More Than Six or Playing the Notes Other Guitars Cannot Reach,

by James R. Smith

1. Introduction

We are all heirs to the Segovian view of what constitutes a classical guitar, viz., a six-stringed instrument, tuned in E and of relatively large-scale length at least 65cm. Guitars have not always been in this form. In the Renaissance, they were smaller and had four courses, in the Baroque, five, and in the late eighteenth and early nineteenth century began to emerge in six string form. Thus, change in the number of strings has covered a period of perhaps two hundred and fifty to three hundred years. This can be contrasted with what happened to the lute over the period 1500 to 1650, say. Starting from a five course lute in late Medieval times, it had six courses in the earlier half of the sixteenth century, seven and eight were common by the end of this century, with nine and ten following on rapidly, and by the mid-seventeenth century eleven and thirteen courses were used by the serious player. Thus, the lute expanded its courses by a factor of about two, in about half the time it took the guitar to reach its currently common format. The reasons for this probably lie in the usages of the two instruments, the lute was used for 'art' music and was expected to perform the elements of polyphony and complex harmonic structures, whereas the guitar, although having some complex music composed for it even in its four-course form, had a long history as an instrument for strumming, that is, simple song-accompaniment or as part of the rhythm section of an ensemble.

In its current six-string form, there has been, without question, much fine music written and adapted for it, especially in the last century. While all instruments are of limited compass, the guitar with its accessible range of just over three octaves, quickly reveals its limitations when trying to adapt pieces written for keyboard or ensemble. The problem reveals itself in two ways. Given that the guitar plays an octave lower than seemingly indicated by its treble clef, endeavouring to play a keyboard piece (for example) shows that while one expects to find the notes from the treble clef on the guitar, notes from the bass clef can only be accommodated in correct octave relation down to E (second space down), or D (middle line) if bass D tuning is envisaged. Lower re-tunings do not usually help as the sixth string becomes too flexible, and higher bass notes are often awkwardly fingered. If the piece is of a suitable 'character' for guitar, key transposition may help. In the course of the arrangement, one is also likely to find that the top and bottom notes certainly exist on a guitar, but it is not possible to 'stretch' the left-hand to play them, or fret them in conjunction with other required notes. One is therefore required to delete or 'jump octaves' to make the chord or sequence playable.

Nevertheless, it is often truly impressive as to what a skilled arranger can achieve, witness Scarlatti sonatas and many works by Granados and Albeniz. I am sure you can all think of many other examples. The problems can be addressed by a group of guitars, ranging from a duo of tenor guitars, to ensembles using the full guitar family from bass to octave. However, this option is not open to the solo player and most of us are solo players, though perhaps not soloists! While the idea of limitation has been introduced by the problem of arrangement, there is clearly an opportunity for enhanced musical expression if the guitar adopts a similar strategy to that taken by the lute many centuries ago. It is the purpose of this article to explore the possibilities and associated issues. Before starting, I am sure many readers will already be thinking something along the lines: "Surely it is well-known that multi-string guitars (that is, guitars with more than six strings) suffer from a problem of excessive sympathetic resonance / over-ringing that constitutes a serious barrier to effective performance?". It is certainly true that some ten-string instruments introduced in the 1960's did suffer from this problem. My impression is that changes in construction over the last twenty years have considerably reduced this tendency. Note, all experienced players have to address this problem even with six strings. In the case of additional bass strings, similar techniques apply to those already used for six, and, in any event, where general resonance does start, a passing light touch with a convenient part of the right hand is all that is required to bring matters under control. In my experience, sympathetic resonance is NOT a major issue. As I hope to show, the advantages of multi-string guitars are so considerable that concern over this issue is misplaced.

The article will start by describing traditional multi-string guitars and some current developments, move on to learning to play, strings, and close by discussing repertoire.

2. Multi-String Guitar Types

In the first part of this section, the guitars discussed have their top six-strings in standard E-tuned sequence, in the second part, advantageous changes to this are outlined.

