is no clear cut cadence. The final chord incorporates both tonic axes with interlocked major thirds. This results in two pairs of fifths.

Figure 81.



This structure is slightly different to the original final chord which included G. This extra pitch introduced the dominant area to the chord which otherwise relies on tonic and subdominant pitches. The omission of G forms a simpler and more direct chord which clearly emphasises the tonic. The pitches of the chord can be shown to form two retrograde versions of the main motive on the two tonic axes -

A F# D D# and C A E# F#

3 4 1 3 4 1

However, this structure is not symmetrical although based on intervals of symmetry. The movement ends with a fortissimo F# in all parts which is totally unambiguous and the single pitch is not diluted by being part of a chord.

From this examination of the first movement, it is clearly emerging that Bridge is writing music that is constructed out of interval relationships, specifically in terms of their symmetrical ordering. This is clearly different to the G minor quartet where interval ordering was carried out within a diatonic framework. Aspects of diatonicism were chosen for this purpose and put into a relatively chromatic context, again to highlight certain intervallic relationships. Diatonic writing tends to conceal such intervallic properties. Because of the increased importance of such relationships, there is an increase of motivic writing in the third quartet and this is partly responsible for unity in the work. Only the second subject has a construction that is more akin to the older method. The G minor quartet was trying to bring together two separate elements, diatonic writing and intervallic relationships. In the third quartet, it is the intervals that are the structuring means although within a tonal base. This results in a more tightly knit expression, where large and small scale tonalities, motives and chords can all interrelate. The diatonicism of the G minor quartet resulted in a less all embracing unity.

Apart from the motivic unity, the tritone is more clearly a bonding agent in the third quartet. It is an integral part of large and small scale tonalities, themes and chords. Frequently, it is put with other intervals, chiefly major third and fourth or fifth. The main motive of the movement puts tritone, fifth amd major and minor thirds together, expressed as a conventional minor triad with added semitone.

Another favoured pairing is tritone with fourth/fifth. This occurs in the main motive and in tonal structuring of some of the sections. This is not a new pairing for the G minor quartet put G Db and D together as a structuring device. However, in the earlier work this had a relatively small role. It was not responsible for major thematic structuring for instance. Its role was to create intervallic tension between the two forms of the fifth/fourth. In the first movement of the third quartet the tonal structuring moves away from this pairing [introduction and first subject in the exposition] to major third with tritone [second and first subjects of recapitulation]. Overall, the movement progresses from the E/Bb E♭ of the introduction to C/F# E of the final first subject. E is the common pitch in this progression and it is also the centre of symmetry of the tonal architecture of the quartet as a whole.

The tritone links the overall tonal structuring to the small scale. Initially, the latter is different to the former but the sections of

the movement move towards the latter and thus a greater unity. The tritone links the two different tonal structures.

The fifth/fourth seems to have a dual role in the work so far. Partly, it is an indicator of conventional tonality but its use also suggests that it is considered to be another way of dividing the octave symmetrically.

The other way of dividing the octave in this manner is by a linear arrangement of pitches. Semitone, tone, minor and major thirds and tritone divide symmetrically in this way. In the course of motivic writing, Bridge goes on to subdivide the larger of these intervals in a balanced but asymmetrical way. The tritone, for instance, is divided into two equal but dissimilar halves comprising three semitones and minor third. Total symmetry would produce a bland expression and would therefore limit the structural possibilities. Bridge creates tension by creating assymetry within symmetry. Asymmetry occurs as a result of symmetrical ordering. In the previous work, diatony gave rise to asymmetry, but often altered to create symmetry. The main motive of this first movement is a striking example of the balance of symmetry/asymmetry, with its symmetrical division of the tritone into minor thirds but with an added fifth to destroy this.

As in the previous work, there is great variety of quartet texture here. There is an increased use of counterpoint but chordal passages, as before, highlight many important moments. The greater horizontal structuring means that it is not always clear how lines are constructed as fragments frequently overlap to achieve continuity. Passages often overlap too.

Finally, mention of the first version of the movement. The transitions and second subjects are virtually unaltered from the original. Most changes occur in the development and in the recapitulation of the first subject. There are one or two significant alterations which I have discussed in the above text but small changes, such as rhythmic expansion, time signature changes and altered part writing, I have taken to be irrelevant to the discussion of the structural organisation of this first movement.

The slow second movement presents a very contrasting genre to that of its predecessor. The expression of the first movement was mostly forceful, particularly so at the end where all four parts hammered out the main motive. The second movement is played muted throughout and a somewhat ethereal atmosphere results, especially at the beginning. However, Bridge links the first two movements by reintroducing the main motive of the preceding first subject. This fragmentary idea is presented in a new context. The movement has a ternary framework with sections A(1) and B having the same length. A(2) is as long as the preceding two sections together and it reintroduces some material from section B briefly.

Figure 82 below shows all the tonalities of section A(1).

Figure 82.

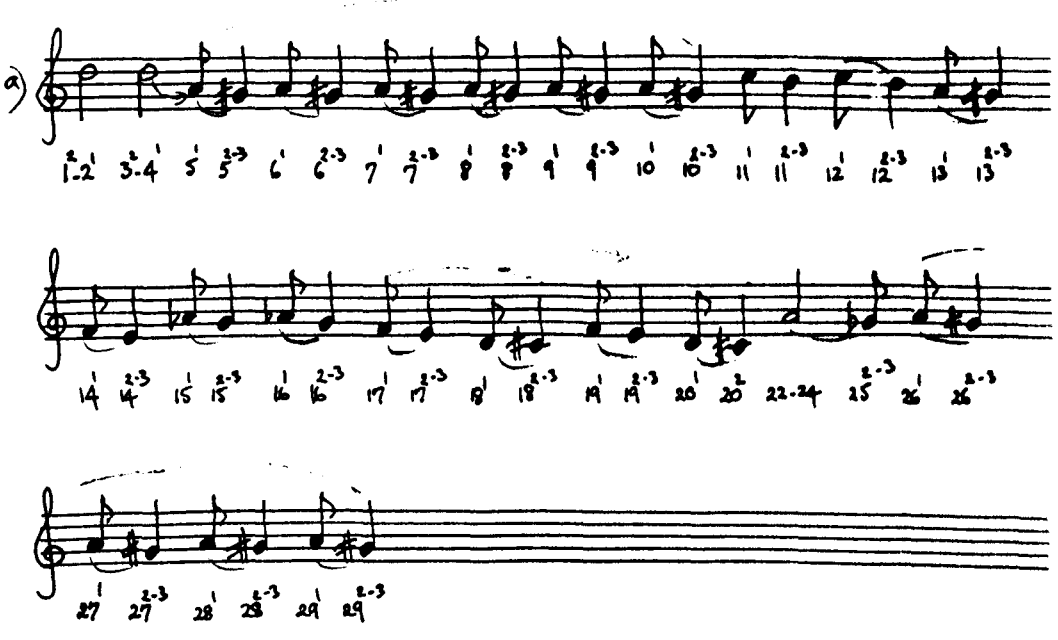
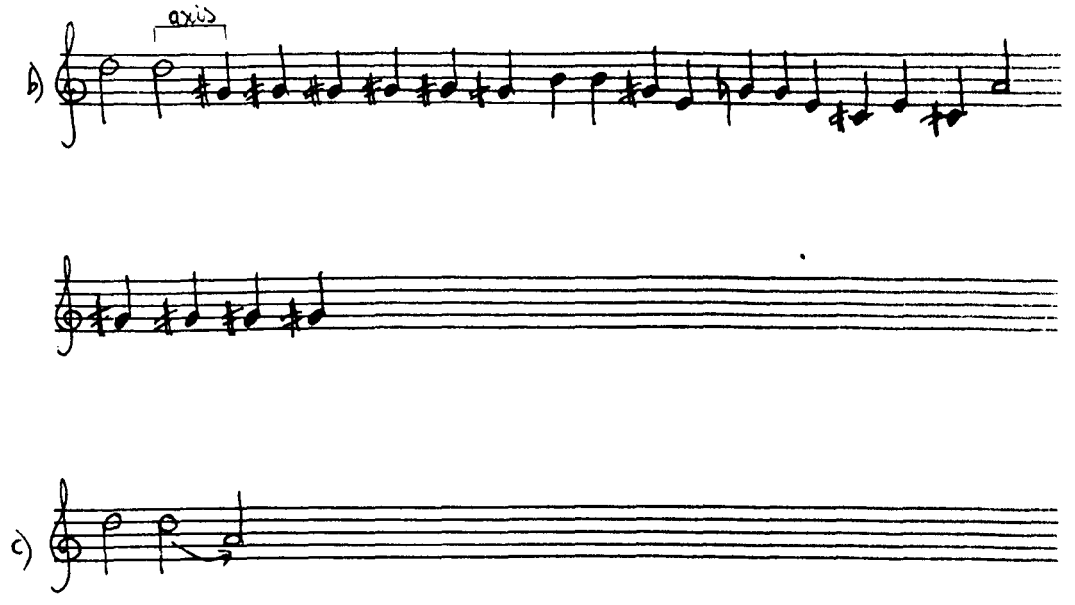


Figure 82 contd.



Section A lasts until bar 29 and has an overall D to G# tonal outline. This reflects the overall tonal outline of the movement. The section consistently places tonalities a semitone apart in quick succession, bars 5 - 13 alternate tonic and subdominant, A and G# and C and B and bars 14 - 20 alternate subdominant and dominant, F and E , Ab and G and D and C#. The tonic and subdominant pairings form a symmetrical arrangement when the pitches are placed in ascending order -

G# A B C

1 2 1

F and E are then put with Ab and G and this forms the same intervallic symmetry. The final pairing, F E with D C#, also produces this symmetry. The symmetry occurs as a result of dividing the major third. These three aspects of symmetry do not form an overall symmetry when put together in ascending order. The first six pitches

form a symmetrical division of the perfect fifth but then the emerging octatonic pattern is broken as A replaces Bb -

Actual pitches - C# D E F G Ab A B C

1 2 1 2 1 1 2 1

Octatonic pattern - C# D E F G Ab Bb B

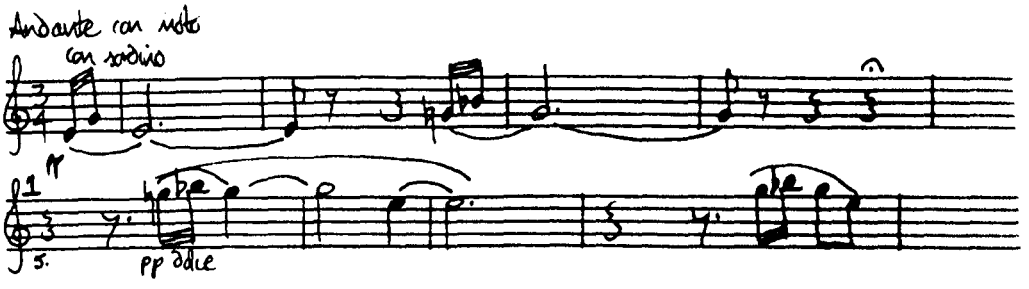
1 2 1 2 1 2 1

The final pairing of pitches is followed by a clearly defined passage on A, bars 22 - 24. This leads to a return of the A G# semitone to conclude the section. Figure 82b) shows the subdominant - dominant - tonic - subdominant progression of pitches. Figure 82c) extracts the most important pitches of the section and this reveals D to A as the framework of section A. This reintroduces the tritone/fifth conflict as the overall outline of pitches is D to G# but the most important tonal progression underpinning the section is D to A. Significantly, these three pitches are the first three tonalities of the section in bars 1 - 5(3). They are introduced in the order D to A to G#.

The second movement begins in a manner that is redolent of the introduction to the first movement. This is partly because the opening violin theme uses the same axis as that used at the start of the earlier section. Now, the pitch outline is from E to Bb not Bb to E and the added fifth, F, is omitted. This dominant axis incorporates

the E which is the pitch at the centre of the quartet's tonal symmetry. This thematic structuring lasts from bars 1 - 8.

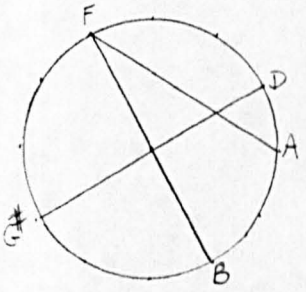
Figure 83.



The fragmented idea is based on intervals of symmetry, minor thirds and with a tritonal outline. G lies at the centre of symmetry, another dominant pitch. This kind of thematic writing is motivic, in essence not dissimilar to the main motive of the previous movement, although the texture is more conventional. Initially, this can be expressed as one over three as the lower parts in bars 1 - 4(1) form chords. The first of these occurs in bars 1(2) - 2(1). A strong tonal impression is created by this chord as D is placed in the bass with A a fifth above. These two pitches reflect the tonal progression of the section. G# is the upper pitch and so the way that the pitches are laid out forms a D to G# tritonal outline from 'cello to violin 2. These pitches reflect the overall tonal framework of the movement. This chord can be explained in conventional terms, as G# diminished9. A and F from the middle of the texture are repeated in the bass after the chord. These form a rising minor sixth. The bass pitches from the beginning are D F and A. These three pitches could comprise the

start of the main motive of the first movement. The only absent pitch is G#, which was the upper pitch of the chord.

Figure 84.



Chord bars 1(2) - 2(1)

D F A G#

3 4 1

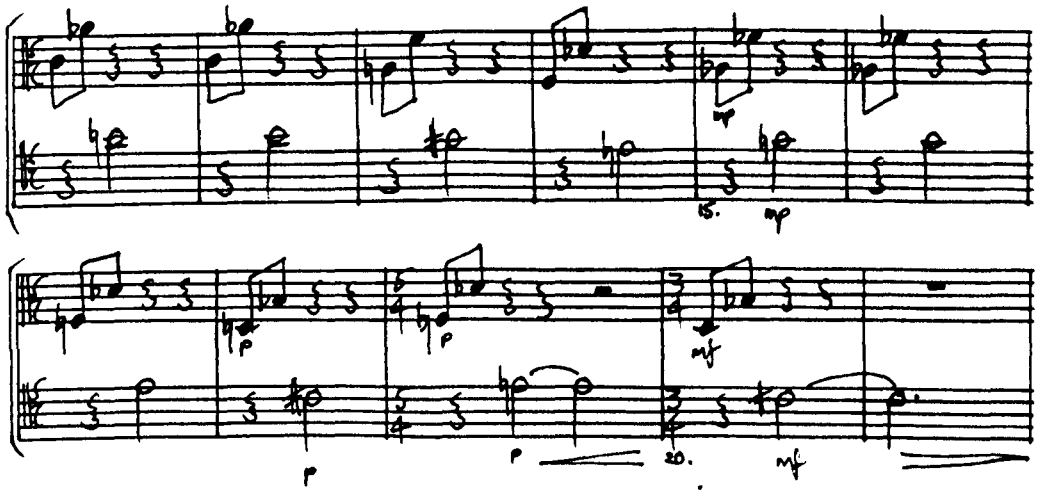
This implied version of the motive uses the tritone of the overall tonal outline of the movement.

The chord returns in altered form in bars 3(2) - 4(2). E now replaces A and so the chord becomes E major9 and the implied reference to the motive of the first movement is B D F E which is an axial repeat of that in the first chord. The F to A sixth is repeated after the second chord but this time leading directly to G#. This results in bass pitches of D A F G# in bars 3(2) - 4(2) which are a reordered version of the motive expressed above.

All parts break off after this and the last beat and a half is given over to rests and pauses. The music resumes in bar 5 with a change of texture as now all four parts have separate identities. The viola resumes the A to F sixth and plays this on the beat for six bars. As in bar 4, this leads to G# but now this is subject to octave displacement and given to the 'cello. A is the lowest sounding pitch initially in these bars and its position on the beat gives it a tonal function. However, it leads to G# which assumes the role of lowest pitch and this note is held on for two beats rather than the half beat of A. Therefore, the G# A conflict mentioned earlier is presented. These pitches form tritone and perfect fifth to D, one of the most important tonalities of this part of the movement.

The writing of these two lower parts is continued in bars 11 - 21 but different pitches are introduced.

Figure 85.



The three pitches in each bar have been shown to link with the motive and in bars 11 - 21 the pitches imply subdominant and dominant axes.

Bar 10 - (D) F A G# → Bars 11/12 - (F) Ab C B → Bar 13 - (D) F A G# → Bar14 - (Bb) Db F E → Bars 15/16 - (Db) Fb Ab G → Bar 17 - (Bb) Db F E → Bar18 - (G) Bb D C# → Bar 19 - (Bb) Db F E → Bar 20 - (G) Bb D C#

This alternation of subdominant and then dominant axes has an overall progression of a fourth, D/G# to G/C#. The change from the one tonal axis to the other is achieved in bars 13 - 14 by whole tone shifts, D/G# to E/Bb.

New thematic writing is introduced in bar 11 in the violins. Violin 2 has a two bar idea based on a symmetrical ordering of pitches. The symmetry is broken by the addition of an extra semitone at the beginning. [C at the end would complete the symmetry.]

Sounding order - Eb D Bb Ab G F Db

1 4 2 1 2 4

Essentially, this is an unequal division of D/Ab and G/Db tritones into tone and major third. In the same two bars violin 1 has a thematic fragment which puts semitone and tritone together.

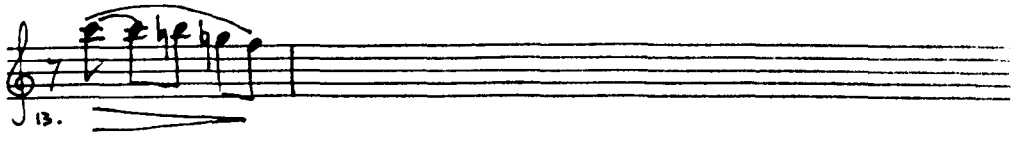
Sounding order - F E Eb A

1 1 6

The Eb/A tritone links with the two in violin 2 as the three together are adjacent on the circle of fifths.

Bar 13 starts as an axial repeat of bar 11, down a minor third, but this lasts for only one bar. The following bar employs two symmetrical fragments in the violins. The 212 symmetry in violin 1 is a division of the perfect fourth and the 141 symmetry in violin 2 outlines the whole tone. The ends of these fragments are repeated at the start of bar 15. In bar 17 there is a sequential repeat of bar 13. Bar 17 is in turn repeated down a minor third in 18. Bars 19 - 20 are variants of 17 - 18. The repetition of this material leads to a closer examination of its makeup. The fragment in violin 2 in bars 13, 17, 18, 19 and 20 originates in bar 11 but in this first playing it is followed by further pitches to create the kind of symmetry mentioned above. In bar 13, the fragment is isolated for the first time -

Figure 86.



The fragment has a perfect fifth outline which is divided asymmetrically -

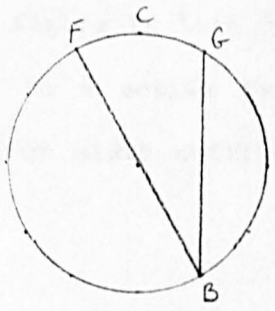
C B G F

1 4 2

Furthermore, the division is unbalanced and this would seem to suggest a new method of structuring. However, placing the pitches on the circle of fifths reveals a new interpretation of structuring methods much used in the first movement.

Figure 86 contd.

b)



These pitches form interlocked tritone and major third, B/F G, and tritone with added fifth, B/F C. These two intervallic structures are derived from the large and small scale tonal organisation of the quartet. The former is derived from the overall tonal architecture and the latter from local organising of such sections as the introduction and first subject in the exposition of the first movement. This thematic idea brings the two principles together.

To turn now to how the upper parts correspond to the lower in this passage. The lower parts had implied tritonal content in bars 11 - 21 as the three pitches in viola and 'cello derived from the main motive of the first movement. As mentioned above, the passage alternated subdominant and dominant axes. The second violin links with these implied axes by using different pitches from the same area. In bar 11, the lower parts have an implied subdominant F/B axis while the second violin presents the subdominant D/Ab. The second violin axes in 13 and 17 - 20 are subdominant and dominant respectively, the alternative tritones to those implied in the lower parts in the same bars.

Violin 1 presents a figure in bars 11 - 12 which is similar in the way it is structured to a motive in the first movement. The present fragment has a minor sixth outline which is subdivided into two semitones and tritone.

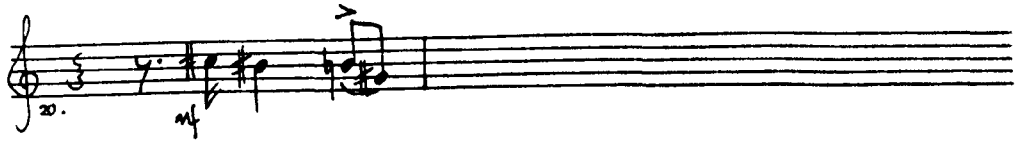
Figure 87a)

F E Eb A

1 1 6

In the first movement, the thematic fragment presented in violin 1 in bars 19 - 20 comprised three semitones and minor third with an augmented fourth outline.

b)



D C# B# B G#

1 1 1 3

This first movement fragment is used many times. It is different to the motive in the second movement in that it is a balanced division of the overall interval.

This first violin motive is not played complete again in this passage which lasts until bar 21. However, it is begun in bars 13 and 17 - 20, latterly in altered form. The complete idea would be as follows -

Bar 13 - D C# (C F#) Bars 17 and 19 - Bb A (G# D)

Bars 18 and 20 - G F# (F B)

Bracketed pitches are not sounded.

Whereas the three lower parts in these bars used and implied axes from the same tonal area, violin 1 uses and implies axes from different areas. The lower parts have a subdominant to dominant progression in bars 11 - 20 and violin 1 has an implied tonic to subdominant.

One further point concerns violin 1 in these bars. In bar 14 a symmetrical thematic fragment is presented which complements symmetry in violin 2 at the same time. Violin 1 plays Bb C Db Eb which has a 212 symmetry while violin 2 plays Ab G Cb Bb which has a 414 symmetry.

This passage ends in bar 21 with a ritardando, a device much used by Bridge to indicate ends of sections or passages. Violin 1 once more takes up a minor third/tritone motive in this bar which suggests a link with the first movement. The rhythm is quite different to that of the material used in bars 1 - 8 and the pitches are F# C and A instead of E G and Bb.

New material is presented in bars 22 - 25. It is accompanied by a more chordal texture. The lower parts move together in the same rhythm throughout but the first violin is slightly different until bar 24(3). The three lower parts have oscillating ideas, violin two alternates pitches a tone apart, A and B, and the viola and 'cello alternate pitches a fourth apart, C and F and E and A. Violin 1 has a thematic line based on E, the quartet's tonal centre of symmetry. E is put with pitches that gradually increase the intervals with it -

E D, E G, E G#, E A.

2 3 4 5

On the beats, the four parts come together on a chord made up of A F B and E. These pitches can be arranged as E F A and B which has the same 142 interval pattern as the second violin thematic structuring in bars 11 - 20. The offbeat chords are continually altered in bars 22 - 24(2) although they are based on A C E which are consistently used throughout with other pitches, G, D and G#. D is the most significant pitch as it is briefly the centre of symmetry of the C G A E structure and finally its replacement by its counterpole G# forms a chord based on symmetry, C E G#, with A.

The four parts come together in bars 24(3) - 25 and unconventional chord structures result. The progression begins with a return of the 142 chord of E F A and B. The following two chords seem to reinterpret this method of interlocking major third and tritone which results in 342 and 214 structures. The passage ends on a chord of adjacent major thirds, Cb Eb and Gb Bb. Violin 1 in these bars

presents a thematic fragment which is possibly an intervallic augmentation of the main motive from the first movement -

E A C Bb replaces C Eb G F#

5 3 2 3 4 1

As violin 1 was using intervallic augmentation as a structuring device in bars 22 - 24, there is some justification for this implied link.

Bars 26 - 29 repeat bars 5 - 9 down the octave. This concludes section A.

Section B has an overall tonal progression from G to D which would seem to prepare for the return of section A on D. Figure 88 shows all the tonalities of the middle section.

Figure 88.

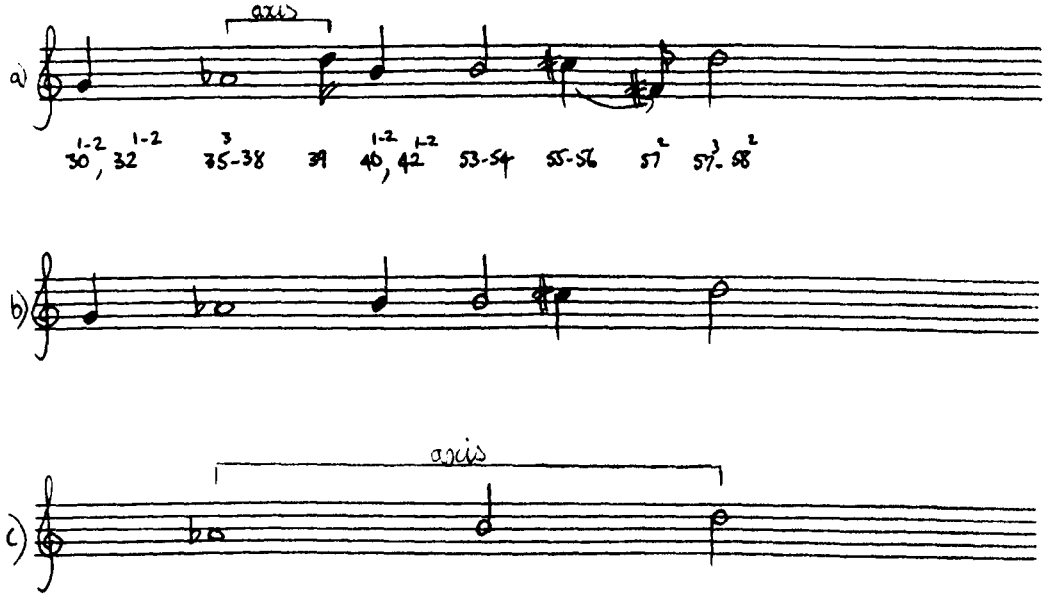
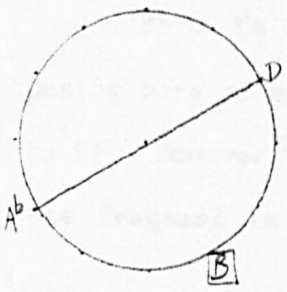


Figure 88 contd.

d)



The most obvious point about Figure 88a) is that there are some passages where there are no tonal bases. Most obvious of these is bars 42(3) - 52. Figure 88b) begins to show that B is a pivotal tonal pitch, partly because of its central position and partly as G to Ab is given a counterpole repeat as C# to D following the central B. Figures 88c) and d) reinforce this. 88c) also shows that an Ab to D progression underpins the structuring. This is a reversal of the D to G# overall progression and the D to A underpinning of section A, D A Ab/G#.

Section B opens with a six bar phrase based on a chromatic bass line which has an Eb to B outline. The dominant G lies at the centre of its symmetry and it is this pitch which begins the line. Violin 1 has a variant of the main motive of the first movement -

A C Eb D

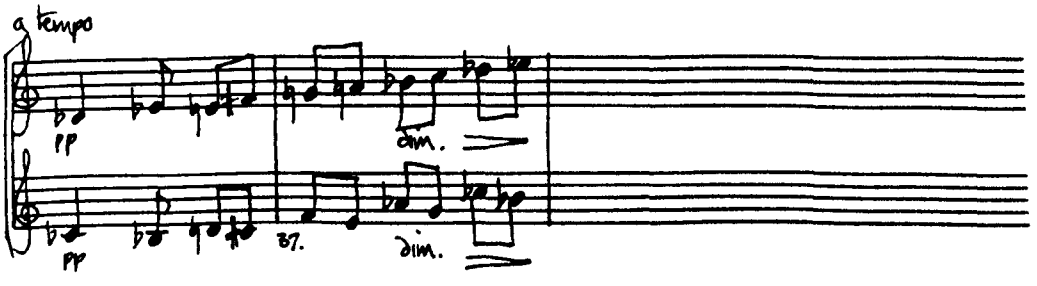
As Eb to D replaces E to Eb, tritone and fourth replace fifth and tritone. This motive is presented twice, in bars 30 and 31. A further variant occurs in bars 32(3) - 33(2) and here the motive is compressed even further -

G Bb Db Cb

The inner parts in these opening bars of section B present minor third intervals, F to Ab and Eb to F#. However, the former resolves finally on A which suggests that the fragment is a reworking of the A F G# fragment used in section A.

There is an authentic return of the main motive in bars 34(2) - 35(1). This time both violins play the fragment a fifth apart, F to Bb and Bb to Eb. At the end of bar 35, the bass settles on Ab and this is retained until bar 38(1). This is a further link with section A as G# was used as a bass pedal in bars 5 - 10 and 26 - 29. Above this, in bars 36 - 37, the violins have figuration based on the octatonic scale. Although there have been previous figures that have implied that this scale may lie at the root of construction, there has not been any direct use of this arrangement previously. At this point, violin 1 is particularly clear in its use of the octatonic scale; violin 2 rearranges the pitches slightly but this in itself gives an insight into the way that Bridge was using intervallic patterns to work out thematic structuring.

Figure 89.



Violin 1 - Db Eb E F# G A Bb C

2 1 2 1 2 1 2

Violin 2 - Cb Bb D C# F E Ab G =

Bb Cb C# D E F G Ab

1 2 1 2 1 2 1

Clearly, this is another aspect of symmetrical structuring in the work. The two scales are a minor third apart, starting on the dominant pitches Bb and Db. Their arrangement together alternates whole tones and fourths -

Db Eb E F# G A Bb C

2 5 2 5 2 5 2 5

Cb Bb D C# F E Ab G

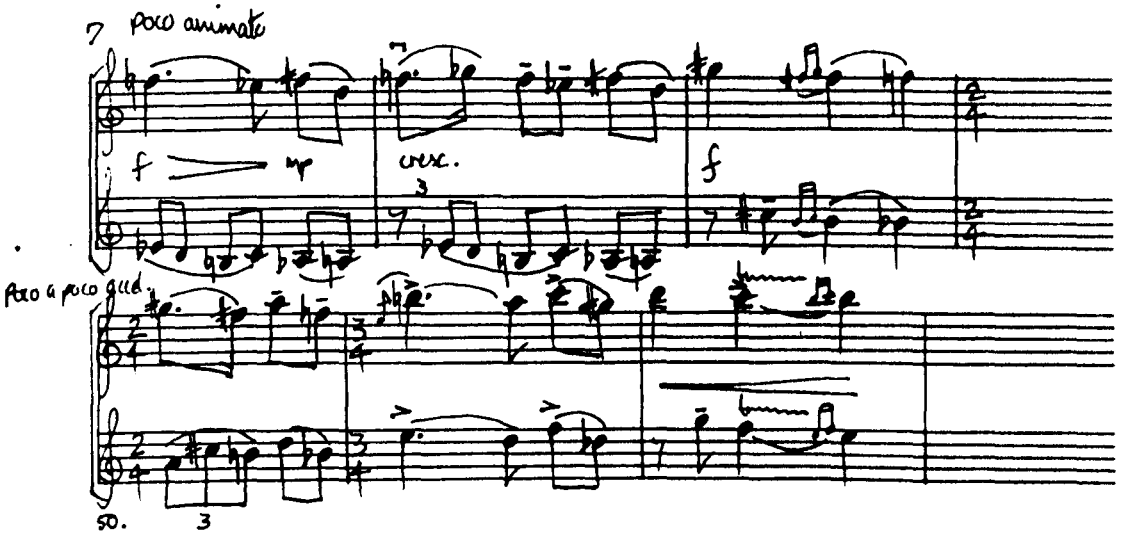
The arrangement of pitches played by violin 2 produces semitones and major thirds and so this short passage brings together tone and semitone, semitone and major third and tone and perfect fourth.

This leads to two bars of direct reference to section A in bars 38 - 39. Bar 39 is an exact repeat of bar 18 and it is approached from a bar whose starting pitches are a tritone below.

The section A material leads directly to a repeat of bars 30 - 33 in bars 40 - 43. The material is a major third higher than before. An extra sequential bar is added at 44. Bars 45 - 46 are a repeat of 34 - 35 , also up a major third. The octatonic scale is then used again in material played by the violins. In bars 47 - 52, violin 1

has a gradually ascending line. The octatonic pitches are added in order but the line keeps doubling back in order to disguise the structuring procedure.

Figure 90.



Violin 1 - D Eb F F# G# A B C

1 2 1 2 1 2 1

Violin 2 uses the same scale this time in bars 47 - 50. The passage ends with two bars where the second violin shadows violin 1 with an idea that is built on gradually increasing intervals -

E D F Db G [F E]

2 3 4 6

As G replaces Gb, the tritone replaces the perfect fourth which is the expected interval in the pattern.

The 'cello in bars 46 - 52 is sequential, rising in minor thirds. The bars start on Ab, Cb, D, F and Ab, subdominant pitches which reflect the tonal progression of the movement. This figure derives from the same part in bar 43 where semitone led to minor third. This was rearranged in 44 to semitone to tone and the original is then repeated in 45. Bars 46 - 52 reverse this basic pattern by playing minor third to semitone. This passage is another good example of the way that Bridge builds up material in the work using interval relationships.

Bars 50 - 51 are slightly different to those in the first version of the quartet. Up to this point, both versions are exactly the same and the changes in these two bars are very slight; they do not alter the basic structural order.

Bars 47 - 52 have been a passage of building up. The speed is first increased and then an accelerando is added at bar 50. The dynamics are increased too. The climax is reached in bar 53. This is the start of more repetition of material as violins 1 and 2 are based on bars 50 - 52 in 53 - 56. The pitches are new but the two parts are still a fifth apart. This results in half the octatonic scale being presented in each part and this produces tritonal rather than octave outlines -

Violin 2 - F# G A Bb C

1 2 1 2

Violin I - C# D E F G

1 2 1 2

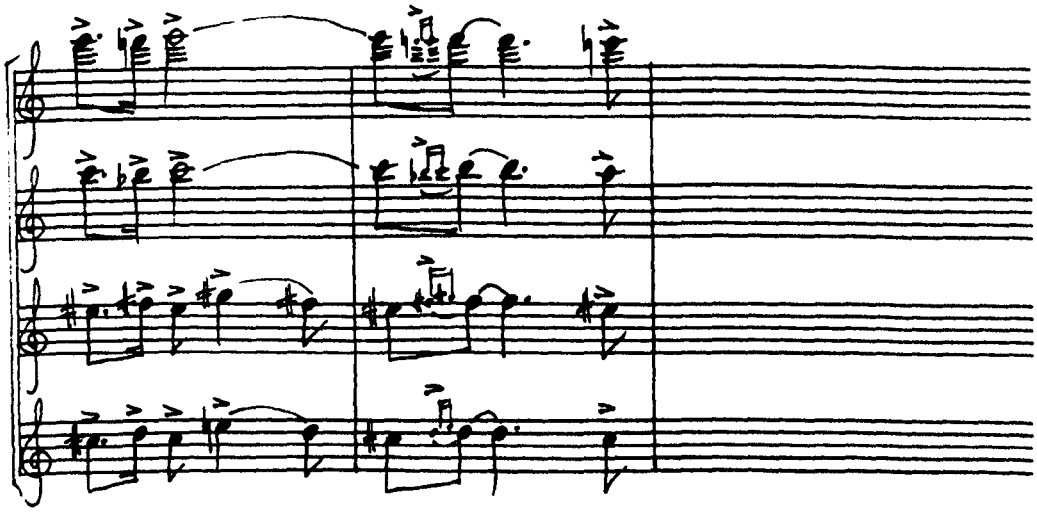
Putting these two halves together does not form one complete octatonic scale but a different symmetry on G with C# at the centre, further use of the dominant as the point of symmetry -

(F#) G A Bb C C# D E F G

2 1 2 1 1 2 1 2

The lower parts in bars 53 - 54 present trill figures. Initially the pitches used are F G and B C# which forms tritones between these two whole tones, F/B and G/C#. The pitches are changed on the last beat of the bar to E F# and B C. This tone/semitone trill forms fourth and tritone between the two parts. The trill figure is replaced in 55 - 56 but the lower parts are still as one as they move in the same rhythm. In addition, the upper parts are gradually made to join them in these two bars to produce chord structures.

Figure 91.



The chords are most clearly apparent in the second of these bars but an examination of 55 shows that the same sort of structure is used. Five chords are presented -

E# C G C# - bars 55(1&2), 56(1). Interlocked tritone/major third with added fifth/fourth.

D F# Bb F - bars 55(1), 56(1-3). Interlocked major thirds with added fifth.

E G# C G - bars 55(2-3), 56(1). As above.

F# C G D - bar 55(3). Interlocked tritone/major third with added fifth/fourth.

C# E# A E - bar 56(3). Interlocked major thirds with added fifth.

The chord structures are abruptly broken off and a fortissimo version of the main motive of the first movement is played at original pitch by the two lower parts at the beginning of 57. The emphasis is further highlighted by the use of rests before and after the motive and by rests in the upper parts. There is a return to chordal writing at the end of the bar and this lasts through the next bar. The demisemiquaver rhythm at the end of 57 points to the return of section A. The chord structures are taken from bar 56 but the interlocked tritone and major third is omitted.

The viola presents a variant of the first movement motive at the start of bar 59. It is obscured this time as the rhythm is much compressed by incorporating grace notes and the opening pitch, C, is

omitted. Section B ends on a chord of Bb D F# F which was used in bars 55 - 57. The end is pointed by a dramatic diminuendo and a slowing down. The last chord is played pizzicato, apart from the viola F# which ended the motive. This emphasises the dualism of this final chord as the plucked pitches form a Bb major triad.

Section A2 begins in bar 60. It is tonally more adventurous than the original.

Figure 92.

