Ivor Darreg

NEW OPPORTUNITIES FOR THE MUSICAL EXPLORER

For over 50 years, Ivor Darreg has been designing and building new musical instruments, free of the constraints imposed by mass-production. In the last decade or so, a new movement usually called Sound Sculpture has come into prominence. While some sound sculptures do not involve any musical scale, those of Ivor Darreg generally do: they are based upon new musical scales while some of them are totally compatible with existing music which can also be played on them by regular performers.

New methods of recording and copying recordings of music have at last permitted a new surge of musical progress, by making it unnecessary to produce hundreds or thousands of a new instrument before its new music can be heard by a sufficiently large number of average listeners and by other composers and performers. Thus it is no longer so imperative to standardize a design or to work within the severe restrictions of the 19th-century orchestras and bands, so that new music by contemporary composers can now express today's environment and milieu and aspirations, rather than having to conform slavishly to the rigid standards of 1850 or 1870. No longer is it necessary for someone composing today to clone all the dead composers and be hogtied by the limitations of conventional instruments.

At last the era of the one-of-a-kind and the individualistic musical instrument has arrived. By the way,this is just as true of electronic instruments as it is of the acoustic ones. You don't have to accept helplessly whatever the mass-production manufacturer dishes out. There are now alternatives. Let us explore one set of such alternatives: THE MEGALYRA GROUP OF INSTRUMENTS.

The Megalyra Contrabass

For nearly a hundred years the Hawaiian steel or slide guitar has been in existence, but never taken too seriously. It has been used mainly for trivia. Does it deserve this fate--forever on the sidelines, ignored by almost all serious musicians, relegated to a blind alley. Some variations on the slide-guitar idea appeared commercially, the most elaborate being the Pedal Steel with more strings and mechanisms for retuning some of the strings to change chords, but this was for popular, not very sophisticated, music.

So long as manufacturers make only what sells, and consult performers while ignoring composers, nothing much could happen. With the lack of progress the word "new" applied mainly to cosmetic changes. Ivor Darreg thought of the concert grand's impressive bass and the thunder of the pipe-organ's pedal keyboard--now that pianos were going downhill and organs had been replaced by electronic keyboards with less dignity and depth, could these effects be saved and indeed enhanced? Suppose you make the steel guitar several times bigger, and borrow the pipe-organ pedals' principle of multiple pitch-levels? That was it! Depth plus Brilliance; clarity from the double--octave or four-foot pitch, a smaller amount of the 5-1/3-foot pitch sounding the octave-and-a-fifth; the octave; and the fundamental of 16-foot pitch for depth; and more than one string for each such pitch-level, for chorus effect, just as large organs have several pipes of different lengths for each note.

What has worked on pipe organs for centuries worked just as well on the enlarged slide guitar, and so 4 of the Megalyra were made. Critics wanted to have the instrument made shorter, to have it produced in quantity--but long strings on a board 7 or 8 feet long were necessary to get the right effect. Different lengths were tried--one of 6 feet was definitely less impressive; the 8-foot one was very successful and still is. Longer still? No, because

However, a mock-up eleven feet long was made some time ago, to test out whether someday a sub-contrabass instrument could be made. This was suggested by the existence of 32-foot stops on really large organs, going down to C=16 Hz. Experiments have been conducted with different kinds of strings, to find something that would work at those bottom pitches, and the possibility is definitely there. While the ears of the average listener in a hall might not respond very much to those extremely low notes, what is still there would be the feeling of shaking of the floor and other felt vibrations, and the long low harmonic series produced by such long strings. Biggest problem would be the requirements for a speaker system that could handle loud tones below 25 Hz--a severe design problem for speaker-manufacturers who would so much rather you didn't ask!

Recording such low frequencies is even more of a problem, so this would be mainly a showpiece for live performances in special circumstances.

In most cases, the 8-foot Megalyra will be spectacular enough. There are so many ways of playing the Megalyra, giving variety, and each player can develop an individual style. The steel slide will be the principal tool, but one can do wonders with a pair of wooden bars, one in each hand. These are held firmly on the strings after striking them, and the alternation of the two hands gives clear, crisp, and rapid articulation with no slide. That, in fact, is the clavichord-tangent principle. Other muted effects are possible with the bare hand.

