Music is among the earliest and most enduring of architectural analogies. Pythagoras' observations of harmonic resonance led him to speculate about ideal architectural proportions, an initiative furthered by Vitruvius, and from the Middle Ages until the 17th century music was one of the four mathematical disciplines of the quadrivium along with geometry, arithmetic and astronomy. The term contrapunctus, from the Latin punctus contra punctum ('point against point'), initially appeared around 1300. In 1412 the Italian theorist Prosdocimo de Beldomandi wrote that rather than dealing with note against note individually, the composer was actually concerned with the problem of cantus contra cantum – one complete melody against another. This required a new integration of vertical (harmonic) and horizontal (melodic) concepts, which eventually led to the creation of the tempered scale (de Beldomandi 1984). It is interesting that just one year later, in 1413, the architect Filippo Brunelleschi established the geometric method of perspective drawing. Indeed, both counterpoint composition and perspective drawing illustrate the emergence of multi-dimensional thinking – the composer dealing with multiple voices in time in a manner very similar to the architect's newly contextual conception of buildings within a multi-layered landscape. It is as though both architect and composer sought to find a vantage point from which to subject their discipline to the laws of proportion, and to imbue it with a new awareness of the dimensionality of time and space. Both disciplinary innovations involved hard-won insights into proportional physical principles, and both resulted in strict rule-based design methods (Fux 1971). In perspective drawing this was a system of proportions on paper that accurately related to actual sizes and distances, while counterpoint composition addressed resonant harmonic phenomena and the means of engendering it – namely the simultaneous interactions of voices and instruments.

One of the most interesting rules to have developed in counterpoint, insofar as it provides a direct connection back to contemporary architectural discourse, is the use of the cantus firmus as the basis for composition. A cantus firmus (fixed song) is an existing melody taken from elsewhere and used as the basis for the composition, with each additional voice composed firstly in harmonic relation to it, and then in relation to one another. It becomes the site of interpretation, the terra firma of the composition, as it were, making the entire
compositional procedure explicitly contextual and integrative.

Contemporary recognition of the importance of context is again broadening the conceptual scope of architecture. To harness urban acceleration and to mitigate ecological degradation, empirical metrics are increasingly relied upon to provide a framework for multivalent design, and to inform computational (or parametric) design methods. Music is an activity involving the patterning, reordering and displacement of energy through sound (the result of periodic pressure waves propagated through the air), and polyphonic music like counterpoint is only conceivable when that order is based on metrics derived from physical principles of harmonic resonance: the tempered scale. Architecture, too, involves the restructuring of existing materials, an activity Cicero described as the creation of civilization’s urban/rural second nature (Cicero 2008) – but while we might expect contemporary innovations like high-resolution satellite imagery and data rich Geographic Information Systems (GIS) to provide a perspective from which to finally view our architectural efforts holistically and in context, architects have yet to establish multivalent, integrative metrics comparable to the tempered scale.

Applying the counterpoint analogy to architectural methods, existing environmental conditions can be seen as the cantus firmus upon which two contrapuntal 'voices' – the dual networks of rural and urban infrastructure – are established. Seeing urban and rural as polar phases of second nature broadly coincides with the oscillating nature of periodicity, the energetic principle underlying all phenomena – from subatomic behaviour, to respiration, to the circuits of the stars. Whether addressing the polarities of economic inequity, of urban and rural regions, or of climate change induced sea-level rise and desertification, contrapuntal thinking can provide a conceptual framework for architecture yielding insights into periodic principles, and informing the integrative design of more equitable systems.

