

Beginnings, Theory, Histories (Excerpt)

Arnold Dreyblatt, 1982, 1997

I proceeded from a kind of 'amateur' curiosity about sound and music, and developed a sense that composition begins with a consideration (often a re-consideration) of the dynamic materials of sound creation- e.g. strings and pipes, air and motion. In the development of my music, it has been the instruments themselves which have been my greatest teachers. For me, a composition is not a moment 'frozen' on a piece of paper but rather the result of a workshop in progress. The instrumentation and notations which have been developed for each stage in the history of my ensembles have been themselves a part of the composition, as is the workshop period in which new sections are developed while older pieces are gradually edited or abandoned. It is my hope that some continuity of thought and practice may be discernible within this text as well as in the music itself. In the early 1970's I had been working with video and electronic music at the Center for Media Study at the State University at Buffalo, N.Y. It was through an exposure there to the ideas of Woody and Steina Vasulka that I developed an interest in the physical characteristics of vibration.

In the late 1974, I abandoned my work with electronic images and began making acoustic sound installations. But my interest slowly developed in the direction of a more traditional model of music performance. This model was initiated by a group of American minimal composers in the early 1960's and was largely based on the rock or jazz band-composer who performs with his own ensemble - a small amplified group formed expressly to perform his own composition. I had acquired an elementary level of training in Western and various non-western musics in the search for a language which would be useful to me in realizing my ideas. I looked to a physical description of sound- a definition in acoustic terms. This direction had been somewhat familiar to me through my earlier work in electronic music and image making. On an electronic oscillator (an electronic signal generation device), sound is defined by the variables of frequency and amplitude. This is a description according to the laws of physics as opposed to a definition in cultural terms. An understanding of these acoustic laws has always been understood empirically by musical instrument builders.

The phenomenon of simple and compound vibration might be represented by the structural 'archetype' of a one-string instrument or a tube without finger holes (whether blown as a flute or a brass instrument). In a tube without finger holes the only pitches available are the fundamental tone and the tones of the overtone series. The frequencies of these tones are always related to a given length of pipe; But it was not until the appearance of a one-string instrument (probably the musical bow) that man had an experimental instrument capable of providing both an empirical and theoretical knowledge of sound.

The musical bow represents one of the oldest members of the zither family of musical instruments. Zithers are defined as chordophones in which the body of the instrument is also its neck- the strings are stretched across the entire body. Often the body of the instrument functions as a resonator for amplification (although the chest or mouth of the player or an earthen pit may also be used). The necked instrument is a later invention to facilitate faster playing techniques. Zithers are usually played horizontally and since the strings are stretched over the entire body of the instrument,

the relationships of pitch to length, tension and thickness of a string are easily deduced through the faculty of hearing and can be correlated visually to simple mathematical proportions. The harmonic overtones can be heard in relation to the fundamental tone and located at the nodal point of the string.

It is therefore no accident that monochord and related members of the zither family have had an important mathematical-mystical role in the two great ancient cultural spheres, Greece and China. In both China and Greece the monochord was considered an instrument of acoustic measure- a kind of tuning reference. In China it gave birth to an entire family of instruments which traveled to Korea, Japan and Vietnam. The heritage of Greek musical thinking was kept alive by Arabic musical theorists and was rediscovered by European monks in the middle ages. Medieval music speak often of the monochord and the laws of acoustic and mathematical proportion.

The observation and understanding of the physics of string vibration was a kind of 'starting point' in the development of my music. From this 'point of view' I began to sense that the standardization of notation, instrument construction and tuning which was finally accomplished during the 19th century represents a distorted conception of 'progress'. Equal Temperament, and the gradual shift towards atonality, while allowing a greater vertical independence of melodic lines, has resulted in a kind of acoustic 'blurring' - a tuning system which is 'out of focus' and a 'blandness' of instrumental timbre. The instrument families and tuning systems which were discarded in the wake of this standardization are themselves a tribute (within our own tradition) to other realms of possibility.

Proposition IX: To explain why an open string makes many sounds at once.

Proposition XV: To determine if it is possible to touch the strings of an instrument or their keys so fast that the ear cannot discern whether the sound is composed of different sound, or if it is unique and continuous. Marin Mersenne, Harmonie Universelle, 1637

To hear pure tones added to one another up the harmonic series...was an unforgettable experience. Those harmonics which are not attuned to our normal scale did not sound out of tune. They sound (as indeed they are) in tune on some hauntingly elemental system of their own. The chord itself in its higher reaches becomes full of small intervals which in our ordinary system of music are discords. But in their own literally natural tuning, they sound neither concordant nor discordant, but simply satisfying; neither familiar nor unfamiliar, but simply archtypical. Robert Donington, The Instruments of Music, 1949

Excerpt from recorded conversation between Arnold Dreyblatt and Phil Niblock in New York City in the fall of 1977: AD: I realized at a certain point that when musicians are tuning, they are hearing frequencies in their head which is something that I became interested in - I mean listening for that PN: Listening to the harmonic overtones in order to tune the fundamentals... AD: Right. It depends on what they are tuning. On a simple level, unconsciously, a musician tunes a fifth, and he learns to recognize the interval in his head. The speeds are somehow memorized... PN: It's better than a tuner! AD: I began to understand that this was music - that this process of signal comparison is a musical activity. This is what a musician does when he tunes -whether it's conscious or unconscious. It's conscious often in people who are

interested in tuning systems and scales and so forth. It's unconscious in the majority of musicians who have to learn by hear anyway; and in instrument builders there has been a sort of underground tradition of knowledge about acoustic which is purely empirical.

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