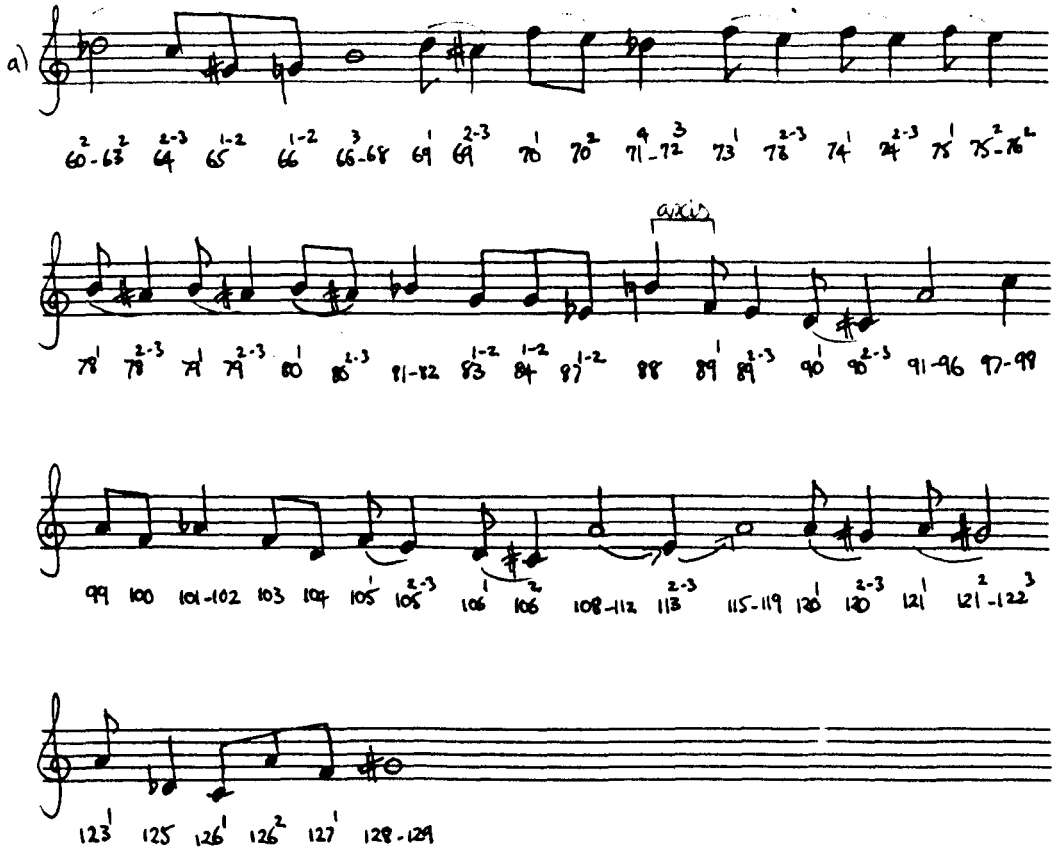
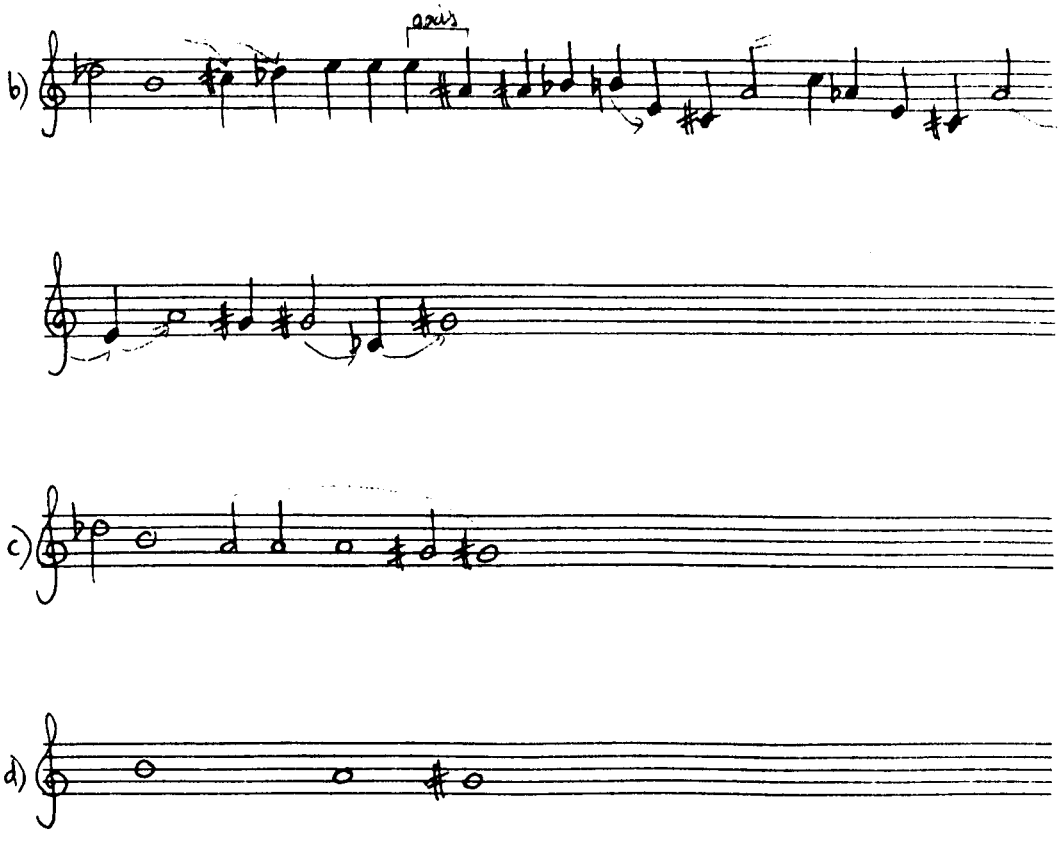


Figure 92 contd.



The 121 symmetrical patterning that featured in the original section is used again, in bars 69 - 74(3), 89 - 90(3) and 105 - 106(2). This time the same four pitches are used on each occasion, C# D E F, in a variety of orders. A similar tonal arrangement occurs in bars 75 - 78(3) which is a rearrangement of E F A# B which forms 151 symmetry. A# [as Bb] was the absent pitch from the 121 patterning in section A1. Its omission then broke an emerging octatonic pattern. This time, these semitonal pairings, when put together, form the first part of such a scale -

A# B C# D E F

1 2 1 2 1

Section A2 begins on Db rather than the expected D. This semitonal conflict is presented in the bass in bars 60 - 63(2). The section as a whole has a Db to G# progression which means that the perfect fifth has replaced the tritonal D to G# of the original. However, section A1 had a strong D to A relationship [see Figure 82c)] which corresponds to the present fifth progression. The ambiguity of the D/G# A conflict of the original section is now replaced by clearer definition as Db and G# are clearly established at each end of A2. Figures 92c) and d) show that the A to G# relationship which was an important foreground feature of A1 is now used in a different way. It is a background underpinning. Instead of the two pitches being presented in a fleeting manner, A and G# are treated as structural pillars. Figure d) also shows that the B to G# progression is more stressed than the overall Db to G#. This minor third reinforces the subdominant tritonal progression that encompasses the movement as a whole, D to G#.

The repeat of section A begins with material from the end of the original. Bars 60 - 62 correspond to 22 - 25 but the repetition is not exact. Tonally it is a major third higher than the original passage. This time there is no coming together of the parts to lead to a return of the opening material of the section. Instead, bars 63

- 64 lead into a restatement of some material from section B. Another difference is the removal of the violin 1 line based on E with ever increasing intervals. Instead, violin 1 is based on the F to G whole tone which seems to link with the Bb to C in violin 2 at the same time -

F G Bb C

2 3 2

The viola has a chromatic symmetry round F, E F Gb/F#. The 'cello presents the D Db Ab tritone/fifth conflict mentioned above. As the parts move in a similar rhythm, there is a chordal content here as before. This time the passage is heavily reliant on two structures of interlocked tritone with major third with added pitches, F Db G and Ab E Bb. Db and E are the intersecting pitches and so this represents a dominant axial progression.

By using part of section B in this recapitulation, Bridge draws the two sections closer together, particularly as this part of section B brought in section A material. Bars 65 - 70 correspond to 34 - 39 but the repeat is an axial third higher than the original.

Originally, this passage led to a restatement of the beginning of section B but this is not the case now. Bars 71 - 72 provide a link to more section A material. The 'cello line in these two bars is of particular significance.

Figure 93.

These pitches are a rearrangement of E F G Ab which is a tonal progression of symmetry used in section A1 in bars 14 - 16. This important tonal symmetry precedes the reintroduction of the most important thematic material of section A.

Bars 73 - 75 correspond to bars 5 - 7 with new pitches. The two lower parts take pitches from bar 14, stated twice while the violins repeat their material from bars 5 - 7 down a major third. Putting the violin pitches from 5 - 7 and 73 - 75 produces further aspects of symmetry. Violin 1 plays G Bb and E and Eb Gb and C. Together, these pitches form C Eb E Gb G Bb which is an incomplete octatonic scale -

C (Db) Eb E Gb G (A) Bb

1 2 1 2 1 2 1

Violin 2 plays C B D and Ab G Bb which forms an incomplete symmetry. E Eb and Gb would complete the pattern -

G Ab Bb B C D (Eb E Gb) G

1 2 1 1 2 1 1 2 1

Similar arrangements are produced by starting on B or Eb.

A new thematic line is introduced in the 'cello in bars 75 - 77 although it is reminiscent of the opening of the quartet as both are

based on the E/Bb/A# axis. Now there is a symmetrical arrangement of pitches within the tritone -

Figure 94.

E F A A#

1 4 1

A# is retained throughout the following bars, 78 - 80(3), to form a link. These three bars repeat bars 8 - 9 up a whole tone.

Bar 81 introduces new material into the repeat of section A. A quiet theme is introduced in octaves by violin 1 and viola. This line seems to subdivide at bar 86 and then continues from 87 - 90. The first part is fully chromatic but a 142 structuring order seems to underpin the line. This was introduced as a thematic structuring device in violin 2 in bar 11 when its relation to large and small scale tonal structuring was mentioned. Therefore, the material from bar 81 is actually a reworking of earlier structuring. Bars 81 - 83 present two 142 motives, D C# A G and B A# F# E. They are separated by another structure of interlocked tritone and major third, F# E C. In bars 84 - 86, the two instruments appear to separate but in fact they present two parts of a chromatic line centred on C -

C# C B Bb A G# - violin 1 and C# C E D# D Db C - viola =

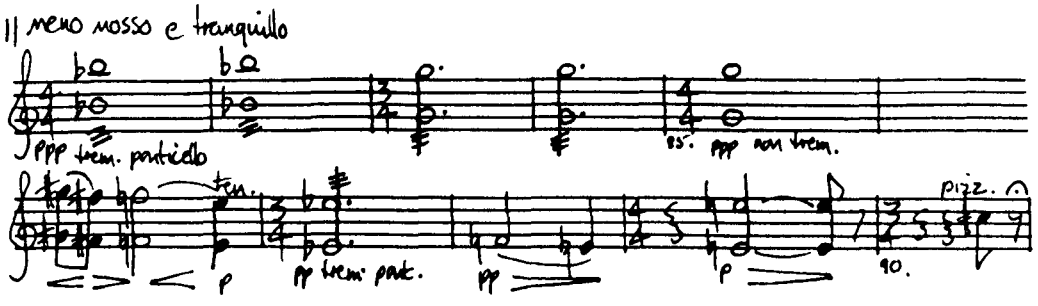
G# A Bb B C C# D D# E

1 1 1 1 1 1 1 1 1

The 142 structuring returns in bar 87 and again in violin 1 alone in 89, G F# D C and Ab G Eb Db.

Violin 2 plays a line of symmetry in bars 81 - 90.

Figure 95.



Bb G G# F# F E Eb F E C#

3 1 2 1 1 1 2 1 3

The two lower parts anticipate the return of the main idea of section A in bars 89 - 90. They play the accompaniment material that originated in bar 5. The viola rising sixth, F to Db, should lead to E, the quartet's tonal centre of symmetry. However, the 'cello plays Bb, the counterpole. This in turn resolves onto A which forms interlocked major thirds with the viola pitches. The viola D to Bb in bar 90 is also followed by counterpole replacement as G initially

replaces C#. At the end of the bar, the viola provides the G. At this point, the last beat of bar 90, the four parts come together on a chord of interlocked tritone with major third, G C# F. The chord is clearly defined by being surrounded by rests.

Bar 91 is a clear restatement of section A material; bars 91 - 92 correspond to 5 - 6. The lower parts are altered as the original is now compressed into the 'cello alone. The rhythm is altered in this too as the last 'cello pitch is a quaver rather than a minim. This alters the tonal emphasis as this sustained pitch provided the tonality originally. The reason for this is that G# would be the sustained pitch and Bridge clearly wants to delay its use as it is to be the final tonality of the movement.

Bars 93 - 94 repeat the two preceding ones but with a new violin 1 thematic fragment which comprises two overlapping symmetrical motives -

B C Eb D B

1 3 1 3

Bars 95 - 96 correspond to bars 8 - 9 with the same alterations to the lower parts as in the preceding bars. Violin 1 continues to present new material based on symmetry -

B C E F

1 4 1

The repetition is continued in the three lower parts in bars 97 - 107 which correspond to bars 11 - 21. In bars 108 - 111, all four parts come together to repeat 22 - 24 in a slightly altered rhythm. Bars 112 - 113 are similar to bar 25.

Bars 115 - 119 are tonally important as A is very clearly established as a tonal base. This is one of the most clearly defined tonalities of the movement as it is achieved via a bass pedal which is sustained throughout these bars. The material derives from section B, beginning in bar 66(4), where B was the tonality. The upper parts, as then, are based on octatonic ordering. Violin 1 and viola are based on a scale on D -

D E F G G# A# B C#

2 1 2 1 2 1 2

Violin 1 starts on G# which forms a tritone with the scale's starting note. The viola only uses D E F G G# which has the same tritonal outline. Violin 2 uses the alternative otatonic ordering on D -

D Eb F F# G# A B C

1 2 1 2 1 2 1

With the tonality being A at this point and the octatonic scale on D with G# highlighted, Bridge once more brings together perfect fifth and tritone.

The material from section B ends with a ritardando which points to the final return of section A material in bars 120 - 129. This is largely repetitive as bars 120 - 127 correspond to bars 5 - 10. One interesting tonal twist occurs in these final bars. G# is clearly established in bars 120 - 122 but it is removed in bars 123 - 127. It is finally returned in 128(2) - 129 to conclude the movement.

The form of this second movement is a little ambiguous. There is considerable cross referencing of material to achieve unity. Unity is also achieved by using motives based on similar intervallic relationships. This way of structuring results in longer thematic spans built on small fragments, a useful method in non-diatonic music. New to the work, is the use of octatonic symmetry. This incorporates fifth and tritone relationships as well as major and minor thirds. Interlocked tritone and major third are contained within its arrangement although interlocked major thirds are not. This means that it is not a way of explaining all aspects of Bridge's structuring. It also does not explain chromatic structuring or added fifths. Various intervallic relationships established in the first movement are continued in this movement. Contrapuntal textures are important again too. A good example of this is bars 115 - 119 where chord structures are completely subordinate to the horizontal line. There is little use of chordal textures and their occurence is usually as a result of contrapuntal writing. Another unifying factor in the movement is the use of the main motive from the previous movement, both directly and indirectly. By referring to this theme, the conflict of fifth and

tritone inherant in its makeup is perpetuated. It also causes the listener to suppose that the discourse of the first movement is not ended but that there is more working to come in the finale. It would be strange for a three movement work to employ common thematic material in only two of its movements. The mainly subdued references in the slow movement suggest that the motive will emerge as a powerful force in the finale and this is in fact the case.

Although this movement has these strong links with the preceding movement, it has its own clear identity which promotes the sense of progression in the work. Firstly, it is an extended expression in a slow tempo. The only previous use of andante was in the introduction to the first movement which was necessarily short lived. The tempo creates the possibility of a complete change of mood and the rather aggressive expression of the end of the first movement is replaced by gentler music. The first movement ended on an unambiguous F# in all parts but the second movement opens rather tentatively with a fragmented line. There is only one occasion when the music becomes agitated, bars 52 - 58, and this incorporates the quartet's main motive played on the C/F# axis which was used so extensively in the first movement. Although the second movement ends on a clear G#, it is played by viola alone and at a low dynamic level. This ensures that the tentative expression of the beginning is unresolved, to some degree, at the end. This also prepares for a sense of resolution in the following movement. Tonally, the second movement moves on from the tonic of the first movement to the subdominant which furthers the

sense of progression as this invites a return of the tonic in the finale.

The finale which follows is based upon arch form, A B C A B A[coda]. The symmetry of such a form is broken by the insertion of an extra A section following the central section, C. In addition, material from both the preceding movements is used which further destroys the basic symmetry. The introduction and first and second subjects from the first movement and part of section A2 from the second movement are referred to in the finale. This results in the following order -

I - First subject	A	B	C
1 - 19(1)	19(2) - 56	57 - 101	102 - 180

I - Second subject	I - First subject/A	C
181 - 250	251 - 273	274 - 338

I - Introduction	A	B	I - First subject
339 - 351	352 - 403	404 - 411	412 - 429

II - A2	A[coda]
430 - 447	448 - 458

The finale mainly uses tonic and subdominant tonalities, the tonal areas around which the preceding two movement were based. However, although the opening section repeats the tonal architecture of the first subject of the exposition of the first movement, the finale

is not mere repetition. The C/F# axis of the first section clearly establishes a tonal link with the first movement and suggests that the present movement will continue the discourse initiated earlier. The addition of C# anticipates the final dominant symmetry but also forms a fourth progression with the G# tonality at the end of the second movement. The combination of tonic and dominant is continued into the first section A. Section B1 reintroduces the subdominant tonal area from the second movement and is tonally symmetrical around D. This is followed by tonic with subdominant, C with D, in section C. This forms dominant symmetry round G which is a fourth from the previous centre of symmetry. The reintroduction of first movement material, this time the second subject, brings back the tonic and dominant pitches of C and C# which were used together in the opening section. C# is retained as Db in the next section which combines first and third movement material, bars 251 - 273. The third movement is represented by the use of the subdominant D which featured earlier. The return of section C brings this material more into line with the tonal structuring of the first movement as the main tonalities are C/F# G and D. This linking of the outer movements is continued in the next section where the introduction to the first movement is restated on C and D, the pitches used for the first playing of section C of the finale. The whole tone relationship is continued with the repeat of section A which is based on E, the pitch that lies at the centre of the quartet's symmetry and which was so important in the introduction to the first movement. Section B2 continues the whole tone progression as F# is used. This is followed by further use of the first movement's first subject, now on the subdominant axes and with

B/E# at the centre of symmetry. This is the first time that the material has been placed in this tonal area and this is further integration of the three movements. Towards the end of the finale, second movement material is reintroduced. Tonally it is more tonic than its use in the preceding movement but the pitches, C Eb G F# are those of the original playing of the quartet's main motive; D is extra to this as a final reference to the subdominant. The finale ends with a coda that combines tonic and dominant pitches which results in the conflict of tonality and centre of symmetry remaining unresolved as, as will be seen later, neither pitch area has a definitive resolution.

The way that previous material is worked into the finale is a further indication of unity in the quartet. This is established immediately as the first subject of the first movement is used as an introduction to the present movement. Tonally, this passage is essentially the same as the first subject in the exposition, compare Figures 12 d) and 96 d).

Figure 96.

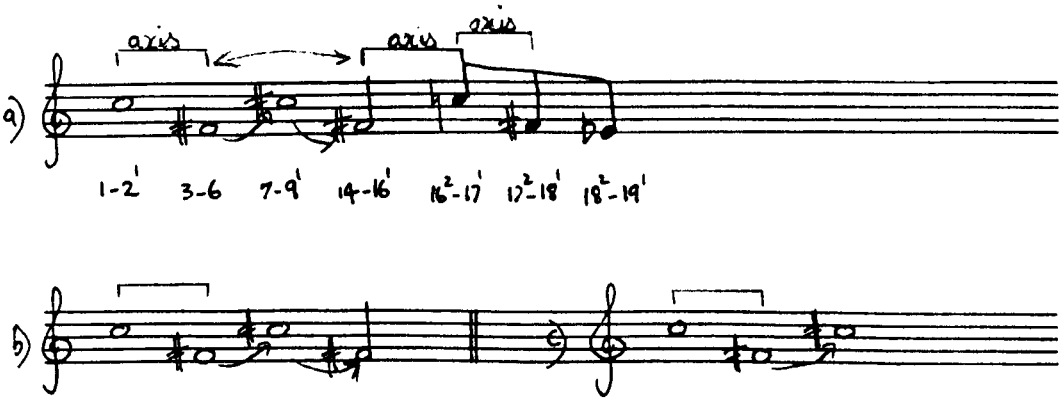
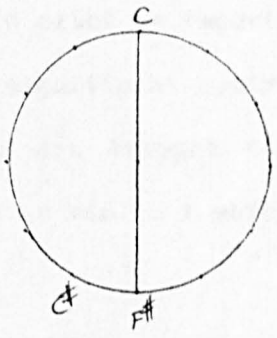


Figure 96 contd.

d)



Clearly, the first subject in the exposition of the first movement uses more pitches but the underlying C/F# C# is used for this smaller section in the finale, thus bonding the outer movements tonally as well as thematically. This introduction briefly ends on Eb, another tonic pitch but this is relatively unimportant.

The finale opens with five bars which present the main motive of the first movement ascending through all parts in order. Rhythmically, though, they are irregular. The first entry, which begins on the original pitch, C, is placed to start on the beat and is rhythmically augmented. The subsequent three entries are offbeat and the distance between them is gradually shortened. The first three entries are on C, D and Bb which produces whole tone symmetry based on the tonic C. The fact that the motive immediately has entries on pitches other than tonic suggests that the finale will present further discussion of this material rather than merely repeat it. As the motive has a counterpole progression, the final pitches are F# G# and E which complete the whole tone pattern which underpins the quartet's

overall tonality. The final pitches are sustained to produce a chord based on F# symmetry. This pitch is important tonally in the work but it has not featured as a significant centre of symmetry but by doing so, tonality and symmetry are brought together. This chord lasts throughout the final entry in violin 1 which breaks this symmetry with an entry on A.

The resulting asymmetrical chord resolves onto symmetry in bar 7 with an augmented sixth chord -

G A C# Eb

2 4 2

This is followed by five and a half bars of working using the motive in retrograde. This new way of using the motive will be a feature of the finale.

Figure 97.

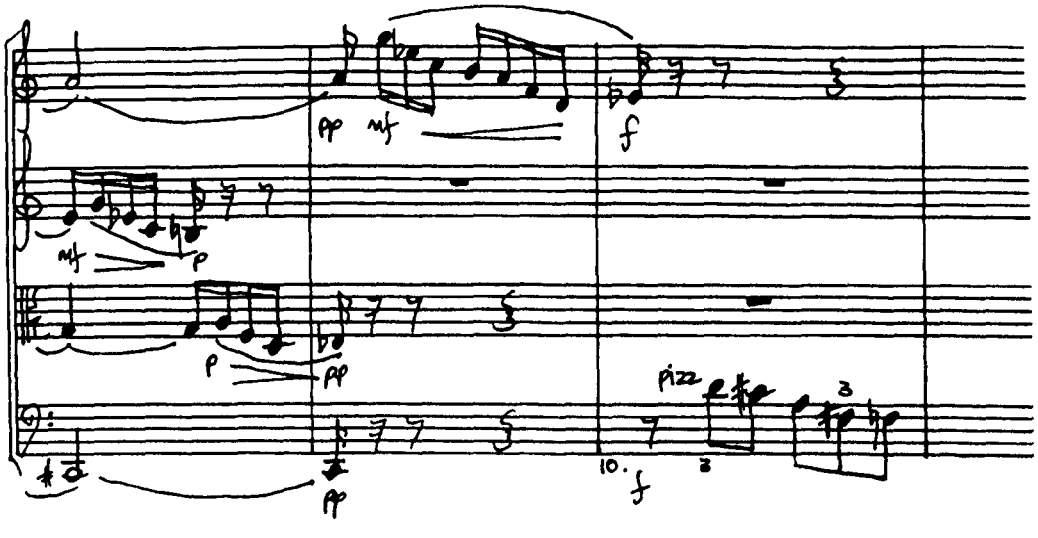
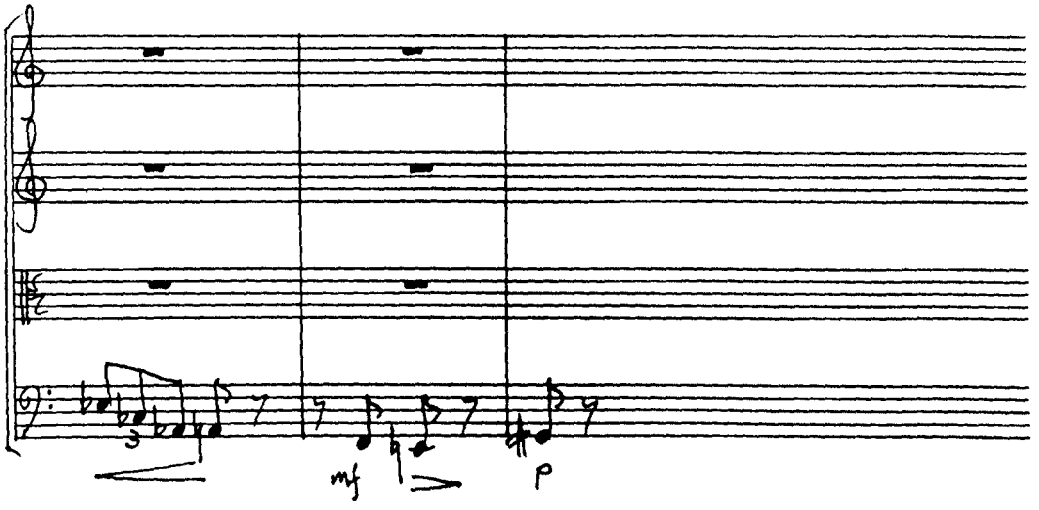


Figure 97 contd.



The fragments in violin 2 and viola are clearly intervallically based on the original -

Original - C Eb G F#

3 4 1

Violin 2 - G Eb C B

4 3 1

Viola - A F D Eb

4 3 1

The second violin version is similar in pitch to the original with the semitone put with C rather than G. The viola version is similar to a playing of the motive on D. The direction of both these versions is exactly opposite to that of the original -

C Eb G F#

A F D Eb

Both retrograde versions of the motive put together in ascending order have a symmetry on the dominant G, the opening pitch of the retrograde working and the counterpole of the tonal C# that underpins them.

G A B C D Eb F G

2 2 1 2 1 2 2

Violin 1 then presents both violin 2 and viola versions together as one line.

The passage ends with an unaccompanied 'cello line with a D to G# tritonal outline. This is a reference back to the tonal architecture of the second movement and an anticipation of later use of this axis in the finale . In the first version of the quartet, the opening D was absent. Its use as the opening pitch obviously forms the tritone but also disguises the presence of axial repeats of violin 2 and viola versions of the motive.

D C# A F# F Eb Cb Ab A F E G#

1 4 3 1 2 4 3 1 4 1 4

The entry pitches of the retrograde version in these bars are G A C# and Eb which are the pitches of the augmented sixth chord in bar 7.

These pitches have a symmetry round the D/G# axis which is used as the 'cello outline in bars 10 - 13(1).

The texture is built up once more in bars 13(2) - 16(1), again by using the main motive but now only at original pitch, with C to F# outline. Like the opening bars, the instruments are brought in in ascending order but now at the regular interval of one beat. This is accompanied by a crescendo leading to F# in all parts. A second F# leads to a D major9 chord in 16(2) - 17(1). This tonic to subdominant progression is derived from the overall tonal architecture of the quartet. The conventional chord produces significant intervallic progressions from F# -

'Cello - F# → C = tritone Viola - F# → Eb/A = axis thirds

Violin 2 - F# retained Violin 1 - F# → D = major third

F# is reintroduced from E# in bar 17. The repeated F# in bar 18 leads to a chord similar to that from bar 16(2) - 17(1). This time C is omitted and F is initially put with F# to create major/minor ambiguity. However, F in violin 1 resolves onto F# in 19(1) to form a chord that has the same intervallic makeup as the main motive of the first movement but based on a retrograde A/Eb tonic axis -

D F# A Eb = A F# D Eb

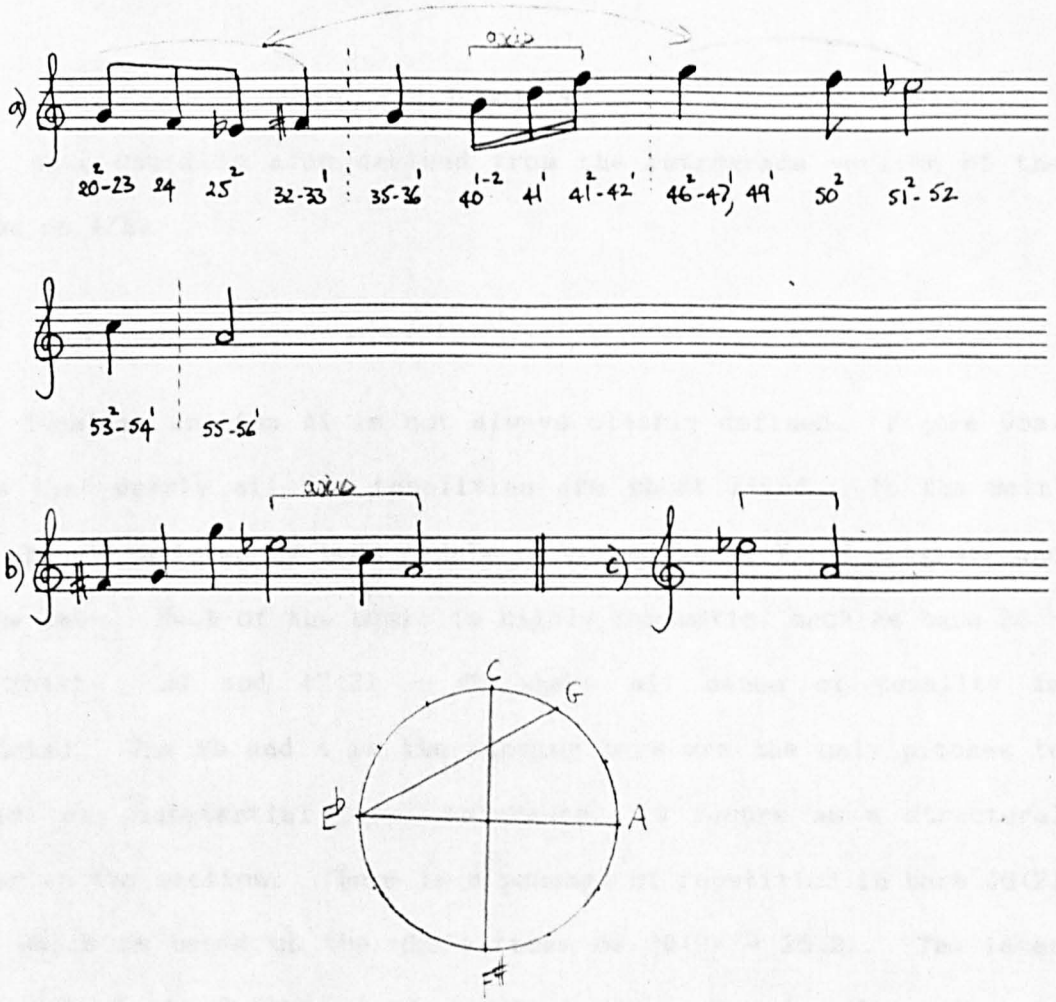
3 4 1

By placing the violin 1 F# after the other chord pitches, Bridge forms

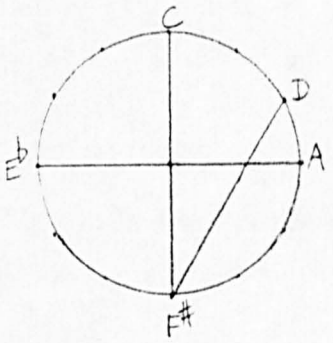
a link with the ensuing section A as this pitch forms part of a short chromatic line, F# to A, in bars 19(1) - 21(1).

The tonal framework of section A1 links with the introduction as the C/F# axis is common to both. The added fifth, C#, in the introduction is replaced by its counterpole, G and A/Eb is added as the secondary tonic axis.

Figure 98.



These main tonalities, as shown in Figure 98d), have an affinity with the original version of the main motive, only A is extra to it. There is also a similarity to the D major9 chord in 16(2) - 17(1) -



D major9

Thus, this chord is also derived from the retrograde version of the motive on A/Eb.

Tonally, section A1 is not always clearly defined. Figure 98a) shows that nearly all the tonalities are short lived. In the main, they are established by bass pedals or conventional V - I progressions in the bass. Much of the music is highly chromatic, such as bars 26 - 31, 36(2) - 39 and 42(2) - 45 where all sense of tonality is abandoned. The Eb and A in the closing bars are the only pitches to provide any substantial tonal reference. G recurs as a structural pillar in the section. There is a passage of repetition in bars 46(2) - 52 which is based on the whole tones of 20(2) - 25(2). The later passage leads to C instead of F# which is an example of counterpole

replacement. Following on from this, the G B D F of bars 35 - 42(1) are replaced by A in bars 55 - 56(1). These five pitches together form a symmetry on D which anticipates the centre of symmetry of the following section.

D F G A B D

3 2 2 2 3

Section A begins with a ten bar phrase which is subdivided, 19(2) - 24(2) and 24(2) - 29(2).

Figure 99.

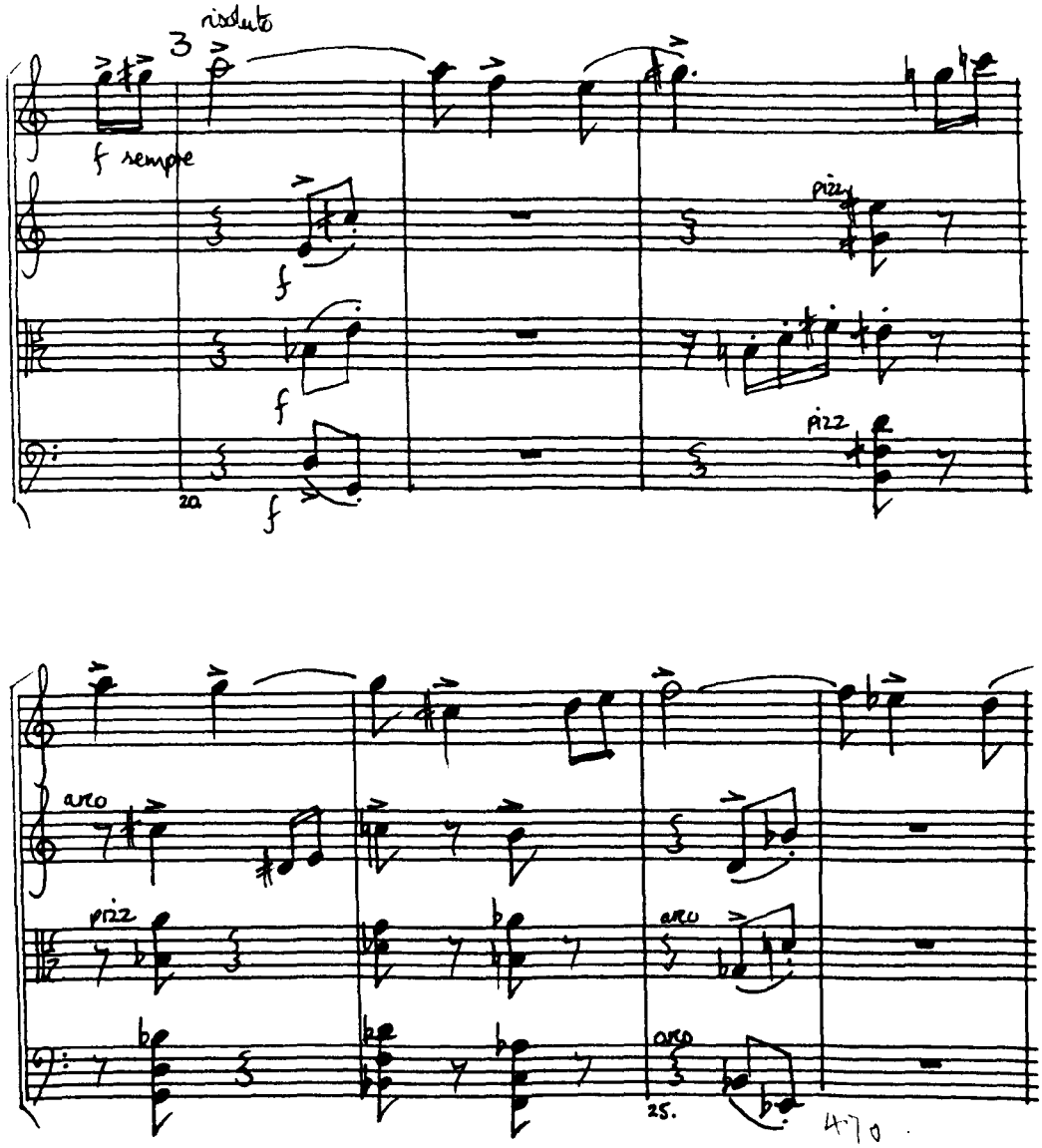
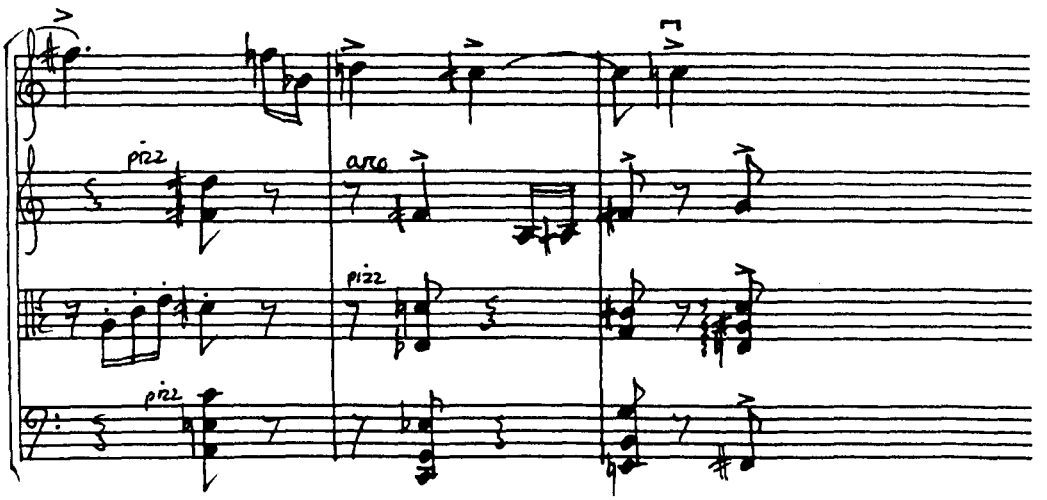


Figure 99 contd.



Violin 1 begins with a rising chromatic anacrusis leading to a four note motive, A F E G#. This originated in the bass in the introduction, bars 11(2) - 13(1), where it provided a sequel to the retrograde working of the main motive. Now the idea is given prominence by being at the beginning of the thematic line and not being broken up by rests. The intervallic makeup of the motive is symmetrical -

A F E G#

4 1 4

This is going to be an important idea in section A and its use of major third and semitone links it with the main motive of the quartet.

The next five pitches in violin 1 put fifth and tritone together and interlock tritone and major third. The arrangement is similar, therefore, to the 142 structuring used earlier in the work particularly as A G and C# are accented.

C C# G A - reordered

1 6 2

This fragment also contains all intervals within the tritone, semitone - C C#, tone - G A, minor third - A C, major third - A C#, perfect fourth - G C and tritone - C# G.

Bar 24 ends with an anacrusis to the second part of the phrase. This is almost sequential but there are important structuring differences. The anacrusis and the following four notes are a rearranged semitonal division of the D to F# major third. This links with the inner parts in bar 25 which play Bb D Gb. The final thematic fragment is pointed by the F to Bb falling fifth in bar 27. The ensuing pitches divide this interval asymmetrically, the last two being the anacrusis to the next phrase -

F D C# C B Bb [rearranged]

3 1 1 1 1

The accenting of D C# and C in bars 28 - 29(2) point to this chromaticism.

The second violin in bars 20 - 29 appears to be part of a block of lower parts but it also has its own structuring identity. This is apparent in bars 23 - 24 and 28 - 29 where thematic fragments are clearly presented. Initially, violin 2 plays two major sixths, E C# and G# E# which form a symmetry in scalic order -

C# E E# G#

3 1 3

This links to the opening motive of violin 1 which can be rearranged in scalic order to form 131 symmetry -

E F G# A

1 3 1

The thematic fragment which follows is rearranged asymmetry -

B C C# D# E

1 1 2 1

The next fragment, Bb D D# F#, appears to be based round the Bb D F# interlocked thirds. 121 symmetry occurs in bars 28 - 29 -

F# G A A# [rearranged]

1 2 1

Bars 25 - 29 begins as a whole tone repeat of bars 20 - 24.

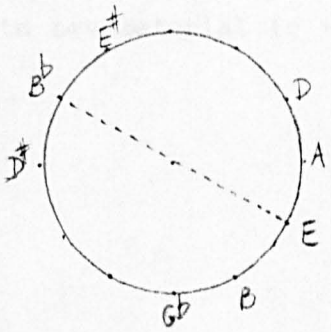
The viola is particularly important in this passage as it reintroduces the quartet's main motive in bars 22 and 27 and thus forms a direct link with the introduction of the movement. The two versions of the motive are preceded by tritone and minor sixth respectively -

Bb/E → B/E# Gb D → A/D#

Bar 20 22 25 27

This pattern is not regular as the major third in 25 replaces tritone. Gb replaces G# here. This conflict originates in the tonal framework of the quartet where the outer movements progress to F#, the middle movement to G#. Hence, F# [Gb] replaces G#. The opening dominant

Bb/E tritone, which is the tonal centre of symmetry of the quartet, is the centre of symmetry of these viola pitches -



The other viola pitches, in bars 23 - 24 and 28 - 29, are based on division of the other dominant tritone, G/Db/C#, which was used for thematic structuring in violin 1 in bars 22(2) - 24(2). The pitches in the first instance form an asymmetrical division -

G Ab A Bb B Db

1 1 1 1 2

A# is added in bars 28 - 29 and symmetry is formed -

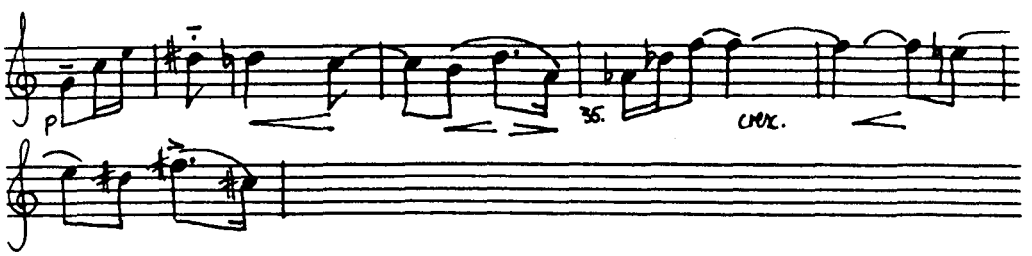
A# C# D Eb E G

3 1 1 1 3

The 'cello in these ten bars is quite different to the other parts as its writing is diatonic, comprising fifths and triads. This contrasts with the chromaticism of the other three instruments.

