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Rhythm as Motion Discovered by Javier Alvarez

This paper presents Alvarez's compositional ideas about creating rhythm as a process of discovering a coherent movement between music structure and human experience. As an electroacoustic composer, Alvarez first discussed the language and materials he can use in a composition. He defined some basic building blocks for composition from the perspective of rhythm. He then described how he composed by using the rhythmic structures he proposed. At last he revealed the importance of motion in humans' aural experiences.

Alvarez started the paper with an interesting analogy between electroacoustic music and origami. In both cases, "invention is experienced as it is being produced, and language unfolds as it is invented." For an electroacoustic music composer, the studio environment is the reality, the sound objects are the symbols, and both the sound and the sense produced from the multidimensional environment are the musical language. Alvarez chose rhythm to start with is because human's perception of temporal structures is determined by the limits of memory and physical resonance; therefore, the formal references such as pulse, repetition, and rhythmic objects must be reconsidered.

The definitions of 'beats', 'regular patterns', and 'meter' in music textbooks can only be applied to notated musical time, not the actual sound experience. Alvarez suggested that rhythmic structures should be the strongest temporal references, and by referring to them, motion is discovered by listeners and dynamic musical gestures can be constructed. Rhythmic objects can only be observed in terms of the correlative elements that inhabit them. Rhythmic objects should consist of accented and unaccented parts, and contain timbral character and spectral trajectory. A pulse is a sequence of events that are perceived as being equally spaced in musical time. Pulse is invariant for listeners and serves as a reference on which motion is mapped.

Alvarez discussed rhythmic structures in terms of the effects of harmonics and timbre. He introduced his work, *Characteristics*, the first attempt to use repetition to articulate larger musical structures. In this piece, repetition was paired instrumentally with clear harmonic contours, and variations were paired either to harmonic ambiguity or to inharmonic instrumental sounds. The motion of the piece is the result of polyphony of pulses and of their harmonic shapes. Alvarez also discussed about the interactions between repetition/variation and timbre. Pulse will be stable if the notes are short enough compared to the repetition period. Variation is considered as the collision between local/global pulses against the frequency of an amplitude modulating square wave.

Alvarez believed that it is necessary for the composer to control the flow of information by creating motion between events of great complexity and those of great simplicity. Dynamic musical structures can only be sensed when the motion of music changes between complexity and simplicity. Therefore, Alvarez mentioned that motion is the essence of dynamic structure, "a rhythm of rhythms of poetical content."

This paper presents many novel ideas. Traditionally composition starts with drawing notes on the score. Here Alvarez's composition comes from an opposite point of view: human aural experience. He thinks that rhythm objects should be defined as the reference of human's perception of the motion. I guess that an electroacoustic composer will have a different view of composing because the materials and outcomes are different from the tradition composition. In the article he used many vivid analogies, which helped me to understand some of his philosophies. Although he supplied the scores of his work, it will be great that we can listen to them to get the sense of motion he composed.