Seven-Strings.
The instrument to be discussed is not the Russian folk-guitar, which probably deserves an article to itself, but a classical E-tuned type with one additional bass string. The additional bass string is commonly chosen as a D - a tone below E. Other choices are possible, and as will be discussed later, some strings are particularly flexible and can accommodate a change of a tone or more, thus giving an obvious advantage. Where the seventh is not chosen as D, B is a frequent and useful choice, and with a flexible seventh, C and A are accessible. Considering a seventh in D, what does this offer? If your wish is to play 'standard' repertoire, then bass D re-tuning vanishes, there is an additional advantage (present in bass D tuning), that the seventh string moves the fretted notes on the sixth, two frets up, for example, bass G is now found at the fifth fret and bass F at third. Thus, the noticeable stretches, B on first to G on sixth, and A on first to F on sixth are sizably eased. To these advantages is added an acoustic one. With the addition of a seventh string, you will find that the guitar begins to take on an enhanced sound quality. One of the reasons for this will probably lie in the wider and therefore stiffer fretboard. The string energy is, in consequence, expended more on setting in motion the sound board, rather than in having some of its energy lost in exciting the acoustically dead neck. Within the indicated repertoire, the seven string guitar has much to commend to it. It has the disadvantage that it is a 'special order' item. No major studio that I know of, has a seven-string guitar as a standard item in its catalogue.

Eight-Strings.
There are two typical choices for the tuning of the additional bass strings. The first follows typical lute strategy, namely, dropping a tone at a time and has the seventh at D and the eighth at C, with other options readily available, for example, taking the eighth up to C# or down to B for particular pieces, indeed the D can be tuned to D# if required. These kinds of tuning are very suitable for solo performance. For ensemble, as used by Peter Rueffer in the Pro Arte Trio, a seventh at D and an eighth at A, with retuning to G, or B / Bb, for example, offers a fairly straight-forward way of obtaining a useful bass-line with a scale length of 65cm, rather than the more demanding 70cm for a baritone, or 75cm for a bass. One is here in the realms of the arranger for an ensemble, conceived as ranging from a duo to an orchestra. If funds are not especially limited, one can choose whatever instruments are considered appropriate to the pieces played, and one notes in professional groups (duo, trio, quartet) using the guitar family, this is what seems to happen - the mix of instruments from the guitar family may show some changes throughout a programme. However, in guitar orchestras, the use of an octave bass has much to commend it.
As with the seven string, the eight will usually offer acoustic enhancement, and there is the advantage that a number of major guitar studios have eight-string guitars in their catalogues.

Nine Strings.
Although these have been made, the ninth being tuned to B or Bb, they are, like the seven string, special order items, likely to be subject to special prices and longer delivery times. For these reasons, I pass on to the ten-string.

Ten-Strings.
Historically, there were two well-known forms of tuning of these instruments, one having what is known as baroque tuning, the other using a type known as Yepes tuning. The first type derives its name from lute-usage, it is a minor third down on a renaissance ten-course lute and is essentially the four lowest diapasons of a baroque lute. The bass tuning follows the pattern

7th-D, 8th-C (or C#), 9th-B1 (or Bb1), 10th-A1.

Further re-tunings are possible, e.g., re-entrant tuning of the 9th and 10th to assist certain pieces for eleven course baroque lute, but one usually strives to remain within this pattern. Yepes tuning, occasionally referred to as modern tuning, has the following pattern

7th-C, 8th-A#, 9th-G#, 10th-F#

Where the bottom three strings are at pitches from the fifth and sixth strings of the guitar. This tuning is therefore of a type referred to as re-entrant. Janet Marlow, a pupil of Yepes, uses different tuning, viz, ...

7th-B, 8th F#, 9th-C#, 10th-G#1

This tuning is therefore re-entrant on the 7th and 8th strings, and offers bass support on the 9th and 10th. While the foregoing is not a complete list of all types of tuning that have been or are currently being used, they can be considered as the bases from which other have emerged. Baroque tuning can be definitely associated with the nineteenth century virtuoso, Mertz, and for this reason is also referred as romantic tuning.

