

Papers I: PRINCIPLES OF MOTION

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Motion and soul

When Aristotle revises his first definition of nature in terms of motion to include form that contains the principle of motion, he introduces a conundrum. Movement must stop before the 'what-is' of form if the latter is to be taken into awareness, yet the 'what-is' cannot simply mean rest, which Aristotle understands from motion, because rest no more implies awareness than does motion. Motion and awareness are incompatible.

The principle of motion is life; and of life, the soul. The soul moves by desire, which arises through imagination or phantasia. Phantasia arises by way either of thought or of sense-perception. Thought is expressly demarcated from sense-perception; in his gloss on *De Anima*, Themistius describes phantasia with a term (*methorion*) denoting an area between two bounded areas. Since, as Aristotle says, movement is continuous, this bounding represents a break in motion. At the same time, however, phantasia is itself a motion tying sense-perception to awareness and desire to thought.

The movement of phantasia does not merely connect sensation and thought, but also marks their discontinuity. It is the movement of the discontinuous. It is therefore the imperfect activity of motion, which according to Aristotle is itself an activity of the imperfect. Phantasia is the imperfection of imperfection. It interiorizes or brings the outside world into the soul, whether the material world in sensation or the spiritual world in nous. Aristotle points out that movement is only possible against the fulcrum of rest. Incompatible though they are, rest and motion form the 'community' or *koinonia* of being. In phantasia the peculiar nature of that community becomes clear. On the one hand, phantasia provides geometry with its movement from image to ideal by automatically straightening the line we draw into a perfectly straight line, triangle into exact triangle, and point into vanishing mass. On the other hand, phantasia provides movement in the opposite direction, from noetic to aesthetic, in number or arithmetic. The Greeks considered the one to be the principle of number because as 'noetic matter' the one has no mass, so when divided it is the same as multiplied. As such the one provides the basis for counting. Thus the community or *koinonia* of mathematics, which images the community of being, is generated from the combination of noetic number moving in the direction of aesthetic object with aesthetic object of the drawn figure moving in the direction of noetic ideal. This opposition comes together in the right triangle. The reality expressed by the image of the right triangle is impossible according to any arithmetical standard,

so the world expressed therein is an impossible community: the “great problem of ‘incommensurability’...forces a thorough ‘geometrization’ on Greek mathematics.” The logos has broken down.

Between rest and motion there is no ‘third term’, since all that is must be in rest or motion. Being must be yet cannot be the ‘third term’. From the perspective of the soul, the third term is phantasia. Phantasia is movement because it “sets aesthemata to work,” but phantasia has no more being than the imaginary: movement and rest ‘are’ being, but each ‘is’ not. We find that being is not one, but two; yet the two is ‘one two’. Being is one and two. Aristotle had a term for this: the ‘twofold in general’ or ‘indeterminate dyad’ (aoristos dyas). The secret of phantasia’s movement and with it, of movement and rest in the soul, is the aoristos dyas. Phantasia is the unimaginable image of being.

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David Bohm and the Art of Perceiving Movement

According to David Bohm movement is fundamental. Some philosophers and authors have held time as a fundamental, irreducible entity. Some have held that consciousness is fundamental and primitive. Physicists generally think that quantum fields are ontologically fundamental. Bohm sees that time, space, quantum fields (matter in general) and perhaps even consciousness can be deduced from movement that fundamentally gives shape to all forms. In traditional thought things are the subjects of motion, movement and change. Bohm sees it the other way around: movement is primary and things and entities emerge out of movement and dissolve back into it. The general form of this movement, according to Bohm, in his implicate order metaphysics, is “holomovement” (the totality of movement of unfoldment and enfoldment). Implicate order is thought to be a dynamical process of change and development. Bohm’s basic idea of the supremacy of movement and change can be seen in the following:

[A]ll things found in the unfolded, explicate order emerge from the holomovement in which they are enfolded as potentialities, and ultimately they fall back to it. They endure only for some time, and while they last, their existence is sustained in a constant process of unfoldment and re-enfoldment, which gives rise to their relatively stable and independent forms in the explicate order (Bohm 1990: 273).

While emphasizing the meaning of movement and change as constitutive for the whole universe, Bohm is building up a world view, which challenges traditional ways to see and think about the world as a collection of permanent and moving things. This view has its metaphysical form in process philosophy (that leads us back at least to Heraclites in western philosophy). Bohm’s work in the field of

modern physics (relativity and quantum) has led him to see the world in new ways. Bohm has realized how physics, theory development of scientists, perception, child's development, and the works of artists (etc.) all emerge or spring out from movement and change. My aim in this talk is to give a general outline of Bohm's way to think of movement as fundamental and to show how Bohm himself related his thoughts to psychology, consciousness, perception, general metaphysics (process philosophy) and art and language. The key issue, however, is in explicating Bohm's idea of movement as fundamental from the philosophical point of view.

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A composer of music and the Aristotelian heritage

The sense of the good and the valuable in music develops within a culture in such a way that a composer of music is seldom aware of the origins of her or his "bon goût". Recently, I have familiarized myself with theoretical and practical writings concerning music from the 15th to 18th centuries, and since then I have been deconstructing my preferences and reconstructing the image of my own musical background.

Many theoretical and practical writings from the earlier centuries display notions and conceptions on music which apparently have their origins in Aristotle's texts: "the evidence suggest that it [harmonic progression as a directed motion] became available to Western music theory as a direct consequence of the rise of Aristotelian thought, particularly his metaphysics and natural science, in the scholasticism of the thirteenth century". (Cohen, David E.: "The Imperfect Seeks Its Perfection: Harmonic Progression, Directed Motion, and Aristotelian Physics." <http://www.jstor.org/stable/745984>, accessed: 16/6/2008.)

Also, Johannes Tinctoris in his *Liber de arte contrapuncti* (1477) states that "variety must be most accurately sought for in all counterpoint". He refers to Horace, Tullius, and Aristotle, "who in his Ethics, does not hesitate to state that variety is a most pleasant thing and human nature in need of it". (Tinctoris 1961, 139 : *The Art of Counterpoint*. American Institute of Musicology.)

The principle of *varietas* and the idea of directed motion are both essential aspects of the Western musical tradition, and they both are intended to move human beings. In the 20th century these foundations were shaken e.g. by intrusion of slowly transforming insistent repetitions and static sound fields. In my presentation the Aristotelian thought – as presented in theoretical and practical writings – is intertwined with my own experience as a composer of music.