The start of the second phrase is marked by the first violin playing A F E Ab, the pitches which began the first phrase. Now, the rhythm is compressed and the anacrusis pitches are different. Originally, the anacrusis formed rising chromaticism but now it is falling. Bar 32(2) starts new material in violin 1 which is treated sequentially.

Figure 100.



The opening G to C at 32(2) implies the continuation from bar 22(2) but now this rising fourth leads to a figure linked to the quartet's main motive. The shape of both is the same but the opening minor third of the main motive is replaced by a perfect fourth. The rhythms of the two fragments are similar too. This reworking of the motive is followed by a fragment whose pitches are a rearrangement of 212 symmetry -

D C B D A = A B C D

2 1 2

A two bar idea in bars 38 - 39 rearranges pitches with a tritonal outline. The pattern is an asymmetrical division of the F#/C tonic axis -

F# G# A A# B C

2 1 1 1 1

The tritone is highlighted at the end. This is a similar division to that in the viola in bars 22(2) - 24(2) but violin 1 has a more clearly defined arrangement.

The 414 motive returns in bar 40 in violin 1, now transposed to start on E which is a fifth higher than the original. Violin 1 uses this fragment for structuring in bars 41 - 43 too, either in this pattern or in its ascending scalic arrangement which produces 131 symmetry.

[Ab] Eb D F E C B Eb D Bb A → [C#-omitted]

1 3 1 4 1 4 1 3 1 (4)

Another version of the 414 motive occurs in bar 44, C Ab G B. A short chromatic link in 45, the B Bb A from bars 29(2) - 30(1), leads to a repeat of bars 20 - 28(1) from bar 46.

The inner parts in bars 30 - 45 frequently move together in the same rhythm and this often results in symmetry. This occurs first in the opening gesture in bars 30 - 32(1) where the pitches of both parts in ascending scalic order form the following symmetry -

Violin 2 - B Bb A Db + Viola - D# E F =

A Bb B Db D# E F

1 1 2 2 1 1

This is an extension of the 121 symmetry used earlier in the section. The accents in these parts at this point mark the significance of these fragments.

The following five pitches in both parts, 32(2) - 34(1), which are played at a low dynamic level, do not form symmetry together. However, violin 2 plays a fragment which divides the C/Gb tritone asymmetrically and the viola E to A is divided into semitones. In this way, Bridge puts perfect and augmented fourths together once more as a further reference to the conflict of tonal centricity and centre of symmetry.

The next occasion that the two parts are rhythmically together is bars 35 - 36 and once more an increased dynamic level and accents point to scalic symmetry -

Violin 2 - Db F Eb Db F Db C Bb + Viola - F Ab Gb F Ab F Eb Db =

Ab Gb F Eb Db C Bb

2 1 2 2 1 2

After separating again, the two parts come together in bars 38 - 39(2) with a variant of the quartet's main motive which incorporates the perfect fourth instead of the minor third, played in bar 32 -

33(1) by violin 1. This variant and its continuation to the first note of the second beat of bar 39 is a rearrangement of scalic 121 symmetry -

Bb B C# D D# E# F# G A Bb

1 2 1 1 2 1 1 2 1

This is the last occasion in the passage that the inner parts are used exclusively together.

Violin 2 in bars 41(2) - 45(2) has a line built out of symmetrical fragments although the whole line is asymmetrical. The opening C# F# E A, 525, leads to more structuring on the 414 pattern -

G# C B G F# Bb A Ab Eb D F# D C# E#

4 1 4 1 4 1 1 7 1 4 4 1 4

This is different to the first version of the quartet as the lower three parts were reworked in bars 40 - 45. The first version did not employ 414 symmetry, in fact the structuring did not seem to tie in with previous patterning until the last four pitches which appeared to reinterpret the intervallic arrangement of the main motive -

D# F# D C#

3 4 1

The 'cello from bar 30 for the most part forms a dialogue with violin 1. The passage begins with C# C G which is the same tritone/fifth used by violin 1 in bars 22(2) - 24(2). This is followed by the 414 motive on G -

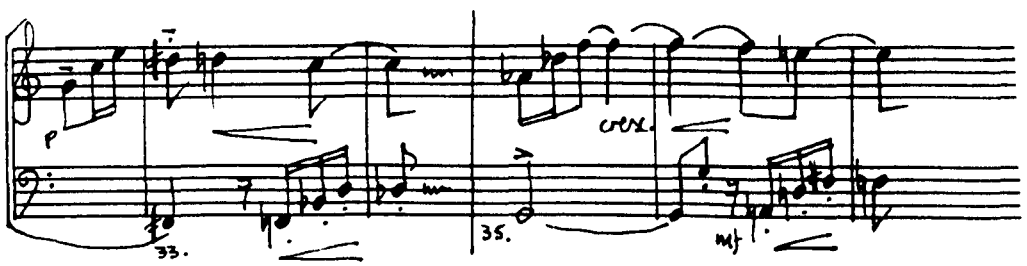
G Eb D F#

4 1 4

This is the first occasion that the motive has not started on A. Both pitches derive from the tonality of the section.

The dialogue with violin 1 is most noticeable in bars 33(2) - 37. The rhythm of violin 1 is altered from being on the beat to being off the beat but intervallically the two parts are the same. In fact this rhythmic interplay points most clearly to the fact that violin 1 presents a variant of the main motive of the quartet.

Figure 101.



The 'cello pitches that link these two playings form 232 symmetry, C Bb G A. Similarly, the 'cello pitches in 37 - 38(1) have a 121 symmetry, F E D C#. The latter is a diminution of the former. The 414 pattern is reintroduced in the 'cello in 38 - 39(1), C# A G# C, and it is followed by a further variant of the main motive of the work. This is on the beat but this time the opening interval is minor

seventh. The 'cello passage concludes in 45 with E/Bb A, another expression of tritone and perfect fourth. This final fragment replaces the falling chromaticism, F E Eb, of the first version.

From bar 41, the three lower parts form chords that are consistently based on symmetry. Again, the overall pattern is asymmetrical. The chords themselves have two forms, interlocked tritone with major third and interlocked major thirds.

Bar 41 - D C#/G F A C#

Bar 42 - Bb D F# C E G# F A C#

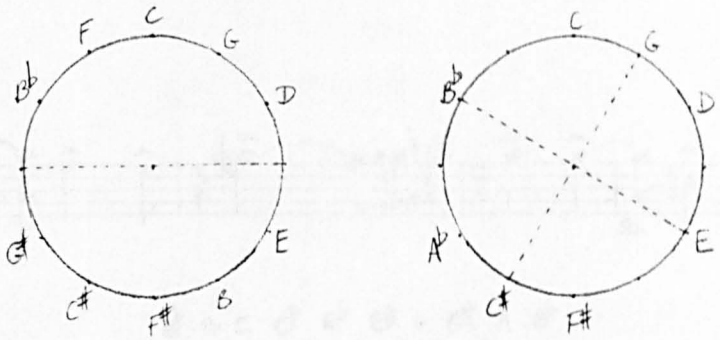
Bar 43 - D F#/C Eb G B C E/Bb F A C#

Bar 44(1) - D/Ab F#

This is significantly different to the first version although the same sort of structures were used. In the first version, only two chords of interlocked major thirds were used, C E G# and F A C#. The final version employs all four possible chords. The axis content of the first version formed a symmetry round the tonic A/Eb tritone. In the final version, the axis content forms dominant symmetry which links with the underlying tonal symmetry of the quartet.

Figure 102 overleaf.

Figure 102.



First version Final version

The first violin repeat of bars 20 - 28(1) in 46 - 60(1) concludes section A. By repeating the beginning of the section, a balanced, ternary structure is produced within the section, 28(2) - 45 comprising the central part. The lower parts are different to the original passage but the tonal architecture is the same except for a greater prominence given to Eb. D, as the final thematic pitch, links with section B as this is held across.

Violin 2 repeats material from bars 23 - 24(1) at 49 - 50 but the preceding bars are new. The repeated material now forms part of longer structuring based on symmetry. The violin 2 pitches in bars 46 - 50(1) can be rearranged as a scale of symmetry on Bb, the counterpole of E.

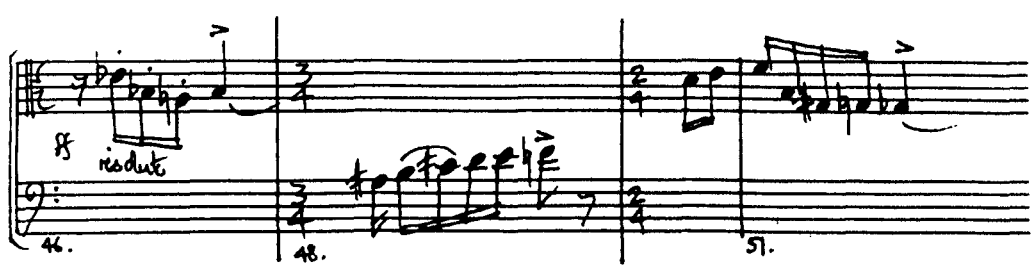
Figure 103.

B B C C# Eb E C G# A Bb
1 1 1 2 2 2 1 1 1

In the first version of the quartet, the second violin line did not form symmetry at this point.

In the same bars, viola and 'cello share a line of symmetry. The semiquavers in bars 46, 48 and 51 can be rearranged as a scale on A.

Figure 104.



A Bb B C# D Eb E F G G# A

1 1 2 1 1 1 1 2 1 1

The end of section A is structured round patterns of semitone and minor third symmetry. This is most clearly pointed in the final

'cello line, bars 51(2) - 56. The pitches, Eb C E A Ab, can be rearranged in scalic order to form symmetry -

Ab A C Eb E

1 3 3 1

In the same bars, violin 2 plays D Bb B D# which have a 131 symmetry in ascending order -

Bb B D D#

1 3 1

The viola in bars 53(2) - 56(1) plays D# F# G E which itself has a 313 symmetry. E as the final pitch becomes part of the last chord progression of the section. These chords are presented by the three lower parts in 55 - 56. They comprise chordal interpretations of the main motive of the quartet as they have an intervallic makeup of 341 -

A C E D# → Ab Cb Eb D

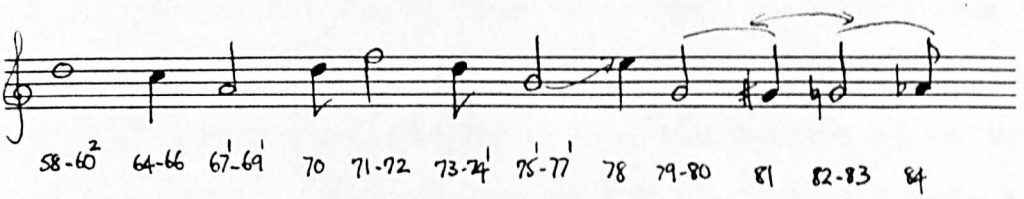
3 4 1 3 4 1

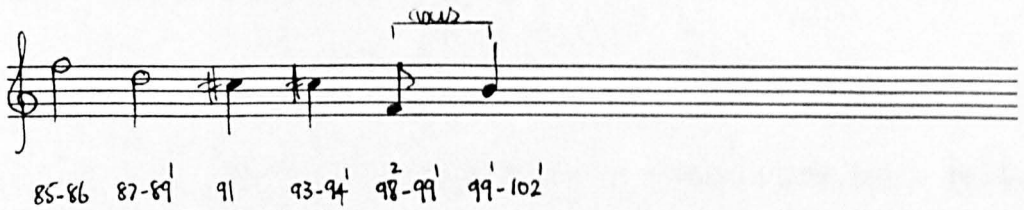
This semitonal shift incorporates an axis shift of a perfect fourth which could be said to correspond to a perfect cadence. The final axis is Ab/D, the latter pitch being the first, and most important, tonality of section B.

Section B lasts from 57 - 101 and is a contrast to the previous section as it is tonally more stable. A comparison of Figures 98a) and 105a) show this to be the case.

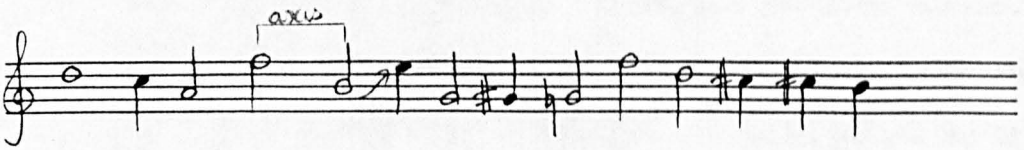
Figure 105.

a)



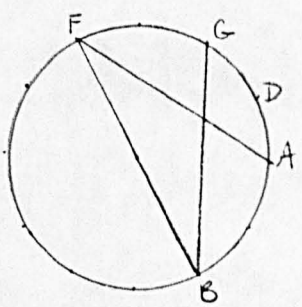


b)



c)

d)

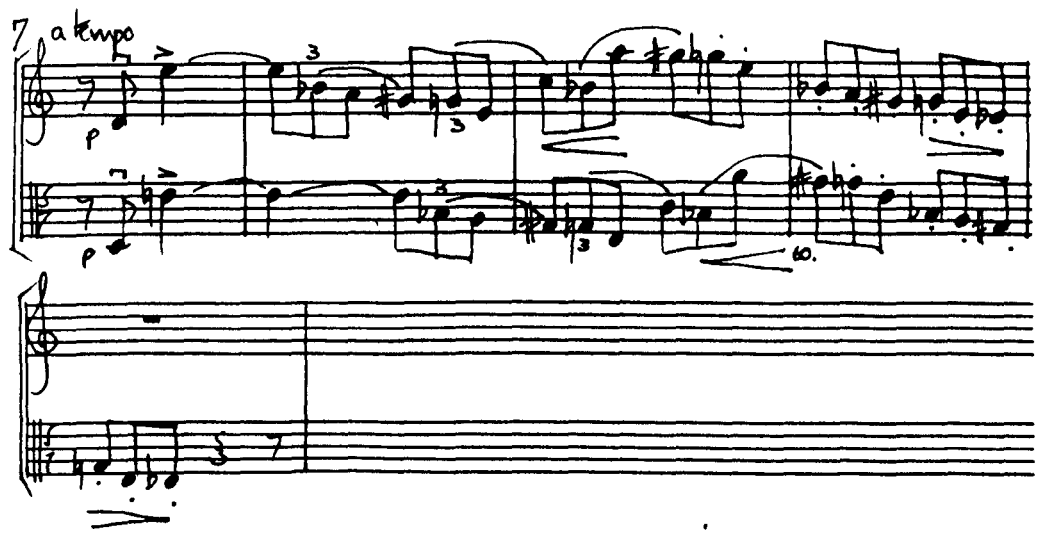


The tonalities are established as a result of sustained pitches in the 'cello, a technique not used in the preceding section. Tonal stability is presented at the outset by the pedal D which lasts for

nearly three bars. This is the longest tonal span since the F# at the start of the movement. Figure 105d) shows that the section has a centre of symmetry, D. This is possibly a reference back to the D/G# axis used tonally in the slow movement. D is complemented by the B/F axis which represents a fourth progression from the C/F# of section A.

Section B begins with a dramatic rising ninth in the inner parts. The interval does not have a particular importance but from previous experience, such wide spaced intervals usually indicate an important moment, in this case, the start of the section. It also points to the new thematic material which is presented in these parts.

Figure 106.



This material is clearly motivic, the most clearly defined in the movement apart from the introduction based on the first movement motive. The motive here is based on the minor third, an interval used for structuring at the end of section A. The motive is balanced but asymmetrical -

E Bb A G# G

6 1 1 1

and based on the dominant, notably the E/Bb axis. The overall balance is disturbed on the repeat in 58(2) - 59(2) as C is added.

E C Bb A G# G

4 2 1 1 1

The final playing of the motive is as the original but it is followed by E as though to begin a fourth playing. Eb follows but then the second violin line is abruptly broken off and the line actually continues in the 'cello in bar 61. This split line presents another version of the basic motive -

E Eb B Bb A G# G

1 4 1 1 1 1

which begins with a symmetrical division of the tritone. All versions of this motive have a dominant E to G outline which helps establish the importance of this axis as the work's centre of symmetry.

There is the impression of thematic material being tried out at the start of section B and this is continued with the 'cello writing in bars 62 - 64. This motive puts minor and major thirds together,

the latter divided into semitones. The whole has a perfect fourth outline -

G E D#/Eb D C#/Db C

3 1 1 1 1

The final semitone is repeated twice more to provide a tonal bass and the falling chromatic line from E to C is taken up by viola. This is slightly different in the first version where the 'cello had a motive with a tritonal F# to C outline, subdivided into tones and semitones-

F# E D C# C

2 2 1 1

The viola played the G to C motive complete, as above. These two fragments together put perfect and augmented fourths from C together. Both versions of this short passage prepare for the ensuing tonality which is C.

In bar 64, violin 2 begins structuring on G A/Eb, interlocked tritone and major third. This tonic axis links with C as the tonality. It is possible that these pitches refer back to tonal structuring in section A. Violin 1 takes up this intervallic relationship from bar 66(2) for a restatement of the motive that opened section B. G Eb/A replaces D Bb/E which means there is a progression of a perfect fifth. The repeat of this motive represents a return of balanced intervallic division, now as 1113 in bar 68 - Eb D C# C A. This fragment is repeated twice in bars 69 and 70. The first two playings are linked at the start of 69 by F. This has the effect of partly disguising the structuring principle, partly to

enable an offbeat start to the falling chromaticims and to form interlocked tritone and major third, F A/Eb. Violin 1 concludes this passage with a different division of the Eb/A tritone in bars 70(2) - 72. The preceding bars presented falling chromaticism leading to A from the minor third above. In the present bars the structuring is based on a rearranged tone semitone pattern which rises to A. This implies that the octatonic scale may lie at the root of this patterning.

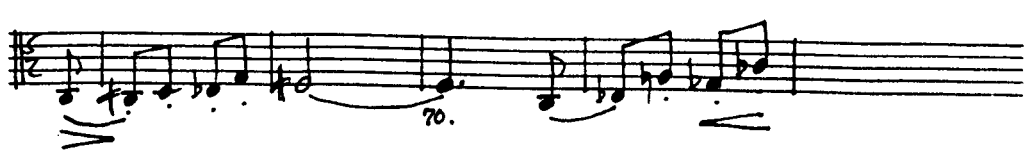
Ab Gb F Eb A = Eb F Gb Ab A

2 1 2 1

A new lyrical idea begins in violin 2 in bar 70. The short theme, which lasts until bar 72, is based on added fifths with a Cb to F outline. This tritone is taken from the tonal architecture of the section. Bridge points to this theme in his usual way of highlighting significant themes by marking it espress..

The viola presents further versions of the main motive of the quartet in bars 67(2) - 71(2).

Figure 107.



These versions have the same tritonal outline as the original which ensures the continuing presence of this important tonal axis.

Bars 73 - 80 essentially repeat bars 64 - 72 up a whole tone. More repetition occurs in bars 85 - 89 in violins 1 and 2. The thematic material based on rearranged added fifths which was introduced in bar 70 by violin 2 is now restated by violin 1 without the opening bar in 85 - 86. This omission results in Bb being omitted from the pattern of fifths. However, this pitch is merely held back as it is the opening pitch of a sequential repeat of the idea beginning in bar 87. This final playing has an Ab to D subdominant outline, with G omitted.

There are further references to the main motive of the quartet in the viola in bars 85 and 87. Neither is intervallically correct although the second playing, on C, is closest to the original.

Original - C Eb G F#

3 4 1

Bars 85 - 86(1) - Eb Gb Cb A

3 5 2

Bars 87 - 88(1) - C Eb Ab Gb

3 5 2

Both these altered versions employ the perfect fourth instead of the major third. Both these and the original version can be explained

further in terms of their use of symmetry by putting the intervallic relationships in ascending order. Both have a tritonal outline.

3 4 1 (6) = 1 3 4 (6) 3 5 2 (6) = 2 3 5 (6)

2 1 2 1 2 1

Both versions of the motive are a reordering of a symmetrical division of the tritone, the latter being opposite to the former. The alternating tones and semitones suggests a link with the octatonic scale that was used particularly in the second movement.

The first part of section B peters out in bars 88 - 90. The violins and 'cello end on C and D and the viola alternates their counterpoles, Gb and Ab. These four pitches have a symmetry round the dominant C#/G axis and C# is the next tonality, in bars 91 and 93 - 94(1). Also, the use of C and D is an anticipation of section C which is based on these two tonal pitches and which could have been brought in at this point.

The way that the writing gradually fades out in 88 - 90 suggests the end of a section but in fact there are a further eleven bars before section C. However, these bars link with the following section as the tempo is increased and the final four bars incorporate material which anticipates section C.

The C# in the bass in bar 91 is the start of a significant figure which is stated three times in bars 91 - 95, C# D# A. C# is not only an important tonality in the finale but is the ultimate centre of symmetry of the movement. This arrangement of whole tone and augmented fourth is another interpretation of interlocked tritone and major third. In addition, this is a counterpole version of G A Eb which was used for thematic structuring from bar 64. Thematic writing is provided by violin 1 and viola in octaves and their material in bars 91 - 95 is a counterpole version of the first violin line which begins in bar 67. In the first version of the quartet, Bridge altered the order of the pitches at this point so as to disguise its origins. This material passes to the 'cello in bars 96 - 97. In fact, it overlaps with the final playing of C# D# A as the last pitch is also the first of the thematic line. The final pitch, F, is the start of tritonal writing in the bass which lasts until the end of the section, bar 101. The B/F axis features in the tonal architecture of the section and it links with section C as the first theme enters on B.

The 'cello plays a version of the main motive of the quartet in bar 98. This retrograde version originated in the introduction to the finale, bar 8. Now, the order of the thirds is reversed and like the original retrograde, the overall outline is the minor sixth not tritone. This bar is also the beginning of the the final playing of the thematic material begun in bar 91. Now, it is placed in the inner parts, rhythmically augmented to form a link with the following section and treated imitatively.

The three upper parts come together rhythmically at the end of section B and the material is carried over to the start of the new section, bars 100 - 103. The resulting chords comprise interlocked tritone and major third, a structure which has featured so much in the section and which stems from its tonal architecture. The first chord consists of D/G# F#. This subdominant tritone complements the B/F in the bass at this point. The second chord, A/D# G, forms an axis progression of a perfect fifth with the previous structure. This progression is repeated twice more and then repeated down a whole tone. This results in a tonic axis progression from A/D# to C/F# from 102 - 103. The perfect fifth progression is then repeated, onto G/C#. It may be significant that the progression concludes on the dominant axis.

Section C is tonally a little unusual. The first part, up to bar 127(2), lacks definition. The pitches shown in Figure 108a) show this.

Figure 108a)

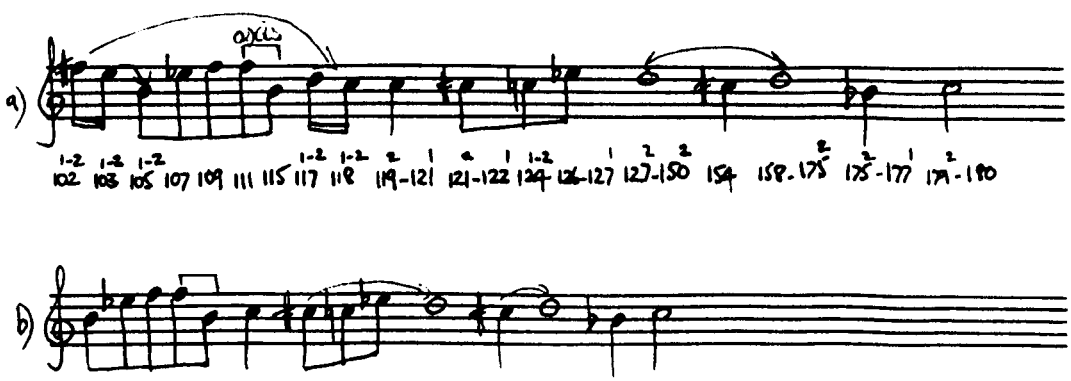
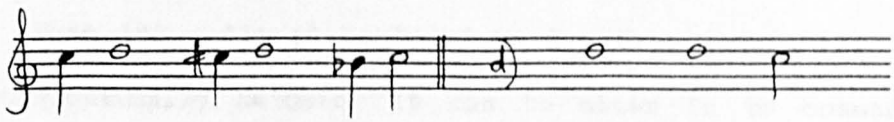
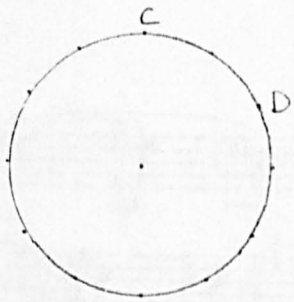


Figure 108 contd.

c)



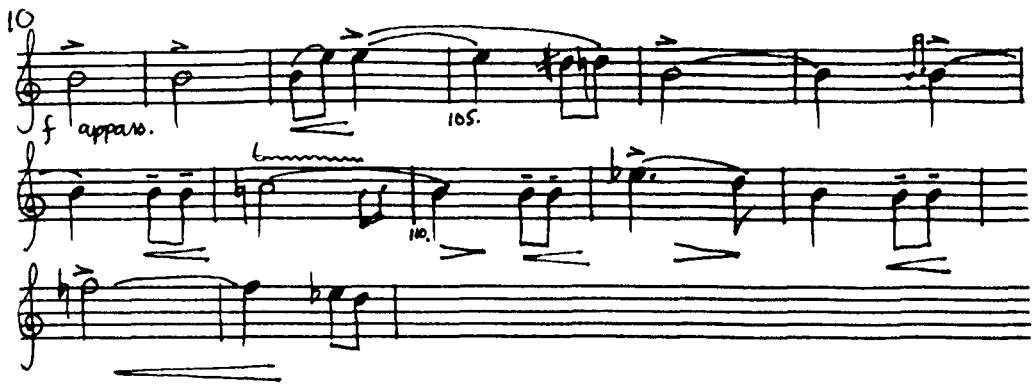
e)



In addition to the transitory nature of the first part, other pitches imply secondary tonalities. In bars 102 - 114, the thematic idea in the 'cello is centred on B and from 106 - 113(1), the first violin has an octave G# pedal. Both these subdominant pitches draw the ear away from the lowest sounding pitches which form the fundamental tonality. Another feature which dispels the sense of tonal centricity is the chromatically meandering viola line in bars 106 - 115(1). By contrast, the second part of the section, 127(2) - 180, is tonally much more stable, being largely based on a pedal D in viola and then 'cello. Figure 108d) clearly shows this to be the case, C being the only other tonality of importance. Placing these two pitches on the circle of fifths, 108e), results in dominant symmetry on G. This refers back to the tonal architecture of the work which comprises tonic and subdominant axes which result in dominant symmetry.

The 'cello theme which opens the section is placed high in the register. From 102 - 114 it is based on B. Even though this theme appears conventionally melodic, it can be shown to be constructed round intervallic relationships with B, another subdominant pitch.

Figure 109.



The intervals that feature in relationship to B are semitone, major third, perfect fourth and tritone. Sometimes, the theme returns to B from D which adds the minor third. This structuring represents a splitting of the tritone; only the whole tone is omitted from this semitonal division.

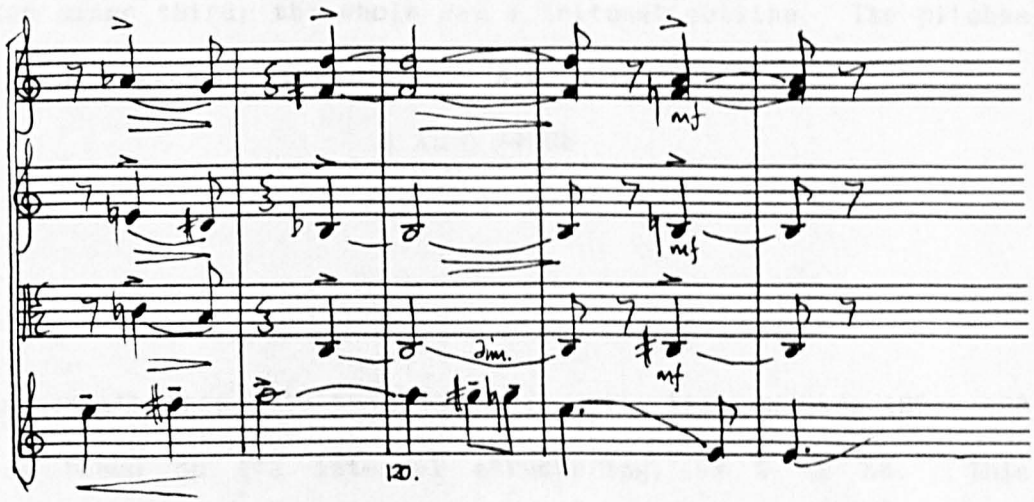
From bar 106, first and second violins assume the role of bass line which means that Bridge has inverted the conventional quartet

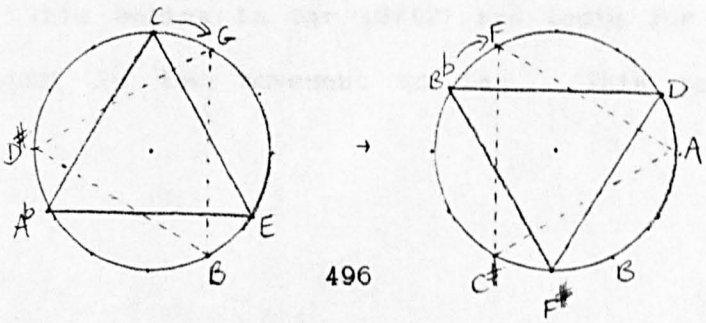
texture. Violin 1 sustains the octave G# while violin 2 uses a similar technique to that in the 'cello writing, as the line returns continually to a single pitch, in this case D. A subdominant tritonal relationship is therefore created. D is not allowed to assume an importance in this passage as it is always played at a low dynamic level and is always only a quaver. However, this is a subtle way of anticipating the use of this pitch later in the section. Unlike the 'cello theme, only semitone and minor third are put with D.

From 113 - 115, the two upper parts change to a centring on B which highlights the end of the 'cello line on that pitch. The upper parts have conventional cadential progressions onto B, perfect fifth and semitone, C and F#, which sustains the importance of this tonal axis. The viola, which has been totally chromatic in this passage, leads up to B in bars 113 - 115(1). The way that all parts move to B at this point was something that Bridge introduced into the final version. In the first version, violin 1 retained the G# pedal and the second violin C was not resolved onto B but was put with its counterpole, F#. The viola part was a little different too but the fewer pitches still resolved onto B. This means that the lower two parts are essentially unchanged. By altering the upper parts, Bridge strengthens the tonality, particularly as all parts crescendo to forte and the B is accented.

The 'cello retains the thematic line in the next passage, 117 - 129 but now it moves away from B. There is a change of texture from 117 - 123(1) as the three upper parts now move rhythmically together. Initially, the resulting chords are based on interlocking tritone and major third. From 118(2), interlocking major thirds are used and from 119(2) - 122(1), this is combined with tritone. The whole progression can be explained as a series of stepwise moves on the circle of fifths. This is most clearly apparent in bars 118(2) - 122(1) where the unconventional structures move in perfect fifths.

Figure 110.





The second part of section C begins around bar 130. As it is overlapped with the previous part from 124(2), it is not possible to be exact. The second part is marked by the start of a new theme in the first violin in bars 124(2) - 129. This is placed over the end of the 'cello theme in the first part. The new idea is highlighted by the opening falling tritone. This is similar to the way that the section began as the first violin had falling perfect fourths in bars 102 and 103. The structuring of this theme is similar to thematic structuring at the start of section B. In the first instance, the tritone was followed by semitonal dividing of the minor third; the whole had a major sixth outline. At the end of section B, the theme begins with semitonal dividing of the minor third followed by an undivided minor third; the whole has a tritonal outline. The pitches in the theme beginning in bar 124(2) are based on -

A Ab G F# Eb

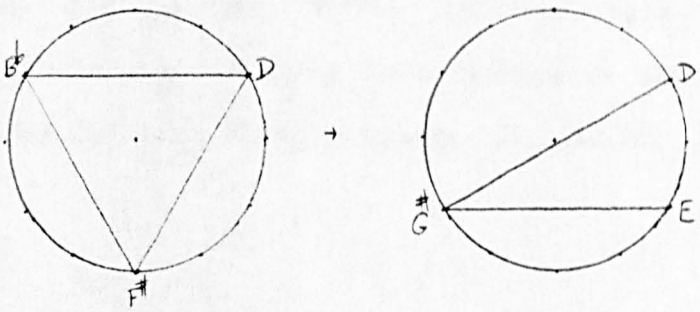
1 1 1 3

Underneath this, violin 2 has a thematic line in bars 125 - 128 which is based on 142 interval structuring, G# G Eb Db. This structure originated at the start of the second movement. The 'cello in bars 123 - 129 plays whole tones, D C Bb Ab, pitches which are derived from the overall tonal architecture of the quartet. The viola establishes the pedal D that will feature largely in the second part of section C. This begins in bar 127(2) and lasts for over twenty bars, the longest in the movement so far. This pedal is the

counterpole of the upper G# pedal used in the first part of the section.

The new part of section C ostensibly starts with the change of tempo in bar 130 but the way that the parts come together implies the end of a section not the beginning. Two chords are used in bars 130 and 131 and both are unconventional structures frequently used in the work so far, interlocked major thirds and interlocked tritone and major third. Both exclusively use pitches from the overall tonal architecture.

Figure 111.



Bar 130 Bar 131

D is a common pitch to both chords, the Bb F♯ major third is subject to a whole tone shift to G# E. These two structures are based on intervals of symmetry but the first chord has no centre of symmetry as all three pitches are equal. The second structure has an ambiguous symmetry, G# as the point of intersection and A as being equidistant

between D and E. G# and A are tritone and perfect fifth from D, the common pitch.

The second part of section C begins by repeating the theme from bar 124(2) but after just over two bars the writing is changed. This means that the 1113 structuring is omitted. Another difference is that the violin 1 thematic writing is now shadowed by violin 2 and 'cello which means that a new order is present. The section begins with a five bar phrase in bars 133(2) - 138(2). The writing is broken off, apart from the pedal D, before resuming in bar 139. This first phrase comprises conventional triads over the pedal, C major → F# major → F major[F written as E#] → F# major. The F# and F triads present tritone and perfect fourth conflict with C. These relationships derive from the tonal architecture of the first subject of the first movement where F# was put with C. and C#.

The writing resumes in bar 139(2) with what appears to be a repeat of the first phrase. However, only violin 1 repeats the earlier material and then only until bar 141. Also, this is a much extended passage.

Figure 112 overleaf.

Figure 112.

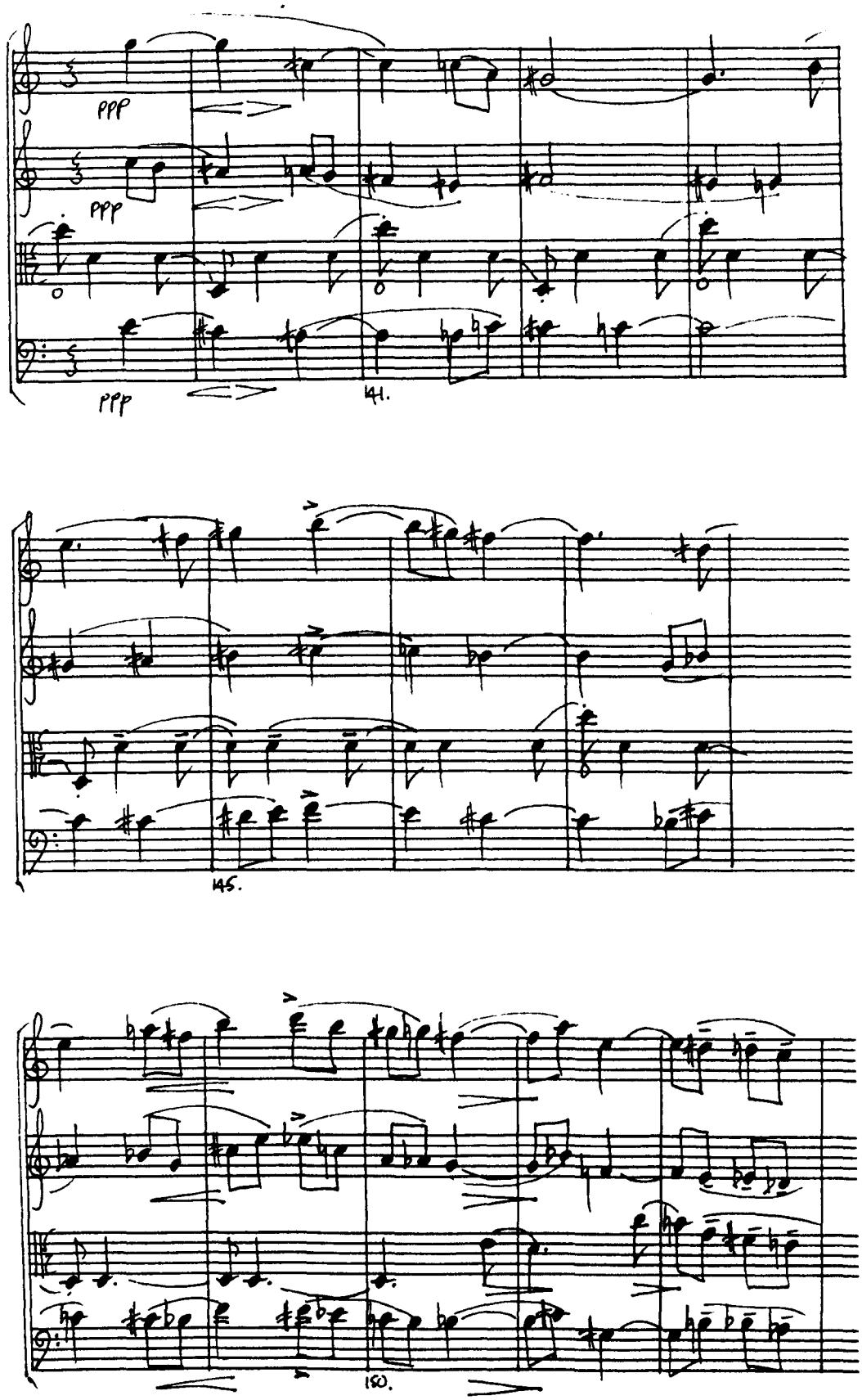
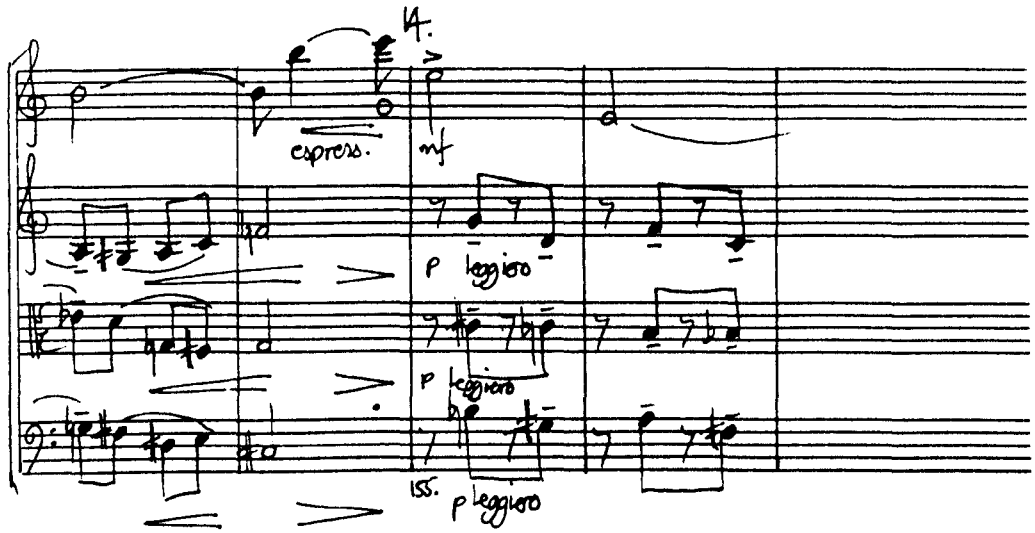
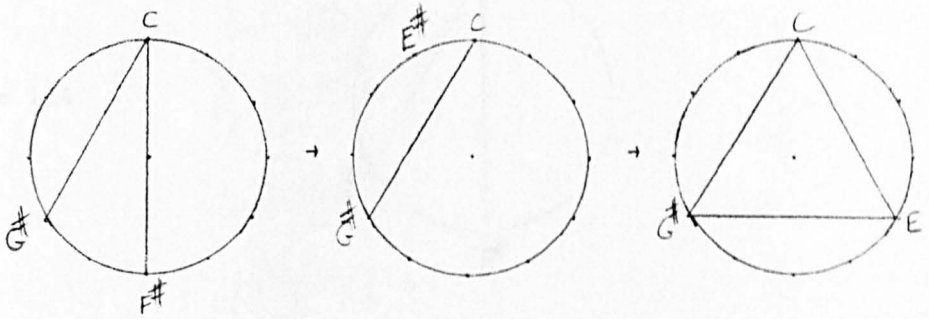


Figure 112 contd.