While baroque tuning may seem a natural option, particularly, to those acquainted with lute music, and it is a generally capable strategy for extending the range of the guitar, Yepes tuning may appear strange. Yepes tuning, other than the similarity in the number of strings, is a completely different concept from baroque tuning. A prime motivation of Narciso Yepes in his collboration with Ramirez, in developing this form of tuning, was to overcome a feature of the guitar, viz., the non-uniformity of response of notes across the whole range. This arises (in part) from the overtone sequences coming from the various open strings when vibrating in sympathetic resonance. Some notes receive little harmonic re-inforcement from standard guitar tuning, but using the indicated semi-tones of the bottom three strings, does supply a more complete spread of overtones. Of course, the choice of re-entrant basses does offer some advantages when playing in remoter keys. Additionally, the seventh string can be tuned up to D, easing all standard six-string repertoire. A further use, thoroughly explored by Yepes, is retuning of the ninth and tenth strings to G and F, respectively. In conjunction with the seventh at C, it is found that this gives convenient access to some of the eleven course baroque lute repertoire. With a suitable choice of pieces, dropping the seventh from C down to B or even A, can give access to items from the repertoire for thirteen course baroque lute. The various types of tuning all have their adherents, indeed, many ten-string players have two or more instruments each in different tunings. No tuning is uniformily competent across all eras and genres. Thus, Yepes tuning is unsuitable for late renaissance lute music, and baroque tuning does not work for modern compositions aimed at Yepes re-entrant tuning. The advantages of Marlow tuning are set out in her book, cf. ref. 15.

Terz Guitars.
It is probably best to start by recalling some basic facts about these instruments. A terz guitar is a somewhat smaller classical guitar tuned in G, that is, the strings are tuned to the respective notes of the third fret of a standard guitar. Scale lengths are 61-63cm. Having some popularity in the early nineteenth century, they are relatively rare at the present time though they are still in the standard catalogues of some major Spanish makers. Additionally, some professional ensembles use them. Without realising it, probably most players have seen a six-string terz guitar, for in general size they are a 'three-quarter' classical guitar often used for younger players. When tuned in E, these instruments are usually rather modest in volume and tone, but respond better with high tension strings. A noticeable further improvement occurs when tuned in F or G, for then the higher frequencies of the smaller sound board are readily and consistently excited. Noting that when tuned in G, and with the third tuned to A rather than Bb, they are identical in tuning to a renaissance lute, younger players have a cheap method of simulating a six-course lute, for these instruments, lie in a price range from under £70 to about £250, and, unfortunately, even student lutes start at about £600/£800. Thus, for school use, these three-quarter size guitars have some interesting opportunities for experiencing a quite different sound when approaching simple renaissance solo or duo pieces. Coming to quality specialist studio or concert models, terz guitars exhibit a brilliant, and often-times, a crystal-like quality that is an attractive characteristic of the type. They can, of course, be made in seven, eight and ten string form, and thus for the guitarist who wishes to play lute repertoire and continue with modern guitar pieces on their standard instrument, they offer an instrument adapted to the requirements of their technique. More will be said on this point when discussing repertoire. The tuning of the four bass strings of a ten-string terz follows renaissance lute practice in descending tones as

7th-F, 8th-Eb or E, 9th-D, 10th-C,

thus an eighth at E corresponds to the eighth at C# on a standard instrument, a convenience for certain keys. Although some persons may have tried re-entrant tuning on a multi-string terz, I am not aware of any professional use.

The Alt Guitar.
An eleven-string instrument tuned like a terz guitar and with the eleventh string at Bb. The instrument is a relatively recent innovation and was brought into prominence by the acclaimed performance of Gran Sllscher of the Bach lute suites on an instrument made by George Bolin. Scale length is akin to typical requinto usage at 57cm for the first seven strings, but thereafter increases until at the eleventh is 76cm, a

figure one would expect to find on a bass guitar. Figure???, shows how this is achieved. The bass strings are fretted from their respective nuts and an immediate consequence of the carefully chosen extra lengths is that the bottom four bass strings, in descending order, tune to the sixth string at their respective frets, four, five, seven and nine, only just a little higher in position than the basis nut position. Thus, the convenience of finding certain low notes on strings eight, nine, Ö , is lost. This is not a disadvantage for the renaissance and baroque repertoire one would typically seek to perform on these instruments, but may be an occasional inconvenience in transcription or composition. This is the original string disposition. Some later models have used a uniform string length and are therefore of terz type. Another feature, is that the body-neck junction occurs at the tenth fret rather than the twelfth, though on the original concept of the instrument there is concave body curvature on the treble side to assist upper fret playing.

