Microtonality: my part in its downfall

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Introduction

The title of this talk is, of course, slightly ironic. I don't advocate the "downfall" of microtonal scales or pitch materials, and if I did I clearly wouldn't be here this afternoon. On the contrary, I believe such materials are here to stay, and indeed that their use will become even more widespread in creative music-making in the twenty-first century. Rather, in this talk I would like to question the shelf-life of the term "microtonality" itself as a descriptive adjective, and of related terms ("microtone", "microtonal", "microtonalist"), with their unfortunate connotations of "otherness" and "strangeness" and the general sense they give of microtonality as an outsider activity. Is the designation "microtonality" still useful today? Will it remain so, say, twenty-five years from now?

As a musicologist I approach this topic from a somewhat different angle than most of my fellow participants in UK Microfest 1, who are primarily composers, performers and theorists. As a way of answering the questions in the above paragraph, I would like to consider the (purely speculative) idea of a History of Microtonality. Could one write such a book? There are, of course, already a couple of existing works that come close – Gardner Read's book on microtonal notation, or Franck Jedrzejewski's *Dictionnaire des musiques microtonales* – but that's not quite the sort of thing I have in mind. Could we, for example, read twentieth-century music history as a progressive history of microtonality? Does the idea make sense? Does it stand up to investigation? What sort of a history would this be? Clearly one can write a history of anything – recent histories I've read include one of the pencil, and one of the Devil – but would a history of microtonality make an interesting (or a coherent) story?

A semantic preamble

Before we begin, however, I'd like to offer a brief semantic preamble and look at this word "microtonality" itself. It's a term that's always bothered me. I've rarely used the word in my own voice, so to speak, in my published articles, though I've quoted other people's use of it. Part of the problem is that a clear definition of the word "microtonality" is frustratingly hard to pin down. I take it to mean the conscious, deliberate use of "new" or unfamiliar pitch materials outside the conventional twelve pitch classes. Others would contest this. (To me, describing a traditional fiddler bending a pitch as an instance of microtonality is, if not exactly wrong, pretty meaningless.) Or let's take the word "microtone". This word is obviously silly. I mean, how can a note in isolation be a microtone? It doesn't make sense. (Not to mention the inferiority complex one would develop if one found oneself to be a microtone, forever subordinate to those twelve ruling "non-microtones".) The French equivalent, "les micro-intervalles", is at least not silly because it implies that a note is a microtone only in relation to something else. But we have no real translation for "les micro-intervalles" in English.

Likewise, I've always thought it an odd usage when someone is described (or describes themselves) as a "microtonal composer". Let me suggest a parallel case. Microtones are to the pitch domain roughly what "extended techniques" are to the timbral domain. ("Extended

techniques" was a term that gained vogue in the 1960s to describe the use of fluttertonguing, multiphonics, etc, on wind instruments, or various kinds of sul ponticello or sul tasto on strings.) Nowadays "extended techniques" are an integral part of a new music player's vocabulary, just like microtones. But you'd never think of describing Berio, say, as an "extended techniques composer", and it seems to me it makes equally little sense to describe someone as a "microtonal composer". The word "microtonal" itself I have fewer objections to, and it's OK when used as a description of, say, a particular pitch texture in a given piece where the space of the octave is saturated with lots of small intervals. But I think we should be careful about using the word "microtonal" indiscriminately. (A usage such as "microtonal concerts", for example, I also find silly: and anyway the real problem with microtonal concerts, as my friend Nye Parry says, is that there's never enough time to get a decent drink as they always have such small intervals.)

Anyway, that's the end of my little semantic preamble. But you see problems looming even in the very words we use when we turn our attention to a History of Microtonality. With this in mind, let's consider in turn the various stages of twentieth-century usage of new pitch materials.

Microtonality: a rough guide

The hypothesis has been advanced, by Ben Johnston, that there is a "proto-microtonal" phase in twentieth-century music (and indeed late nineteenth-century music), when the pitch usages of composers suggested a pitch "space" larger than that of twelve tones in the octave. These composers, of course, lacked the means to realise these implications. (Ben has discussed the case of Debussy; I'd add figures like Scriabin and Varèse). It's true that Debussy's (and Messiaen's) use of essentially "consonant" sevenths, ninths and elevenths in their harmony does parallel the structure of the overtone series (as, some decades later, do the Otonalities in the music of Harry Partch). But Debussy's music makes such extensive use of enharmonic *ambiguity*, even with regard to the "meaning" of a single pitch, that the loss of ambiguity that would result from retuning his music in just intonation would undermine a great many of his most characteristic harmonic manoeuvres. So in the case of Debussy there remains some doubt how proto-microtonal his music really is, no matter how suggestive those "harmonic" sevenths and ninths are. The case of Varèse seems to me a less problematic one. I've no doubt that Varèse would gladly have written microtonal intervals in his instrumental music had players of his heyday (the 1920s) been able to realise them. Varèse was devoted to overcoming the sonic limitations of the tempered system; in fact you could say that he finally got there in later works like *Déserts*. So I would certainly give him a prominent place in any proto-history of Microtonality.