The longer passage is still based on the C F# F progression initially. This time, C major does not lead directly to F# major. Bar 140 puts the pitches of A# and C# from the triad with A and G. The latter two pitches form major third and tritone with C# and eventually they are replaced by the fifth, F# to form the triad. F# major on the first beat of 141 leads directly to F major [written as E#] on the second beat but the second F# chord is delayed until bar 144(2). F major is followed by a chord of added fifths, F# C# G#, the latter replacing A#. The next chord is still based on F#, a structure of interlocked tritone and major third, F# C G#. C and G# are retained in the next chord and F# becomes E#. The chord on the second beat of 143 is the interlocked thirds, C E G#. The last three chords are -

Figure 113.

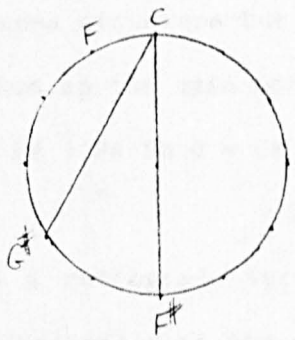


C and G# are constant in this progression and F# leads to E via E# which is a counterpole replacement for B which would form a perfect fourth progression. The concept of counterpole replacement is highlighted by the next chord, bar 143(2), which is C E B, a mirror image of C E# G# and a chord which supplies the previously absent B.

The augmented chord on C is repeated on the first beat of 144. A diminished chord on A# leads to F# major at the end of that bar. This time there is another conventional triad, G# major which completes the progression of major triads as the rest of the passage uses unconventional structures. This full progression of major triads is reflected in the chord structures shown in Figure 113 above, only E is absent.

Figure 114 overleaf.

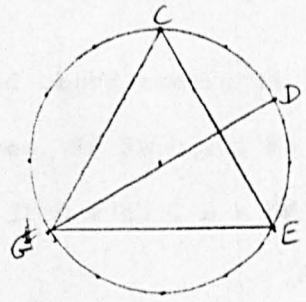
Figure 114.



Roots of major triads

After the G# major triad, the unconventional structuring is based round C E G# which recurs in the rest of the passage, bars 145(1) - 151. This chord combines neatly with the pedal D to as the pitches derive from the overall tonal architecture of the work. The combination produces symmetry on D/G# rather than on E as F#, the tonal goal of the finale, is omitted.

Figure 115.



A significant chord occurs in bars 146(2) - 147(2). It is not played complete but is split in two halves, the division occuring at 147(1-2). The first part comprises C# Bb F#, the second F# Bb G.

Neither part suggests a known structure but together they form the 341 interval pattern which makes up the main motive of the quartet.

C# Bb F# + F# Bb G = C# Bb F# G

3 4 1

This is clearly based on a retrograde version of the motive and is similar to that played thematically at the start of the finale, bars 8 - 11.

This appears to be followed by another split structure but this time the two parts do not follow on directly from one another but are divided by an augmented chord. This time the two parts incorporate interlinked tritone with major third -

D# C# A Bb

2 4 1

Another 341 inspired chord occurs at the end of 149. As before it is split into two halves, F# Eb D and Eb C B.

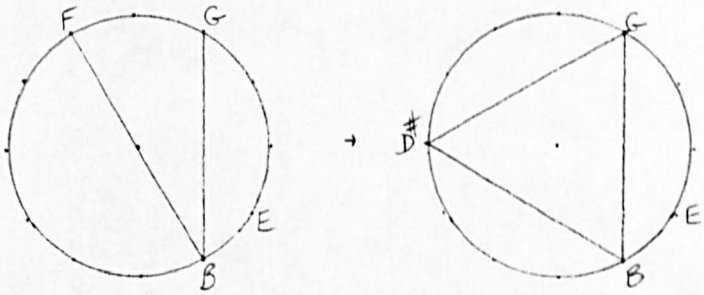
F# Eb D + Eb C B = F# Eb B C

3 4 1

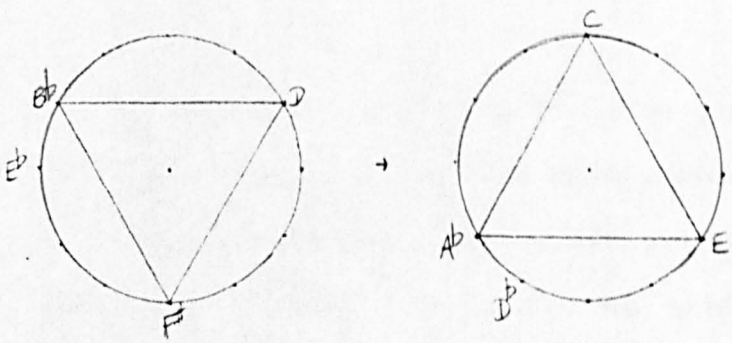
This chord is a perfect fourth from the previous such chord and it has the same tritonal outline as the original playing of the motive in the first movement. The original 341 chord is returned in bars 150(2) - 151(1) but the pitches are split differently, Bb G F# and C# Bb A. The different layout is achieved by counterpole interchange, C# and G change places.

The pedal D in the viola has remained separate in this passage so far but in bar 152, all four parts come together until bar 154. The first of these bars employs augmented chords with added fourths after the first quaver.

Bar 152(1)



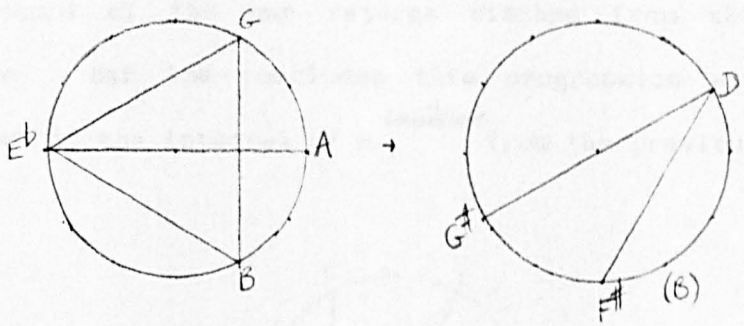
Bar 152(2)



The first augmented chord results from a whole tone shift from F to D#, the other three pitches of the first structure in 152 being retained. E is the only pitch that does not fit into the augmented chord and it destroys its symmetry. This is a complete change of role for this pitch. Also, it is the only pitch in the chord that

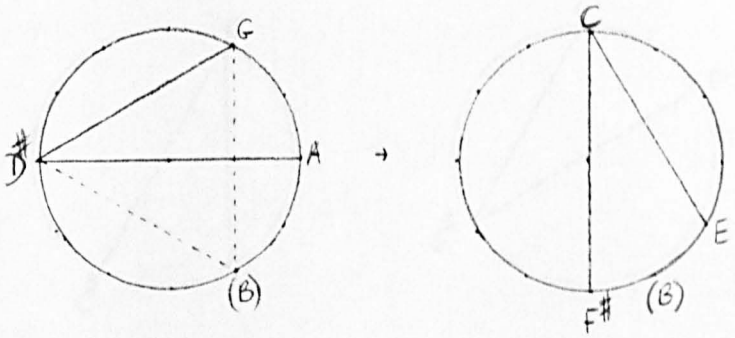
originates from the overall tonal architecture of the quartet. The augmented chord at the beginning of the second beat is a fifth from the previous structure but D# is retained as Eb to form a link. Now, this is the pitch that is extra to the basic structure. The last chord of the bar is a counterpole repeat of the former but the extra pitch, Eb, moves a whole tone to Db. Both these augmented chords derive from the overall tonal architecture.

Bar 153(1)



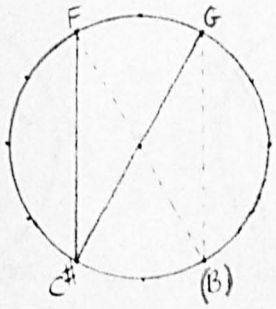
The first chord in 153 is a fifth from the last chord. All its pitches are incorporated for the first time in this structure which is the last of its type in the passage. None of the pitches originate in the overall tonal architecture. This is also the point at which the first violin separates from the lower parts as it assumes a pedal B [bracketed in subsequent diagrams]. The second chord in the bar returns to interlocked tritone and major third. The axis has moved a fourth from the previous chord. The second beat of the bar returns the structure from the beginning of the bar and is followed by an axis shift in all parts.

Bar 153(2)



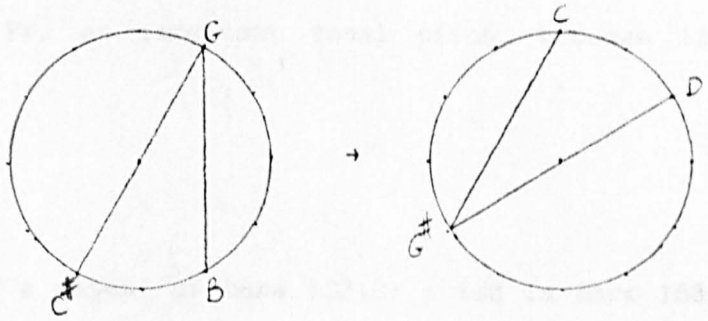
The last chord of the bar returns pitches from the main tonal architecture. Bar 154 concludes this progression with a similar structure but at the interval of a semitone from the previous one.

Bar 154



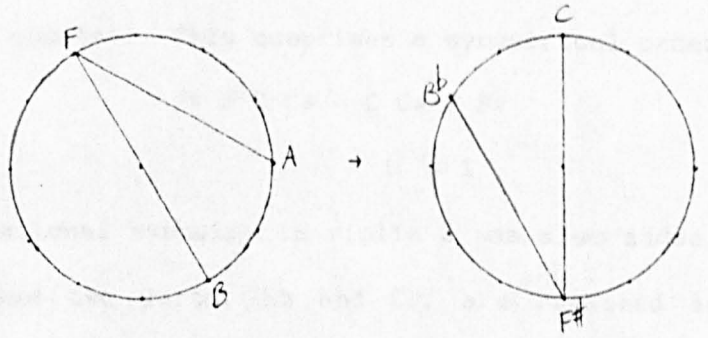
The three lower parts continue moving together in bars 155 - 156. The second bar is a sequential repeat of the first, down a whole tone. Both bars are structured on interlocking tritone and major third.

Bar 155



The first of these chords is a continuation of that in 154. The second shifts the axis a fifth but this is as a result of a semitonal shift in all parts.

Bar 156



The first chord in 156 is achieved as a result of an axis third shift in all parts which then move a semitone to produce the final chord of the progression. The combination of tritone and major third in this two bar progression forms conflicting centres of symmetry, G/F#, G/G#, E/F and F/F#. These pitches form a symmetry round F# -

E F F# G G#

It is significant that in the course of this chord progression the roles of E and F# have been altered so that E destroys implicit symmetry and F#, an important tonal pitch, becomes the centre of symmetry.

There is a repeat of bars 133(2) - 138 in bars 163(2) - 167(1) with some reordering of the opening pitches in the inner parts. This results in the falling tritone being replaced by a minor seventh [inversion of whole tone].

The first violin line in bars 170 - 171 was added to the final version of the quartet. This comprises a symmetrical ordering -

F# F C C# = C C# F F#

1 4 1

The Bb A Bb semitonal symmetry in violin 2 was also added. The final pitches of these two parts, Bb and C#, are retained above a very conventional tonal bass, G to D. These four pitches comprise a 341 ordering -

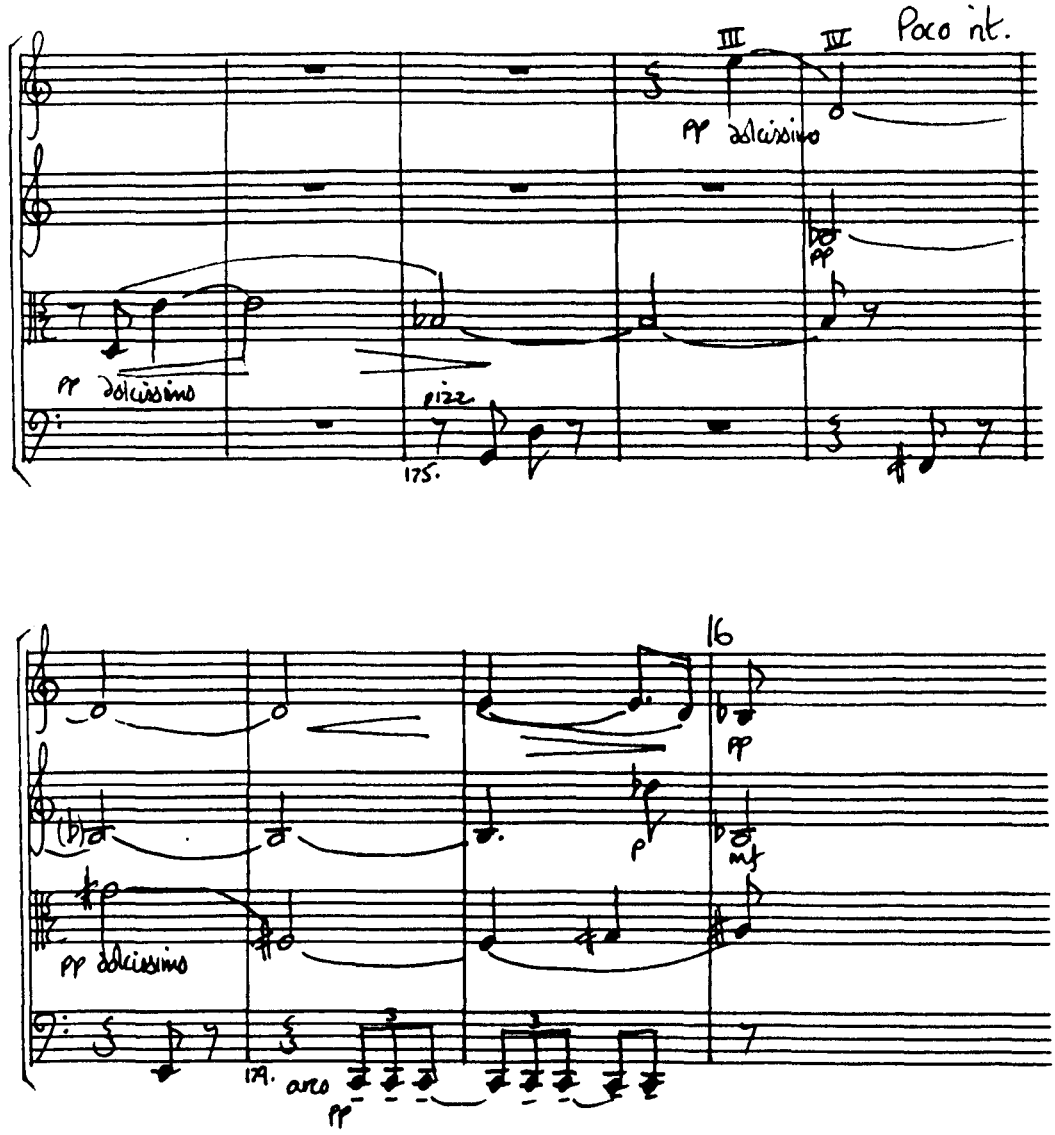
G Bb D C#

3 4 1

This axis was last used in bars 146(2) - 147(2) where a split chord was based on a retrograde version of the motive with a C# to G outline.

An important passage occurs at the end of section C, bars 173 - 181(1).

Figure 116.



A significant unaccompanied viola line in bars 173 - 175 links back to the 341 structuring in the preceding bars. Bb and D are carried over and E is an axial third replacement for C#/G. This is another way in

which Bridge draws together the motive and the interlocked tritone and major third. The pitches of this solo line are derived from the overall tonal architecture of the quartet whose pitches are centred round E.

D E Bb is repeated by violin 1 from 176(2) - 181(1) but now reordered as E D E D Bb. This means that the tritone is not sounded directly as it is replaced by major third. A pedal Bb in violin 2 reinforces the E/Bb which lies at the root of this passage and which is another reference to dominant symmetry.

The G to D bass line in 175 links with the E Bb D of the viola. D is common to both and G is another dominant. The 'cello then has an F# E C progression in 177 - 180 and this forms another structure of interlocked tritone and major third, a whole tone from E D Bb. The viola has a rearranged whole tone pattern in 178 - 181(1), F# G# A# and this links with the two interlocked tritones and major thirds -

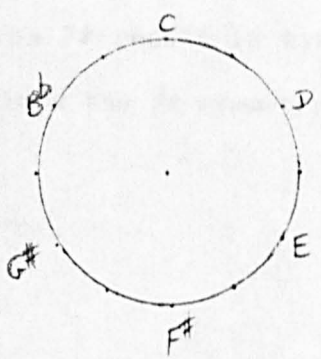
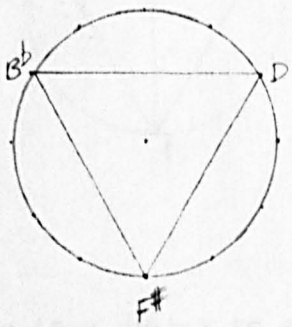


Figure 117.

This is another reference to the overall tonal architecture of the work. This viola line was also an addition to the final version, originally it played Ab only. The 'cello originally played F# E D F# C in the first version. There is no clear reason why D was used, other than to highlight the pitches' tonal origins. Its removal ties the line into the tritone/major third structuring.

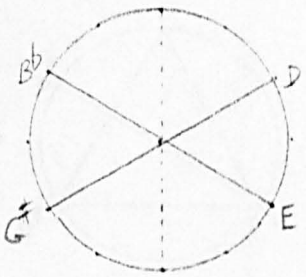
There is further explanation of this passage via the harmony. Bars 177 - 181(1) are quite chordal and all the structures derive from the overall tonality. However, the arrangement of pitches results in different symmetries -

Bar 177



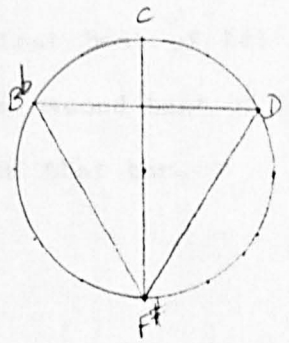
The first chord is completely symmetrical and has no central pitch. Whole tone progressions from F# result in symmetry on the tonic axes in the next bar which develops the F# symmetry from the progression in bar 156 -

Bar 178.



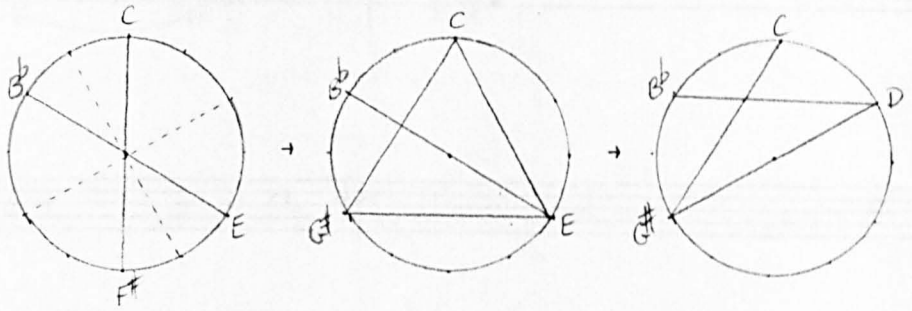
In the first version of the quartet, this chord is retained in bar 179 but in the final version there is a focussing of F# symmetry -

Bar 179



In the following bar there is a switch to subdominant symmetry as the first chord brings together the two most important axes of the quartet. Once again, there is a change of role as the subdominant has been an important tonal axis rather than one of symmetry. Originally, this first chord had Db symmetry, resulting from the use of the tonal pitches E F# Ab Bb. The only difference between the two versions of this chord is the replacement of Ab by C.

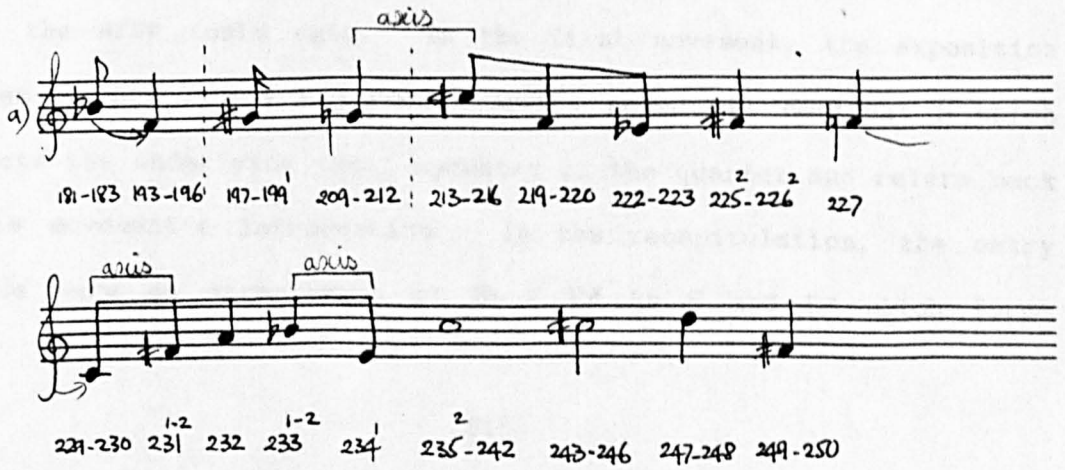
Bar 180



The second chord in the bar is similar to the chord of the first version but C replaces F# to produce E/Bb symmetry, a significant moment. The last chord of the bar returns subdominant symmetry, F. The passage ends on the first beat of 181 with a unison Bb/A# which returns the symmetry of the second beat of 180 and forms a fourth with the F symmetry at the end of that bar.

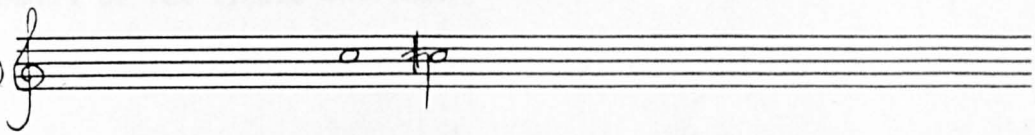
Bar 181 is the start of further working of the second subject of the first movement. This time the section is considerably longer than before.

Figure 118.

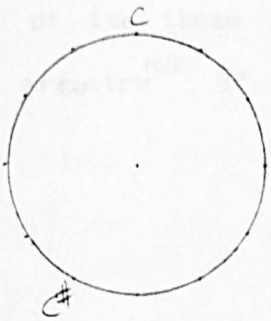


b)

c)



d)



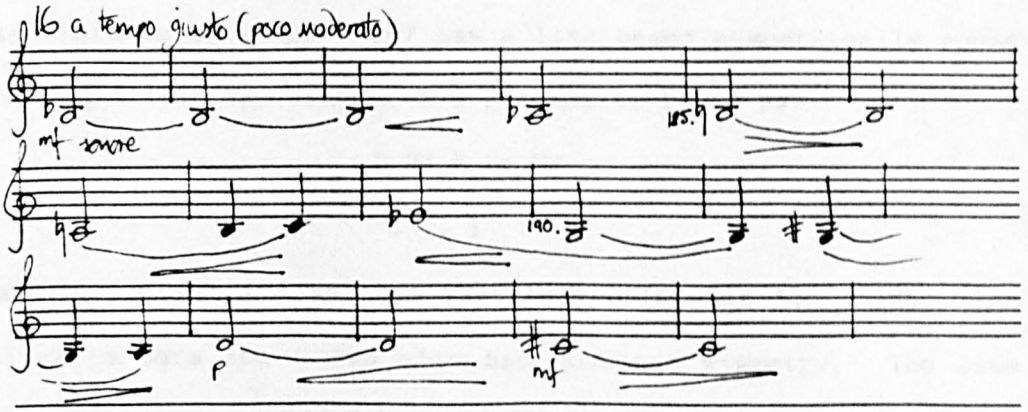
The section is tonally progressive which is a new way of treating the second subject. Initially, the second subject was pitch cyclic and in the recapitulation the C# to G is tonally static on the dominant axis The writing lacks clear tonal definition until the fifth statement of the theme, from bar 235.

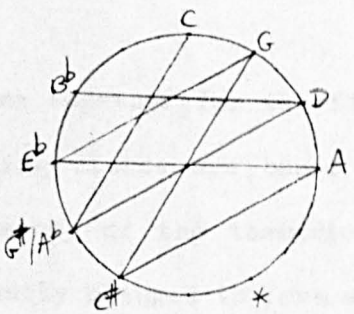
The reintroduced theme begins on Bb, the counterpole of E. The other entry pitches are G#, D# and A. Together, they form a symmetry round the A/D# tonic axis. In the first movement, the exposition entries on Eb, E and F formed symmetry round the dominant E which reflects the underlying tonal symmetry of the quartet and refers back to the movement's introduction. In the recapitulation, the entry pitches were an arrangement of Bb C C# Eb E and F# which forms

octatonic symmetry round G#, an important tonal pitch in the second movement. The centres of symmetry of the entry pitches of the first movement, E and G#, move in contrary motion onto the A/D# axis symmetry of the finale entries.

The first playing of the theme in bars 181 - 196 has an arrangement of pitches with symmetry round B/F.

Figure 119.





The accompaniment of this first playing is very different to anything in the second subject so far. It is very fragmentary which contrasts with the smooth flowing theme. Violin 1 in bars 184 and 188 has whole tone patterning, G F and G# F#. The next writing in bars 190 - 196 presents another symmetrical order, Eb D B Bb, 131. A is added to the end of this line which creates a tritonal outline but which breaks the symmetry. In the first version of the work, A was more separated from the line of symmetry. A is retained as an upper pedal and partners Eb in the viola, 193 - 196. These two pitches form interlocked tritone and major third with the F tonality.

The viola in bars 182 - 187 has a line based symmetrically round E. It is split into two halves, D E F leads to D# E# F# -

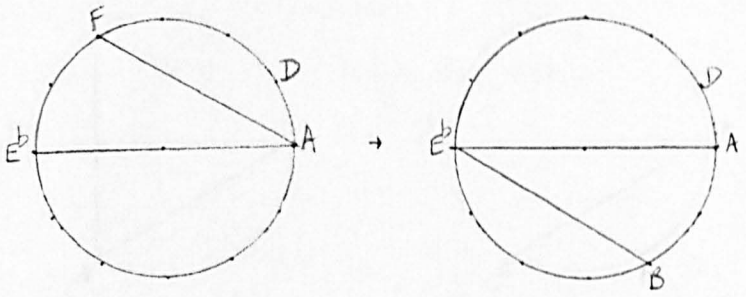
D D# E E# F#

1 1 1 1

This semitonal sequencing matches that in violin 1 in 184 - 188. The 'cello line in bars 181 - 196 also has dominant symmetry. The line appears totally chromatic but, significantly, E and its counterpole Bb are omitted from the writing.

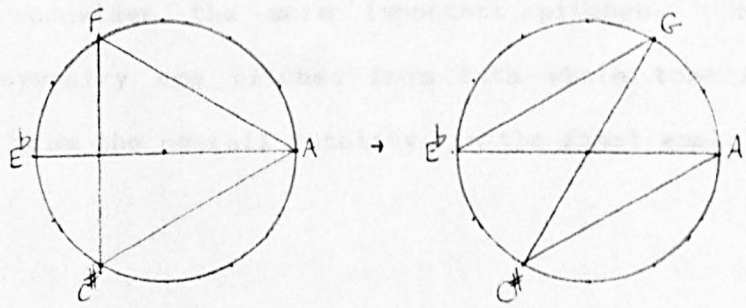
The four parts come together for the final bars of the passage, 194 - 196. The resulting chords are based on the tonic A/Eb axis, which links to the symmetry of the thematic entry pitches, but the other pitches are constantly changed to form some chords of symmetry.

Bar 194



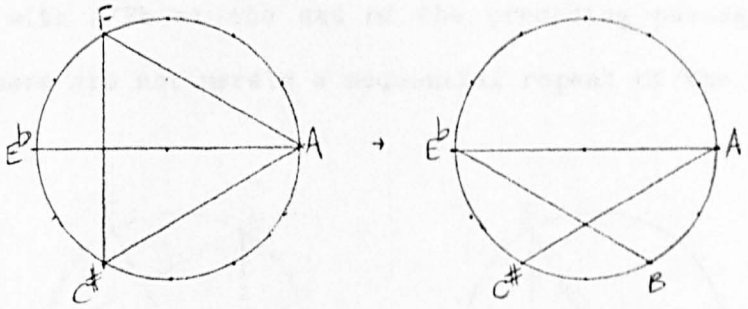
The first two chords are both based on interlocking tritone and major third. The second chord is a variant of the first, achieved as a result of counterpole exchange.

Bar 195



The first chord in 195 reverses this counterpole exchange and adds a further major third to form a chord of symmetry round the axis. One whole tone shift on the second beat moves the symmetry a perfect fourth, to an implied D/Ab which explains the use of D earlier in the progression.

Bar 196



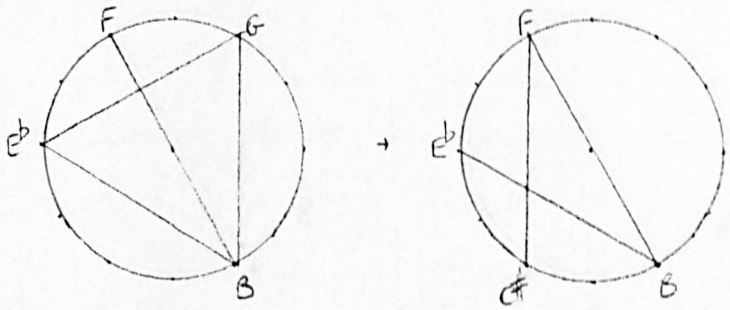
The chord of A/Eb symmetry is returned at the start of 196. The progression ends with F being replaced by its counterpole B to form a different tonic symmetry, round F#. The pitches of all six chords are taken from the subsidiary cycle of whole tones; the overall tonal architecture provides the more important pitches. However, the centres of symmetry use pitches from both whole tone arrangements although F#, from the overall tonality, is the final goal.

The second playing of the first movement's second subject occurs in bars 197 - 212. The theme is still played by second violin but the starting pitch is now G#, a minor seventh above the previous entry. This is not an exact repeat of the former and this time there is no centre of symmetry. The patterning in the other parts is different too; for instance, the 'cello is now fully chromatic.

The last three bars, 210 - 212, are similar to the corresponding writing in the first playing. Tonally, the bars are based on G with

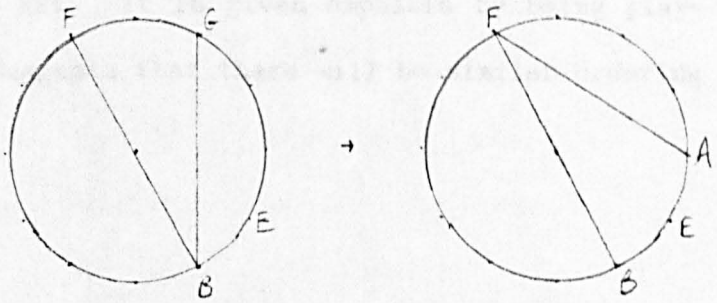
the B/F tritone added in violin 1 and viola. This is a whole tone from the F with A/Eb at the end of the preceding passage. However, the chords here are not merely a sequential repeat of the former.

Bar 210



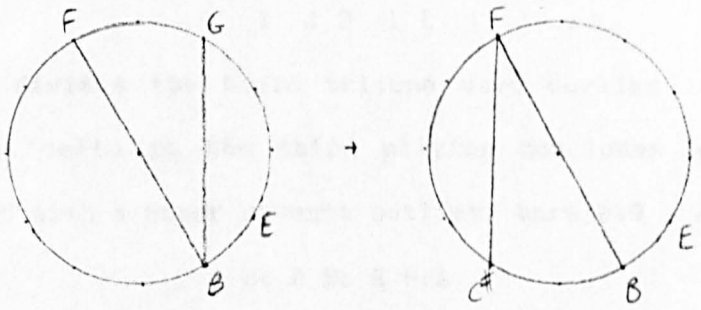
The first chord in 210, unlike its corresponding counterpart in 194, is symmetrical, round the B/F axis. This links with the final chord of the previous passage, 196(2), as Eb and B are retained, C# is replaced by its counterpole, G, F is added as the B counterpole and A is removed. The second chord of 210 involves the counterpole exchange of G with C# to produce symmetry round Ab, another subdominant.

Bar 211



The counterpole exchange is reversed in 211(1) and another dominant pitch, E , added. This chord is repeated at the beginning of 212 but the passage, unlike its predecessor, does not end on symmetry.

Bar 212



The third playing of the second subject begins in bar 213 and this starts on D#, down a perfect fourth from the second. The theme is transferred to violin 1 and is asymmetrical. It is quite chromatic but A and Bb are omitted.

There is evidence of symmetrical structuring in the inner parts in bars 219 - 221. It is given emphasis by being played in octaves. This writing suggests that there will be similar ordering elsewhere in the passage.

In bars 213 - 216(2) the 'cello is based on symmetrical ordering, F# E C → C# B (G#) G → F# E. The first three pitches form interlocked tritone with major third and are taken from the overall tonality of the the quartet. C# B G is a similar structure, a perfect fifth from

the first. G# is extra to this. The passage ends on F# E, the two most significant pitches in the work. Bars 216(2) - 218 are an arrangement of a symmetrical ordering -

A A# B C# D D#

1 1 2 1 1

This symmetry divides the tonic tritone used earlier in the second subject. The 'cello in the third playing concludes with symmetry based on thirds with a minor seventh outline, bars 219 - 224 -

Bb D Eb E F A

4 1 1 1 4

Violin 2 plays tone/semitone symmetry at the beginning of its writing -

G G# A# B

1 2 1

The final B in 216(2) overlaps with a second symmetrical fragment, again in playing order -

B C# D C# B

2 1 1 2

This is followed by the symmetry doubled by the viola, mentioned above, bars 219 - 221. This time the basic symmetry is reordered -

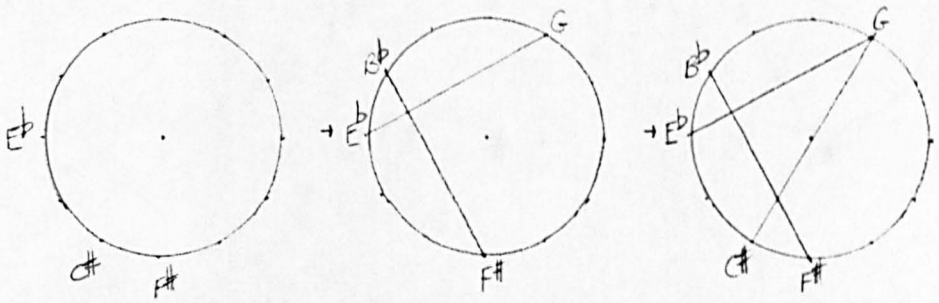
F G Ab Bb

2 1 2

At the beginning of the passage, the viola has axial symmetry, based on an ordering of A# E and G. The part attempts to join with violin 2 in 216 - 217(1), in anticipation of coming together later.

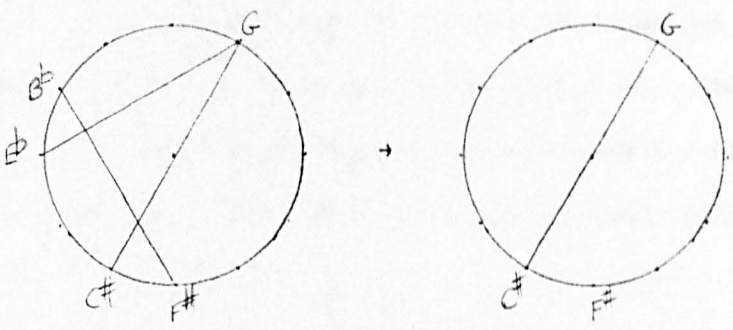
Bars 222 - 224 correspond to the chordal writing at the end of the previous two passages. So far, this has been based on interlocking tritone with major third and although this is the case again here, the pitches are no longer sustained throughout.

Bar 222



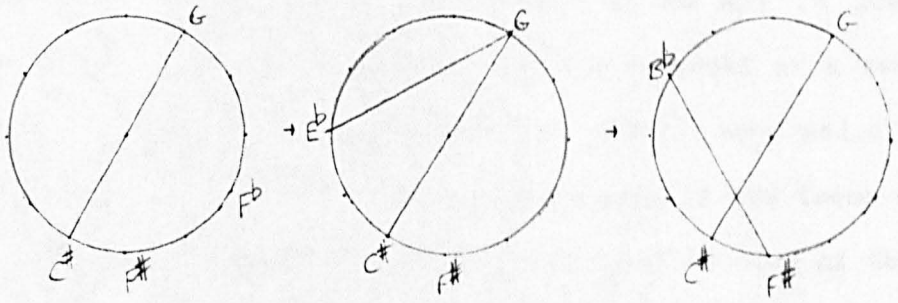
The first structure implies an emerging chord. The second has 313 symmetry, Eb F# G Bb. The last chord of the bar is the most significant as it is based on the 341 intervallic arrangement of the main motive of the quartet, C# Bb F# G, a retrograde version of the motive with dominant axis outline. This chord is retained for the first quaver of the next bar.

Bar 223



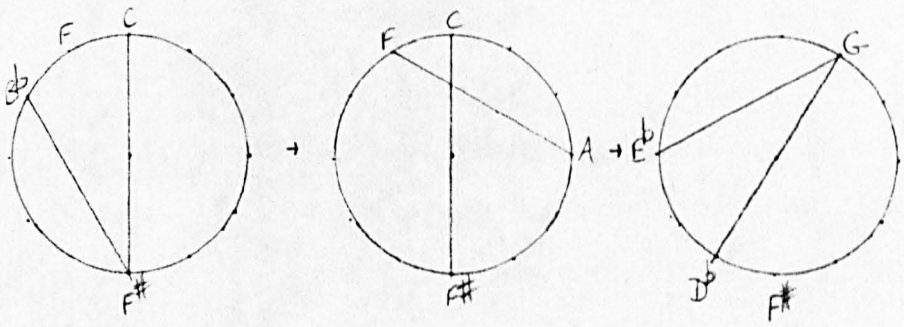
The final chord removes Eb and Bb and the resulting tritone with perfect fourth is the basis of the next three chords in the bar.

Bar 223 contd



The last of these chords repeats the 341 chord from the beginning of the bar. The axis moves round a perfect fourth at the start of the last bar of the passage.

Bar 224



The first chord of 224 is very much a transition chord, linking two 341 structures. The second chord of the bar is based on a retrograde version of the motive on its original axis, C A F F#. The final chord of the passage was used in bar 223, the fourth chord. F# is retained from the 341 structure, the axis moves a perfect fifth and A is replaced by its counterpole.