The sound character of these instruments is similar to the terz, and like the terz they have excellent projection. There is now a substantial number of Scandinavian makers who produce these fine instruments, and pictures of their products can be found in the web site noted at the end of the references. At the moment, they also exist in the catalogue of the Japanese maker Asturias and are hand-built by the master luthier, Tsuji. Altogether, a remarkable and successful innovation.

The Arch Guitar.
In 1982, Peter Blanchette, the American guitarist, received from Walter Stanul, the first thirteen string arch-guitar, an instrument they had jointly-planned, combining elements of the vihuela, baroque lute and modern classical guitar. All strings are over the fret-board, it is less waisted than a modern guitar, indeed more like a vihuela, and the fret-board runs flush with the table-top at the neck-body junction. The original tuning was comparable to a terz or alt guitar, the bass notes descending diatonically. They have been tuned in F#, and Elliot Gibbons introduced what was termed 'cadential' tuning, which involved some re-entrant strings among the bass. They have also been produced in nine and eleven string format, and a 'tenor' version a fourth below the original 'alto' in G has been produced and is played by Jean Chaine. As to the music that has been played on them and the wonderful sound they produce in both solo and duet form, one can do little better than direct attention to the review by Steve Marsh of the CD by James Kline (Classical Guitar, December 2001), and that by Chris Dumigan of the CD by Peter Blanchette and Peter Michelini (Classical Guitar March 2002). A visit to the relevant listed websites provides further information on instruments and recordings.

One final point on terz, alt or arch guitars. Music arranged or written for them, treats them as a transposing instrument, that is to say, the music is written as for an E-tuned guitar, and one finds the frets in the usual way. The relative shift of the strings (typically a minor third up), produces the intended key and pitch. Thus, a piece in C minor (three flats), appears in transposed key as A minor, for which guitarists will normally breathe a sigh of relief!

The Brahms Guitar.
While those who know requintos may have thought of adding an A above a tenor's top E, it is to the considerable credit of Paul Galbraith - who with the laudable aim of increasing accessible repertoire - pursued the idea (in conjunction with an additional bass string at A/C) with David Rubio, who produced the very fine eight-string instrument that can be heard on the CD, "Introducing the Brahms Guitar", cf.ref 9. The advantage of the instrument in terms of upward and downward range is obvious, but although there is the comfort of the middle six strings being standard, it will entail 'a period of adjustment', like all multi-string guitars. A prime constructional technical problem to be addressed is fitting the guitar with a set of strings that have similar tensions and therefore produce a similar acoustic to the standard instrument when working at their desired frequency. Seeing the relative scale lengths of the guitar family, one therefore needs a short scale for the top A and a long scale for the bass A. Rubio therefore adopted a workable solution in slanting both nut and bridge to achieve this. As to the results, one can do no better than listen to the CD mentioned to find what a successful implementation of the concept this has been. The instrument has a guitar-sound across the range and is well-balanced.

3. Strings

Strings for ten-string tenor, terz, alt and arch guitars are readily obtainable. The catalogues of Aranjuez, La Bella, D'Addario, Hannabach and Pyramid contain the lists of relevant types, and the latter two offer customising services in addition to standard items. Some particular pieces of information will assist practical aspects. While the treble strings of any make for a six-string guitar will fit a 65cm scale ten-string, because of the length of the head, a number of makes do not have the necessary length to enable use to be made of the three bass for this length of scale. Aranjuez offer a ten string Yepes set with copper-coloured seventh string. This 7th-C is an especially valuable string, readily tuning to D, and still producing a good sound when down-tuned to A. Thus, it is possible (from four packets, or by special order) to have an all copper set of basses for baroque tuning, a point to be elaborated in the next section. For tenor ten-string guitars, I have found that instrument response is better with higher tension strings. It is possible to tune even a 65cm scale in G, and while low-tension strings can achieve this, it is better practice to use, for example, the lighter rectified nylon types. This will mean making up sets individually using supplier tension information to obtain a reasonably uniform tension across the strings corresponding approximately to high tension strings in E-tuning. However, it is most important to realise that high-tension or even medium tension sets for E-tuning of a 65cm scale guitar should NEVER be used for tuning in G a guitar of this scale length, or even only a couple of centimetres less. Any attempt to do this will result not only in string breakage, but place unacceptably high loads on the bridge, sound-board and strutting, with the likelihood of severe damage, if not immediately, then with the passage of time. It is always worth seeking the instrument maker's advice in this regard.

