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An Overview of Philolaus' Metaphysics and Epistemology

Philolaus held that things (including the κόσμος) are compounds of limiters and unlimiteds whose union is characterized by ἁρμονία (B1, 2, 6). That is the ontological side. The ἁρμονία is characterized by "number" (B6a), which (I have argued in the paper "Philolaus on Number" published in 2012) turns out to be the *ratios* of the unlimiteds as determined by the relevant limiters (B6a).

On the epistemological side, "having number" (i.e., having a ἁρμονία, which means that its constituent unlimiteds are characterized by ratios -- i.e. numbers) is a necessary condition for being known (B4). Philolaus shows this by his example of the tuned octave. We know the octave by knowing the ratios that determine its basic characteristics (2:1, 3:2, 4:3, and consequently 9:8 and 256:243). However, Philolaus wisely does not say that having number is a sufficient condition -- for two reasons. 1) The fact that something has number does not guarantee that anyone knows that fact or that anyone knows what the number is. 2) (and this goes back to his ontology) knowing the rations 2:1, 3:2 and 4:3 (which, by the way, is all the early Pythagoreans knew) is not enough to know the nature of the octave; we also need to know what limiters and unlimiteds are in play. Further, the unlimiteds in play (e.g., the length of a string, or musical pitch) may not be *ultimate*. In fact, they are not ultimate unlimiteds. For example, musical pitch *per se* is unlimited in that it can be higher or lower, but it is a particular kind of sound, and sound can be limited in other ways than by pitch (it can be louder or softer, for example, which are irrelevant to the analysis of the octave). Also, sound is one among other kinds of perceptibles, so perhaps the perceptible, limited according to various systems of limits (which are imposed by different limiters) can be seen as an unlimited of which the visible, the audible, the tangible, etc. are to be considered as the unlimited (i.e., "the perceptible") that is limited by different limiters. A complete knowledge of the octave would therefore include knowledge of the perceptible (and all kinds of perceptibles). Further, it would also require knowing the limiters and unlimiteds of which the perceptible is a product, and so on... Hence, the ἔστω of something, which is its essential nature, involves an analysis in terms of a hierarchy of unlimiteds and limiters that begins with perceptible features (e.g., musical pitch) but goes God knows how far beyond. Hence knowledge of the ἔστω of something is the subject of divine but not human knowledge (B6). We can know the analysis, but only so far.

Still, Philolaus' statement that the *are* the subject of divine knowledge shows that he holds that there *is* an ultimate analysis of entities, and perhaps Aristotle's remarks at *Metaph* 1091a12-18, *Phys*. 213b22-27 and fr. 201 (Rose) give indications of what he takes the ultimate first differentiation (limiting) of the ultimate (wholly indeterminate) unlimited to be.

Biography:
Richard McKirahan is Edwin Clarence Norton Professor of Classics and Professor of Philosophy at Pomona College, in Claremont, California. Educated at the University of California at Berkeley (Mathematics and Classics), Oxford University (Classics and Philosophy) and Harvard University (Ph.D. in Classical Philosophy), he worked primarily in ancient philosophy and science, specializing in Presocratic Philosophy and Aristotle.