In a history of Microtonality proper, Schoenberg would get an honourable passing mention because of his serious discussion of 53-note equal temperament in a footnote to his *Harmonielehre* of 1911. Bartók would make a fleeting appearance thanks to the use of quartertones in his solo violin sonata, even though there is another version without quartertones; and Ives would get a more extended discussion because of his *Three Quarter-tone Impressions* for two pianos tuned a quartertone apart. (This piece of Ives, usually dated around 1924, is the first genuinely microtonal work by any major composer.) Webern discussed the expansion of our pitch resources in his lectures *The Path to the New Music* given in Vienna in the early 1930s, though his actual music seems the epitome of twelve-note equal temperament, about as un-microtonal as you can possibly imagine. Poor old Stravinsky, on the other hand, would hardly get a look-in.

The real pioneers of microtonal music are still fairly obscure figures, at least as far as performances and recordings are concerned. The main ones, I'd suggest, are the Mexican Julián Carrillo (1875-1965); the Russian Ivan Wyschnegradsky (1893-1979); the Czech Alois Hába (1893-1973); and the American Harry Partch (1901-1974). Even here there are considerable differences between these four figures. Carrillo, Wyschnegradsky and Hába all used divisions of

the tempered tone (third-, quarter-, fifth-, sixth-, eighth-, sixteenth-tones etc) and were motivated by the wish to expand, not overthrow, the existing resources. They all built new instruments (or commissioned other people to build them) to realise these new scales. In general their work was quite well-known and much discussed in their lifetimes; Carrillo and Hába, in particular, received a good deal of acclaim. They were seen as radical artists, prophets not without honour in their own countries. Wyschnegradsky was, and remains, somewhat less well known. Partch's use of microtonal intervals, however (which for him was only one aspect of his work, and not the most important aspect) was part of an overall anti-institutional stance, in which the whole of western music – its concert occasions, musical forms, instruments, and tuning system – was called into question. He did not really consider himself to be a "microtonalist" and would probably have had little interest, at least later in his life, in events such as this Microfest. His interest in tuning was part of a web of ideas, all of which are interlinked. He wanted to put music back in touch with ancient values he believed it was disregarding, such as an integrated relationship with the other arts. His aim was not to augment but to overthrow the existing system of equal temperament, and replace it with a complex system of just intonation. American musical life, in consequence, largely sidelined him for most of his active lifetime.

So, from the point of view of our "History", the idea of these four figures forming a group is essentially untenable, for both geographical and ideological reasons. There is a further reason, a stylistic one: even the most casual acquaintance with the music of each of the four will show that their musical languages do not resemble each other, not even superficially. Even given the existence of a not inconsiderable body of microtonal music by, let's say, the end of the 1950s, Microtonality, as a movement, had not yet gotten going.

Nonetheless, by the end of the 1960s microtones had entered the general vocabulary of the avant-garde, and almost all the leading figures in European new music were using them (Xenakis, Ligeti, Nono, Stockhausen et al). It's not easy to say exactly how this came about. The work of people like Hába, Partch and co. was known about, rather than known; it is true, of course, that their theoretical writings travelled more widely than their music. So there could have been some direct influence, but I suspect that's not the whole story. For the most part the use of microtones made by the post-war avant-garde was of quartertones and occasionally of less precise intervals smaller than a quartertone (though not necessarily exact eighth-tones). Generally there was little interest in pure intervals. By this point quartertones had "caught on" – were in fact becoming quite fashionable. The point of musical modernism, after all, was to overthrow the old ways and search always for new materials, new expressive means; so from that perspective, microtones were A Good Thing.

An exception to the general lack of interest in pure intervals was Stockhausen's *Stimmung* (1968), which made use exclusively of the first nine partials of a single fundamental. (In fact, not all nine are used, only the 2^{nd}, 3^{rd}, 4^{th}, 5^{th}, 7^{th} and 9^{th}.) The work is an object lesson in pure tuning. Although arguably not its composer's best work, its impact was considerable. I believe that with hindsight we can see *Stimmung* as heralding a "didactic" phase of microtonality – the first of a number of pieces, part of the aim of which was to "introduce" the listener to microtonal materials in a self-conscious way. In this category would come (in America) the *String Quartet no.4* (1973) of Ben Johnston, which progresses from Pythagorean tuning (based only on pure fifths and fourths) through triadic just intonation to (from about half-way through) a microtonal 22-note pitch collection including intervals derived from the seventh partial. Another example is the *Spectral CANON for CONLON Nancarrow* (1974) for retuned player piano by James Tenney, which uses the first twenty-four partials of a low A, introduced one at a time in sequence. And in Europe there is the explosive beginning of *Partiels* (1975) for large ensemble by Gérard Grisey, a sort of crash course in the overtone series. Whatever their didacticism (and Grisey himself used the word "didactic" about *Partiels* and the larger cycle, *Les Espaces Acoustiques*, of which it is a part), these are all fantastic pieces and, like any good music, are "about" much more than simply their microtonal materials.