Tuning a standard tenor guitar in G, while producing a bright sound with - for a ten-string - a good bass, does not produce a typical terz sound, the sound board is too big. I am indebted to Peter Rueffer for the observation that a tenor can be significantly brightened without becoming brittle or unbalanced by tuning in F#, i.e., at the second fret of an E-tuned instrument. This works well with both six and multi-string guitars. Interestingly, this tuning is probably close to G-tuning in the renaissance. Again, it is recommended that string sets are obtained from a specialist supplier. The equivalent of baroque tuning for a ten-string in F# is

7th - E, 8th - D or D#, 9th - C#, 10th - B1.

4. Learning to Play

Taking the case of 'the serious amateur' who wishes to explore what multi-string guitars have to offer, what is it like to learn to play one of these instruments? In the well-known words of the Irishman when asked for directions: "Well, I wouldn't start from here!". In spending several years learning to play a six string, two related things will have occurred,

1) a whole range of 'visual cues' will have been assimilated 'to know where one is', both on the fret-board and simultaneously where the plucking hand is,

2) very fine motor skills will have been learnt that enable the thumb and the remaining fingers to find the correct strings during the action of plucking.

On taking up a ten string, these two interrelated activities are now subject to

1. significant disorientation - your visual cues are undermined,

2. your plucking hand will not readily find the required bass string, at first, not without looking at the strings - a potentially disabling habit if persisted in.

Unlike the six-string members of the guitar family, where adjustment takes places very quickly, typically, a first adjustment within a few tens of seconds, and significant refinement, in many cases, in a matter of minutes, your first experience of trying to play a multi-string guitar is almost certain to be disappointing. Though there may be exceptionally-gifted individuals who adjust very quickly, I venture to suggest most capable players will find,

1. trying to sight-read a simple piece with an occasional open-string bass, will result in an inaccuracy in finding the bass notes and a degree of fumbling of the top six strings that was left behind some years ago,

2. your standard repertoire, so fluently performed on your six-string, will 'fall-apart' far too often on your ten-string - you will suddenly find that 'you don't know where you are on the fret-board', and your plucking is not as accurate as you have come to expect.

While all this is potentially very discouraging, you will also discover that the sonority of the ten-string is so attractive, that 'the game does seem worth the candle'. The very simple experience of finishing a piece in C or D with aid of string eight or seven, will impress upon you the difference a ten-string can make. As also indicated earlier, the enhanced acoustical ambience of these instruments is a delight in itself. So, how does one build up again the fluency one had previously, noting that the best way to learn a ten-string is to start at the very beginning of one's playing with a ten-string?

Before giving ideas on how this can be done, the problems encountered in starting to play a multi-string guitar are met at full strength in attempting a ten-string in baroque tuning and this is why this type is singled-out. A seven-string neophyte will experience the same difficulties, but in reduced form and will come to reasonable terms with this instrument probably within a few weeks. An eight-string instrument does not produce the same level of disorientation as a ten, but requires noticeably more effort than a seven to achieve reasonable fluency. Thus, indications on how to familiarise oneself with a ten, apply to seven and eight, where appropriate, and success should appear much more quickly on these instruments. On the basis of this observation, Brian Whitehouse, cf. ref 1, proposes a method of gaining familiarity with a multi-string guitar by taking off the additional bass-strings. Initially, play six-string repertoire on the remaining six, for some days and thereby start the process of gaining visual accommodation to the wider fret-board. This done, add the seventh string and commence exercises and pieces to adjust to bass-D tuning. After perhaps a week, add the eighth and work at exercises and pieces incorporating the two strings. Repeat the process for strings nine and ten. This approach particularly helps the process of re-learning visual cues. A further device which offers considerable help in visual adjustment is to use a bronze / copper-coloured 7th string. This clear delineation of where the bass-strings start really does seem to offer a point of reference which is quickly learnt. For example, top-string playing does not fall-apart as readily. It is, as indicated when strings were being described, possible to have all four basses coloured, and this will help. Colour differentiation is not an instant cure for disorientation, but it does speed up the process of accommodation. The other major problem to be

addressed is the re-learning of the motor skills, particularly the plucking action of the thumb in relation to the fingers. This, of course, goes on during the string-adding process, and will almost certainly have to continue after all are in place. The following exercises give an idea of the kinds of skill that have to be addressed.

