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Open Strings: Berio's *Sequenza XI* for guitar

The guitar, though probably the most popular and available instrument today, has had a very limited presence in contemporary music works. When it does appear, it's usually in an ensemble setting, or as a strictly accompaniment instrument, or alternatively in guitar duos, quartets etc. This is largely due to the idiosyncrasies of the guitar, mostly unknown to the non-guitar-playing composer, who ends up writing mostly single lines for the instrument, since the polyphonic possibilities of it are quite mysterious for the uninitiated. Composing for solo guitar has intimidated contemporary composers, especially those not working within a style that evokes music of the past, since one of the main inherent limitations of the instrument has to do with the very strong gestural association with folk music of the Iberia. The other limitation of the guitar is the limited vertical combination of pitches available due to fingering constraints, a very puzzling issue for non-guitar playing composers. As if this weren't enough, composers seem to be puzzled about right-hand technique, which is indeed quite complicated to generalize. The result is either unidiomatic music for the instrument that needs to be re-worked by the player, or totally uninteresting pieces that don't contribute to the repertoire in any way, since they might as well have been written a couple of centuries ago. The rare-to-find guitarist that seeks contemporary repertoire for more adventurous programming is left with very few choices.

It would be useful to point out in detail some of the challenges the composer faces when writing for guitar. Most have to do with the construction and tuning of the instrument, and others with the performance practice and training that guitarists receive. More so than any other instrument, all pitches are not created equal on the guitar. Obviously, open strings are naturally louder, more resonant, and ring longer. Stopped notes also sound different in regards to the position and string they're stopped at. The length of the vibrating string changes the sound envelope, as does the thickness of the string they're played on. Higher positions on the fingerboard have less decay, and sound more 'intense' than notes in lower positions. Furthermore, the construction of the body of the guitar favors certain frequencies over others, regardless of what pitches are plucked, creating formants. As a result, all pitches contain some amount of energy from upper partials of the open low E string, and in lesser amounts partials of the remaining open strings according to the string thickness (the thicker the string, the more energy it contributes).

In a similar way as the piano, the guitar has a fixed sound envelope. Most of the sound identity of the instrument timbre is in the attack, which contains a good amount of noise, and the quality of which is very dependent on technique: most players spend the majority of their practice time working on obtaining clean attacks with perfect left/right-hand coordination. Once a note is plucked, there's very little that can be done to change the sound-namely left-hand vibrato on stopped notes (unlike the piano). The decay time is fixed for all available pitches, but not equal among them. This acoustical reality puts a constraint on the spacing of notes and gestures.

In regards to timbral control on the instrument, there are a few choices, but they tend to be pretty limited, since most are not effective throughout the instrument, and all are quite temperamental. The strong identity of the attack of the sound can't really be varied much, but the available choices in that realm are: 1) *sul tasto*; not really a radical timbre shift as in bowed instruments, and one that greatly diminishes the volume and sustain of the sound. 2) *Sul pont*; a little more useful as an alternate color, it behaves like on bowed string instruments, adding upper partials to the sound, but it also diminishes sustain.
3) *Bartók pizz.*; a mostly percussive sound, with little pitch content, and a technique that needs to be prepared by the right-hand, which needs to alter its playing position.
4) Harmonics; the only truly useful ones are natural harmonics, which are limited in number. Artificial harmonics, though available to some extent (the only reliable being those at the octave above the stopped pitch) need extra time to prepare and an adjustment of the right-hand playing position.
There are also a few techniques that come from flamenco playing, involving the right-hand, which are mainly percussive in quality, and involve repetitive iterations of a fixed sonority. The most commonly used is *rasguado*, a kind of 'sweeping' of the strings by all right-hand fingers. There is also *tambora* playing, which employs striking behind the bridge while fingering notes with the left hand. The resulting pitches of this one aren't quite predictable, since several uncontrollable acoustic factors come into play.