The fourth playing of the second subject is in a more complex style which is more like its use in the first movement. The theme itself, in bars 225 - 234, is a considerable variant though. This is played by first violin again. It begins on Bb and is now fully chromatic. The complete chromatic scale was achieved as a result of alterations to the theme. Bars 227(2) - 228(1) were added to the final version of the quartet. The first version of the theme omitted C which resulted in symmetry round F#. The final version of the theme appears to be broken up into asymmetrical divisions of three tritones. The first of these occurs in bars 225 - 228(1) -

Gb Ab A Bb B C

2 1 1 1 1

Bar 228(2) clearly introduces new pitches which last until bar 230(1) -

F F# G A B

1 1 2 2

Bars 230(2) - 234 are based on the dominant axis -

C# D D# E F G

1 1 1 1 2

This emerges as a way of ordering fully choromatic writing. The axes used form a symmetry round C/F#, the axis implied in the first version of the quartet. The previous playings of the theme were not fully chromatic and there is no evidence of such underlying structuring.

The 'cello begins the fourth playing with an aspect of symmetry in bars 225 - 228. A F# F Ab [313] is prefaced by a perfect fifth and followed by a tritone, in both cases, D. The second phrase, 229 - 230, is based on an ordering of -

G A B C D E

2 2 1 2 2

The final phrase is asymmetrical. This 'cello writing is a little different to the original version of the quartet. The first phrase showed no signs of being based on symmetry. The second phrase was rhythmically different but with the same pitches. The pitch differences in the final phrase did not suggest a symmetrical ordering. However, this final phrase in both versions may be based round divisions of the Bb/E tritone and the F A major third -

First Version - Bb D E F F# G Ab A

4 2 1 1 1 1

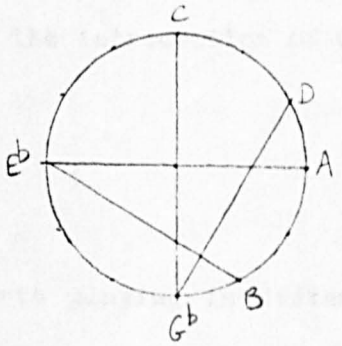
Final Version - Bb Db D E F F# A

3 1 2 1 3

The inner parts in the final version are together for much of the fourth playing. In the first phrase, 225 - 228, they play triplet

rhythm broken by rests. There is not a regular pattern of intervals between the parts but the minor third, major sixth, tritone, perfect fourth and major third comprise two interlocked tritones and major thirds on the circle of fifths. Both involve tonic axis retrograde motives.

Figure 120.



Certain pitches in this phrase are repeated for emphasis. Repetition of Eb C is followed by B D and C Eb. These highlighted pitches form 121 symmetry, B C D Eb. This is another reference to major/minor third interaction in this passage. Following this repetition, the two parts have a short line in 227 which begins on Eb B and ends on C/Gb. These pitches form a retrograde version of the main motive on the tonic axis, Gb Eb B C. In the first version of the quartet, B C Eb structuring in the first two bars led to G/C# structuring in the next two. By altering the axis, Bridge has brought the writing closer to the fundamental principles of the work.

The material changes in the inner parts in bars 229 - 230 as trills and a pedal are introduced and the triplet rhythm is abandoned

temporarily. Until the last quaver of 230, the pitches are G D A E which forms a 232 symmetry, D E G A. The symmetry is altered on the last quaver as C is added which results in added fifths with D as the centre of symmetry. These two bars were reworked from the first version. The patterning is the same but the violin 1 figuration is altered. This run incorporated C in these two bars of fifth patterning. By delaying the introduction of C, the emphasis is subtly altered.

The end of the fourth playing is different to previously. The interlocked tritone and major third that featured in the closing three bars is now not in evidence. However, there are certain accented pitches in 233 - 234, Cb Bb D E F. These can be rearranged, without E to form a retrograde version of the motive on the subdominant axis, F D Bb Cb.

The fifth and final playing of the second subject, bars 235 - 250, begins as a tritonal repeat of the original playing in the first movement, now beginning on A instead of D#. The repeat lasts until 245(1) and the final bars are different. Both original and counterpole versions use all axes except C/F# and the present line ends on the C E G# structure of major thirds.

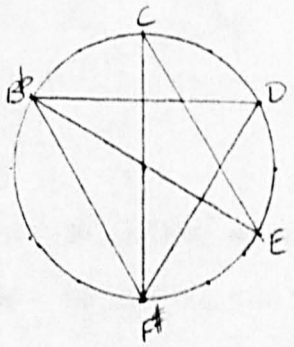
The 'cello line in this playing is based on major third and perfect fourth structuring. This is pointed to by the opening pitches, D F# G, in bars 236 - 238. The next three bars present 212 division of the perfect fourth, Ab Bb B C#. The line then becomes chromatic from 242 - 247(1), D C# C B A# A G# G F#. This has a D to F# outline with A# as the central pitch, D F# A#. The final pitches of the playing are Eb D C Bb Ab E which seem to be based on the same structure of interlocked major thirds as violin 1 in these bars -

Ab Bb C D Eb E = Ab C E

2 2 2 1 1 4 4

Violin 2 and viola resume triplet rhythm until the last two bars. The opening pitches of the viola, C Bb E, originate in bar 77 of the first movement, the third playing of the second subject in the exposition. Now, these pitches are put with D F# in violin 2 and this results in symmetry round D.

Figure 121.

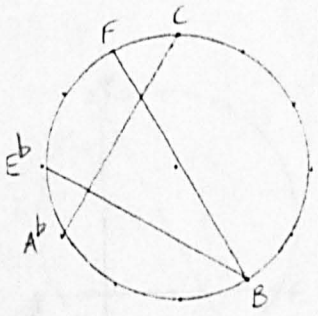


These pitches originate in the overall tonal framework but with D replacing E as the centre of symmetry. This structure is retained for the first three bars. The following bars of the passage show the way

that Bridge slides one chord into another by chromatic alteration and retaining certain pitches.

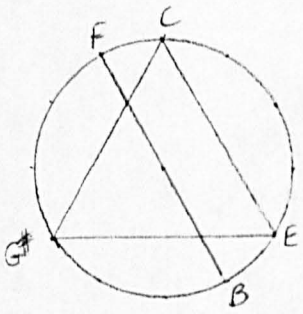
In bar 238, semitonal shifting results in C Bb E with Eb G on the last beat. These pitches can be arranged as a retrograde version of the motive on the main dominant axis, Bb G Eb E. C provides the tonal base at this point which reintroduces the E C relationship from the start of the first movement. This structure is short lived as bars 239 - 242(1) introduce a new structure. This brings the motive and interlocked tritone and major third together -

Figure 122.



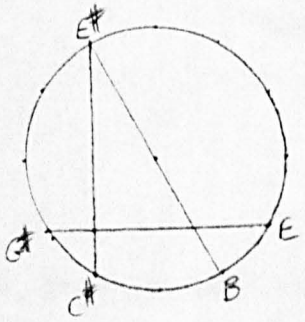
There is another version of the motive on the B/F axis implied in the structuring here, F Ab C B. So far in the finale, much of the motive structuring has been in retrograde, pointed to in the introduction by several thematic playings in bars 8 - 13(1). The present arrangement is not retrograde however. It is achieved as a result of contrary motion of both previous axes and by retaining C.

Bar 242(2)



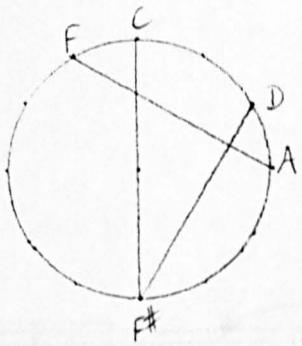
The structure at the end of 242 is similar to that at the beginning of the bar but Eb is replaced by E. This results in a centre of symmetry, G#. The next structure lasts for two bars, as do all those up to bar 249. This slow moving harmonic progression is unusual in this organic style.

Bars 243 - 244



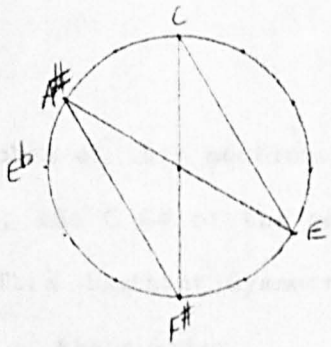
This is based on a retrograde version of the motive on B/F again, B G# E F. In the next two bars, D replaces its counterpole to form a transitory structure based on the interlocked tritone/major third, E#/B C#. Another retrograde version of the motive is presented chordally in 247 - 248, C A F F#. This originated as a chord involving all parts in bar 224(2).

Bars 247 - 248



C D and F# in this structure originate in the tonal framework of the quartet. The following chord uses pitches from this too.

Bar 249

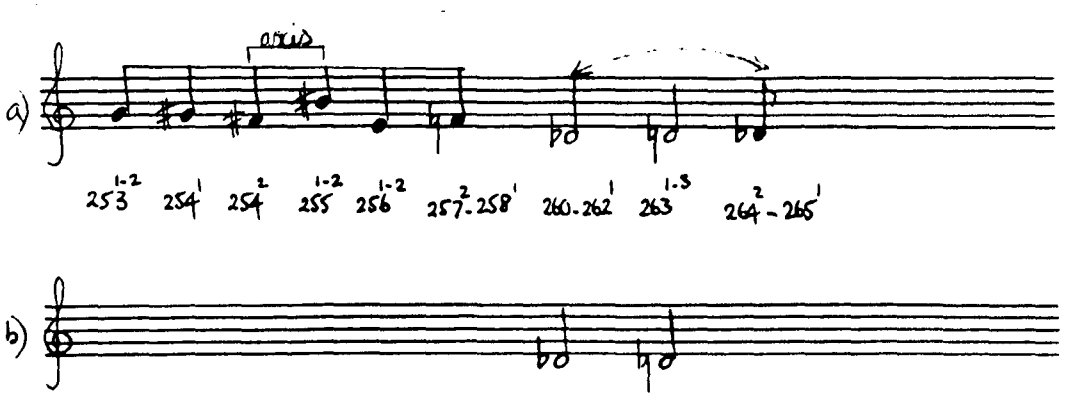


The last bar removes the Eb from this structure and produces B/F symmetry. This means that this axis has moved from foreground thematic and harmonic structuring to implied background symmetry.

A second playing of section A occurs in bars 251 - 273. This is tonally very fluid and only D and Db emerge as significant tonalities. The tonal arrangement is not at all like the first playing at the start of the movement although the use of Db (C#) refers back to the

first movement material at the start of the finale and this features in this section too.

Figure 123.



The important tonal pitches of this section form a symmetry with those of the previous section, the C C# of the second subject of the first movement, C C#/Db D. This dominant symmetry round C#/Db anticipates that of the final chord of the quartet.

The repeat of section A begins with a pairing of parts, violin 1 with viola and violin 2 with 'cello. In the first version of the quartet, the viola was silent for the first three bars but the tonic axis line in violin 1 is strengthened by the octave doubling added in that part and by the addition of the viola. The A to Eb in these two parts is clearly followed by 113 asymmetry resulting from dividing the perfect fourth -

D C# C A → Bb A Ab F → E Eb D B

1 1 3 1 1 3 1 1 3

The other two parts begin in 251 with overlapped playings of the main motive on the dominant G/C# axis. Playings of the motive on the dominant axes are particularly significant as they bring the implied symmetry of the quartet into the inherant tonality of the idea. The entry on G is offbeat, that on C# on the beat. The combination of this with the A/Eb in the other parts is achieved as a result of axial third shifts from the E/A# and C/F# structure in 250. There is another neat link into a 414 motive in 252 - 253.

Figure 124.

There is a repeat of bars 20 - 25 in the 'cello and second violin in bars 252(2) - 256(2). The material is presented down a semitone from the orignal. After this, G# A# leads to B/F which is subsequently divided in a balanced way in bars 257(2) - 259(1) -

B F E Eb D B

6 1 1 1 3

At the end of this patterning, there is a change of texture as viola and 'cello come together and violin 2 drops out. Their pitches in bar 259 are a reordering of the tritonal division, Eb D B F Eb D → Db.

Another change of texture occurs in bar 260 where the music becomes chordal for two bars. Tonally, the music settles on Db, the pitch at the centre of symmetry in the final chord of the quartet. Axial thirds, Db Bb, lead to three chords that can be explained in conventional terms, Eb major9, Fb major9 and Bb major9. The Eb chord has Db in the bass which forms a whole tone. The second chord has the root, Fb, in the bass. It is significant that this dominant pitch, which is at the centre of the quartet's tonal symmetry, should be unified in this way. The final Bb chord forms another whole tone relationship with the Ab bass. The sevenths and ninths which are added to the basic triads result in interlocked major thirds and interlocked tritones with major thirds. The first and third chords incorporate 341 structuring but this is not so obvious as in other structures as it is part of conventional chords. The Bb G Eb Fb of bars 261 - 262(1) leads by perfect fifth to F D Bb Cb in 262(2), the latter axis being part of the previous structuring in bars 257 - 259. This writing is followed by a semitonal tonal shift to D accompanied by the main motive on Eb and then Ab. The playings of the motive follow directly on but are pitch progressive; Bridge has frequently interlocked playings of this so that the axis outline is reversed. When a unison D is reached, it is abruptly broken off; possibly this indicates that the subdominant is no longer a viable goal.

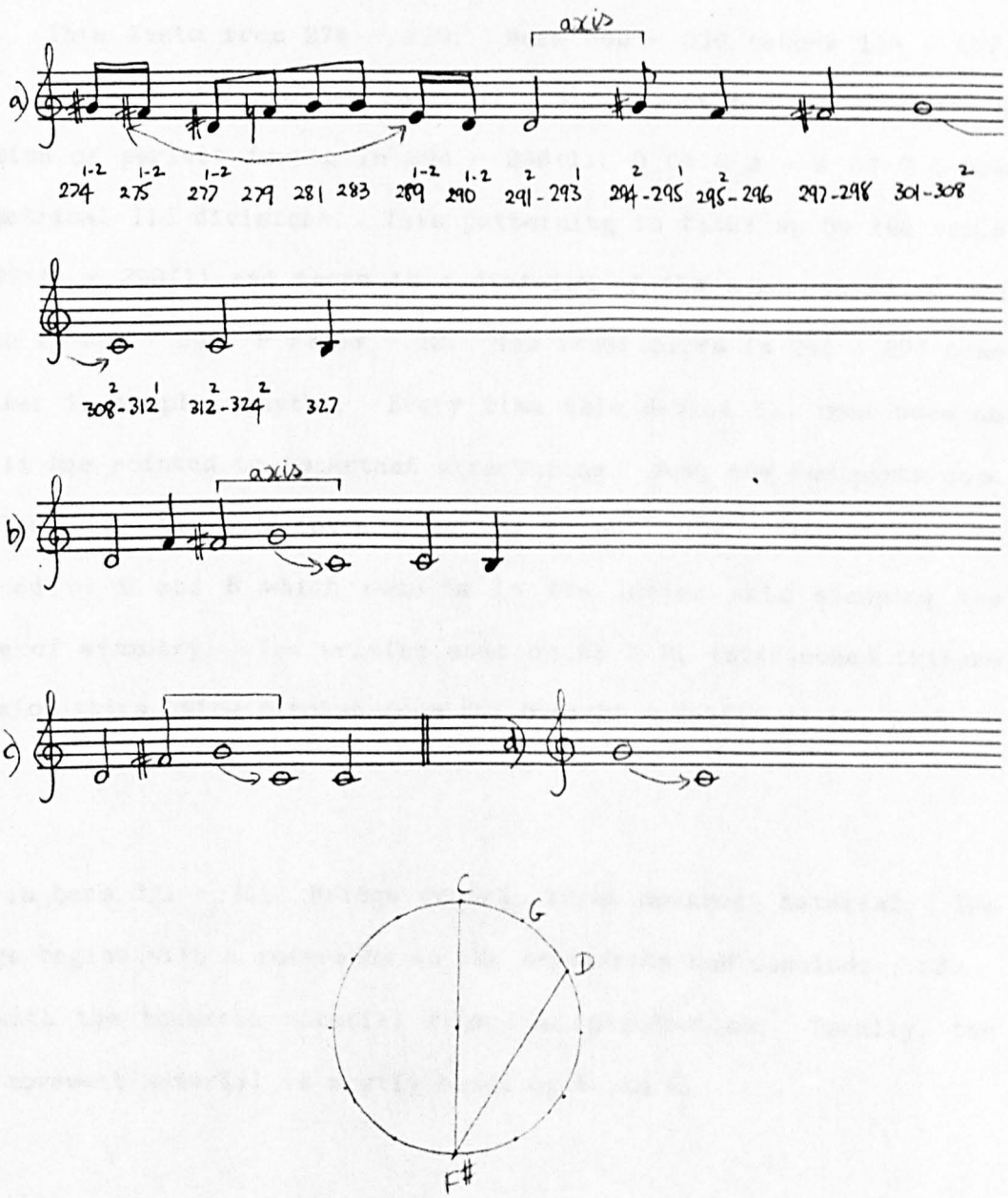
The thematic material of section A is returned from 263(3) for two and a half bars. This repeats 253(3) - 256(1) down a perfect fourth and with the pairing altered so that thematic material is in

the outer parts and accompaniment in the inner. The music comes together chordally again in 267 which is almost a repeat of 262 raised a semitone. This interval is used for the sequential repeat of 266 - 267 in 268 - 269. The last two semiquavers of 269 start broken chord writing in violin 1. The structures from here to 272 are conventional, A major → C major → Eb major → F major → G major. This constitutes two minor third moves followed by two whole tones and this results in C at the centre of symmetry when the pitches are placed on the circle of fifths. This relates back to B# chordal symmetry in bar 267(2). The second violin takes up this broken chord writing in 272 with an implied G major leading to A major and B major.

In bars 270 - 271(1) the three lower parts form chords which alternate subdominant axis diminished structures with 341 chords on the dominant axes. From 271(2) - 272, the second violin drops out of this patterning and the lower parts play minor triads, F → Eb → G → F → A which is the same whole tone pitches used for the major triad progression mentioned previously. The first version of the quartet incorporated perfect fifths in the 'cello in bars 267 - 271. The upper pitch was eventually removed, presumably to clarify the chordal progression.

An unaccompanied viola rising figure in 273 leads to a return of section C in 274 - 330. Tonally, it is constructed on similar lines to the original. [Compare Figures 108 and 125.]

Figure 125.



F# is added as a counterpole and G is also added, as main tonalities. This means that the tonic is strengthened in favour of the subdominant and the dominant symmetry of the quartet is included. The most significant relationship now is G to C which replaces the whole tone D to C.

Section C begins with a repeat from bar 102, essentially up a tone. This lasts from 274 - 293. Bars 300 - 330 rework 133 - 257. Only bars 294 - 299 are new material. This short passage presents a division of perfect fourth in 294 - 298(1); D C# C A → A G# G E are asymmetrical 113 divisions. This patterning is taken up by the viola in 297(1) - 299(1) and there is a division of the minor third in the 'cello in 294 - 298, F F# G# - 12. The inner parts in 294 - 297 come together in triplet rhythm. Every time this device has been used so far, it has pointed to important structuring. Now, the two parts come together with the two tonic axes, F#/B# and A/D#. The former is replaced by G and B which results in the latter axis becoming the centre of symmetry. The writing ends on Bb E D, interlocked tritone and major third using pitches from the overall tonality of the work.

In bars 331 - 351, Bridge reworks first movement material. The passage begins with a reference to the transition and concludes, 339 - 351, with the thematic material from the introduction. Tonally, the first movement material is mostly based on D and C.

Figure 126.

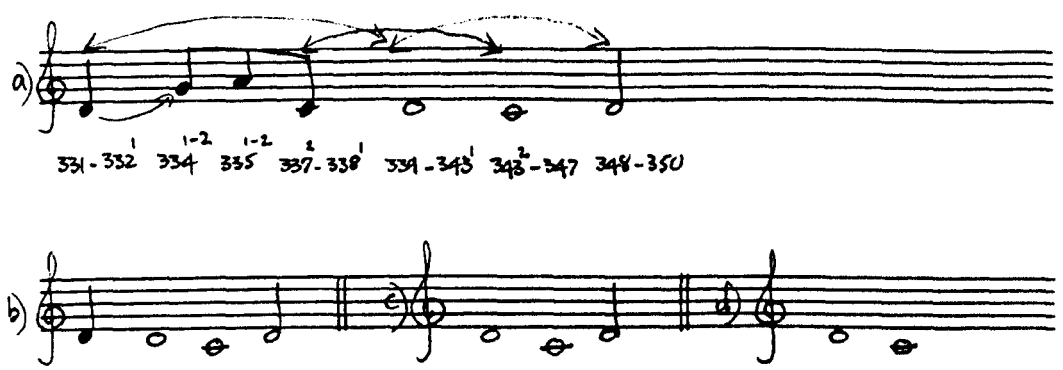
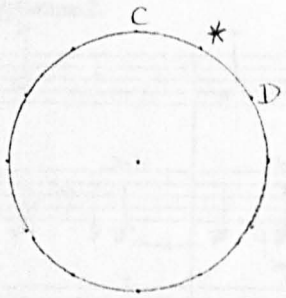


Figure 126 contd.

e)



These two pitches were the foundation of section C [see Figure 108e)] and by using these pitches for first movement material, Bridge furthers the links between the outer movements. Another reason for repeating this basic framework is that they form dominant symmetry, round G.

These bars are different to the corresponding ones in the first version of the quartet. Originally, Bridge did not include a reference to the transition. Tonally, the passage was based on D only. Also, the first version has a simpler chordal texture.

Figure 127 overleaf.

Figure 127. First version.

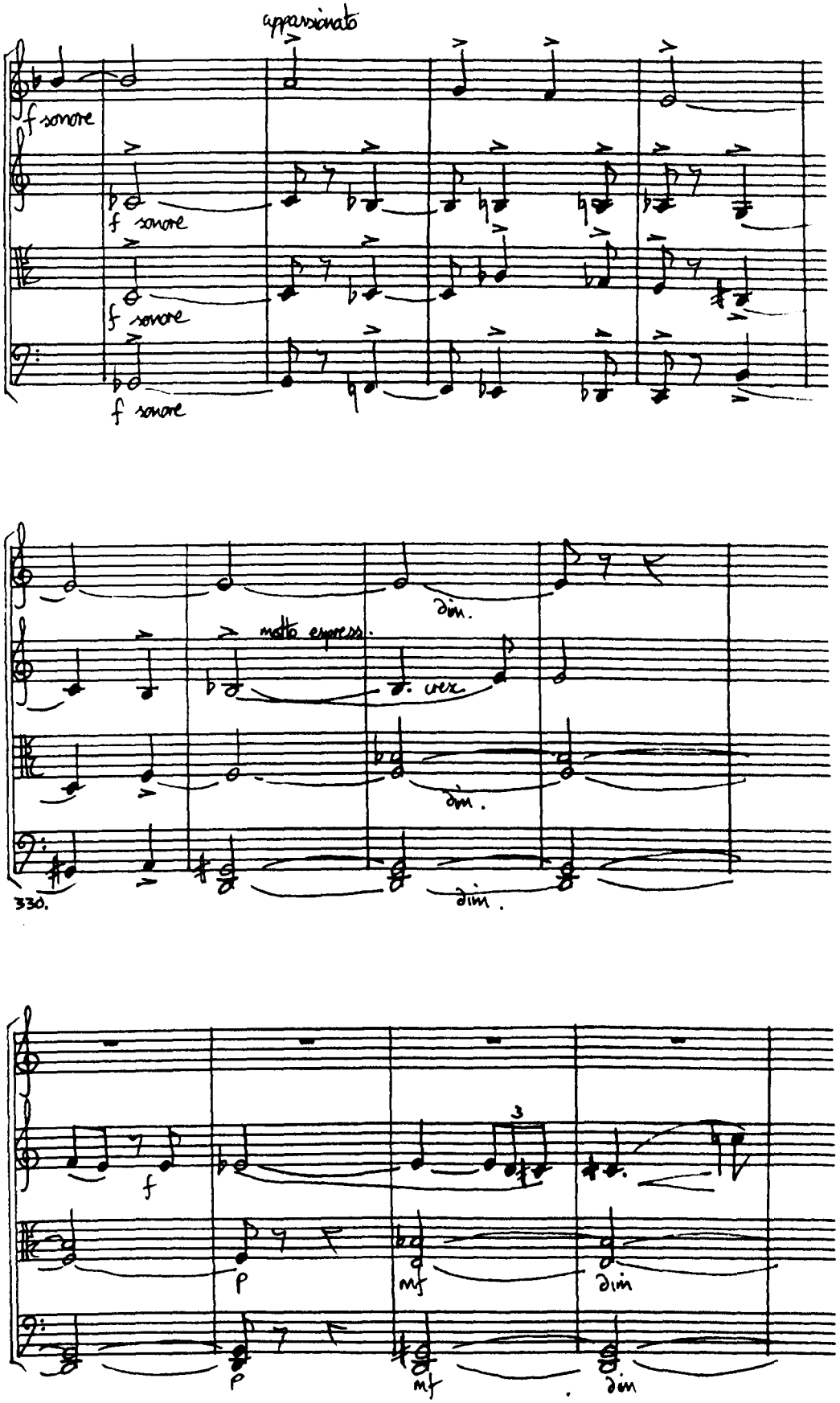
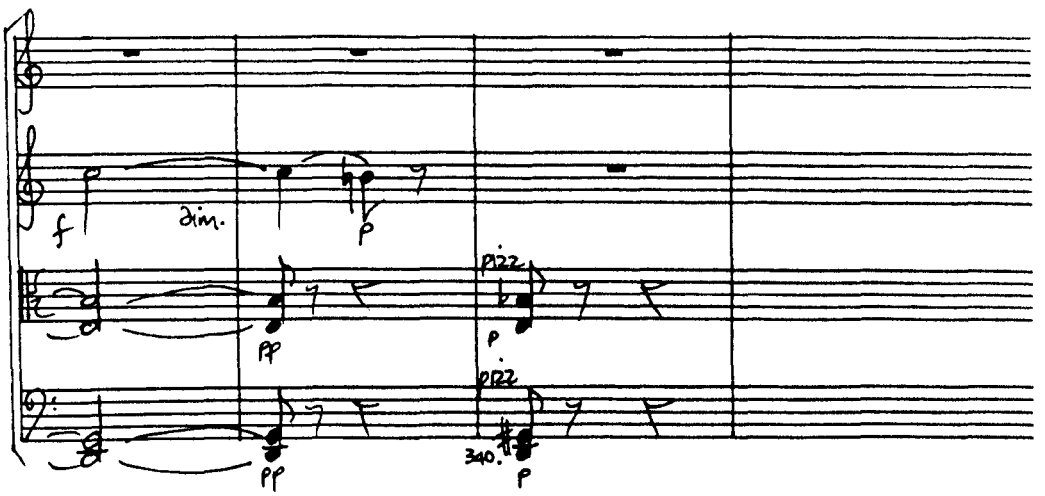


Figure 127 contd. First version contd.



Final version - Bars 330(2) - 348

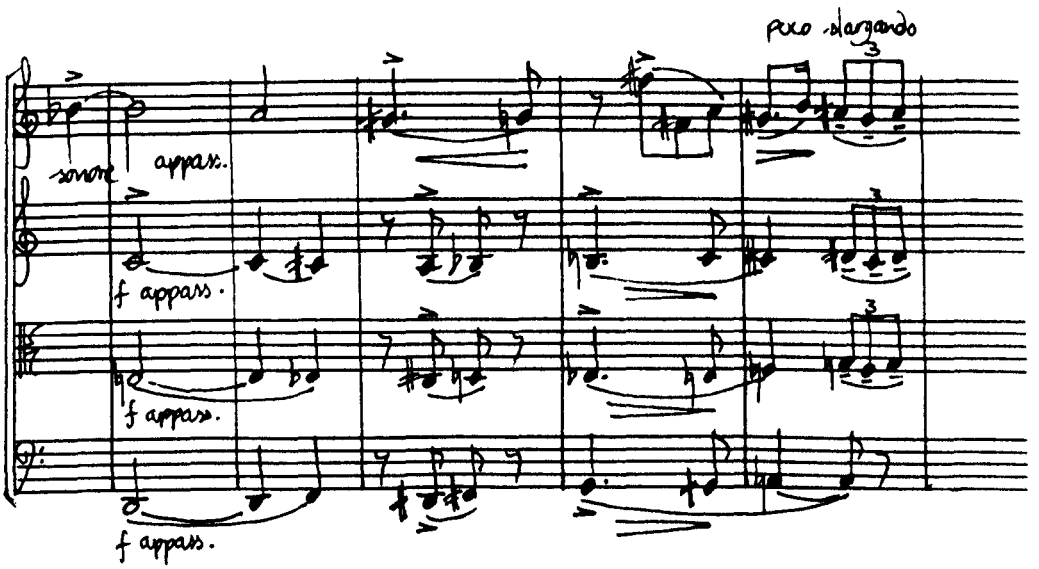
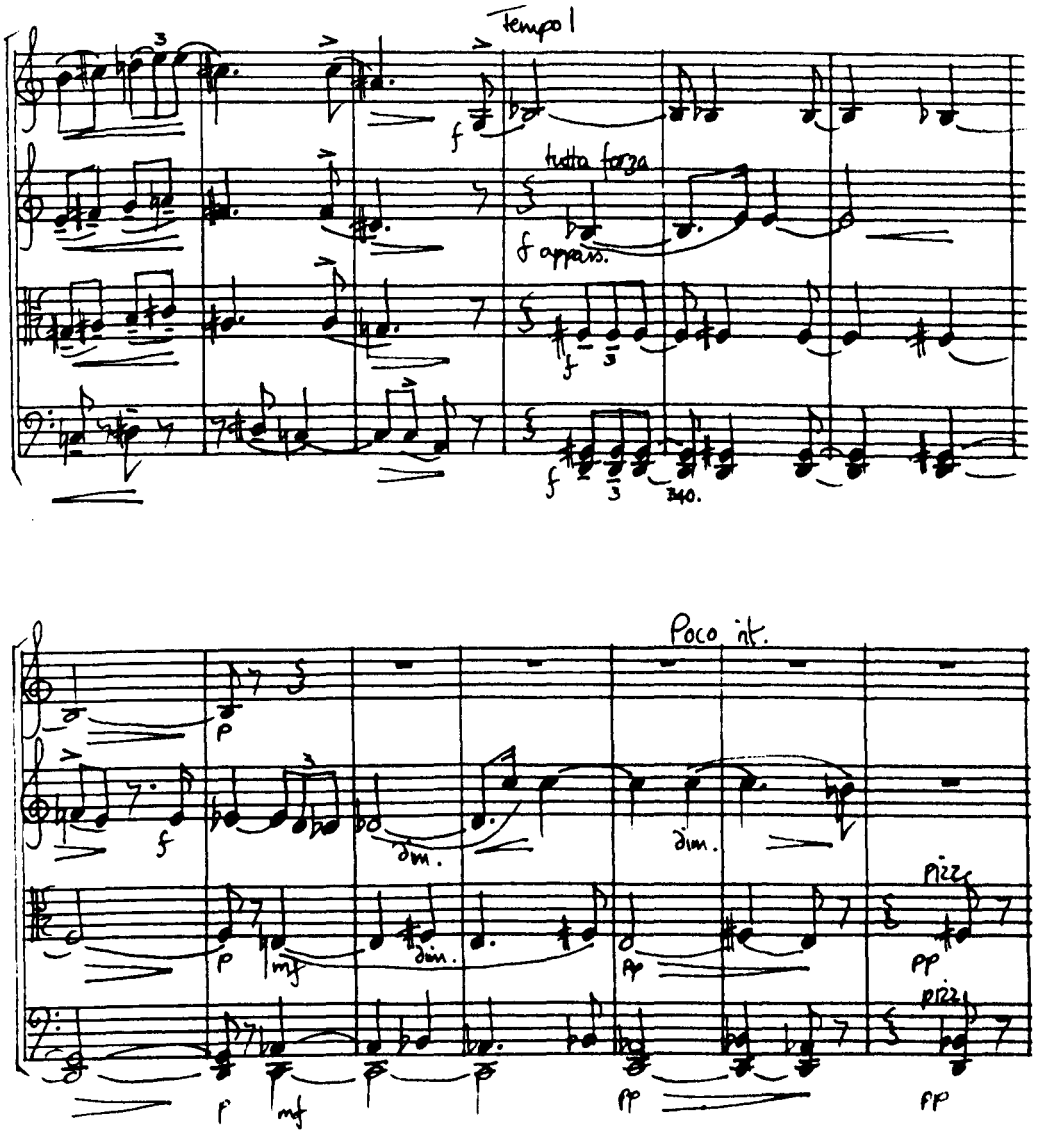


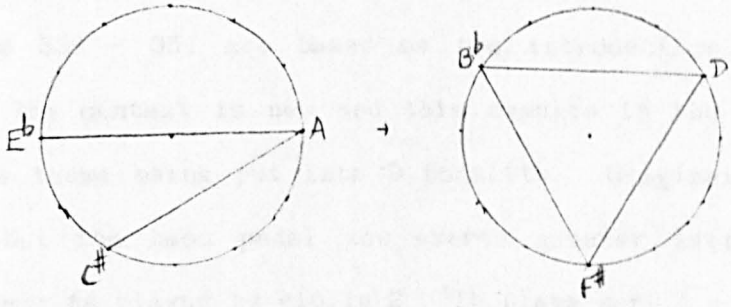
Figure 127 contd. Final version contd.



The first four and a half bars, 331 - 335(1), form an introduction to the transition material from the first movement. This is not derived from the first movement but is new. The first violin plays a line of symmetrical orderings. Falling semitones, Bb A G# G lead to F# A and G# B which has a 313 symmetry. The complete line has pitches which divide the B F# perfect fifth into semitones, B Bb A G#

G F#. The three lower parts move rhythmically together to form chords. The progression begins with two whole tone structures a semitone apart, C D E → C# Eb F. In 331(1), A replaces the F of the previous chord to form interlocked tritone and major third. All three pitches then move one place on the circle of fifths to form the first structure of interlocked major thirds. From 333(2) - 335(1), all such structures are used.

Bar 333



In the first version of the quartet, the first four and a half bars also presented a symmetrical line in violin 1. However, it is different to the final version as it involved a symmetrical division of the Bb/E tritone -

Bb A G F E

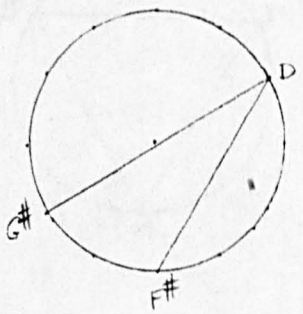
1 2 2 1

The chords in the lower parts were a series of minor triads in the first three and a half bars. The progression ended with two interlocked tritones with major thirds, a semitone apart.

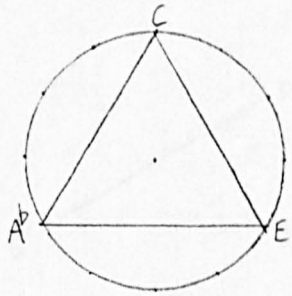
The final version returns the transition material from the first movement in bars 335(1) - 338. The 'cello is the separate instrument and it plays axial pitches, A C D# C A, which have a symmetry round D#. Notably, F#, the tonal goal of the finale, is absent. The three upper parts form major triads that mostly have major third or tritonal relationships with the bass pitches. At the end, bars 337 - 338, they have minor third and tritone relationships.

Bars 339 - 351 are based on the introduction to the first movement. The context is new and this results in the E/Bb dominant axis of the theme being put into D tonality. Originally, the theme was tonal but the bass pedal now exerts greater influence. The original theme is played by violin 2. It plays bars 1 - 5 exactly and then the repeat of C to B is transferred to violin 1. The other parts provide a new accompaniment to the theme. A Bb pedal in violin 1 in bars 339 - 343(1) reinforces the dominant tritone of the theme. The lower two parts play chords based on the pitches from the overall tonal framework -

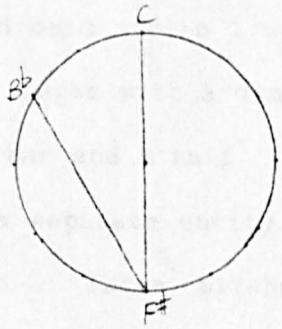
Bars 339 - 343(1)



Bars 343(2) - 344(1)

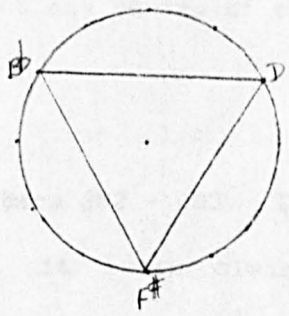


Bar 344(2)

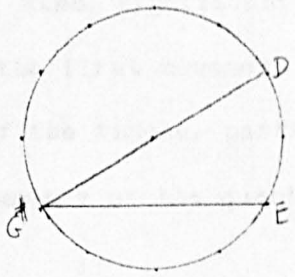


The last two chords alternate in bars 345 - 347. The passage ends with a progression based tonally on D.

Bar 348



Bar 350

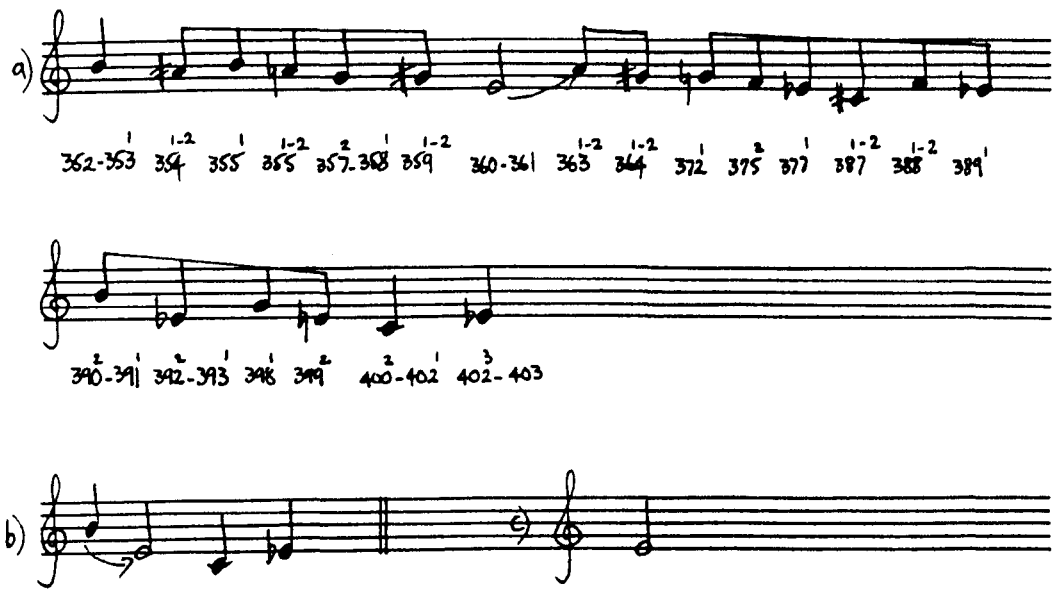


In the first version of the quartet, the theme was also presented by violin 2 but not passed onto violin 1 at the end. Chordally, the writing was different. It began with a diminished chord, D G# F, and then Bb was added after a bar and a half. In the final version Bb as a first violin pedal, is a separate entity. The next chord combined two axes, D/G# and E/Bb. These pitches are from the overall architecture but with an A/Eb symmetry. This chord lasted for four bars. Bridge eventually used this structure in the final version, at 370(2), but its importance is weakened by the brevity of its appearance. The chordal progression of the final version is more tightly constructed, being based exclusively on pitches from the overall tonality and without any centre of symmetry emerging.

Section A returns in bars 352 - 403. This is not mere repetition but reworking. Tonally, it lacks clear definition. The only significant tonality is the E in bars 360 - 361. This is notable for being the quartet's centre of symmetry. The use of this pitch as a tonality here now explains the use of the introduction to the first

movement, which is thematically based on the E/Bb axis, in the preceding bars. It is also significant that Bridge is using a tonality associated with the first movement structuring for this final appearance of section A of the finale, particularly as it is the pitch at the centre of tonal symmetry of the quartet.

Figure 128.