Other than disorientation, the most upsetting feature of trying to play a ten-string is the inaccuracy in finding the additional bass-strings. Indeed, with them added even the sixth string becomes somewhat problematical, and the fifth a little uncertain. I recommend a process that in some ways parallels the string-adding approach.

Step 1. Find simple pieces in D but without bass D tuning, and drop the fourth string finishing note of the final chord or its fifth-fret equivalent, to the seventh string. In other words, play the piece, but simply enhance the final chord.

Step 2. Take straight-forward pieces with bass D tuning and use the seventh string instead.

Step 3. One of the crucial skills to develop is to have the thumb 'jump' accurately and quickly in a broken chord sequence. Two good examples are given in refs 10 and 11.

Further steps endeavour to repeat the foregoing as succeeding strings are added. Unfortunately, there are very few pieces with bass C-, B or A tunings, so one must take simple pieces in appropriate keys, for example, keys C or F for the eighth string, keys E / Em, B / Bm or G for the ninth string, keys D / Dm, or A / Am for the tenth string, and add open string bass notes where tastefully appropriate. With all strings in place, an extremely useful exercise is to play octave-coupled scales using the bass strings, that is, one or two octaves apart. To this should be added chord exercises, viz., devise sequences of well-known chords which can use strings four to ten as bass notes, and arrange them in sequences ascending and descending, and then jumping one string at a time, two at a time and so on, finally playing them in sequences that alternate ascent and descent of the bass-notes.

In the course of these exercises, one will be looking at repertoire, and so you would probably like to know how long is it going to take to come to some reasonable fluency. The answer is of course, "as long as a piece of string", for it all depends on the amount of practice and native ability. But if we say an hour a day's practice for an experienced amateur player, then I expect the rate of progress to be something like the following:

1. Three-to-four weeks to move from very poor performance to getting a simple piece right occasionally, but sight-reading still poor.

2. Within three months becoming confident, but not consistently accurate from memory, sight reading improved but not secure.

3. Within a further three months getting it right practically all the time from memory, sight reading much improved.

I have refrained from giving an optimistic version of events, for embarking on mastering a multi-string guitar requires determination and patience.

5. Repertoire

It may come as a surprise to guitarists to learn that Coste wrote for the seven string, Legnani for the eight string, and Carulli for the ten string, but what else is there? Of course, all works with a bass-D tuning (and the very few with bass-C tuning) can be counted. Beyond this, there is Ohana's distinguished work for the re-entrant-tuned ten-string, cf. ref. 2, so eloquently championed by Jonathan Leathwood. Janet Marlow's website gives examples of contemporary compositions, not only in her tuning system, but includes an indicative list compiled by Victor van Niekerk of compositions in Yepes tuning and a few in baroque tuning. There are some publications of lute pieces which accurately mark the bass notes with an 8 or (8) to indicate their real pitch, rather than the transposed up an octave ones which six-string guitarists use, thereby losing sonority. Into this class of publication fall versions of the Bach Lute and Weiss suites, and a few others, some examples are given in the references 3 to 8.

Outside of these pieces, as examination of the concert programmes of the few guitarists who play ten string, alt or arch guitars shows, it is a case of D.I.Y.. There are, however, some very fine sources for adaption, in brief, the lute repertoire, much harpsichord music, re-workings of the popular Spanish composers, and more or less anything that takes your fancy from venerable folk tunes through Carolan to the evergreens of Gershwin, Porter, Kern and Rogers, and much jazz. In the case of the light music of the 'twenties and 'thirties, say, a ten-string will deal with the vocal range well and add a sonority that just cannot be achieved with a six-string. One tuned in E will cope with pieces in C and sharp keys, but for two, three and four flats, a terz guitar is preferable. To use a terz guitar on flat keys, drop the key signature a minor third (three semi-tones), and write the notes up a sixth on the dropped octave treble clef used for writing guitar music. This done, the terz guitar will have a key signature in a friendly key, for example, two flats (Bb, Gm) becomes one sharp (G or Em), but will sound in the original key. A circular slide-rule, Keyrex, is available for dealing with transpositional keys for all members of the guitar family, cf. ref 14.