People keep asking, What sheet music is there for it? No problem: it **can be** used with orchestra and solo parts for a wide variety of bass and contrabass instruments: cello, doublebass, tuba, trombone, organ pedal parts, bassoon, and some tenor and middle-range instruments as well, so it is NOT necessary to wait for some fine day when any special literature for Megalyra might be available. Compatibility was a watchword in designing the Megalyra.

The Drone Instrument

This was the first variation on the idea to be built: The music of India and many other places uses a drone and the "sitar-buzz" and sympathetic-string effects have been exploited in a number of musical cultures for a long time. For this purpose, a smaller instrument is adequate, say 4½ to 5 feet (say 135 to 155 cm) overall. The Megalyra fret-line colored pattern need only be on one side, the melody side, while the drone side need not have fret lines since when or if the drones are sounded, they are open. Existing instruments of this type have 8 very thin unison strings and four strings tuned an octave lower on the front side, played with a steel rather shorter than that used with the Megalyra Contrabass. The drones are 5 pairs tuned in octaves, generally to a C D F G A pentatonic scale on the other side of the board, and they are so planned as to length and tension that many alternative tunings are possible. A special Drone instrument was built for Glen Prior, which had the triplet of drone strings at the bagpipe pitch, and another triplet a fifth above, and on the front side the fret-lines showed only the peculiar Highland Bagpipe scale and repeated it an octave lower.

The Kosmolyra

This is the smallest member of the Megalyra Group, not much larger than a regular Steel Guitar. It bears the same colored-line pattern on both sides of its board as the Contrabass does, although the highest lines may be simplified because they will be so close together. Four chords are generally provided for, two on each side. There will be eight to twelve strings on each side, and the bass string(s) common to both chords will be placed in the center—for instance, the player may alternate rapidly between major and minor chords by going to the right or the left of those bass strings. Chords are usually in just intonation. They can be strung and tuned for any scale the owner wishes, and there

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The Hobnailed Newel Post

The Hobnailed Newel Post was suggested by the complicated spring and lever and linkage and knee-lever and pedal arrangement on the "Pedal Steel", which is the chief commercial embodiment of the expanded multi-chord steel-guitar idea. Could we simplify this idea and provide a number of chords without any such mechanisms, and thus avoid the way in which the Pedal Steel eats up much of the length of the strings in the adding-tension and subtracting-tension devices that change the chords via knee-levers and pedals ?

Yes is the answer. Take a square-cross-section wooden beam a meter long (say 3' 4") or it could be somewhat longer, and fit it with square endpieces as is done with the other members of the Megalyra Group, then have 8 to 16 strings on each side (this depends on the performer's desires) and it will now be possible to have a wide variety of chords. If one wishes to stay within the length limitations of standard guitar strings, then a very large variety of wound strings are available to permit each chord to span two octaves or more, thus being very full and rich. One can have eight chords on the four sides and thus permit rapid changes of chord by merely turning the instrument a quarter-turn or going around it if it is stood erect. Other players might prefer a longer Newel Post with all unwound strings and fewer strings each side and stay within a compass of just over one octave. The Newel Post may be stood erect on either end, or may be laid on any of its four sides, the endpieces keeping that side which is bottom at the moment, clear of the stand or table or floor.

The performer is at liberty to have many different tunings, since this is not a cut-and-dried standardized mass-production instrument, but a very flexible design. It can be very close to the commercial Pedal Steel which is used mostly for "country" music, or it can be more serious in intent, or instead of being mainly a public-performance instrument, it can be redesigned as a Harmonic Laboratory: a composer could have one in the studio for experimenting with chords, or an arranger might like to use one to try out various harmonic schemes, or it could find a place in a classroom. Some Newel Posts have been furnished with shimmering unisons. A number of times, two people have stood a Newel Post erect, so that they could both play it at once.

Ivor Darreg has no objection to hybridizing these instruments of the group, such as building the solo or melody side of a Megalyra on one side of a board, and the melody side of a Drone Instrument on the other, although this compels using the Megalyra side as a drone to the other side if a drone is really needed. What Ivor Darreg will really object to is building a contrabass too short, or attempting to make a non-amplified contrabass, or omitting the colored fret-lines in at least two different scales, or making a long instrument strung on one side only, since that will unbalance the tension and cause the long board to warp.

Remember that the Megalyra is a Sound Sculpture and has been exhibited and publicized as such; the visual effects are part of the design. Omitting the color contrasts disqualifies an instrument from the Megalyra Group. Having only black lines for 12-tone equal temperament would also disqualify it.