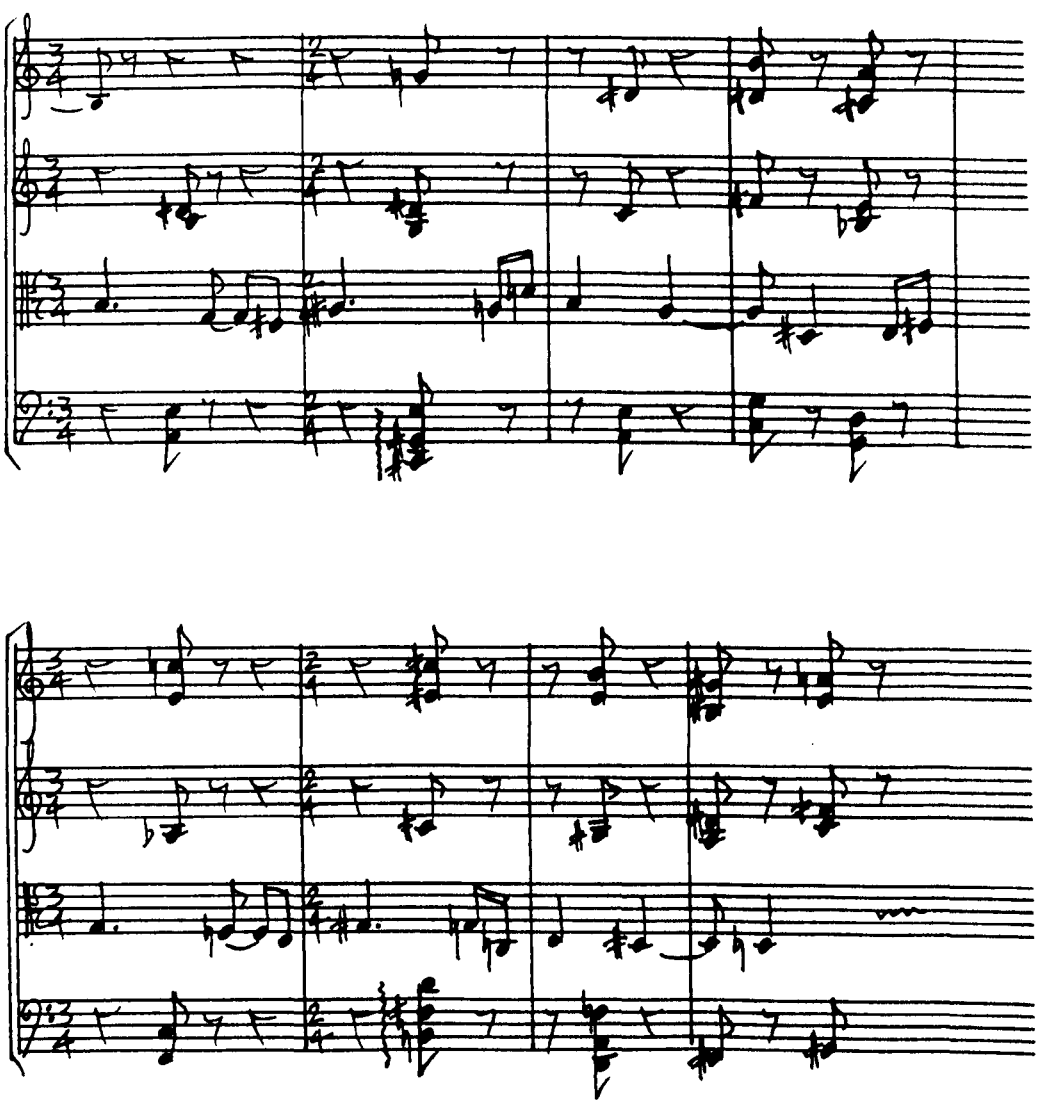


Bars 352 - 370(2) basically rework material. However, thematically bars 352 - 356 are based on bars 20 - 24. The theme is now presented in octaves in the two lower parts and the starting pitch is B not A. The theme is then repeated down a major third in 357(2) - 360 in the same parts. The 'cello repeats the opening four pitches at original pitch, starting on A, but with altered rhythm in 363 - 364. This links with the viola playing another theme from section A which

also starts on A, 364(2) - 370(2). This second theme derives from bars 32 - 39 where it was played by violin 1. The first version of the quartet was essentially the same as this, the only difference being that the viola plays without the 'cello for the first eleven bars.

The accompaniment in these bars is new in both versions. That in the first version is particularly revealing. It was exclusively chordal from bars 345 - 352.

Figure 129.



The 'cello played conventional triads and fifths in these bars and some complete structures, including both violin parts, can be explained in these terms. Some fell outside this which supports the premise that conventional structures are used as part of an overall plan. The first chord, bar 345, was a rearranged 341 structure based on a tonic axis, A C E D#. The following bar was based on a similar structure, with dominant outline, C# E G# G. [D# was extra to this.] Bar 347 repeated the chord from 345. Bar 348 presents two chords. The first of these was based on symmetry round D#. The pitches were an arrangement of two versions of the 341 motive based on the C/F# tritone, C D# G F# and F# D# B C. The second chord returned the structure of paired triads, G minor and A major. This 34743 symmetry was much used in the first movement. However, in the context of 341 structuring, the combination chord presented two versions of the motive, both on dominant axes, G Bb D C# and E C# A Bb. This means that the paired triads, major and minor a whole tone apart, can be explained in terms of their essential symmetry but also in terms of their 341 makeup which links the structure to the main motive of the quartet. This fact has only emerged in the present passage in the first version of the quartet, which started working on 341 chordal structures.

The paired triads continued in the next three bars, 349 - 351. The first two structures were incomplete, the missing pitch occuring in the viola thematic line. The pairings are F minor with C major and B minor with C# major. The latter pairing involves 341 structures on

the subdominant axes and these were retained in the last pairing of D minor with E major. This chordal passage in the first version ended in bar 352 with two chords. The first of these was a 341 structure, a retrograde version of the motive on D#/A. This way of structuring was finally broken in the last chord whose pitches form interlocked major thirds with an added counterpole and perfect fourth.

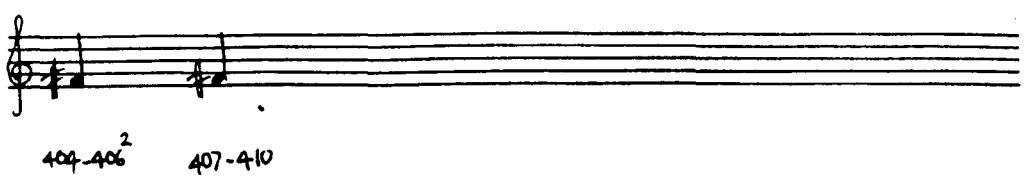
Bars 370(2) - 387 of the final version of the quartet are essentially a repeat of bars 19(2) - 39(1). The inner parts in 372 - 373 are new and comprise half an octatonic scale on G/C# leading to a version of the main motive of the work with a B to E# outline. The putting together of these two axes results in implied tonic C/F# symmetry. The half octatonic scale is used more overtly than in the first version as Bridge had not originally used the pitches in ascending order. This new accompaniment material is repeated in bars 377 - 378, down a tone.

The first version of the quartet continued the repetition of earlier material for an extra seven bars, up to bar 45 of the first section A. The final version adds two linking bars at 388 - 389 and these are followed by more repetition as bars 390 - 399 repeat 46 - 53. Where this ends, Bridge brings the parts together in bar 400 for another structure of combined triads. C minor and D major incorporate two tonic versions of the main motive, C to F# and A to Eb in retrograde. This structure is repeated up the octave in 401 - 402(1).

Section A ends with a chord of Eb G D A which forms interlocked tritone with major third and linked by D as perfect fifth. This is different to the first version of the quartet where the C minor/D major structure was retained longer and eventually led to a chord made up of the whole tones from the overall tonality with A# added, C D E F# G# A#.

There is a brief return of section B, bars 404 - 411, which is very chromatic. F# pedals in violin 1 and viola provide a tonal anchor for six and a half of its bars. This anticipates the final tonal goal but here it is ill defined because of its textural placings.

Figure 130.



The passage is based on the original patterning which was introduced in bar 58. This comprises 1113 division of the tritone. Originally, this used the E/Bb dominant tritone but now the subdominant D/G# is used. This axis forms interlocked tritone and major third with the F# tonality, the three pitches coming from the overall tonal architecture. An interesting variant of this theme is played by violin 1 in bar 406. The variant rises instead of falls and the pitches are in a symmetrical 2112 order, D E E# F# G#. This leads

to a 131 division of the perfect fourth A to E in 407(1-2). These two pitch arrangements are then combined and rearranged.

In bars 409 - 411 there is regular chordal structuring. In the first of these bars, violins and 'cello have two interlocked tritone/major third structures leading to interlocked major thirds on both beats. These progressions use all pitches except G which results in underlying dominant symmetry. In 410 all four instruments come together on a chord of C D F# G#, the two axes from the overall tonality of the quartet. These also produce dominant symmetry, G/C#. The rest of the bar and 411 use structures of interlocked tritone and major third with added fourth or fifth. The last half bar of the passage is a repeat of the previous half bar down a tone.

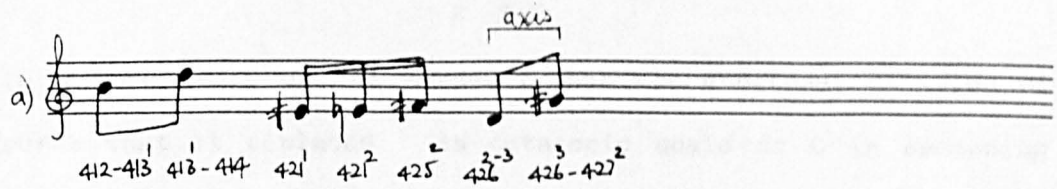
The first version of the quartet was nearly like this as far as bar 409(1). At the corresponding point, the F# pedal was removed and there was a shift to structuring on the C/F# axis. Chordally, the first version was less consistent and it led to F# at the start of the next section not C, as in the final version. This is a significant change as Bridge delays F# as a goal.

There is then further reworking of first movement material in bars 412 - 429. This use of the first subject lacks tonal definition but subdominant pitches are favoured and there is tonal symmetry round

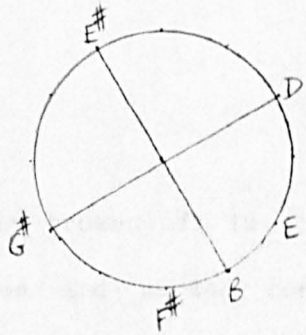
the B/E# axis. The use of the subdominant for this material at this late stage in the quartet is another way of delaying F# but it also implies that this pitch may yet emerge.

Figure 131.

a)



b)



The section begins with the rising seventh figure on tonic pitches, C and Eb. This is played by the two lower instruments in octaves. In the first version, this idea was played on dominant pitches, G and C#, perhaps in anticipation of the final dominant symmetry of the work. The three upper parts form chords across the first two bars, F and D majors over a bass B and Ab and F majors over a bass D, thus forming tritone and axis third relationships. This is followed by a playing of the main motive on the dominant E/Bb axis in 414. This extends the simple tritone that Bridge used in the original

version. The rising seventh figure returns, now on the dominant pitches initially replaced but now extended to include all four, Bb Db E G. The first version blurs this by incorporating a tonic entry on C. The accompaniment to this figure is initially a symmetrical division of the perfect fourth -

Db Eb E F#

2 1 2

This is a more overt use of symmetry than the semitonal division of the fourth that it replaces. An octatonic scale on C in ascending order follows, in the inner parts in bars 416(2) - 417(2). Dominant and subdominant axis third symmetry is placed in the outer parts at the same time.

The music is abruptly broken off in 417 and the main motive is then reintroduced, doubled and marked con fuoco. It comprises overlapped entries on the C/F# axis which anticipates the tonal goal of the movement. This ends on F# and this pitch is used to start a repeat of bars 19 - 20 in 420(2) - 423. These bars are based on 1113 division of the D/G# tritone. This is the same structuring as used in section B of the present movement, a fact that has only emerged as the two sections are placed adjacent in bars 404 - 423. Clearly, this is another linking of the outer movements. Unlike the playing in the first movement, the four parts are brought together and the last quaver of this repeat is the start of consistent chordal structuring using interlocked major thirds with added perfect fourth. All possible tonal triangles are used and there does not appear to be a

regular pattern. However, this type of progression results in multiple fifth/fourth shifts. These chords are different to those used in the first version which employed interlocked tritone with major third and added fifth. This progression is almost cyclic as the last two chords repeat the second and third. In fact, there is not so much difference in the makeup of the chords in the two versions of the passage as until the last bar, whole tone replacement effects the change e.g. C G# A is common to both opening chords and D is replaced by E in the final version. There is no clear reason why Bridge uses the tonal triangle instead of the interlocked tritone/major third except that the former is more obviously symmetrical and like the final chord of the piece.

In the final version, the progression ends on a C major triad over F# in the bass. This is the same sort of structuring as used at the start of this playing of the first subject, bars 412(2) - 414(1). The section ends with a return of introduction material, bars 426 - 429. The theme is initially played by the 'cello, D G# A G#. These pitches were used chordally at the end of the previous playing of the introduction, bars 348 - 350. This is a subdominant version of the theme and this is the first time that the idea has not been played on its original Bb/E axis. However, it is accompanied by the dominant axis pitches in the violins and the viola plays a version of the original version in the following bars. D/G# and E/Bb are pitches from the overall tonal architecture with a D#/A symmetry.

Most of this introduction material is the same as that in the first version but then the passage opened with a D to G# outline, the reverse of the final version. This is because the previous chords came to rest on a bass G# and Bridge chose to interlink the two passages initially.

Greater unity is achieved in the finale by the reintroduction of material from the second movement at this point, bars 430 - 447. This originally began in bar 81 of the preceding movement and was the new material put into section A2. To start with, the present playing is tonally like its earlier counterpart, at the interval of a major third. The repeat lasts for eight bars and then there is a continuation of ten bars which is new material. The more important tonal pitches of this section form the 341 structure of the main motive. [D is extra to this.]

Figure 132.

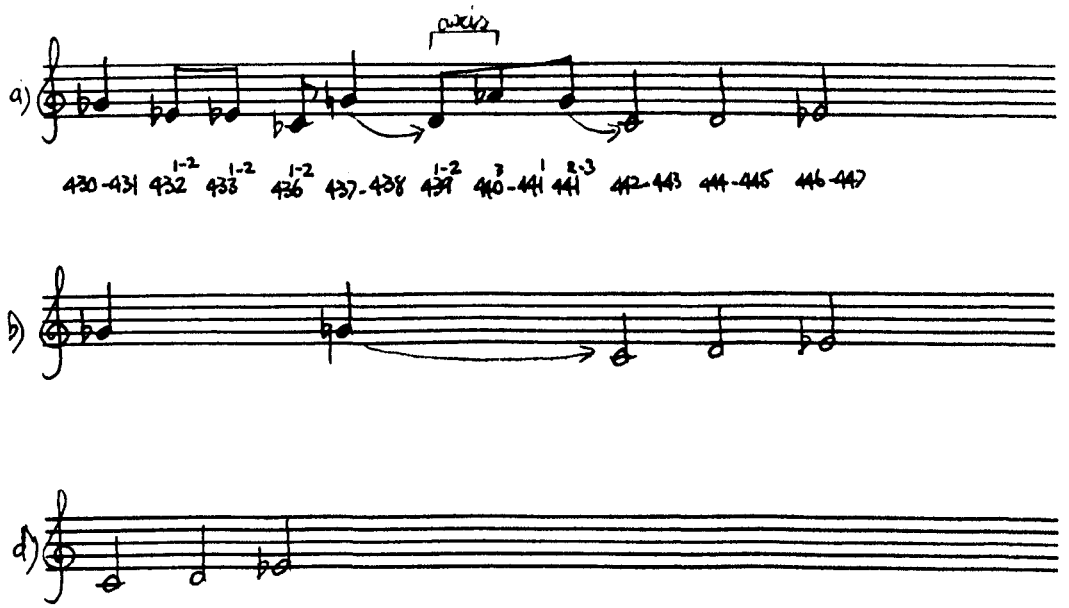
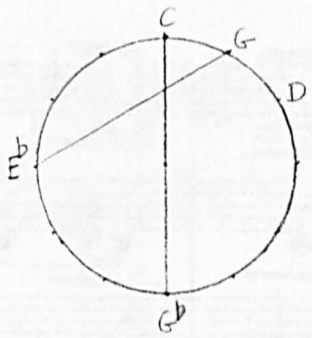


Figure 132 contd.

c)

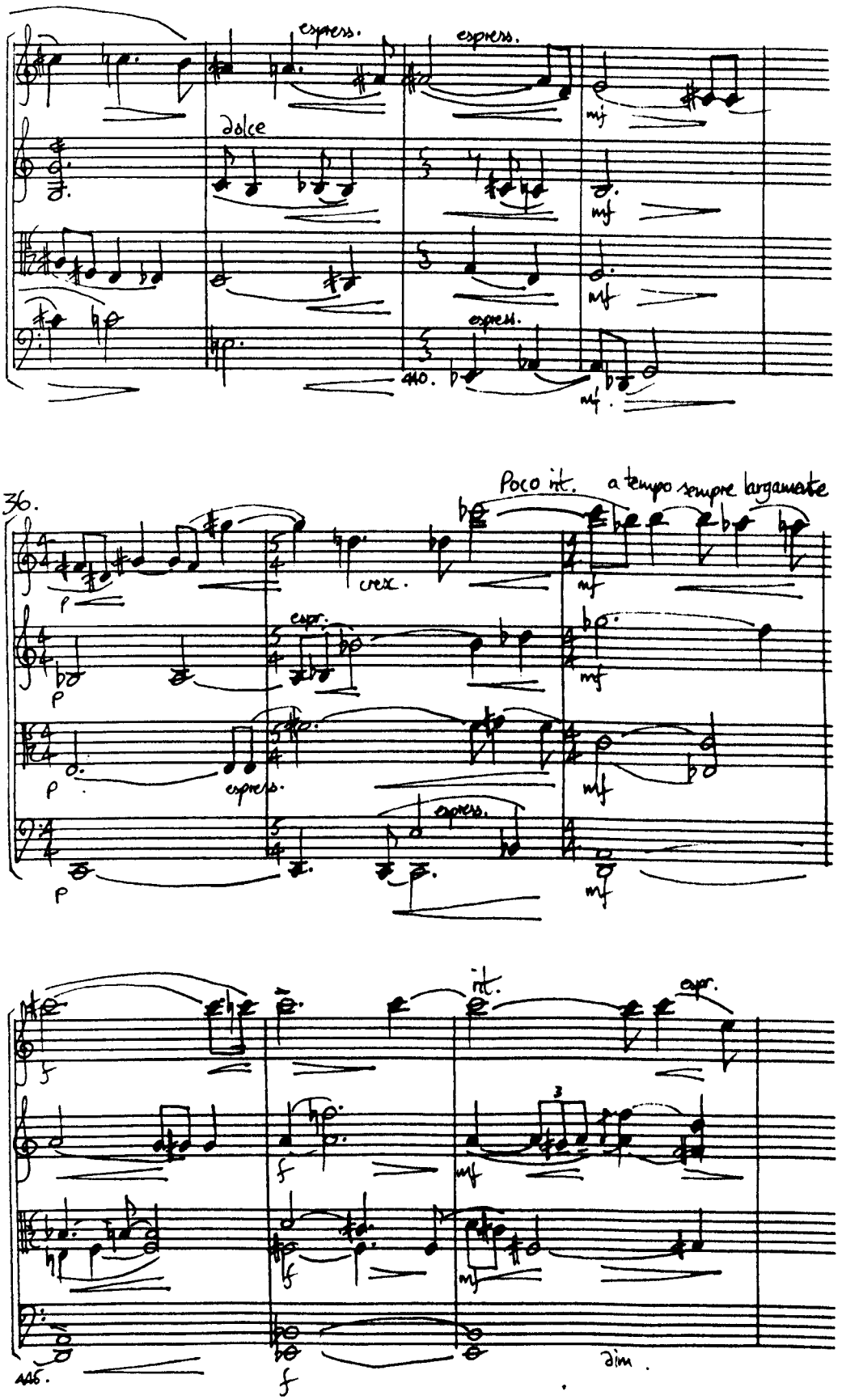


From the above example it is clear that the passage of continuation is tonally more clearly defined, C D Eb. Were this to continue with the symmetrical ordering, F would follow at the start of the coda but this is replaced by F#.

The continuation, bars 438 - 447, contains some significant structuring.

Figure 133 overleaf.

Figure 133.


espress.
espress.
dolce
mf
espress.
mf
Poco it. a tempo sempre largamente
36.
cresc.
espr.
espress.
espress.
it.
espr.
dim.

The opening 'cello fragment in 437 - 439, C# C E, returns in violin 1 at the end of the passage. Because it is used to point to the extremities of the passage, an importance is denoted. Its use of thirds and semitone relate it to the quartet's main motive - C# C E can be rearranged as C# E C C#

3 4 1

The 'cello leads to Eb which forms a symmetry in the sounding order of these four pitches, C# C E Eb = 141. Eb is the start of fifth/tritone structuring in the 'cello in 440 - 441. Eb Ab Db G have an intervallic makeup that has been frequently used for forming chords, interlocked tritone/major third with added fourth/fifth. The progression continues onto C in 442 and this is put with E/Bb in 443. The resulting tritone/major third derives from the overall tonal architecture of the quartet and they were important at the start of the first movement. The 'cello line continues the fifths, now sounded together instead of consecutively, DA leading to EbBb. All the bass fifths in 440 - 447 have symmetry round the subdominant F when placed on the circle of fifths.

The B A# F# E played by the viola in bars 437(2) - 438(2) returns the 142 structuring that featured at the beginning of the second movement. Bridge higlights it here by marking it espress.. Semitonal writing is added at the end, to 439. Bars 440 - 443 are based on an arrangement of semitonal division of the E G# major third. E F# and G# are particularly prominent at the end of this viola line, pitches from the overall tonality. The first two of these pitches are more

important in the context here which reflects the tonal architecture as E and F# feature particularly in the outer movements of the quartet and G# is important in the second movement. The viola line in the rest of the passage is based on a line of symmetry round D, 444 - 447. Notably, the final two pitches, F# to G#, are passed on to the outer parts at the start of the coda.

Violin 2 in bars 439 - 447(3) is based on the FAC# triangle, which anticipates the final chord, the same structure. The first five bars divide the AC# third semitonally and tha last four form a 121 division of FA. This latter third leads to DF# which links to the F# of the coda.

The coda lasts for eleven bars from 448. Tonally, it is very clearly defined at the start but the music shifts semitonally in due course, from F# to G, as a result of a bass version of the main motive. These are the only two tonalities used as the music returns to F# in the closing bars. The two pitches represent the most important tonality of the quartet and the dominant centre of symmetry.

Figure 134.

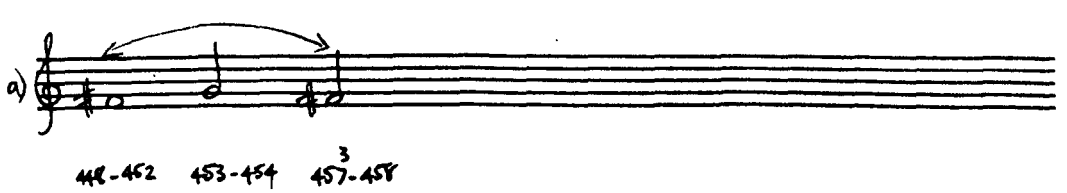
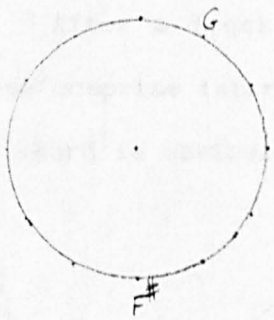


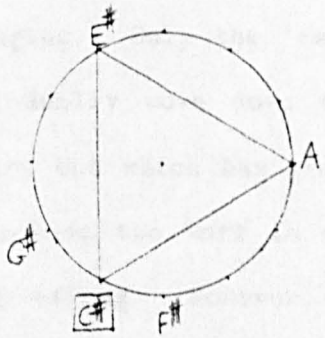
Figure 134 contd.

b)



The section begins chordally, with the structure that will end the work. This lasts for one bar and incorporates tonic/dominant duality in the F# tonality and C# as the chord's centre of symmetry.

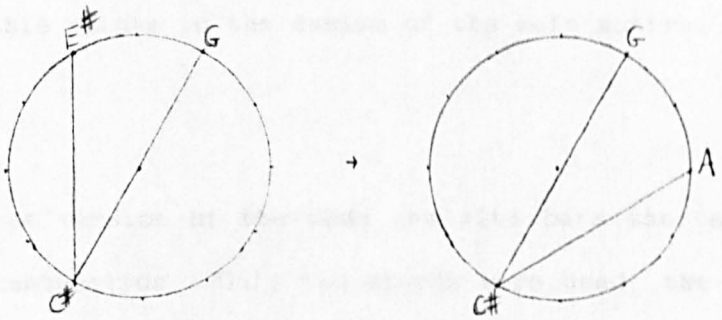
Bar 448



It is the addition of the fourth and fifth to C# that result in a centre of symmetry. The progression continues unbroken until the end of bar 452 with a series of chords based on interlocked major thirds which alternate tonic and dominant as centres of symmetry, apart from one instance of subdominant symmetry in bar 450. Most of the chords include tritones; only the first chord, which is repeated in 451(2-3) and 452(1-2), omits counterpole relationships which results in a

single pitch at the centre of symmetry, C#, rather than the rather ambiguous pole/counterpole. After a break in 453, different chords are introduced in 454. These comprise interlocked tritone/major third but their link to the final chord is obvious -

Bar 454



There are no further chords until the last bar and a half when the quartet closes with a different spacing of the chord described in bar 448. This chord is much used in 448 - 458 but the placing of the parts is continually changing. Only the 'cello F# remains constant. The three upper parts gradually move down towards it and end on a chord that sounds less airy but which has greater strength of timbre. This chord appears to conclude the work in an unambiguous manner as the F# in the bass is so strong. However, as mentioned above, the chord is made up of pitches which, when placed on the circle of fifths, form a symmetry round C#. This means that the dualism of tonic tonal pitch and dominant centre of symmetry, which was presented at the start of the quartet and which is inherant in the overall tonal architecture, is maintained right to the end. The pitch at the centre of symmetry is different to that at the beginning; Fb/E has become C#.

The 'cello breaks down the main motive of the quartet in the closing bars, 453 - 458. This foreshadows the removal of the tritone from the structuring of the final chord. Also, the second violin fragment in bars 454 - 456, which is marked espress. as an indication of its importance, plays E# A C#, the fundamental pitches of the final chord. All this points to the demise of the main motive.

The first version of the coda was five bars shorter and rather simpler in construction. Only two chords were used, the first two of the final version, bars 448 - 449(1-3). The first chord was then repeated and sustained. The main motive was less prominent in the 'cello too.

The finale presents the same overall tonal progression, C to F#, as the first movement. Bridge chooses to highlight this by making much overt reference to the thematic material of the earlier movement. Such a finale, particularly in rondo form, might easily become repetitive but this is not the case here. Apart from the opening section, all the other uses of previous material are in a new tonal context, as indicated at the start of the discussion of the finale. In particular, there is a move towards the subdominant, important in the second movement, for material from the first movement. Third movement material, on the other hand, gradually moves towards the two tonic tonal pitches of the first movement. For instance, the playing of the introduction of the first movement in bars 339 - 351 and the

reintroduction of that movement's first subject in bars 412 - 429 are both tonally based on tonic with subdominant pitches. The intervening bars, 352 - 411, rework sections A and B of the finale and these are based on E and F# respectively, both important tonal pitches in the first movement. The reintroduction of part of the second movement in bars 430 - 437 implies a IV - I tonal progression at the end of the movement. The second movement was constructed round a subdominant axis progression from D to G# and the replaying of some of its material recalls its tonality. However, this playing is more tonic based which leads neatly on to the F# of the coda.

The first movement appeared to resolve the tonal discourse at the end. There is an unambiguous F# in all parts in the last bar. However, this was clearly not the solution that Bridge wanted. The second movement ends in an equally clear way, on G#. The finale is less straightforward as it does not end on a single pitch. The final chord is based on F# but the other pitches form the dominant symmetry mentioned above. The makeup of the chord comprises two tonic axis thirds, A and F#, and two subdominant axis thirds, G# and E#. C#, the only dominant pitch and the centre of symmetry, lies at the centre of the two sets of axial thirds. The chord results in conflict as there is uncertainty as to which pitch is the more important, the root or the centre of symmetry. This kind of ambiguity features throughout the quartet. The final chord also suggests that the dominant forms a link between tonic and subdominant. This is actually the case, in one respect, on the circle of fifths, where G links C and D, for instance.

This concept of the dominant as link is pointed to in the middle of the finale, bars 181 - 273. This comprises two sections, the second subject of the first movement and the combination of first subject from the first movement with section A of the finale. The first section is based tonally on C and C#, tonic with dominant. The second section is based on D with Db, subdominant with the same dominant in enharmony. C and D are important tonal pitches in the movement, they feature together in bars 102 - 351 and 430 - 447. Tonic and subdominant are the tonal areas of movements one and two respectively and Bridge is clearly working at unifying the structuring in the quartet by bringing them together in the finale. This explains the considerable use of earlier material in the finale but it also explains the way that the quartet ends. The final chord, in balancing tonic and subdominant pitches around a central dominant is pointing to the role of implied dominant symmetry in the quartet, as a way of linking the two areas. The fact that this chord does not achieve a complete resolution on F# points to the fact that aspects of symmetry had become more important, as important as tonal structuring.

The third quartet represents a considerable advance on its predecessor. In fact, there is more dividing these two works than any of Bridge's other works for the medium. However, the methods used in structuring this work do not represent a break with earlier ones. For instance, tonality is still very much part of the underlying construction although the virtual removal of diatony allows for greater freedom. The balancing of diatony and chromaticism in the G

minor quartet was a rather restrictive concept. The combination of chromaticism and tonality in the third quartet required considered ordering and it has been very clear that Bridge has used symmetry to bring this about. Symmetry is frequently broken to increase tension and to create more possibilities but its underlying presence is much in evidence. Two aspects of diatony that Bridge retained are the fourth/fifth relationships and conventional triadic chords but the context is new and this points to their inherent symmetrical properties. Sequencing also exists but it is less reliant on tonal repetition and lasts for shorter spans.

The most markedly different aspect of the style is the thematic writing. Gone are the broadly sweeping lyrical lines. This is replaced by motivic writing and the work is partly unified by a recurring motive that is initially presented in the first subject of the first movement. Longer thematic lines can be explained as a series of thematic fragments. This style of thematic construction is inevitable in a more chromatic language where intervallic relationships bind disparate elements together. In fact, as the above discussion has shown, many seemingly separate ideas are intervallically the same or very similar.

The repetition of material from one movement to another is an obvious way in which Bridge unifies the quartet. This is a tried and tested method for him. The use of a short motive to bind all three

movements is new for Bridge, especially as the intervallic makeup of the idea, 341, is used to create chords too. This became apparent from examining the first version of the quartet and it explained that the paired triad chords were significant for their inherent 34743 symmetry but also for their implying two 341 constructions. Unity of expression seems to have become even more important for Bridge; the finale reworks much earlier material and eventually links between thematic structuring in the three movements are revealed. For example, the return of second movement material near the end of the finale, bars 430 - 447, also refers to first movement structuring. The repetition of previous material blurs formal distinctions.

The passages that lack tonal definition are longer than in the preceding quartet and there are more of them. Similarly, the passages of radical chordal structures are longer and there is a tighter logic. As in the G minor quartet, Bridge is balancing tonal centre and centre of symmetry. In the former, this is represented by G as the tonality and A/Eb as the axis of symmetry. In the third quartet, F# is the most important tonality, as the goal of the work and this has a tonic function. The dominant provides the centre of symmetry. Initially, this is expressed as Fb which lies at the centre of the overall tonal architecture. It features with Bb as a structuring device at the start of the first movement. However, in the course of the work other dominant pitches lie at the centre of symmetry and the final chord places C# at the centre. This forms a conflict of a perfect fifth with the F# of the tonality.

There is more evidence in the present work of Bridge using conventional structures for their symmetrical properties by placing them in a more radical context. One new aspect of symmetry is the use of the octatonic scale which is most used in the second movement. Pentatony as a symmetrical ordering is removed and although whole tone relationships abound it does not form the basis of scalic construction.

The first version of the quartet has proved to be a useful source of study. Bridge's dismissal of this as being "All wrong" is debateable as most of the material was retained. Most of the changes were refinements, many of them rhythmic. The final version has greater spaciousness. However, most of the pitch ordering is contained in the earlier version. This is a unique document in terms of his quartet output. Apart from a few sketches for the G minor and fourth quartets and the workings for the quartet that was abandoned between the last two quartets, there is no evidence of Bridge's compositional methods. The first version of Quartet No: 3 is the only substantial working document that exists in his quartet output. The fact that Bridge chose to revise the work may indicate his concern with his evolving style. The fact that most of the alterations are rhythmic and result in greater spaciousness suggests that the more motivic language was posing certain difficulties for him in not providing the natural flow that characterises the earlier works. The abandoning of the next quartet, H187 in Hindmarsh's "Thematic

Catalogue", supports this. The revision also points to Bridge's concerns with achieving the best possible results.

Although the analytical method used in the discussion of Quartet No: 3 evolved during my study of the earlier quartets, it has been equally suited to discussing the construction of this later work. At no time was the method imposing constraints on the explanation. On the contrary, it has clarified much of Bridge's working. The fact that one analytical method can be used to describe events in music from differing periods of a creative life and embracing different stylistic elements seems to support the view that Bridge's style was evolutionary rather than revolutionary. The placing of tonal pitches on the circle of fifths has resulted in an explanation of pitch relationships in terms of the conventional tonic, dominant and subdominant. Tonal progression has fitted easily into these categorisations despite the fully chromatic language and therefore supports the view that Bridge was concerned with tonal issues at this point in his output too. Pole/counterpole relationships that result from this way of organising pitches and the inherent symmetry of the arrangement led to an examination of other aspects of symmetry in the writing and this has proved fruitful. Much of the inner working can be shown to be constructed from intervals of symmetry and it is this aspect that has drawn together many seemingly disparate elements. Prominent thematic and harmonic moments have been shown to link with important tonalities and this has clarified the way that Bridge has unified his musical expression in Quartet No: 3.

Conclusion

Another ten years separate the last two string quartets. However, this time the gap does not incorporate such stylistic development as between quartets two and three. This is not surprising because the second two decades of the century had been a time when Bridge was developing his highly personal idiom. The second quartet presented aspects of the old and new orders most clearly, the third quartet brought the more radical elements to greater prominence. It was, perhaps, inevitable that Bridge would continue to develop this latter style in subsequent works, not least because his age and declining physical strength legislated against stylistic revolution. Relatively few, but significant, works were written in the years leading up to the fourth quartet. They include the Rhapsody for two violins and viola, the Piano Trio of 1929, "Oration", "Phantasm" and the Violin Sonata. The small output may have resulted partly because he was involved in frequent concert engagements as conductor and mentor during the late twenties and early thirties. Often, these concerts incorporated performances of his own works, for the twenties had been a very fruitful period of composition.

Bridge's health deteriorated markedly from 1930, a factor which must have delayed work and sapped his physical and mental energy. In addition to this weakened physical state, Bridge suffered periods of depression and frustration, largely brought about by savage critical reviews of performances of his new works. The somewhat reactionary musical press of the day possibly resented the lack of an 'English' quality in Bridge's music and his unwillingness to be involved with "the degradingly necessary wire-pulling to obtain recognition" <1> meant that his music was regarded at least with suspicion in most influential quarters. Had Bridge been a more adept verbal communicator, such critical responses as that given below might never have appeared -

"It is not easy to explain Bridge's decline as a composer. What seems evident is that he has made common cause with the advocates of modernity and put technical interest before aesthetic pleasure. He may object, of course that the fault is with us, in being unable to pierce the shell and get to the kernal; that the future will justify him and reverse our verdict. This may well be so, but my impression is that he is bartering a noble birthright for less than a mess of pottage. He can still arouse and keep alive our interest through his ability to employ modern harmonic devices and to extract from the medium all that it can give. But there is little sustenance in this music; at best it is exhilarating, but never nourishing." <2>

Other commitments and declining health are two possible reasons why fewer works appeared at this time. They may also partly explain

the slowing down of creative development. However, this is not the complete picture. The second string quartet was written at a time of burgeoning stylistic awareness, the third at the height of his creative powers. These two works enclose this period of development but, perhaps inevitably, his creative growth could not carry on apace. It seems that Bridge found it hard to come to terms with this, as borne out by remarks made to Mrs. Coolidge in letters and by exasperated ejaculations which appear on some manuscripts. His increasing difficulties are indicated by three abandoned projects in the middle thirties, a fragment for solo instrument with accompaniment [dated May 4th 1934 and annotated "O effort!"], the beginnings of a viola sonata [c. 1935 - 1936] and sketches for a string quartet movement. Of the latter, Bridge wrote to Mrs. Coolidge -

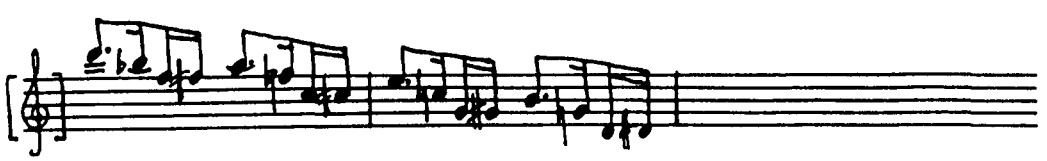
"I wanted so much to send you something that the South Mountain Quartet might play for you, but the damned thing won't go where I want it to, and as fast as it progresses I slash it to bits and begin again. A very tiresome and wearisome business it is to create one day and destroy the next. Even more annoying when alternate days become alternate weeks." <3>

Whether the quartet movement was abandoned purely because of these difficulties or because of illness is not clear, but during his subsequent convalescence, he worked on what was to become the fourth quartet.

The movement sketches are numbered H 187 in Paul Hindmarsh's "Thematic Catalogue". <4> They consist of forty-four sides of working

on a number of types of manuscript paper. The sheets have been numbered 1 to 27 although there is no clear evidence to suggest that this is a chronological ordering; in fact, sheets 5, 20A and 24 have similar working. Nor is there anything here to suggest that this comprises all of Bridge's preparations for the new work. H 187 does show the way in which motives were developed and put with other ideas. The processes are very reminiscent of those found in the third quartet. The idiom is very chromatic and there are few tonal anchors. Intervals of symmetry are discernible in the thematic and harmonic structures. In fact, there is no purely conventional working in these pages although there are aspects of diatonicism. For example, on page 6A one motive is treated to conventional sequencing at the interval of a fourth.

Figure 1.



This is the only clear example of overtly conventional structuring.

There is no indication in these pages of the overall tonal architecture of the movement or of the projected work which means that it is impossible to place these workings into a wider context. In addition, there is little tonal reference in the individual passages. Two exceptions occur on pages 17 and 20A where pedals E and Eb

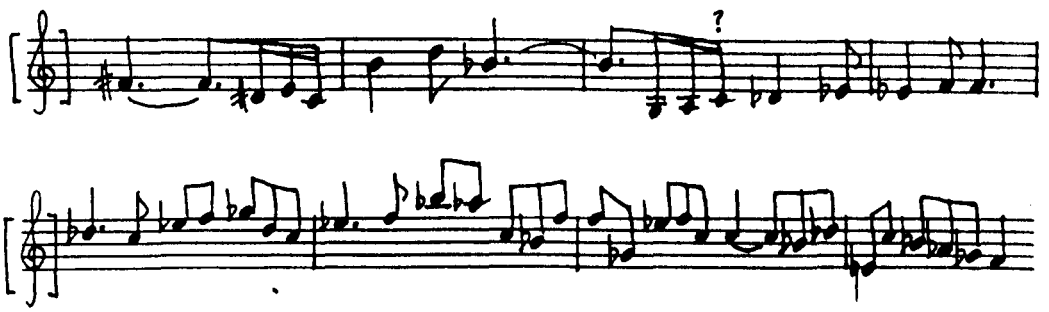
underpin the writing. This is a transitional approach to tonality, where an individual pitch forms a tonal reference. It is not supported by diatonic writing or by conventional harmonic progressions.

Much of the working of H 187 is contrapuntal. The chordal structures that occur are sometimes conventional triads but these do not form part of a conventional progression. The occasional use of a triad in a radical context is hard to explain other than by saying that Bridge was aiming to draw together the radical and traditional elements of his style. This is evident too in his approach to sequencing. There is not much in these pages but on the first page there is a three note motive which begins on C#, E and G, axial thirds.

No conventional diatonic themes occur here, as one would expect, but there are two examples of more flowing writing. This is redolent of early Bridge works but the context is chromatic. Neither theme is given much attention as both are confined to a few bars on sheets 10A and 13A.

Figure 2 overleaf.