For music of the twentieth century, say, I find that a 65cm scale 10-string tuned (with appropriate strings) in G, while having the characteristic brightness of a terz, has a tonality appropriate to this kind of music. Such instruments - as expected from their sizes - have good basses. On the other hand, the shorter scale, small-bodied terz ten-string 'hath an antic aire' very suited to old music. However, neither it nor the alt, nor arch guitars, are lutes. With their double-stringing and lighter construction, lutes have a unique characteristic and those seeking this sound must try the lute. Many guitarists are apprehensive on two scores, reading tablature and losing their nails. The first is a non-starter for failing to try these beautiful instruments. Since the general elementary principles of tablature are fairly widely known, and in any case, an excellent account by Diana Poulton, cf. ref. 12, is readily available, a simple method of coming to terms with it, is to take one of the well-presented publications of the Lute Society of easy renaissance pieces and make a transcription into standard guitar notation. This is actually straightforward since with F# tuning of third string, the string intervals of a guitar and a renaissance lute are identical. Thus, the fret indications of the tablature work on a guitar, but give rise to a key and pitch a minor third lower than that which a lute would produce. Having done a few of these, one finds one is able to play tablature - rather slowly - directly onto the guitar/lute. Further practice is all that is required. With regard to the sensitive subject of nails, John Taylor, cf. ref. 13, has definitively argued on the basis of the physics of vibrating strings for the use of nails in tone production on the guitar. While many lutenists do not use their nails, the comments of Lex Eisenhardt in his article on the vihuela (Classical Guitar, June 2002) may be helpful in reflecting on this subject.

6. Conclusion

This article has outlined the major topics relating to multi-string guitars, and these are now summarised. While not easy to learn, one must accept that lutenists cope with instruments having anything from seven to thirteen courses, so learning to play a multi-string guitar is feasible. Repertoire, saving the modern compositions for a re-entrant ten-string, and some readily available renaissance and baroque lute transcriptions, is singularly absent. However, although Bach, Mozart, Debussy and a great many other fine composers did not compose for the guitar, a ten-string does make more realistic arrangements of their music a genuine option. At the same time, composers have an opportunity for exploring a new sound-scape. So where, overall, does one see multi-string guitars fitting into the guitar family? While no hard and fast proscriptions can be given, I would suggest that:

1) seven and ten-string instruments are for solo performance

2) saving the innovation of the Brahms guitar, while eight can be used for solo performance, it is ideal for small ensemble use with a dropped eighth string.

For large ensemble / guitar orchestras, the six-string members of the guitar family (octave down to bass) are the instruments of choice.
As to availability, fine instruments are available from major studios as standard catalogue items, so that waiting times are a matter of a few months. Solo makers are usually prepared to make any of the types discussed and offer a valuable customising service, though with longer waiting times. Given the will to start, there are very rewarding opportunities for the guitarist prepared to consider multi-string instruments. However, as noted at the end of my previous article on the guitar family (January 2000), nothing ventured, nothing gained.

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10. 'Italiana' (anon 16th century), in 'Solo Guitar Playing', vol.1, by Frederich M. Noad, Schirmer Books (MacMillan Publishing Co.), New York, 3rd Edition.
11. 'Tanz', Georg Fuhrmann, in 'The Renaissance Guitar', by Frederick M. Noad, Ariel Publications, New York.
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13. 'Tone Production on the Classical Guitar', by John Taylor, 1978, Musical New Services Ltd, London.
14. Keyrex (price £9 plus p&p) is available from: Wayland Design at http://www.waylanddesign.co.uk/ensembleguitars.
15. "Playing the Ten String," An Approach for Guitarists, by Janet Marlowe, (Book plus CD), publ. by Janet Marlowe Music LLC.
16. Websites. These are easily found by using major search engines such as Google, Yahoo and Altavista and typing in: 10-string guitar, arch guitar, alt or alto guitar, Nestor Bonito, Steve Gibbs, Jonathan Leathwood, Janet Marlowe, Sergio Medina, Stephen Schmidt, Raphaela Smits, etc, and following the resulting links.