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TIMBRE SEMINAR: R. ERICKSON: PROJECTS

Four projects from those detailed below are required: either 1A or 1B; 2A, 2B or 2C; 3A or 3B; 4A, 4B or 4C. Actual dates will be given at the first seminar meeting, but for all practicall purposes the projects will due at the beginning of the class meetings of weeks 3, 5, 7 and 9. When tapes are turned in they should be leadered, and a key to the contents, with any notation, charts or descriptive material should be included.

PROJECT 1A: ALTERING RECOGNITION BY CHANGING THE ATTACK PORTION OF SINGLE MUSICAL TONES PRODUCED BY ACCUSTICAL INSTRUMENTS.
(a) Make stereo recordings of several sounds having percussive attacks and long decay times, for example, a single piano string, a guitar string, a bell, a gong, even a bass drum. Cut off all or part of the attack. Notice the differences between tones with different amounts of attack removed.
(b)Make stereo recordings of several sounds which are produced continuously by breath or bow. Cut off all or part of the attack. Notice differences between these sounds and those of part (a) above.
NOTE: Splice the final tape in such a way that the natural tone is followed by its altered tone. It will be necessary to make at least one dub of your source material.

PROJECT 1B: Follow the plan of the project outlined above, but instead of splicing use electronic gates from Buchla/Moog to change onset and offset times. For the final tape use one channel to present the ungated instrumental sounds and the other for the processed sounds.

PROJECT 2A INSTRUMENTAL CONFUSIONS PRODUCED BY PLAYERS IN A PERFORMING SITUATION.
Gain the cooperation of five or more instrumentalists to make a stereo recording with the instruments in their normal concert hall balance. Produce an improvised drone on a single pitch (no octaves) which is available on all the instruments chosen. The goal is to play the instruments in such a way that some may be confused with others: i.e., a violin harmonic and a flute tone can sometimes be confused by the listener. Dynamics will be very important. Matching requires careful listening from instrument to instrument, and practice. Begin the drone so that the listener hears one note at a time, with a very small overlap of instruments. Later the overlap can last longer. The overlapping should help to smooth out differences in timbre both for the player and the listener. Try several takes. Be very careful to maintain the same pitch from instrument to instrument.

PROJECT 2B CONTINUOUSLY CHANGING TIMBRE ON A SINGLE PITCH (FORMANT GLIDE, ETC CONTRASTED WITH THE SLIGHT, BUT DISCRETE CHANGES FROM VARIOUS FINGERINGS AND VENTINGS.
(a) Use a single instrument, two an octave apart, but no more than three instruments. Produce a drone on a single pitch (or, in the case of two or three instruments, octaves of that pitch) while using embouchure, jaw, throat, etc to alter the

timbre. Allow no gaps in the texture except for breaths.
(b) Proceed as in (a), but this time have the instrument or instruments make discrete changes of timbre by means of variant fingerings, unusual ventings etc. Allow no gaps in the texture except for breaths.
(c) Combine the methods of (a) and (b).
NOTE: Make the recordings in stereo and set mikes so that if more than one instrument is used there will be a blended rather than separated sound.

PROJECT 2C VOWEL SOUNDS FROM A PIANO

(a) On some comfortable pitch sing a pure vowel very loudly into a grand piano while holding down the right hand pedal. Stop singing abruptly and immediately record the piano resonance. Do this for the cardinal vowels. Try various pitches for maximum vowel recognition. This is a difficult recording problem. Two people, one to sing and one to operate the level controls, would be best. Be careful with the miking--close mikes will pick up the sound better but the mikes must cover the whole breadth of the piano strings if possible.

PROJECT 3A ANALYSE TROMBONE CHORDS FOR DIFFERENCE TONES AND/OR OTHER PHENOMENA

Listen to the tape entitled "Trombone Chords: Dempster". Notate the pitches of the blown and sung tones on one line of staff paper and any other pitches on another line. In addition, indicate those chords which have beats present, or a beating complex in evidence. Write a few paragraphs about the precise details of what you are hearing in each of these chords. What we wish to find out is which difference tones are being produced (see Plomp on difference tones) and what part other sorts of phenomena might play in the total musical effect.

PROJECT 3B PRODUCE A "MELODY" USING ONLY BROADBAND CONTINUOUS NOISES

Your instructor will supply a master of a source tape containing many broadband noises which are quite continuous, enough so that attacks due to impact noise etc are well in the background. These colored noises are to be organized into a klangfarbenmelodie. There are a few restrictions, in order to try to find out what we can about the "pitchiness" of this material: 1. No silences at all. 2. Rather fast motion--plenty of fast motion in the melody, even though you may wish to have some long notes too. 3. Some of the fast notes should be in the 20-50 msec range. The tape can be made up as a stereo tape; or with channel switching, if desired. Channel switching is easy if you pre-erase before splicing. Various splicing techniques are encouraged--extra long splices, especially of short notes. Some butt splices can be used, but they will introduce a click unless the noise at that point is quite noisy. Buchla/Moog gating techniques may be used instead of splices, but the instructor's source tape must be used.

TIMBRE SEMINAR: R. ERICKSON: PROJECTS (cont)

PROJECT 4A CHORIC EFFECT FROM ONE INSTRUMENT

Use sound on sound or other techniques to produce a choric effect from a single instrument and a single player. Try to simulate a large group playing in a reverberant space.

PROJECT 4B FASTEST USEABLE DISCRETE TIMBRE CHANGES FROM ACOUSTICAL OR ELECTRONIC INSTRUMENTS

We need to know much more about the musical uses of timbre contrast. Most timbre changes in klangfarbenmelodie in the literature move at a rate not much faster than MM60, yet discrete pitch changes in music move at rates up to MM400 and faster. One would expect that the faster the rate of timbre change the less the feeling of contrast, and that the faster the rate of timbre change the fewer perceived timbre differences. Design an experiment and produce a tape recording which throws some light on the problem. Setups using live performers, tape splicing experiments, Buchla/Moog productions would all be valuable. A prize will be awarded to the person who creates the strongest contrasts among the largest vocabulary of discrete timbres. The class will determine the winner by majority vote.

PROJECT 4C ARE VERY FAST GLISSANDI PRODUCERS OF MUSICALLY USEFUL TIMBRAL ELEMENTS?

Use either instrument(s) or Moog/Buchla. Design your own demonstration. Very fast glissandi might have value in attacks and in very short notes. The range of the glissando may be important. Its bandwidth is likely to be quite important.