In regards to performance practice and training, the composer has to also consider the following issues: Due to the multiple positions available for most pitches on the instrument (more than any of the bowed string instruments), and to the limitations of the left hand, sight-reading is extremely difficult for guitarists, and even studying written

music becomes is a time-consuming process. The player has to actually figure out how an entire passage lays on the instrument in regards to string placement, position, right-hand pattern etc. before he can actually play it. In essence, there is an extra step between reading notes and producing sound, and most players don't memorize notes but hand patterns, relying much more on muscular than visual memory. This fact makes the inclusion of the guitar in a contemporary ensemble problematic, because it multiplies rehearsal time.

Luciano Berio, well aware of the above-mentioned issues, waited until quite late in his creative life to deal with the guitar. The guitar sequenza, written in 1988 for Elliot Fisk, is one of the last three sequenzas in his oeuvre, at which point he had to deal with writing sequenzas for instruments that are not easy to write for in a convincing and idiomatic way (the bassoon and the accordion being the last two). He managed however to produce a work that is extremely well conceived for guitar, and uses the instrument in the most idiomatic way, taking into account the limitations, acoustics, playing technique, and performance tradition. The objective of all sequenzas has been to deal with solo instruments in a virtuosic, yet highly idiomatic way, in a manner that fully explores extended techniques, timbral possibilities and even performance practice, while showcasing the virtuosity of performer. Berio has done extremely well at that in regards to the guitar. Technically the guitar sequenza is extremely challenging. It employs several instances of wide left-hand stretching, rapid position changes, as well as very challenging right-hand shifts in playing position. It also employs every available extended technique and explores the full range of timbral possibilities on the instrument, without being unidiomatic at any point. There are several places where extreme precision and speed are

required, and the greatest challenge for the performer is to maintain momentum and forward motion as they joggle through an encyclopedic showcase of guitar possibilities.

General Features and Considerations:

Like many of the sequenzas, Berio explores a sort of multi-faceted character duality in this work. There is a constant shift between two stylistic worlds: the classical, more strict way of playing, and the flamenco/improvisatory style. There is a group of violent/percussive gestures, and a group of elegant, *dolce* passages. There are two general tempo markings (with few disturbances). Harmonically, there exist two worlds: one based on "guitar chords", based on the tuning of the instrument, and one more post-serialist world of intervallic constructions. Another important feature of the piece is Berio's concern for symmetry, which manifests itself in both the vertical pitch construction and the temporal dimension.

Form:

The overall feeling of the temporal organization is that of an improvisatory quality, and a good performer should observe and deliver it as such. There is a lot of varied repetition in both the small and large-scale structure, which helps the listener identify and follow elements operating on different levels and perceive the large scale form as an arch, though not perfectly symmetrical, or even consisting of sections that re-appear verbatim. Caroline Delume (*Luciano Berio: Sequenza 11 pour guitare*, <Entre-temps>, 10, 1992, pp. 41-56) divides the piece into sixteen large sections, each one falling into one of 6 types, consisting of different combinations of specific gestures. While one can disagree radically on where these sections begin and end, the gestures that serve as building blocks

for the overall structure are unmistakably identifiable- even when combined and undergoing transformation-, as is the overall sense of the arch.

Gesture Classification

∝) *Tambora* gestures contain very little pitch content, they're mostly percussive, but do pick up the resonance of whatever pitches are being stopped by the left hand, or the open strings. Berio uses them as a means of "shadowing" the pitches of the chords they surround (either before or right after), while providing rhythmic activity.

β) unmeasured alternation of (usually) three pitches, using hammer-ons and pull-offs of the left hand. This appears in three versions: either a) all notes plucked by the right hand, b) only the first note plucked, or c) the first of a group of (usually 3) notes plucked. The duration of the figure is always determined (either in seconds, or in rhythmic values). The three pitches involved are always a chromatic sequence (except at st.: 36 (*), where the figure expands outwards). The function of this gesture is to expand upon the limited natural sustain of the instrument, in a pitch-oriented manner. When it appears, it always follows a rising figure, of which the arrival pitch is taken up and used as either the central pitch of the chromatic set-in which case it is prolonged by a sort of chromatic double trill-, or as the lowest pitch of the chromatic set-in which case the gesture expands the previous figure chromatically. This technique is used widely by electric guitar players, and is not a standard technique among classically trained players.