Figure 2.

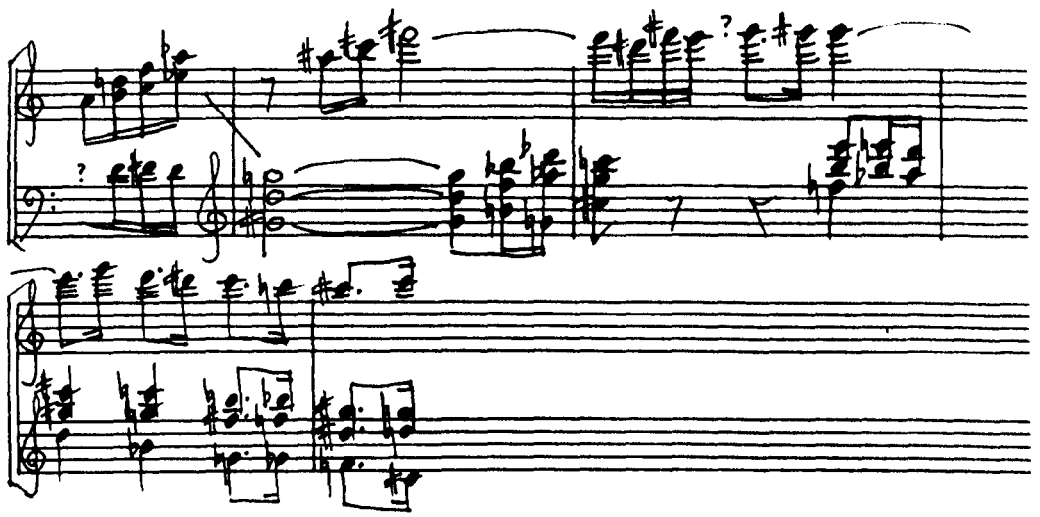


Much of H 187 is fully chromatic and therefore on many occasions there is no sense of tonal reference. Bass line pitches which have a tonal function are short lived. In addition, the contrapuntal texture and motivic writing give the music a sense of onward motion which goes against tonal stability.

Where chordal writing occurs, much use is made of the sort of radical structures found in the third quartet. Following the presentation of the motivic material on page 1, the texture becomes chordal in the lower parts on the third beat of the second bar.

Figure 3 overleaf.

Figure 3.



Following a diminished chord on B, a structure incorporating two versions of a pitch with perfect fifth/tritone is used. This is a new chordal structure although the conflict of fifth/tritone dates back from the period of the second string quartet. This is much used in the rest of this passage, with paired augmented/perfect fourths, minor third/perfect fifth and perfect fourth/major third.

Bar 2

BDF → F F# C → D Eb Ab →

Bar 3

G G# D → Bb B F → G Ab Db →

Bar 4

C C# G → E F B →

Bar 5

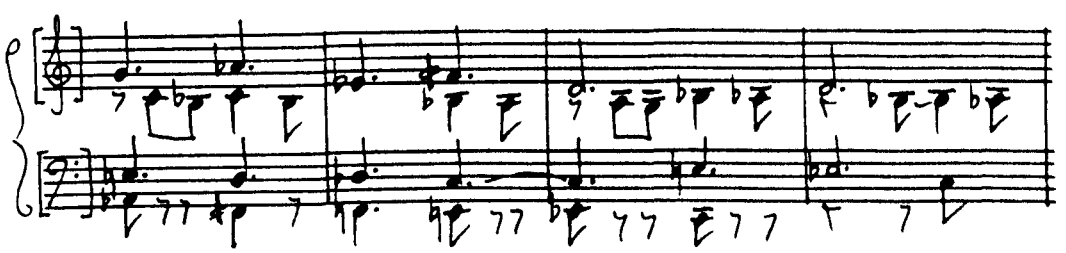
C# D G# → Bb C G → F# G B → F Gb Bb →

Bar 6

F G# D# → C# D G

Page 14 contains a four part chordal texture. There are four attempts at the start of this passage, the opening bar being constant. I quote the most extended attempt, possibly the third.

Figure 4.

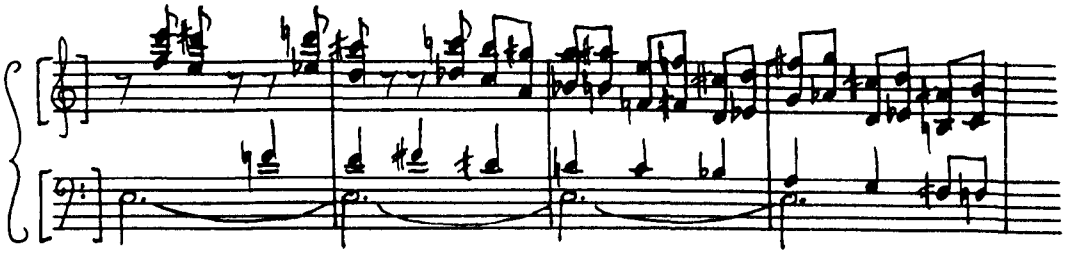


As is typical of Bridge, the structures gradually reveal themselves and then slide from one to another. In the first bar, a chord of interlocked major thirds is implied on the first two quavers, C E Ab. G is extra to this but forms part of the diminished chord on the last quaver of the first beat. The two tritones at the beginning of the

second beat, C/F# and D/Ab, incorporate major thirds and imply a symmetry round the tonal area of the preceding diminished chord. The bar ends with another diminished chord, based on the D/Ab axis. The rest of the passage uses similar structures as well as whole tone chords, added fifth chords and interlocked tritone with major third. Fourths or fifths are sometimes added to the basic structure.

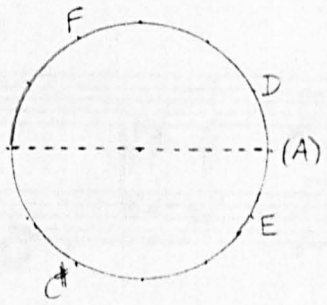
Another chordal passage occurs over the pedal E in the bass on page 17.

Figure 5.



Two types of structure recur in the passage, added fifths and interlocked tritone/major third. Some chords are not like this and one such occurs at the beginning of the second bar. It comprises two minor thirds, F D and E C#, which also form a major third, C# F, and whole tone, D E. On the circle of fifths, these four pitches form a symmetry round the A/Eb axis.

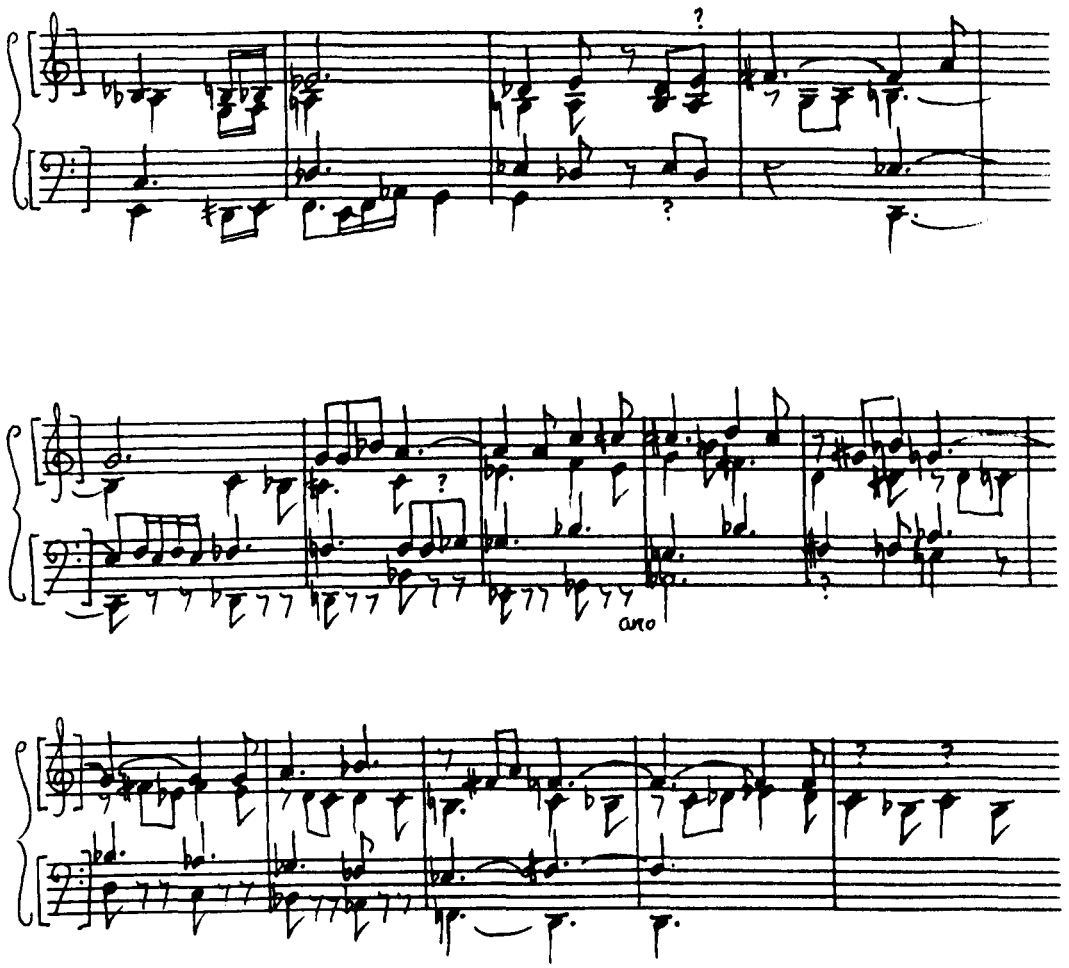
Figure 6.



Page 25 is the first of three large format twelve stave sheets. Previously worked thematic material features here which indicates that this new type of paper contains working for the quartet movement. However, page 25 also introduces new material which is in a more flowing style. This suggests that this might be an attempt at a second subject. The texture is quite chordal.

Figure 7 overleaf.

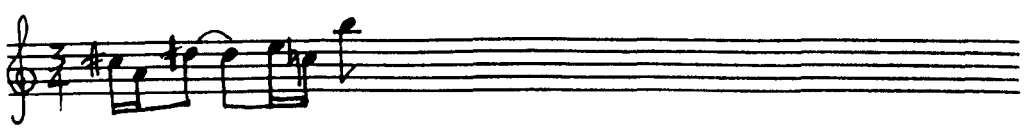
Figure 7.



Most of these chords use some combination of major third with tritone. Sometimes these interlock. A few chords put two tritones together and some structures include an added fourth or fifth. At times, the harmonic flow is stemmed as a structure gradually unfolds instead of being presented on the beat.

The thematic writing in the sketch is largely motivic, which is to be expected following the third quartet. It is impossible to define the themes fully as they are not part of an overall tonal context. However, the sketch is dominated by one motive which is presented at the beginning of page 1.

Figure 8.



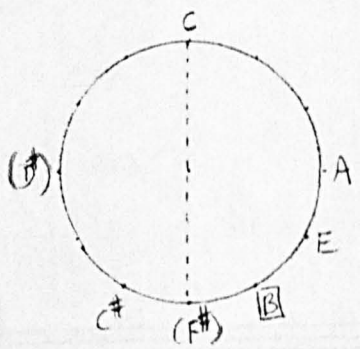
This idea features on most of the pages although not always exactly as above. On many occasions the final note is F# instead of B. This results in two patterns of interlocked major third with tritone, C# A D# and E C F#. Yet another version occurs on page 10, played by the 'cello. This starts as a counterpole version of the original, starting on G. The second half is a perfect fourth below the original version which ended on B. A markedly different interpretation of the motive occurs on page 17A.

Figure 9 overleaf

Figure 9.

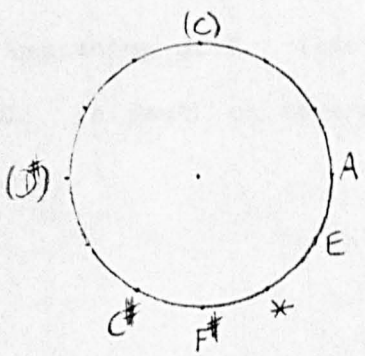
None of these versions of the motive are overtly symmetrical although they are based on intervals of symmetry. However, there is an implied symmetry in all of them if counterpole replacement is accepted. The version presented on page 1 has an implied symmetry of added fifths round B if F# replaces C. D# can be explained as a counterpole of A.

Figure 10.



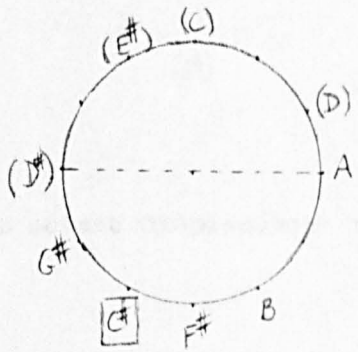
The version which ends on F# also has an implied symmetry of added fifths round B.

Figure 11.



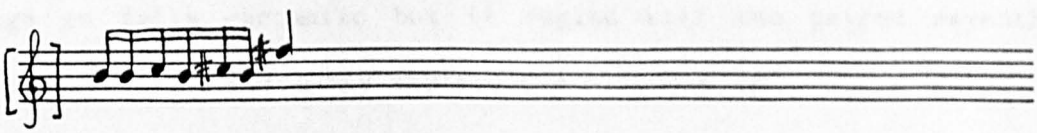
The version from page 17A has an implied symmetry round C# on the circle of fifths.

Figure 12.



Another much used motive employs repeated notes.

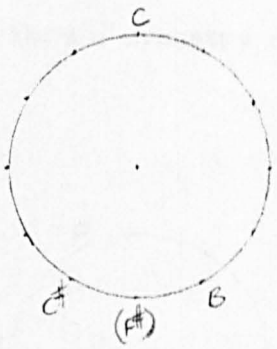
Figure 13.



This is a continuation of the opening motive and it is first introduced on page 4. Although it is started on other pitches, it is most frequently played beginning on B. This has a clear symmetry of added fifths round F#/C. In fact, on several occasions, the motive leads onto to F#, as above.

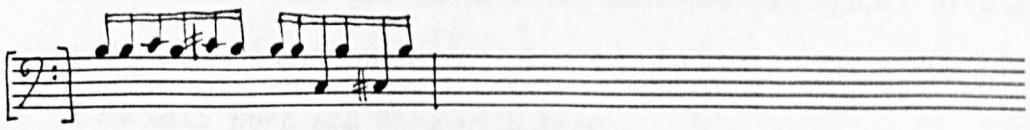
Figure 14 overleaf.

Figure 14.



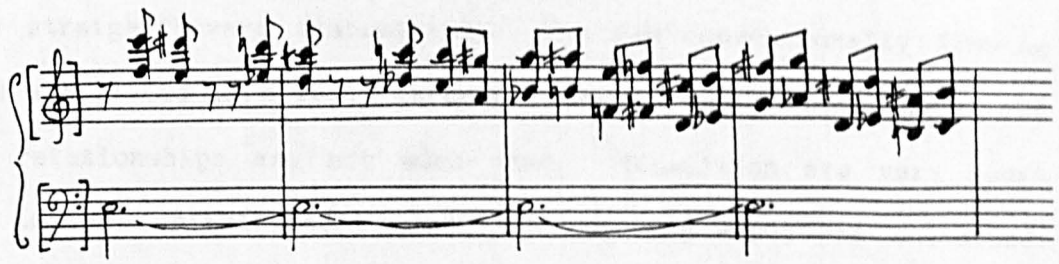
The motive is subject to octave displacement too.

Figure 15.



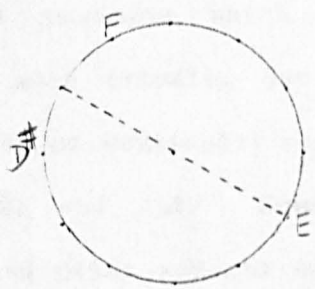
It is possible that this chromatic motive links to the passage of consecutive major sevenths over the pedal E on page 17. The complete passage is fully chromatic but it begins with two paired sevenths separated by rests which may explain the structuring.

Figure 16.



The first pair of sevenths form a symmetry round E/Bb.

Figure 17.



This kind of symmetrical arrangement clearly links back to the repeated note motive. The paired sevenths continue throughout with an overlapping from the last quaver of bar 2 to the end of the first beat of bar 3, A/G# with Bb/A and Bb/A with B/A#.

Certain general conclusions can be made concerning this abandoned quartet movement on the strength of these brief observations. Clearly, Bridge was continuing in the same stylistic direction as the third quartet. There is an apparent combining of conventional and radical elements in these pages although, like its predecessor, there is no straightforward diatonicism. The few conventionally flowing themes are placed in a fully chromatic context and perfect fourth and fifth relationships are not much used. Tonalities are very short lived and are established by bass line pitches which are sustained. The upper lines do not reinforce the tonality but move chromatically. Much of the writing avoids tonal definition and the thematic writing

as a result is mostly motivic. What does emerge from this portfolio is the way that Bridge worked on thematic ideas, changing their rhythmic emphasis and joining them onto second ideas. Most of the pages consist of short passages which are subject to various alterations. There is much crossing out and changing of detail. There is only one instance of continuity and this starts on page 20A and continues through 21 and 21A. However, Bridge was clearly dissatisfied with this and other aspects of the work and it was put aside in due course.

Following his illness in the autumn of 1936, Bridge seems to have recovered some of his creative powers and the fourth quartet was written fairly quickly, in about seven months. The work was completed on 6 November 1937. Like a number of the late chamber works, it is dedicated to Mrs. Elizabeth Sprague Coolidge, who was able to arrange its first performance at the 1938 Berkshire Festival. Bridge was very pleased with this performance -

"The Gordon performances were as near 100% as any composer could wish ....." <5>

The critics were kept away by bad weather, but this performance, coupled with the award of the Berkshire and Washington Coolidge Medals for services to chamber music, ensured that his last visit to the United States was entirely successful.

Like its predecessor, it is in three movements, a sonata allegro, a minuet and trio and a simple rondo prefaced by a fairly lengthy slow introduction. Twenty-one pages of sketches remain for the work. They appear to be early workings in the main as, although the pages are clearly identifiable as the fourth quartet, not much of this material was used in the final version. Like H 187, most of the pages comprise several workings of an idea. Like the previous sketch, too, although the pages are numbered, there is no evidence of chronology; in fact, some of these sheets are clearly misplaced in these terms. Most of the working is for the first movement but sheets 1A and 2 comprise the beginning of the second movement. Page 2 works out various alternatives for bars 2 - 4. Bars 6 - 23 are then apparent, very like the final version. The bottom line of the page contains bars 45 - 48 of the second movement which connects with page 1A which presents bars 24 - 43. These two pages present bars 1 - 48 of the second movement, without bar 44.

Page 11 is an early draft of bars 141 - 150 of the third movement. This too is very like the final version although Figure 21 in the sketch becomes Figure 24 in the final work which suggests that various additions were finally made. Pages 4 and 4A comprise bars 158 to the end of the finale. The final version had some different part writing but otherwise the two versions are much the same. There are one or two instances in the sketch where only the bass pitch is written, rather than the full part writing. This suggests that Bridge had decided on the format and was hurriedly rewriting. The

implication here is that other working manuscripts existed which have now been lost. Page 2A is something of a mystery. This does not have an obvious connexion to the fourth quartet and so the conclusion is that it was either abandoned altogether or that it was for another work.

The rest of the manuscript is working for the first movement, the introduction and the first subject. Page 1 is possibly a later working than the number suggests as this links to pages 3 and 13. All three pages are trying out ideas for the first subject, some of which were eventually used from bar 7. On page 3 there is a considerable passage on a pedal D; similar writing occurs on pages 3A, 5A and 7. Nothing so overtly tonal occurs in the final first subject although there is similar writing put later, towards the end of the transition, bars 74(3) - 80(1). Part of the coda of the first movement, bars 300 - 305, are also built over a recurring D in the bass.

Page 3A works on introduction material. This is quite similar to page 5 and as both are very like the final version, it is likely that these are later stages of working. The opening motive is presented on A although the pitch content overall is much the same as the final version on F#. However, the latter is symmetrically based which the sketch is not. Page 5 may be an earlier attempt at this material. Here the motive is presented on E, the pitch most used for trying out the idea on these pages and as centre of symmetry of the final version.

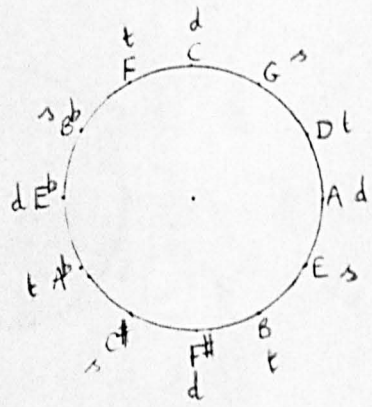
The continuation of the introduction is first seen on this page, including the Eb D figure in the inner part.

On page 7A there is working for the chordal structures for bars 3 - 4 and so this suggests that this might be an earlier draft. There is some clear writing in pen which suggests that Bridge was intending to use this but it was later abandoned. Page 8 also appears to be early working of the introduction as the second bar of the opening motive is missing. There is some trying out of the start of the first subject but the triadic figure that was eventually to be used at this point is not here. 8A, 3A, 6, 9 and 10 have similar working and therefore possibly form a group. The first subject working on 8, and also on 8A and 9, features an upper A. This important pitch, at the centre of symmetry of the quartet, was not given a prominence in the final version of the passage. 9A tries out the material in 9/8, the only occasion that 3/4 was not used but this version lacks the sense of urgency.

These 21 sides of working are clearly only a part of Bridge's sketches for the last quartet. Like H 187, they comprise various alternatives for particular passages and there is a sense of ideas gradually emerging. However, there is no indication of whether it is the final tonal architecture that governs them.

Like its predecessor, the fourth quartet not only has an overall tonal progression but each movement is progressive too. Whereas quartet number 3 had a symmetrical arrangement both within the movements, pole to counterpole, and overall, C to F# in the outer movements, quartet number 4 does not have this kind of symmetry in its tonal architecture. However, each movement has a tonal pitch progression that is based on an interval of symmetry, major third, minor third and semitone. The tonal goals of the three movements are different, D, E and D but the last of these must represent the true tonic of the work. If this is so, then all the main pitches of the three movements can be given tonic, dominant or subdominant status by placing them on the circle of fifths, in the manner demonstrated in previous works.

Figure 18.



The tonal progressions of the three movements are -

I	II	III
Eb → D	Db → E	C# → D

which means that the first movement has a dominant to tonic progression, the second is tonally cyclic but with the pitch progression of an axial third and the third movement has a subdominant to tonic progression.

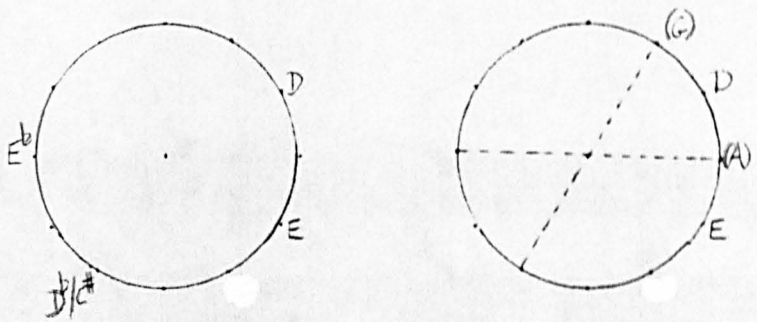
These pitches form a symmetrical arrangement.

C#/Db D Eb E

1 1 1

However, this collection of pitches may be an interpretation of a symmetrical order if counterpole replacement on the circle of fifths is accepted.

Figure 19.

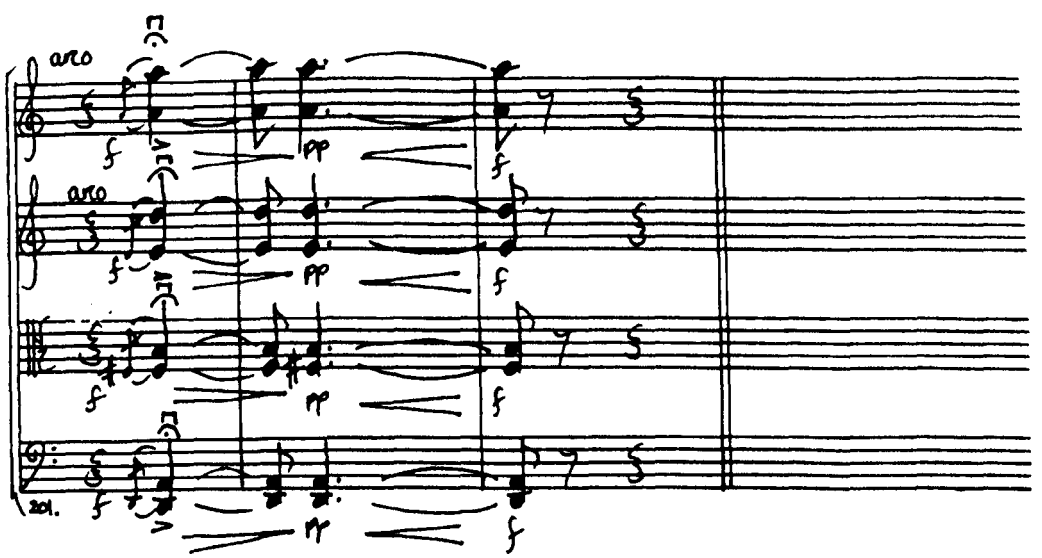


The replacement of C#/Db and Eb by their counterpoles highlights the conflict of perfect fifth/tritone that has been a feature of Bridge's writing from the G minor quartet onwards. The counterpole replacement means that just half of the circle of

fifths can be used to explain the overall relationships in the work and this concept can be used to explain significant moments in the quartet, as will be shown later. Counterpole replacement is a direct development of the overall tonal structuring of the third quartet which employed tritonal progressions for each of the movements.

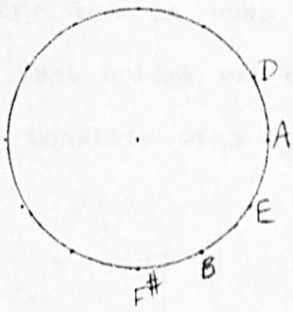
Another feature of the third quartet was the overt centre of symmetry which dominated much of the inner working. The final chord of the work was particularly significant as it was based on F# as the root and therefore as tonal base but the pitches, when arranged on the circle of fifths, formed a symmetry round C#, the dominant of F#. The final chord of the fourth quartet shows a similar dualism.

Figure 20a).



D is placed in the bass as the tonal foundation but the pitches are an arrangement of added fifths.

b)



This in itself reinforces the concept of counterpole replacement in the overall tonal architecture, which also produces an arrangement of added fifths. However, the final chord uses slightly different pitches which results in E being at the centre of symmetry. This means that, like the last chord of the third quartet, there is a dualism between the tonal base and the centre of symmetry. There is an important difference between the two works though. In the third quartet, the F# tonality and the C# centre of symmetry could not be divided on the circle of fifths as they are adjacent. A linear division results in asymmetry. In the fourth quartet, the D of the tonality and the E centre of symmetry can be divided in two ways, on the circle of fifths and as part of a linear arrangement. A lies between D and E on the circle of fifths and Eb lies between the two pitches when they are divided semitonally. The implication of this is that the work is constructed round two levels of symmetry, overt and implicit. This means that the fourth quartet continues the overt use of symmetry evident in the third quartet but also returns to an implied symmetry that was evident in the G minor quartet. The concept of both continuing stylistic development and returning to an older

method is manifest in other ways in the work, as will be seen. It also means that symmetry as a structuring tool is used in two ways. This suggests that symmetry has an even greater importance than before. It shows the way that Bridge was continuing to develop his ideas on the balancing of tonality with symmetry, traditional with radical.

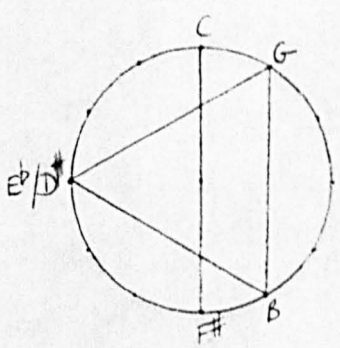
The symmetry of the overall tonal architecture, incorporating counterpole replacement, is therefore reflected in the D E dualism of the final chord which forms symmetry round A. This inner symmetry has a dominant function which has a closer relation to the tonic D than the E symmetry of the chord. It means that the inner symmetry forms a conventional relationship with D which draws the traditional and radical aspects of his language closer together. This raises the issue of the role of the dominant in this work. It features as a main tonality only at the start of the first movement. It is typical of Bridge to introduce important pitches and relationships at the outset. The other main tonalities of the three movements are subdominant or tonic. Also, D, as the main tonality, is tonic and E as the final centre of symmetry, of the final chord, is subdominant. Tonic and subdominant therefore seem to have a more foreward importance whereas the dominant, represented by the Eb/A axis, has more significance as a background structuring tool. However, there is a dualism in the fact that perfect and added fifth relationships abound in the work, most noticeably in the finale.

Within the work then, the dominant is an underlying structural force and dominant relationships an overt structuring tool also.

The most obvious use of the Eb/A axis as an underlying structuring tool is the use of Eb as the first most important tonality of the first movement. This is established and maintained by the viola pedal in bars 2(3) - 4. This is the only tonality in the introduction.

The first subject begins in bar 5 and a composite chord made up of B major and C minor triads accompanies the thematic idea. This chord has a symmetry round Eb, the pitch which is common to both triads, D#/Eb.

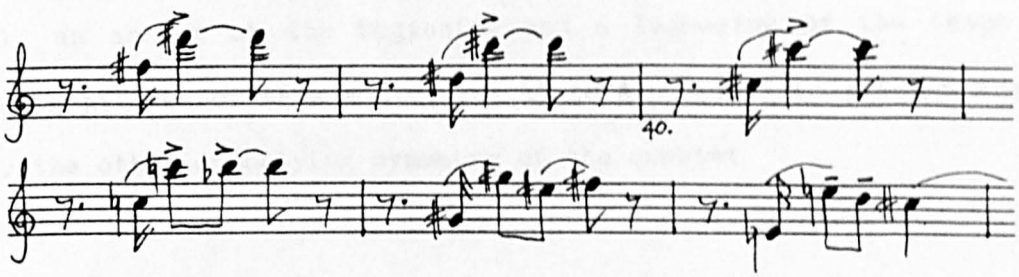
Figure 21.

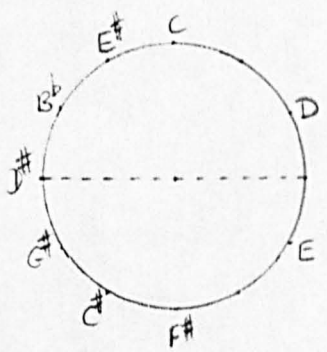


This links with the pedal in the preceding bars and also with the viola grace note in bar 6, Eb leads to D.

The middle part of the transition, bars 38 - 43, has a theme based on A/D# symmetry. Violin 1 has a new, fragmentary line based on rising octaves. All the pitches except two form added fifths from F# to C. The two exceptions are D and E.

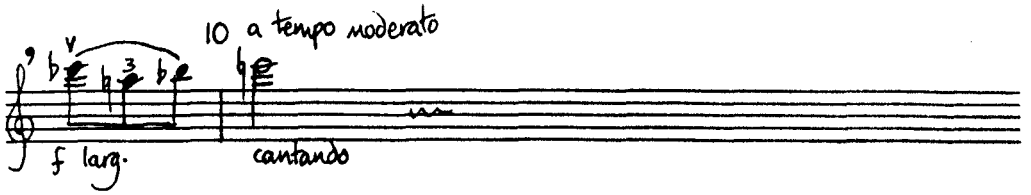
Figure 22.





An important unison motive occurs in violins and 'cello in bars 86(3) - 87(1).

Figure 23.

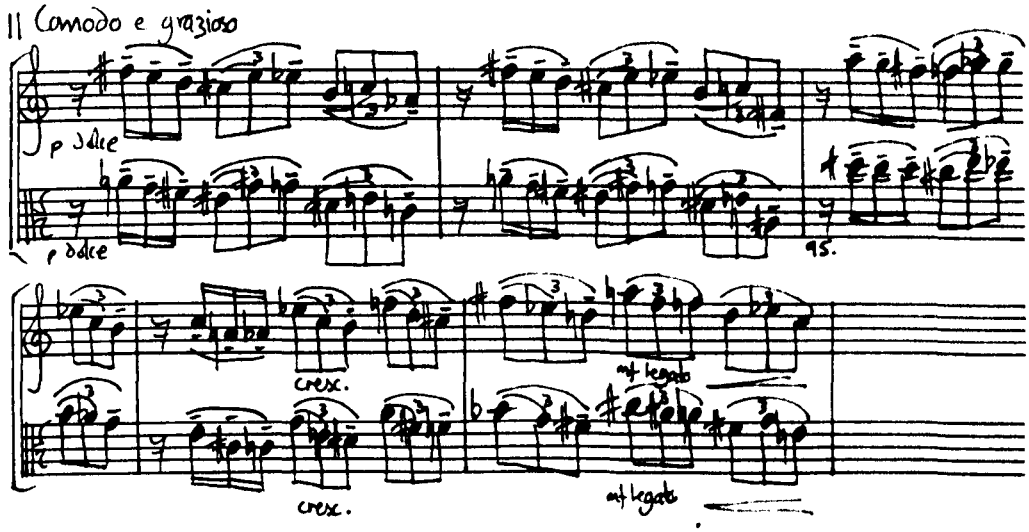


Octave doubling indicates the importance of this and it is further reinforced by a forte dynamic, a short break from the preceding material, an accent at the beginning and a lessening of the tempo. The opening pitches of this motive are Eb to A. The final pitches are Bb to E, the other underlying symmetry of the quartet.

The second part of the second subject in the first movement is built over a quasi ostinato. It is presented initially, in bars 93 - 97, in the inner parts before being transferred to the violins. Violin 2 and viola play the pattern in consecutive sixths and thirds.

Figure 24 overleaf.

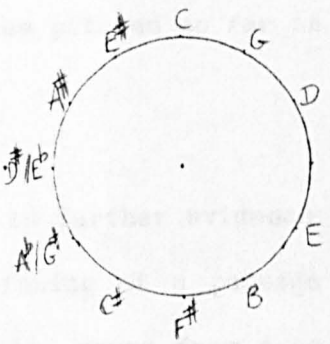
Figure 24a).



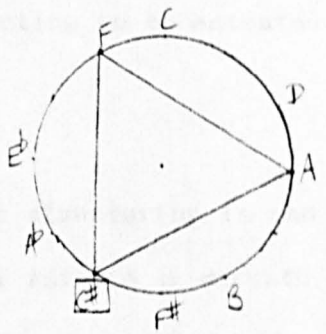
In the first two bars, the inner parts move in consecutive sixths. Bar 95 marks the mid point of the passage by changing to consecutive thirds. The consecutive sixths are returned for the last two bars. The first three bars begin with A F# leading to E G. In the first two bars, these are placed as major sixths, in bar 95 they become minor thirds. These are the only times that these intervals are used in this writing, minor sixths/major thirds are consistently used for the remainder and they form significant aspects of symmetry. In bars 93 - 95, the minor sixths/major thirds are almost fully chromatic, only A is absent. In 96 - 97, symmetry round A is continued; now, each of the two lines forms interlocked major thirds incorporating A although C# and F lie at the centre of the symmetry respectively. Bars 98 - 99 repeat bars 93 - 94 and the final part of the passage, 100 - 102, has

a minor sixth/major third pattern centred round A C# F.

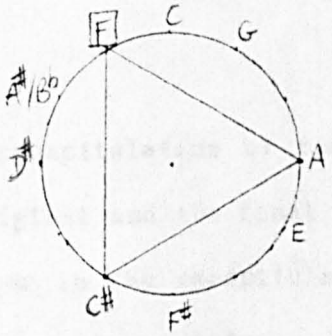
Figure 24b)



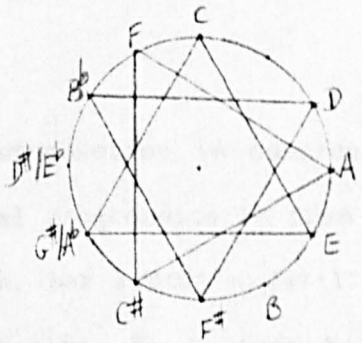
Bars 93 - 95



Bars 96 - 97 violin 2



Bars 96 - 97 viola



Bars 100 - 102

The development begins in bar 118 on B,

After a tonal shift to F#, the music settles on A in bar 121(3) and lasts until bar 125(1). The next tonality, 125(1) - 126, is Eb. Direct pole to counterpole tonal progressions are rarely used in the work so the significance of this is obvious, especially being placed near the beginning of the development. In bars 125 -

126, B is placed in the bass with A/Eb. There has been a gradual crescendo from the beginning of the section and these three pitches are at the point of climax. They are the only bass pitches so far in the section to be accented.

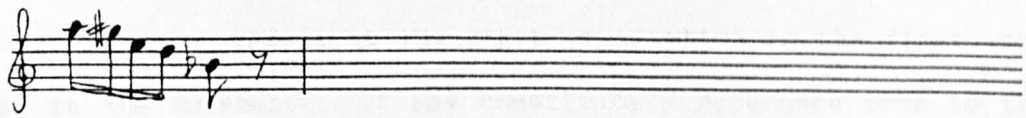
There is further evidence of A/Eb structuring in the development. At the beginning of a passage marked Animato e marcato, bar 133 et seq., the bass moves from A to D#. Two bars later, it settles on Eb and leads to the major broken chord in 136, as the opening motive of the first subject. This is transferred to violin 2 in the same bar, on A major. Finally, Eb is a sustained bass pedal, and therefore tonal base, in bars 151(2) - 153.

The recapitulation of the introduction is considerably longer than the original and the final tonal progression is from D to Eb, 173 - 183. Later in the recapitulation, bar 245(3) - 247(1), there is a repeat of the unison motive. This time, Eb A leads to Bb F# which means that the second tritone has been replaced by major third. This results in greater emphasis being placed on Eb/A. The repeat of the second subject theme, beginning in bar 254, starts on A.

The coda begins in bar 278. Three bars later, the broken chord figure from the start of the first subject is brought back, now on Eb. Towards the end of the section, 303(3) - 307, much use is made of a

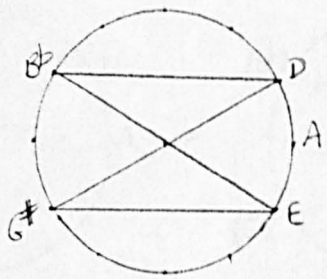
semiquaver figure which originated in bar 2; it follows the falling fourths.

Figure 25a)



This fragment occurs in all parts and is finally begun in augmentation in the 'cello. The pitches, A G# E D Bb, form a symmetry round A.

b)



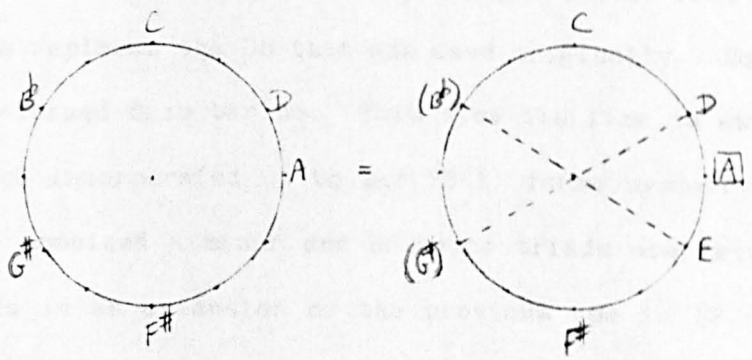
The motive finally becomes asymmetrical as Bb is replaced by another D.

The bass line of the last nine bars is significant. A single D is then put with A to form the perfect fifth. This is followed by Eb which leads to the final D, now part of a major triad. This final

progression supports the concept of counterpole replacement, as Eb replaces the true dominant, A.

An early instance of implied A/Eb symmetry in the second movement occurs in bars 12 - 13. The most obvious feature is the paired A minor and Eb major triads at the start of 12 which is the first such pairing in the movement. It may constitute a reference back to the A/Eb symmetry of the first pairing in the first movement. In 12 - 13, violin 1 has a motivic fragment which has implicit A/Eb symmetry, if counterpole replacement is accepted.

