

Tallahassee, FL 3/23/89

Dear Ivor,

March 23d, 1989 - that's half a century I've been on this planet as a separate recognizable being. Hard to believe - I thought it was the parents of friends who were 50 or so!

Thoughts stewing and simmering - thoughts about music - will music continue to have the place in society it has had up until the present? Really, its place in society has changed a great deal from age to age - in Africa an essential element in gatherings of the community - later, among the descendents of Africans in the U.S., a multipurposed elixir - a cry to relieve the oppressed soul in the songs of the slaves, a self-psyching way of getting oneself to perform heavy physical exertions more pleasantly in the work songs of the railroad laborers in Alabama and elsewhere in the U.S. - a means of making Sunday religious services occasions of joy - a rhythmic pulsating joy conformable to the rhythms of human brain waves or at least somehow fitting in well with the hodge-podge of human biological rhythms. Music - not an optional pleasure but a numinously endowed driver of the human spirit - a motivator.

The wild teenagers gyrating and screaming and moving in rhythm to the driving percussive beat emanating from the rock group - the girls gazing intensely and intently at the masculine hard rock singer - the lead singer who sends them wild - as he pours forth a primitive and yet powerful music.

Yes, cycles are everywhere - the rotations of the planets, their revolutions about their central suns - the tides, the waves on oceans and lakes, sound waves, light waves, the heartbeat, brain waves. Animals are driven by cycles. Man takes what has always been there and embellishes it producing music.

Now I'm zeroing in on that food analogy which I've spoken of before - the transformation of music from an optional free-enterprise "art" to one of the commodities essential for life - "life as we understand it" - as the citizens of the 21st, 22nd, and later centuries will say.

"You are what you eat" has been an old maxim with a grain of truth to it. Man is the recipient of a constant flux of inputs of various kinds - food, air (with various additives such as tobacco smoke, perfumes, atmospheric pollutants etc.), visual input - all day as long as he keeps his eyes open, and not least, a nearly 24 hour a day influx of auditory stimuli - hissing - the Brownian motion - subliminal noises - meaningful signals such as spoken words - and MUSIC.

What impact does music have on hearers? Is it a mere pleasure which makes an hour or an occasional evening pass more pleasantly, or is it a significant influence on people whose cumulative effect over many years will significantly influence what kind of lives those people will live?

Ivor, I'm taking a different perspective on music than that taken by the great majority of writers on the subject. Most writers look at it somewhat differently - they look at the details of the music - how it compares with the music that preceded it - its "originality" etc. But I'm looking at music as an effective agent for influencing people and modifying the quality of their lives. I'm saying: "Take John Doe. I'm tackling the job of: A determining to what extent and in what ways music either does or is capable of impacting John Doe's life. B seeking to find out what kind of music will have the biggest favorable impact on John Doe's life. To some it may at first sound crassly materialistic, but I'm seeing an analogy between music and the self-help life enhancement movement. People are more and more jogging. Jogging extends life spans for most people (who do not have conditions which rule it out). People are taking more vitamins and minerals. Most of this makes people healthier with some unfortunate exceptions.

In the book Superlearning it was claimed that harmonious baroque-style music sounded in a 60 beat per minute rhythm while people were drilling foreign words increased the number of words they could learn in a given period of time (I'm not sure

that claim has been substantiated). Can music accelerate learning? Can it strengthen decision-making ability? Can it delay fatigue? - and speed recuperation? Can music calm nerves? Can it, when used appropriately, improve the atmosphere of a home - reduce friction and stimulate cooperation?

Just received a letter Monday from a woman named Carrie Clark in San Diego. She'd been referred to me by the Just Intonation Network as possibly being able to tell her about "research that would actually indicate that music in just intonation is better than music in equal temperament" (so much for my sex difference idea). She wanted to hook people up to an EEG machine and investigate differences between the effects of JI and EQT.

I don't know how well she is equipped to get involved in such research and really pursue it through to concrete results - I see enormous amounts of extremely hairy data reduction needing to be performed on the pages and pages of EEG squiggles that would be generated. And yet I just came across a paper published in Music Perception in 1988 entitled: "The EEG: An Adequate Method to Concretize Brain Processes Elicited by Music". The four authors (from Vienna!!!) tested 75 healthy students placing a grid of 19 EEG electrodes on their scalps as they listened to music. I haven't read the full paper, but in the abstract the authors conclude that "in spite of the great individual differences in musical ability, education, and interest of the subjects, a number of specific group differences of the EEG parameters could be elucidated for different musical tasks. Significant differences were also seen between the groups of musically trained and untrained subjects, both during listening and even in their EEGs at rest. In addition, considerable sex differences were observed."

I wrote Carrie Clark at some length, giving her a summary of my findings in preference and perceived difference tests I've given students both in California and here along with a couple of tapes containing a test I gave March 4th and the renaissance choral work in just, 12 equal, and 31 equal. I indicated to her that there was a great need for research of the kind she was proposing to do and encouraged her towards pursuing her goals. She is to move to Sedona, AZ near Flagstaff at the end of this month.

I wrote her my impression that just and 12 equal were "two different musical animals" and that I felt that each had a place within the totality of music, although I felt that JI was a more central primary system. By the way, one result I found was that although it might be said that there was a 70%-30% split between 12 equal and just among music students with a musical background (non-musicians split more nearly 50%-50%), when I contrasted a tuning halfway between just and 12 equal with a tuning in which 12 equal was "exaggerated" by 50%, I found a 9 to 1 split in favor of the tuning midway between 12 equal and just as opposed to the "exaggerated" 12 equal. I suggested to her that she test children of various ages in order to tease out basic inborn human likings and preferences from the superimposed learned preferences.

So much to do and not enough time to do it in. Latest is that I'm undertaking to produce an acoustics demonstration compact disk set in collaboration with Jack Taylor, director of the Center for Music Research. The CD will enable students to hear many things which they previously could only read about in their textbooks - especially tunings and tuning system differences etc. but also a number of other acoustic effects. This bumps my NEW STUDIES IN MUSICAL HARMONY - A FRESH APPROACH which in turn had bumped HARMONY AND NUMBER. Ivor, it's damn challenging to take these ideas which I find so exciting and which you find so exciting and convert these simple ideas into a product which is going to get through to a very large audience of thousands, tens of thousands, and hopefully eventually millions. It's the ice cream sundae which is nothing without the hot fudge sauce poured on at just the right moment - but that's absolutely nothing without a delicious thick nest of sweetened whipped cream on top - but that's absolutely nothing at all without a

bright red maraschino cherry sitting right in the center of the nest of whipped cream. But that's nothing whatsoever without a generous sprinkling of nuts - freshly chopped walnuts dotting the whipped cream, the chocolate fudge sauce, and the ice cream - but that's empty and hollow unless the waitress sets this concoction before you with just the right touch of grace and a warm engaging smile - a smile you'll remember long after you've forgotten the sundae - but.....

Recovering my original train of thought - I believe that with Jack's collaboration on the project I stand to get a real product out there on the market - not the ultimate goal, but something real. With that as a start, I plan to forge ahead with NEW STUDIES - and finally, HARMONY AND NUMBER.

One last subject this time - remember the cute baby dinosaurs? along that theme I'm enclosing an article from U.S. News and World Report on new theories regarding the "domestication" of animals - maybe the animals had a lot more to do with it than had been previously thought. I find it absolutely fascinating and the "new" view makes so much sense to me - like the "aha" feeling!

It was good to talk with you last week, Ivor. I'm slowly making my way through your report.

Yours,



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P.S. Jonathan was going to send me a newspaper article on the project covering his musical playground plans. Do you have a copy you could spare?