γ) measured tremolos, between a fixed pitch and a moving line. The fixed pitch in this piece is always an open string. This technique is part of every serious guitarist's training, and the etude used for developing it is Tárrega's: *Recuerdos de la Alhambra*. [1]

δ) rasguado gestures. At first these appear as a form of grupetti, across all 6 strings. At st.: 11, however, a new version appears, which takes on a motivic function as well. The latter uses a single pitch (open low E) played *rasguado* and lands on another pitch plucked with a Bartók pizzicato. The second pitch is always either a half-step, or a tritone higher. This gesture reaches its most extreme transformation at st.: 20-22, where it is transposed and inverted, while taking the pitch profile of gesture β (set of 3 chromatic pitches). This version is then abandoned until the very end of the piece, where it makes 3 more appearances (st.: 86e, 89b, & 92m). The original (6-string) version does appear several times after this, however.

ε) "timbral-trills". Alternation of the same pitch fingered on different strings, usually one being an open string. This is more available in the middle of the guitar's register where more pitches have alternate fingerings, and limited to pitches that can be reached by stretching the left hand. This technique is explored extensively by Berio, since it's the most effective way of altering the timbre of the guitar, while at the same time doubling the speed that a repeated note can be executed at. It is also combined with *rasguado* several times. The most idiomatic use of this gesture is when it's used to correct any tuning problems that might have occurred because of the extended *rasguado* passages at st.: 58-62.

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[*] st.: staff number. b = beginning, m = middle, e = end (all approximate). Staves are numbered 1-95.

Gestures are used as building blocks to create a thickly woven fabric of guitar sound. In general, this is done freely, but repetition and symmetry (where a specific gesture is preceded and followed by another specific gesture) are used extensively. There is also a sense of development of gesture as the piece progresses, which is achieved by re-ordering of the building blocks into more complex phrases that utilize more gestures per unit of time.

Pitch Constructions

Berio constructs two harmonic fabrics, intervalically conceived, that can justify almost every pitch in the sequenza. On one side, the guitar-oriented harmonic material, based on perfect 4ths and major 3rds according to the tuning of the instrument, on the other side material based on tritones (Berio's favorite interval by far) and half-steps. Tritones and perfect 4ths are then chromatically filled–in in a symmetrical manner to complete the pitch material of the piece. Example 1 shows how a tritone is treated symmetrically, first by adding a pitch that divides it in half, then by gradually filling in semitones symmetrically around the two pitches, and eventually by using two interlocking tritones, and repeating the process on the new collection to obtain a chromatic aggregate. This can be considered as a means of producing the perfect 4ths of the other harmonic side (guitar harmonies). When half-steps are inserted within the tritone, it collapses into a perfect 4^{th} (inserting a half-step on one side), or a major 3^{rd} (both sides). When half-steps are used to expand it, it turns into a perfect 5th, or a minor 6^{th}.

Pitch collections for both vertical and linear constructions are derived in this manner, by working symmetrically around a tritone. There is a certain chord that appears -in one version or another- no less than 50 times throughout the piece (not counting the

reiterations) (example 2). In all its appearances, this chord is surrounded by the pitches outlined in example 3, similarly obtained by filling in the two interlocking tritones symmetrically, until the construction becomes a chromatic aggregate. Any variance in octave displacement has to do with playability on the instrument.

The use of the tritone and the half-step also take on a motivic character, and are so stated several times along the piece, not only in an abstract intervallic way, but as specific pitches. E-B♭ happens very frequently (other favorite tritones being: B-F, and C-F♯), as does halfstep: E♭-D, and the combination of the two intervals: E-B♭-B.

Berio's guitar sequenza remains a difficult work to perform, and there is but a handful of guitarists besides Elliot Fisk that have recorded it, even less that could feel comfortable enough to perform it live. This is partly due to the general fear and avoidance of contemporary music on behalf of guitarists, due mostly to lack of training in the idiom, lack of repertoire, and quite a bit of prejudice. It does, however, break new ground for the instrument, as a work that respects and explores the instrument and its possibilities, as well as the performer and their specific training, and pushes the envelope without going overboard. And while there don't seem to be many pieces that follow Berio's example, the road has been paved for more solo guitar music that doesn't fall prey to clichés or models that should have been long abandoned.