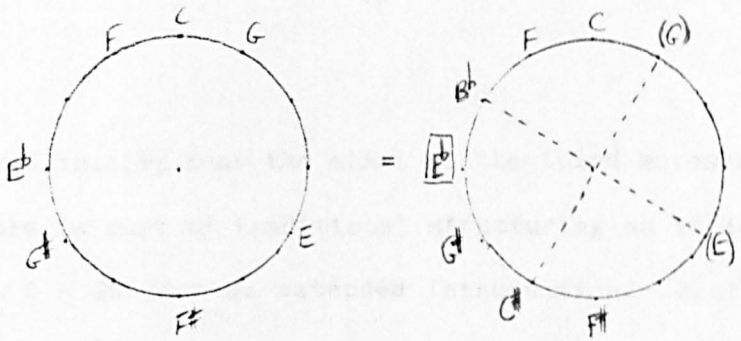
Figure 26.



The chords in bars 30 - 35(1) have A as a common pitch for much of this passage. In bar 39, the bass comes to rest on Eb while the upper parts play an A major broken chord.

At the start of section B, 43 - 52, viola and 'cello share a fragmented line whose pitches form a symmetry round Eb, as before, as a result of certain counterpole replacement.

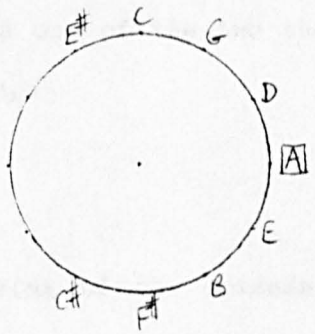
Figure 27.



At the start of A2, there is a repeating A in the bass in bars 61 - 64(1). This replaces the Db that was used originally. However, the original is returned from bar 65. This time the line is extended and the extra pitch incorporated up to bar 73(1) forms symmetry round Eb, Db Eb F. The combined A minor and Eb major triads are returned from 82 - 85. This is an extension of the previous use in 12 - 13. The opening of section A is repeated once more from bar 94. This time the bass repeats Eb from here to 101(1). Finally, an important viola theme, marked espr., in bars 107 - 109 has a symmetry of added fifths round A.

Figure 28 overleaf.

Figure 28.



A is used tonally near the start of the third movement, bars 8(2) - 10(1). This is part of traditional structuring as it leads, via Db, to D. Bars 1 - 29 form an extended introduction. Section A of the rondo begins on the last beat of 29 with an anacrusis unison A in all parts. The viola and violin 1 repeat A, with B, in the following two bars. In bars 40 - 41, the 'cello takes up a fragment that is almost a reversal of material from bar 2 of the first movement. Rising perfect fifths are followed by a figure incorporating dotted rhythm with an A to Eb outline. This is reinforced by dominant entry pitches in the violins. This is started on A by violin 1 and is followed by C D# and F#.

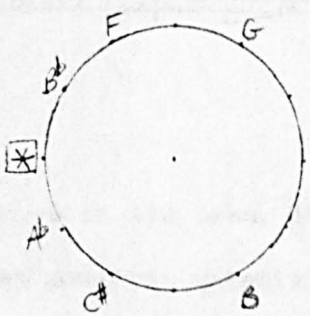
Later in section A, the texture becomes chordal, in bar 73. This comprises two triads, C minor with B major. This is the same pairing as the first composite chord in the first movement, bar 5, and this has an implied Eb/D# symmetry. The present use is highlighted by the fact that the preceding texture is contrapuntal and by the forte dynamic. The last two tonalities of the section occur in bars 79 - 83(1) and they are A to Eb. The latter pitch is taken up at the start

of the first episode where one of the two themes, played by violin 2 from 89, is presented on Eb.

In the second playing of the episode, there is an important bassline progression from Eb to D, bars 142(2) - 145(1). This is another instance of counterpole replacement of the true dominant. In 145(1) - 146(1) there is an A to D progression but it is given less emphasis.

An important moment occurs in bar 151. This bar prepares for the return of first movement material from 152. Violin 1 and viola play a line in octaves which has symmetry round Eb.

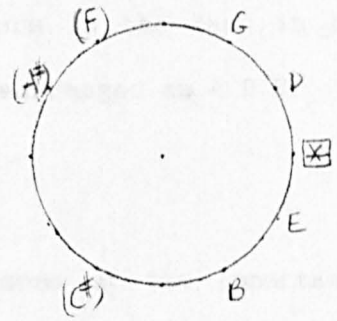
Figure 29a)



The other two instruments play a different line in octaves which has implicit symmetry round A, F A# and C# are counterpoles.

Figure 29 contd. overleaf.

Figure 29b)



In the first movement material, the D major broken chord is delayed until bar 155 and is prefaced by an E major broken chord in the previous bar. This forms symmetry round A. Later in the section A becomes important thematically, bars 161 - 163.

Figure 30.

At the end of the section, A in the bass, 169(3) - 171, prepares for D at the start of more first movement material, the second subject, from bar 172. A is placed with other pitches, F F# G Bb and B, to form symmetry round D on the circle of fifths and this cements the A to D progression. It is further reinforced as A is put above the pedal D in bars 172 - 175. In this movement, D and A are frequently put together in the bass in this way. In fact, they are almost immediately returned, bars 180 - 183. A final reference to this

underlying symmetry occurs in the bass in bars 199 - 200 where the added fifths D A E are rearranged as A D E.

These are just some of the important moments in the fourth quartet that reveal structuring based on the A/Eb axis. There is sufficient evidence, I propose, to support the concept of a deeper level of symmetry, one which is based on the arrangement of pitches on the circle of fifths. However, as in the other quartet works, this is not the only method of structuring and there are other aspects of symmetry evident in the work, some of which can be explained as pitches on the circle of fifths and some which can be explained as linear symmetry. In addition, there are some features which are derived from conventional structuring. However, none of this is straightforward as such features are placed in a more radical, chromatic context. It is these transitional features that I shall turn to now.

The fact that the quartet is built round the concept of tonality indicates Bridge's concerns with the old order. However, this is not diatonic music. Tonalities are established in a chromatic context, mostly as a result of bass pedals. In the course of the three movements there are many conventional tonal progressions of perfect fourth or fifth. There are too many to mention every one but a typical instance occurs in the first episode in the rondo finale, bars 89 - 105(1). These bars are based on Ab to Db progressions almost

continuously. There are also some instances of minor third, relative relationships although these are less obviously derived from tradition as they are non-diatonic.

Triadic harmony is still used in the work. Like the third quartet, two triads are frequently put together to form a composite chord. In the former work, one pairing predominated, a major and a minor triad a whole tone apart. In the present work there is more variety of pairing but all form a linear symmetry. For instance, the first pairing occurs in bar 5 of the first movement. Apart from its D#/Eb symmetry the pitches of the triads a semitone apart, B major and C minor, form linear symmetry.

B D# F# C Eb G

4 3 6 3 4

In the second subject of the first movement, bars 98 - 100(2), G major triads are placed in a fully chromatic context and they do not form part of any progression. At the end of the movement there is a clear D major triad in the 'cello but this is part of a structure of added fifths. In fact, it is the latter that is retained through the last bar where the triad is omitted.

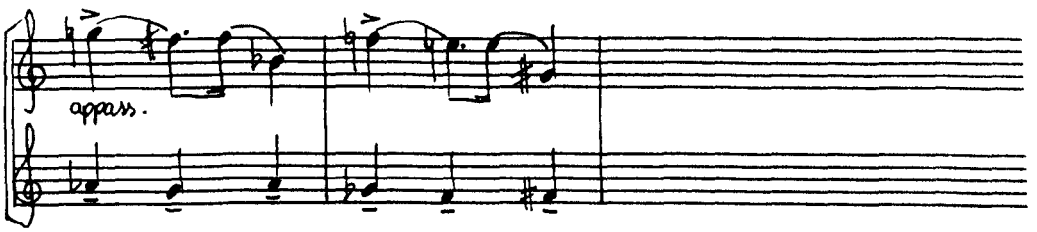
It is in the second movement that the most obvious use of transitional harmony occurs as there is much triadic pairing, especially in the minuet section. Another feature in this section is the triadic writing in the upper parts in bars 30 - 35 put against pitches which do not fit with them in the bass.

Perhaps the most notable of the transitional chords is the one that concludes the work. Similar structures have been used earlier in the work, particularly in the finale. It is a structure of added fifths, D A E B F#. The use of the perfect fifth as a structural device links it with tradition but the context is new. The structure is not without ambiguity as these pitches could imply B minor11 with C/C# omitted.

Sequencing is a device that points to the presence of tonal procedures and it is present in the fourth quartet. Much of it is not tonal, not at the interval of perfect fourth/fifth. Axial third and whole tone repeats are particularly favoured. A good example of the latter occurs in the development of the first movement, bars 152 - 153, upper parts only.

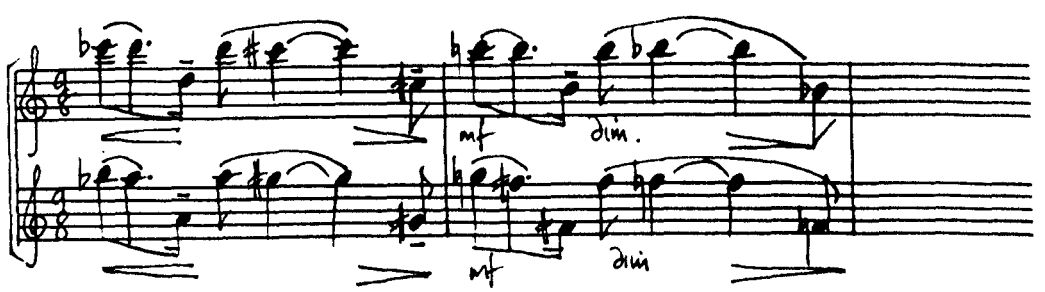
Figure 31 overleaf.

Figure 31.



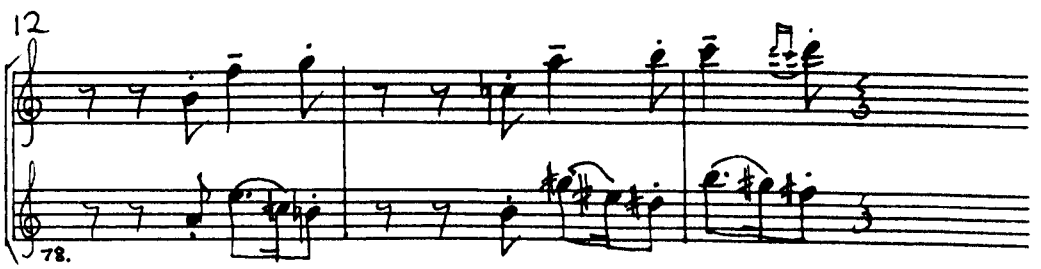
Minor third sequencing occurs in bars 24 - 25 of the finale.

Figure 32.



Often, too, the sequencing is irregular, combining differing intervallic relationships. An example of this occurs later in the third movement.

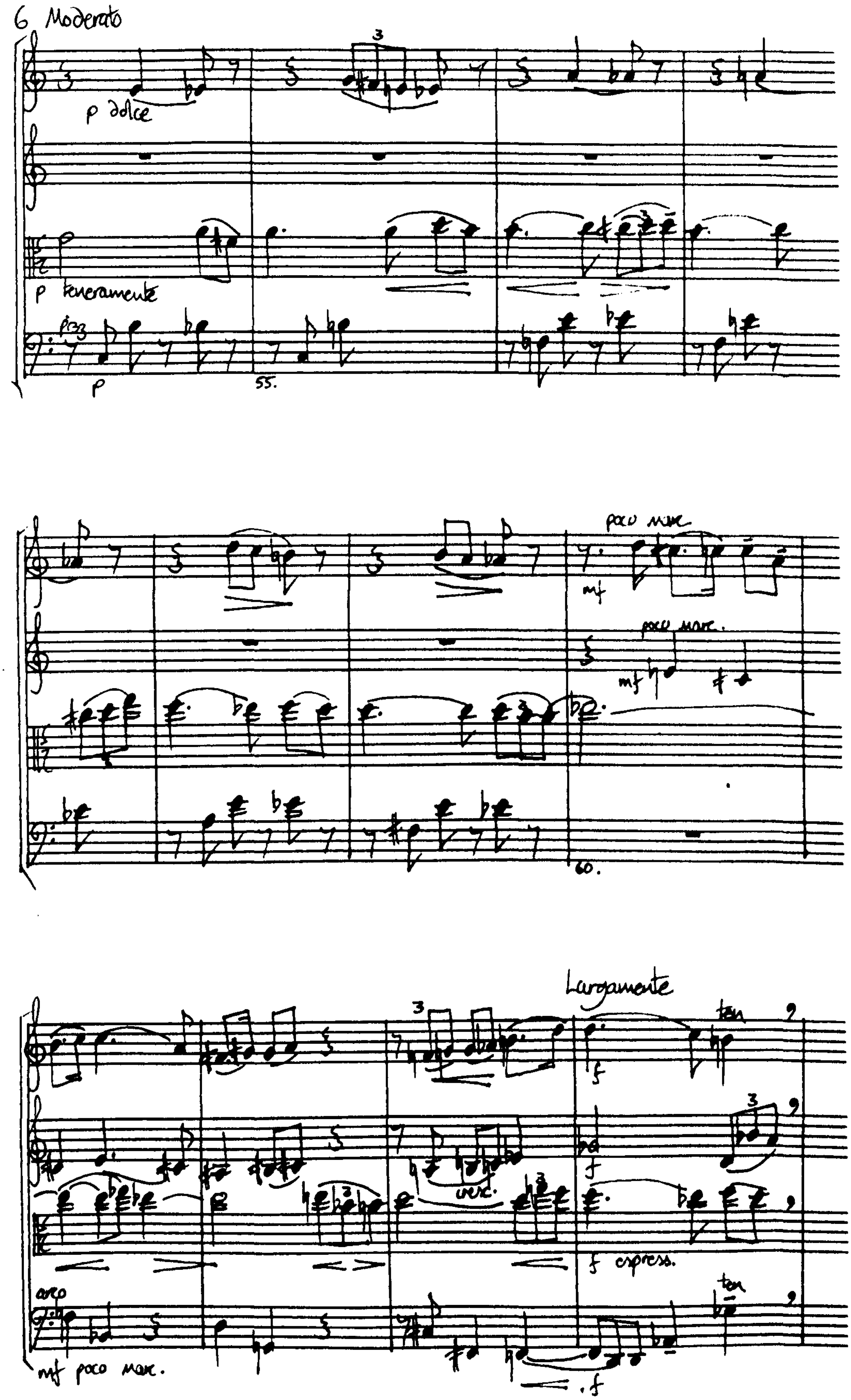
Figure 33.



Transitional themes are rarely used in the fourth quartet. These are themes that are more flowing and lyrical and which are based on the style of his earlier works. However, the context is chromatic not diatonic and frequently the other parts seem to work against the thematic style. The second subject of the first movement can be described as transitional. Typically for Bridge, this lyrical expression is given to the viola.

Figure 34 overleaf.

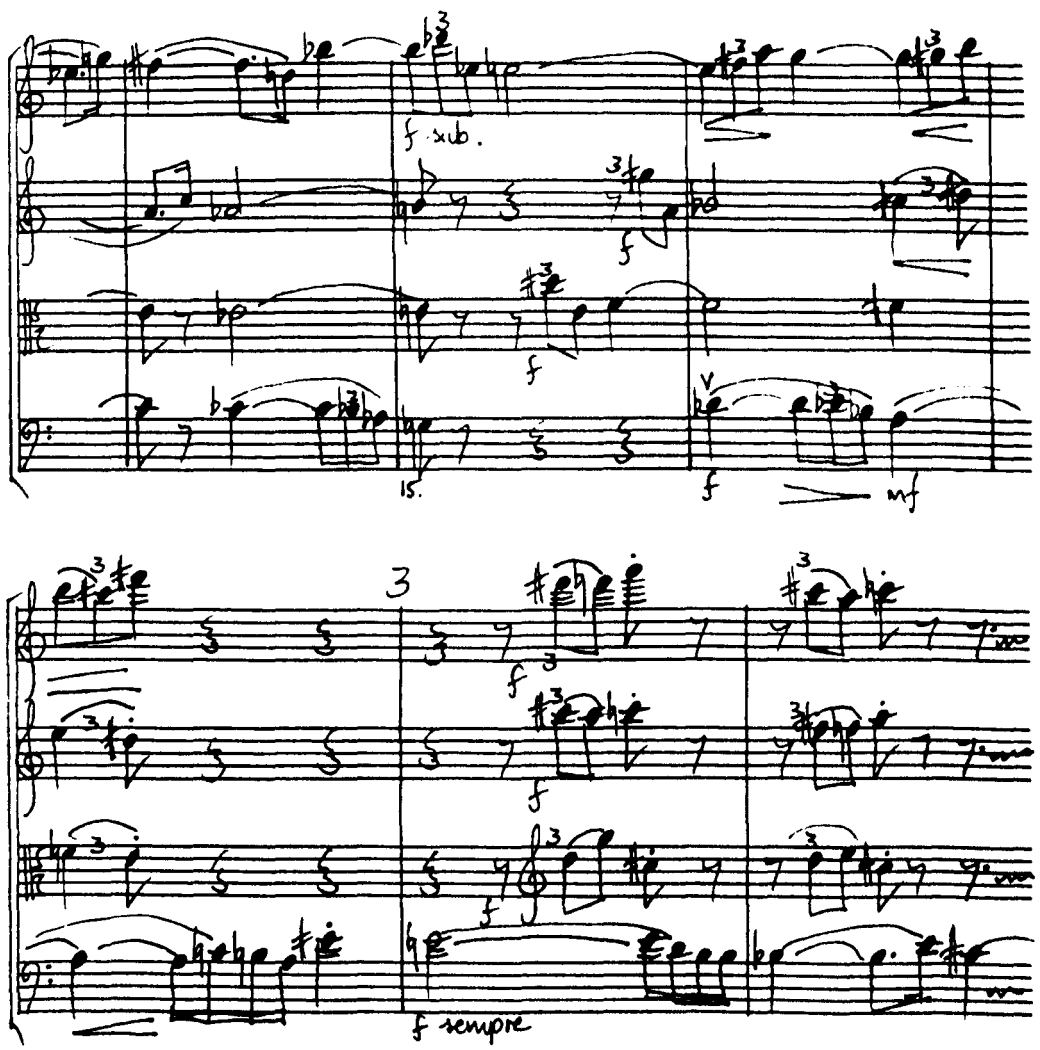
Figure 34.


6 Moderato
p dolce
p teneramente
pizz
p
55.
poco marc.
mf
poco marc.
mf
60.
Largamente
ten
f
cresc.
f espress.
arco
ten
mf poco marc.
f

The first episode in the rondo is of a similar character.

Bridge's retaining certain traditional elements of his style at this late stage of his output point to a concern for fusing the old and the new, for trying out new procedures within a tonal framework. There are many radical features in this quartet. Firstly, there are more passages that avoid tonal definition and they are longer. One such is bars 13(3) - 25 in the first movement, part of which appears below.

Figure 35.

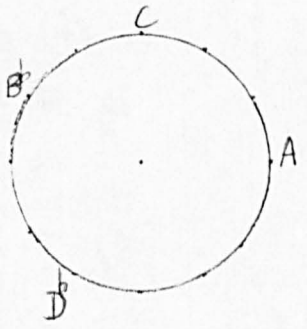


The transition, bars 35 - 53, is also tonally undefined but in contrast the beginning of the second subject which is thematically based on convention is also tonally clearer. Later in the section, bars 98 - 116, short lived tonalities are separated by chromatic passages. These features are typical of the work.

Texturally, the fourth quartet is more contrapuntal than its predecessor. In addition, chordal writing does not always incorporate all four parts. Such a case occurs in bars 2(3) - 4 of the introduction to the first movement. The viola pedal moves in a different rhythm to the other three parts which form chord structures. All are unconventional and there are many types. The first comprises interlocked tritone with major third, a structure found in the third quartet. The next five chords employ semitones and major and minor thirds but in no regular pattern. Nor is there an obvious progression working here. The final chord puts whole tones together which have a major third outline. This results in symmetry round B.

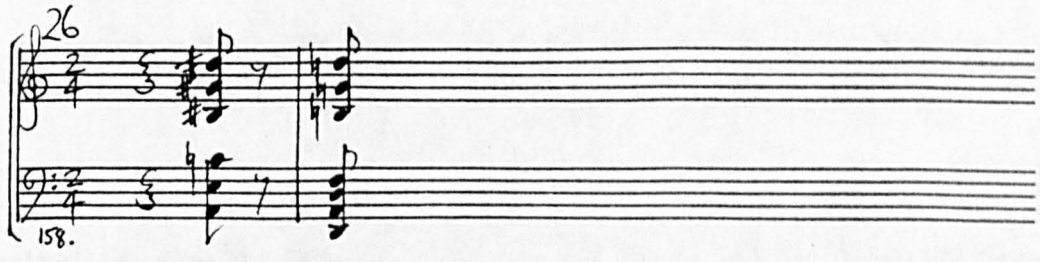
Cluster chords are a new feature of Bridge's language. A clear example of these occurs in the three upper parts towards the end of the second subject, bars 105 - 109(2). These comprise a tone and semitone and, individually, there is no clear significance. However, by putting all the pitches of the two structures on the circle of fifths, a symmetry round the tonic F emerges.

Figure 36.



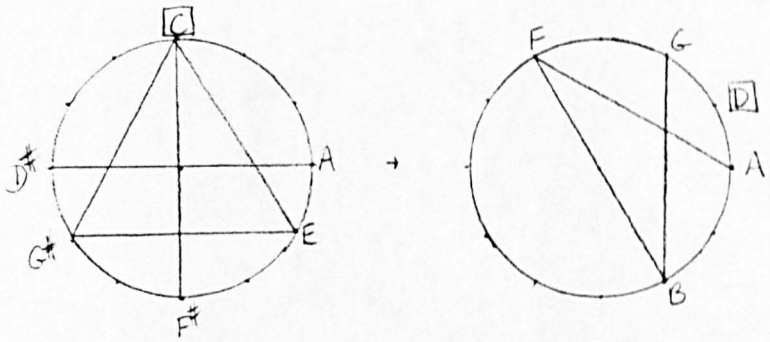
A significant chordal moment occurs in bars 158 - 159(1) of the finale. The two structures here are the type used considerably in the third quartet, being based on major thirds and tritones. The two structures are not alike but both have a centre of symmetry, C and D, which results in a whole tone progression of symmetry.

Figure 37.



contd.

Figure 37 contd.



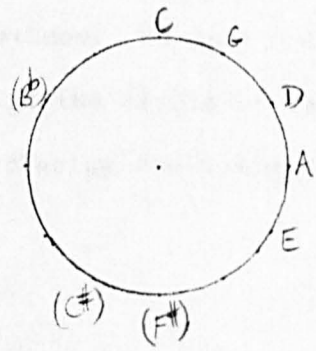
Thematically, the last quartet is constructed in a similar manner to the previous work. The ideas are mainly motivic and therefore short lived. As has already been discussed, some of these motives are constructed round the underlying A/Eb symmetry of the quartet. However, other forms of symmetry are also used. One such is the opening of the introduction of the first movement. This theme lasts for one bar and two beats.

Figure 38.

The motive is clearly based on added fifths; the falling perfect fourths at the start of the second bar point to this. When placed on the circle of fifths, the pitches imply a symmetry round D; F# C# and Bb can be assumed to be counterpoles.

Figure 38 contd.

Figure 38 contd.



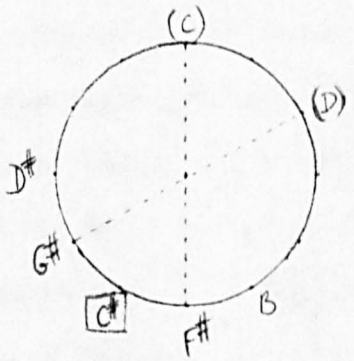
D, being the tonal goal of the quartet, is clearly a significant pitch and added fifths are an important structuring tool in the quartet.

The first violin pitches at the beginning of the first subject, bars 5 - 8(1), are a result of similar structuring. This time, placing the pitches on the circle of fifths shows symmetry round E, G# Eb F and C are counterpoles. This means that D and E are put in close proximity almost straight away.

A different kind of symmetry lies at the root of the thematic writing at the start of the transition, bars 35 - 37. All pitches are used except the G/C# axis, thus forming symmetry round these pitches. The final chord of the work is constructed partly round E subdominant symmetry; this thematic writing is another aspect of that symmetry.

An unaccompanied viola line ends the transition in bar 53. This is typical of Bridge's methods. It does not have an obvious structure but placing the pitches on the circle of fifths implies that C and D are counterpoles. By replacing the latter with G#, a symmetry round C# results.

Figure 39.



This theme leads directly to the second subject theme which begins on G, the counterpole of C#.

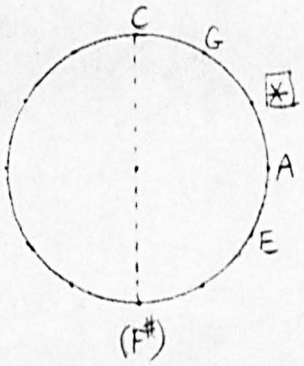
The second subject theme has already been mentioned as having similar characteristics to his earlier style of thematic construction. However, this eleven bar theme, 54 - 64, uses all pitches except G#, the counterpole of D, and thus places this absent pitch at the centre of symmetry.

The marcato writing in the lower parts later in the section, 83 - 86, is constucted in a similar way, although with a significant

difference. The 'cello line has an implied G# symmetry resulting from counterpole replacement of E and A. This counterpole of D is put with A/Eb symmetry in the viola. This line is more obviously based on symmetrical ordering of added fifths, C to F#, with Eb as an added counterpole.

The major third content of the quasi ostinato of the second subject, bars 93 - 102, has already been discussed. However, each bar here begins with two minor thirds, A F# and E G. These pitches in ascending scalic order, E F# G A, form 212 symmetry. Also, by replacing F# with its counterpole C, a symmetry of added fifths round D is formed on the circle of fifths.

Figure 40.

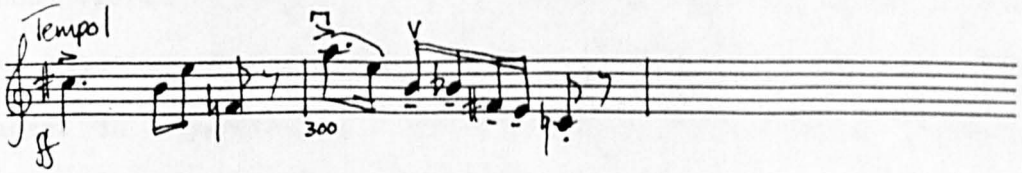


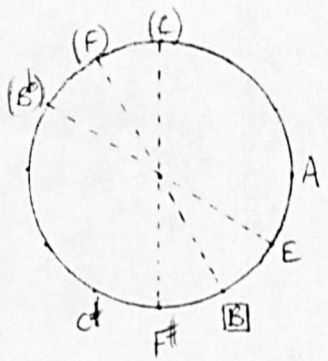
A new idea is introduced underneath the end of the quasi ostinato writing. This begins in bar 100(3) in the 'cello but is transferred up through all parts to bar 105(1). The pitch content of each line is different but each one is based on symmetry. The pitches at the centre of symmetry are Eb F C G D. By replacing Eb with its

counterpole, these centres of symmetry themselves form symmetry round G, the prevailing tonality at the start of the second subject.

A moment of particular importance occurs in bars 299 - 300 of the coda. Here, violin 1 reintroduces the opening motive of the work, now fortissimo instead of forte and down a perfect fourth from the original. The arrangement of pitches is subtly different from before and this means that the concept of structuring thematic material using just half of the circle of fifths with the addition of counterpoles is clearer.

Figure 41.





$B_{\flat}^{\flat}$ at the centre of symmetry of this version of the motive.

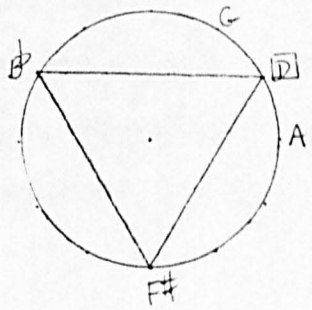
Another late aspect of symmetry is the first violin writing from 308 - 318. The pitches placed on the circle of fifths form symmetry round E if D replaces its counterpole. This thematic line then has the same pitches as the final chord of the quartet, [G#]/D A E B F#.

At the beginning of the second movement, the sequencing in violin 1 in bars 6 - 9 is a clear example of Bridge's structural methods. The one bar idea is constructed on added fifths with one added counterpole. These fragments are not symmetrical but the writing in the second violin in bars 6 - 7 has a symmetry round D. However, this is also repeated sequentially, in bars 8 - 9, and this time the arrangement is asymmetrical. This is entirely typical of Bridge's technique, a feature of the third quartet.

More motivic writing based round D occurs in violin 1 in bars 24 - 25. This complements the tonal D in these bars.

Figure 42 overleaf.

Figure 42.



Violin 1 bars 24 - 25

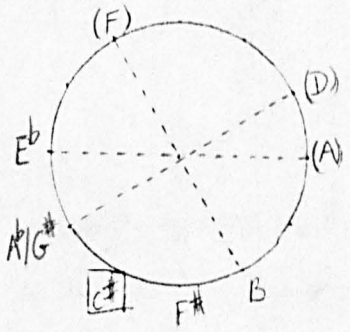
E is again used as a centre of symmetry in bar 54. The two violins have been moving together for several bars but at this point Bridge adds the instruction marc. which indicates a moment of importance. The two parts are are whole tones from C to G#, E lying at the centre. Although the lower parts are not highlighted at this point, they too form symmetry, around the G/C# axis, another aspect of the subdominant.

In bars 94(2) - 101(1), the bass idea that featured at the beginning of the movement is repeated for the last time. The minor sixth of the line can be divided symmetrically. In the first instance, the centre of symmetry was Eb. The repeat of the line in 61 - 73(1) was arranged symmetrically round B and then Eb. The final playing from bar 94 is a symmetrical arrangement round F, the counterpole of B. Eb and F are adjacent to Bb on the circle of fifths and this is the counterpole of E, the tonal goal of the movement.

New material is introduced into the coda which is based on the introductory bars, 105 - 114. Bars 107 - 109 are added between bars 3 and 4 of the original. The violins move together in these extra bars and have a symmetry round B, the dominant of E. The new pitches in the 'cello at this point, E and F#, are also symmetrically round B.

The finale begins with an attempt at a unison theme. However, after two bars, the three upper parts drop out and it is left to the 'cello to present the complete theme. Its pitches form symmetry round C#, which reinforces the opening tonality.

Figure 43.

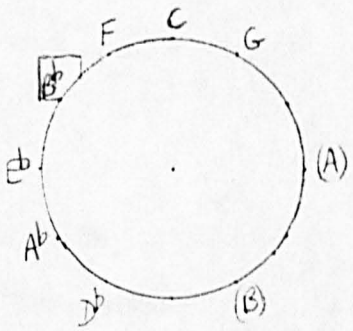


[The bracketed pitches are counterpoles which lie outside the basic structuring.]

The presentation of material in octaves is an indication of importance. This occurs in bars 26 - 29(2) where violin 1 and viola play a line which is clearly based round F# dominant symmetry and

violin 2 and 'cello play a line based less obviously round Eb. The pairing continues into the main body of the movement as violin 1 and viola play A and B at the start of the first playing of the rondo. This E symmetry is complemented by the other two parts which have a symmetry round its counterpole A# at the same time. Bb is also the centre of symmetry a few bars later, 36 - 38, in the dotted rhythm idea in the inner parts.

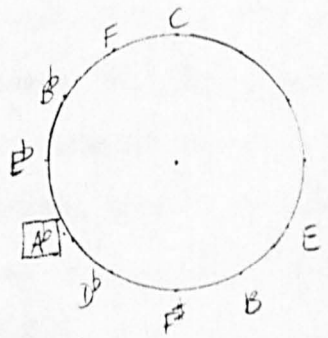
Figure 44.



A different kind of symmetry occurs in the viola broken chords in bars 49 - 50, repeated in 51 - 52. The progression of triads is D minor, E minor, F minor and G minor which forms a 212 progression of the roots.

The upper line of the episode theme, violin 1 in bars 89 - 93, has a symmetry round Ab, the counterpole of D. This is straightforward added fifth symmetry and is one of many examples of the tonic used as centre of symmetry. In addition, this reinforces the tonality in these bars.

Figure 45.



The way that the theme repeats falling perfect fourths in the last two bars is a pointer to the structuring device.

The quartet ends on a chord of added fifths arranged symmetrically round the subdominant E. The music gradually moves towards this in the closing bars. The first violin and viola play a series of whole tones in bars 195 - 197(1). Placed on the circle of fifths, these pitches form pairs of perfect fifths, GD, EB, C#Ab and BbF. This patterning omits all four dominant pitches. At the end of 197 these two instruments play the EB fourth which is followed by EA in violin 2. These pitches together form symmetry round E which is a perfect fifth progression from the preceding implied dominant symmetry.

From the above description of some of the important moments in the fourth quartet, it emerges that the work is in direct descent from the Quartet No: 3. Many aspects of the structuring are the same. Essentially, both are works that draw conventional and radical language together. This was a concern of Bridge from further back in his creative output. Indeed, even the earliest works have proved themselves to be pushing the boundaries, albeit while retaining a relatively diatonic expression. However, in the last two works for the medium, Bridge was clearly moving further towards a fully chromatic language within certain tonal principles. In the third quartet he sought to unify his ideas partly by using a motivic cell in all three movements. This governed some of the harmonic structuring too. This concept was abandoned in the fourth quartet, perhaps for being too overt. His reassessment of structural procedures seems to have revolved around the perfect fifth. This would seem to be a retrograde step as this is supremely indicative of tonal principles. However, this interval seems to have been thought of in two ways by Bridge. Apart from its obvious tonal reference, the interval could be used as a symmetrical way of organising chromatic pitches. This has been much in evidence in the internal ordering discussed above where most of the symmetry has been explained by placing pitches on the circle of fifths. Allied to this has been the concept of counterpole replacement. This is not new for Bridge but there seems to be more evidence for its use in the present work. Much of the structuring relies on just half of the circle of fifths with pitches from the other half being counterpoles of existing pitches or counterpole

replacements for omitted pitches. The importance of added fifths as a means of structuring is only fully revealed in the finale where its harmonic use is particularly overt. By using the perfect fifth as a structuring device he has brought conventional and radical elements even closer together than before.

This leads to the role of the tritone in the work. The use of the counterpole in the work has been mentioned many times in the discussion of individual passages. Indeed, the overall tonal architecture is clearly explained as a series of added fifths if Eb and Db/C# are thus replaced. This reveals a new twist on the perfect fifth/tritone conflict that has been evident in the structuring of his music for over twenty years. The tritone is an ambiguous interval for while it divides the octave into two equal halves, it also breaks the sense of tonal reference. The duality of the interval has clearly been exploited in this work.

In many ways, the tonal, harmonic and thematic structuring are similar to that of the third quartet. Both appear to rely on an underlying centre of symmetry which governs much of the working. However, the fourth quartet takes this concept further by arranging the final tonality and the implied centre of symmetry, D and E, symmetrically round A. In the course of the work, this deeper level of symmetry is a further structuring device. However, there seems to be an even greater degree of fluidity as tonalities are placed at the

centre of symmetrical ordering and underlying symmetries take on tonal functions. This is not a new concept; this ocurred in the third quartet but now there is a sense of greater equality of pitch function.

Another important link with the past is the way that the overall tonal architecture is reflected in the inner working. Semitonal and third relationships are still evident too but they now appear less crucial to the structuring. Allied to this, linear symmetry is less apparent although one notable exception is the variety of chords formed from paired triads. The triad, of course, incorporates the perfect fifth. Interlocked major thirds and major third/tritone structures are also used again but are similarly less significant. Motivic thematic writing, based on intervals of symmetry from tonal relationships, is another link with the previous quartet.

Symmetrical ordering of pitches was a concept used by Bridge from the beginning. However, in the earliest works, passages of symmetrical ordering were often confined to specific moments. They answered the need for rationale in a developing chromatic language. At that time, he was also working with non diatonic symmetrical scales, specifically the pentatonic series which comfortably fitted into a basically diatonic order. However, as the language developed further and chromaticism increased, this was no longer a relevant method. It was inevitable, therefore, that intervals of symmetry

would emerge as a justifiable way of organising pitches. In the second quartet, there is symmetry of both old and new orders in a quasi diatonic framework. The third quartet broke with diatonicism while retaining certain aspects of it. Intervals of symmetry, notably thirds and tritones, assumed an even greater importance. In the final quartet, Bridge seems to have reassessed his ideas regarding the role of the perfect fifth, specifically in relation to the tritone. This apparently conflicting partnership was first clearly evident in the G minor quartet where it seemed to represent the conflict of tradition and advance. In the next work, the fifth took a less obvious role as the tritone governed the overall tonal architecture. In the fourth quartet, the tritone is less overt once again particularly as it is implied counterpole exchange that explains so much of the ordering. However, Bridge has tried to bring these two intervals close together for the first time. There is no sense of conflict between these two intervals now, rather it is that both can be made to straddle the conventional and the radical. Bridge's language is borne of the attempt to fuse these two basic compositional approaches. His later works in particular, show the way that he was striving to create a wholeness from these quite separate approaches. It is the second quartet that first shows this and the last two quartets demonstrate his different answers to this conundrum.

There is no hard evidence to prove Bridge's compositional intentions, other than the music itself. He seems not to have written anything other than his general views of the role of the composer and

his attitude to his art. There are signs of his difficulties with works in his correspondence with Mrs. Coolidge but no specific details. Where nothing is known of a composer's aims and objectives, one must adopt a suitable analytical method to explain the organisation behind the sounds. Using the circle of fifths to explain pitch relationships in Bridge's music has been very revealing. It is obviously a suitable framework for discussing tonal elements in the music, particularly with Lendvai's ideas on extended tonality. Certain seemingly unrelated pitches were then explainable. In addition, certain chromatic orderings could be explained by placing the pitches on the circle. This showed many themes and chords to be symmetrical arrangements of intervals of symmetry. This led to a search for other aspects of symmetry in the works and some linear arrangements emerged from this. In addition, some diatonic material could be shown to have symmetrical properties too. The study of Bridge's use of symmetry in his music has enabled me to come to the above conclusions about the development of his style, as revealed in the quartets. One significant point about this approach is that it has been applicable to music from all periods of his creative life and it has therefore shown the stylistic development of Bridge's language. At no stage in the study has the music been explained by being forced into certain preconceived ideas. There has been a naturalness about the way that relationships have revealed themselves. Using the circle of fifths as the basis to explain music rooted in tonality is a very justifiable method. By drawing unconventional relationships into this framework, the two aspects of Bridge's language were brought together, as they are in reality.

Chamber music was an important medium for Bridge; it comprises a sizeable proportion of his output. Of the genre, the string quartet was clearly important to him, as for many composers, for it was one of few mediums to which he repeatedly returned. For some composers, notably Beethoven, Bartok, Shostakovich, the string quartet proved to be a vehicle for some of their finest expression. The same is true of Bridge. Because the works span his creative life, they provide an excellent insight into the way that Bridge's style developed. The early works, up to and including the first quartet in E minor, bear traces of certain stylistic influences, particularly Faure and Brahms. However, even at this early stage, there are hints of what is to come. Quartets 2 and 3 represent the peak of his creative growth and it is for this reason that the study has concentrated on these works. However, the study of the quartets has revealed something else of Bridge. Clearly he was very meticulous in the way he composed. This has emerged from looking at the sketches which show ideas being tried out in a variety of ways and also from the intensity of the working in the final versions. The listener is left with the impression that every note 'counts'. This is not to say that he was merely a gifted craftsman for his music has a depth of expression that matches his skilful handling of the medium and intellectual grasp. It is surprising that these qualities were ignored in his own life and even more so that these works have continued to remain largely outside the quartet repertoire. The integrity of this music is of the highest order, a reflection of Bridge as man and artist.

Footnotes

Chapter 1.

1. P.J.Nolan - 'American Methods Will Create Ideal Audiences' - Musical America, 17 November 1923, pages 3 and 32.

2. Ibid.

3. B.Britten - 'Early Influences: a tribute to Frank Bridge (1879 - 1941)' - Composer, Spring 1966, pages 2 - 3.

4. A.Payne - 'Frank Bridge: radical and conservative', Thames, 1984.

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