Item: LOU HARRISON'S ROLE AS A SPECULATIVE THEORIST

has, I think, been significantly overlooked, perhaps because "hard" theory is so much less glamorous than sonority and melody. But Lou has made a contribution in the area of theory that may be among his most important and long-lasting: the distinction between "free" and "strict" style intonations. Like most great theoretical insights, Lou simply reinterpreted these historical notions in the new context of twentieth century music.

In *free style* style intonation the intonation of a given pitch is determined by ratio from the previous melodic pitch, or some vertical relationship, and NOT simply from a predefined gamut (we should also follow Lou and use that word "gamut" instead of the word "scale" when that is indeed what we mean!). Lou used this idea beautifully in at least three pieces that I know of, the seminal *Arion's Leap, At the Tomb of Charles Ives*, and the visionary *Simfony in Free Style*. It is worth pointing out that the latter two works were almost impossible to play accurately until the development of small tunable microcomputer systems—which could be programmed to give the players an accurately tuned "realization" of the piece for practice purposes.

In his own words, Lou will "always respond to technological advances by a significant step backwards." With the advent of word processors Lou learned to make ink, with the development of high quality "desktop publishing," he learned to make paper! It is ironic, then, that Lou's ideas of intonation, so firmly rooted in history yet so forward looking, will probably have a great deal of impact on the use of computers for experimental intonation in the next twenty or thirty years. It is only recently that computers *could* be tuned accurately, quickly, and easily. But so far, the chief application of this capability has been for what can only be called "exotica"—musicians belatedly trying to expand their ears to include what they still consider to be "variant tunings," "microtonalities," and the worst terminology of all, "non-standard" tunings (!). Most of the experimentation at present, from an intonation standpoint, seems hopelessly naive when compared to the work done by Lou, Harry Partch, James Tenney, Ben Johnston, Erv Wilson, John Chalmers, and others over the past thirty years.

I feel strongly that Lou Harrison's distinction between *free* and *strict* style will emerge as one of the most important ideas in computer music experimental intonation environments. In this case, Lou's ideas were well ahead of the technology available to him. Although the idea of *free* style is based on what choruses, string ensembles, and all variable pitch instruments do naturally, it has always been difficult to notate, and nearly impossible to play (players' ears, much less their fingers, are simply not trained to the extraordinary degree of sensitivity required). This is, however, precisely what computers can do well— tune fast, accurately, and in any fashion. This will be the major innovation in computer music and intonation—the ability to have complex and highly dynamic tuning systems and algorithms which explore intonational universes only dreamed of by composers like Harrison and Partch. Partch always. made it clear, for example, that the 8 tone gamut of monophony was a small subset of possible resources, in fact a kind of compromise, to the technology available.

In the computer music language *HMSL* (Hierarchical Music Specification Language), developed by myself, Phil Burk and David Rosenboom at the Center for Contemporary Music, there is an environment for experimental intonation. One of the most useful aspects of that environment is the ability to specify, or have the machine compute, the intonation of a given pitch "on the fly," either in response to a stimulus (e.g. what keys are pressed, what pitches the computer "hears"), or by some predefined algorithm. Sometimes I refer to this part of the computer software as the "Harrison homunculus," for the design is clearly motivated by Lou's prophetic notions.

Lou will live forever in aluminum, iron, ink, wood, canvas, ceramics, and paper. To that list we should probably add one of the most plentiful of all the earth's substances, sand.

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A Lou Harrison Reader

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