Grisey's *Partiels* comes near the beginning of what is arguably the first "movement" in twentieth century music history that we can point to as being inherently microtonal from the outset, and unthinkable without the use of microtonal intervals: *spectral music*. Today associated primarily with the work of Grisey and Tristan Murail, spectral music grew from the Paris new music scene of the mid-seventies. This music uses studies of the complex inner life of single sounds as models for new musical forms and materials. In particular, both the natural harmonic series and distorted or "inharmonic" spectra appear in this music, with instruments playing pitches and intervals that simulate the component partials of the various spectra. Quartertones and eighth-tones are plentiful in the works of both composers. But on closer inspection this turns out to be less of a move toward microtonality for its own sake than we might think. The theoretical writings of both Grisey and Murail make clear that all this microtonality is merely an approximation (more or less exact) of the precise frequencies of the actual spectra used as models. Murail, for example, feels no hesitation about writing "spectrally" for the normal equal-tempered piano, and considering its twelve tones as relatively crude approximations of the spectral pitches. Unless we had players who could produce precise frequencies on demand (a pitch of 577 Hz, say), everything they play will be only an approximation: and whether that approximation be a 12-et pitch or some sort of "microtone" is a non-issue. (This point applies equally to the undeservedly less well-known spectral music of Horatiu Radulescu and Claude Vivier.) So even spectral music turns out to be not a fully convincing candidate for a microtonal "movement" in post-war avant-garde music. Our History is not doing very well!

Since the 1980s, to generalise, we might say that the use of microtones has fallen into several broad camps. In the so-called New Complexity (the music of Brian Ferneyhough and his like-minded colleagues and students) the use of microtones is welcome as a way of increasing the general level of complexity of the pitch domain, just as these composers take complexity of rhythm out to super-human lengths. With other composers, the use of precise tuning, whether of pure intervals or tempered, has of course continued, and taken some surprising twists and turns: there is now an ever-expanding body of music written in 19-tone equal temperament, or 31-, or other higher divisions, as there is an ever-expanding body of music in extended just intonation (some composers, like Terry Riley, have largely turned to just intonation after having begun their careers in equal temperament). The use of microtones to approximate spectra has continued; indeed we even have a "post-spectral" generation. The use of imprecise or irrational microtonal intervals (a practice sometimes referred to as "detuning") as a way of "dirtying up" more conventional harmonic textures and of adulterating the sound and the meaning of equal temperament has led to some stunning results. The best-known exponent of this latter approach is Ligeti (from as early as his *Requiem* and in later works such as the *Double Concerto,* the *Violin Concerto* and the *Hamburg Concerto* for horn), but it applies also to recent works in the quite different musical idioms of the New Yorker Michael Gordon (*Sunshine of your Love,* or the opening of *Decasia*); the Irishman Donnacha Dennehy (his recent work *Hive* being a particularly fine example); and the Amsterdam-based American Anne La Berge, whose microtones come more from the physical nature of her instrument, the flute, than from the dictates of any theoretical system. Our History of Microtonality has split into lots of histories; its different manifestations grow from different roots, and uphold different ideologies.

A prognostic conclusion

As we look toward the future, what part do we see microtones playing in music of, say, thirty years from now? Which of the many possible paths will prove the most fruitful? Will we, for example, go the direction of developing standardisation in microtonal instruments? And which ones? The quartertone alto flute? The 19-division trumpet? The Carrillo 96-tone piano? (There is a company in Germany that, well, not exactly "mass-produces", but at least manufactures such instruments.) Will every home have its own Chromelodeon? Or what about

the youngest generation, who often play essentially only one instrument, the laptop? It's possible to make creative, microtonal music on the laptop without knowing anything of the theory or body of usages behind the history of microtonality. Is that where the future lies? Tristan Murail, on the other hand, talks about "frequential harmony", in which we refer to pitch by frequency rather than by As or Bbs or C-three-quarter-sharps. Is this where we're headed?

Amidst such questions one thing is clear: microtonal intervals (by whatever name), and the means to produce them, are here to stay. Creative music-making has toppled the monolithic status of twelve-note equal temperament, just as Harry Partch hoped it would some eighty years ago. So, to return to my opening questions: is the concept of "microtonality" still useful, then, if so much of the most interesting music being written these days is all microtonal? Do we still need the word, or is it already past its expiry date? For that matter, what about our History of Microtonality? My view is that the closer we look toward the future the more we realise that a History of Microtonality will quickly become – I'd even say already is – simply one part of a History of Music, and that all the most interesting microtonal music is, at the end of the day, simply music. My friend Kyle Gann once memorably wrote that "music is a footnote to the history of tuning"; if tuning indeed leads the way and individual works of music are merely instances of tuning systems, do we really need the notion of "Microtonality"? I'm not so sure we do.

But the jury's still out.