

Ivor

HAPPY HOLIDAYS AND A GOOD 1992

Done

Many Thanks for your cassette - will respond soon. Glad to hear about your exciting progress. I'm doing a system upgrade - nothing works any more (at the moment) as is usual for system upgrades - but I hope everything will run better soon. Hope 1992 is a good one for you. Will this be the year when discovery of a new world of music becomes official? Done

UPDATE 1991

1991 has been an exciting and rewarding year for me. I have been deeply immersed in my work and have had less time than I would have liked for maintaining contact with friends who are very important to me. Here's my news:

Early this year I travelled to New York and, with my mother and her friend, Dee Coker, visited friends of her sister (my recently deceased aunt Marie) and tied up loose ends. One unusually interesting item which we brought back from the trip was a diary Marie had kept as a teenager between 1908 and 1912. This diary shed light on the life my mother and her three sisters had led growing up in Erie, PA. There are many entries describing family outings, visits with friends, etc. Those times, still within living memory for some, were different in many ways from our own.

In July, my daughter Yvette, 22, drove east from California with a cousin to meet her sister Martha, 23, at Orlando, FL. Martha was returning from a year and a half's stay in England, bringing her fiancée Bill with her. They visited mother and me - too briefly it seemed - and returned to California. Besides her job of 6 years in specialty medical instrument building, Yvette has been taking community college courses in public speaking, mathematics, and other subjects. Martha is thinking about her future - career and family. She and Bill plan to marry soon.

Over the course of the year I have focussed on making my computer music analysis/synthesis system, which I have named the Cro-Magnon system after Cro-Magnon man, the earliest "truly human" of our prehistoric ancestors, into a fast, highly accurate tool for analyzing musical sounds, building on previous work. This system is based on the ultra high speed Platypus music synthesizer/computer operating under control of a Macintosh II personal computer.

The system now can analyze musical notes played or sung into it via microphone to a very high level of accuracy. Based on the analyses, voice and instrument notes may be synthesized so faithfully that most listeners cannot distinguish the synthesized musical notes from recordings of the original notes. I achieved something of a breakthrough in September when I developed a technique for changing the pitch of human voice sung notes over a $\frac{1}{2}$ octave range without appreciably altering the timbre of the singer's voice.

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With this capability it is possible to record a few notes from a single singer and from this generate chords and chord sequences having the natural sound of the singer's voice and at the same time having arbitrary (including just and other "microtonal") pitch intervals between the chord notes.

On the first of a two-session demonstration which I gave for a Florida State University Music School class in November, I recorded four notes sung into the microphone by a soprano voice student. From recordings of two of these notes, I developed a set of 9 notes forming a just intonation major scale covering just over an octave. From these synthesized notes, I mixed several different sets of three notes to produce a sequence of triads, which I played for the class on the second day of the demonstration. The voice student was impressed by this and told her instructor about it. I've received word that both her individual instructor and another voice instructor at the School of Music were very excited about this. The Cro-Magnon system has great potential for use in voice and instrument performance technique instruction, although considerable further work will be needed to develop that potential.

My major visible effort of the year was the half hour presentation which I gave before an audience of about 100 participants at the 1991 International Computer Music Conference held in Montreal this past October. My very thoroughly prepared talk was accompanied by plentiful slides and demonstration recordings. The presentation went without a hitch (whew!!). One potential unforeseen problem (blinding afternoon sunlight in my eyes as I was beginning the presentation) was solved by a colleague from FSU (Steve Newcomb) who spotted it quickly, left his seat, and pulled down a lecture room shade. That really helped. The presence of two colleagues from FSU and four from the University of Illinois (the builders of the Platypus) gave me a big moral boost. In addition to giving the presentation (and demonstrations), I contributed an 8 page paper to the Conference Proceedings.

My attendance at the conference gave me valuable insight into the work being done in computer music synthesis and my work's place in the "big picture". I didn't hear any demonstrations of music synthesis as faithful to original voice/acoustic instrument timbre as my own at the conference, and this has given me a sense of occupying a niche at the ~~front~~ ~~accuracy~~ end of the computer music synthesis field. I owe much to the opportunities given me by FSU Music School's Center for Music Research and to the support of my family.

Upon returning to Tallahassee from the conference I gave several presentations to FSU Music School students and staffers. These presentations have generated excitement within the Music School and I look forward to meaningful collaborations in the not-too-distant future.

I look forward to spending Christmas with my mother in Valdosta, GA. At 89, she loves her music, spending many hours at the piano deeply involved in practicing new pieces. Best Wishes!