The outstanding Polish logician and philosopher, Kazimierz Ajdukiewicz, believed that “time” has four different meanings: (1) “a moment, an exact date, a point of time”; (2) “a period of time, a span of time, a time interval”; (3) “duration, the length of a time period”; (4) “an all-embracing period of time.” My analysis and interpretation of these meanings is seen in Figure 1.

The distinction between the second and third meanings is particularly important. In the 2nd meaning, a period is located within a temporal succession and is contiguous with neighboring periods on a temporal line between the infinite past and infinite future. Occurrence of separate phases within the context of temporal succession provides them with qualitative characteristics. The context can also be simultaneous, as in polyphonic music. Everything that exists in time exists in such a time context. All human acts; all musical, linguistic or artistic utterances, all lives; and all historical processes comprise the content of neighboring periods. Such a notion of time is well illustrated by Heraclitus, \textit{panta rei}. All aspects of the time process can be seen in it, all syntagmatic relations are based on it. Such problems are common in the theory of art and music.

The subject of this study is time in Ajdukiewicz’s third sense. Leading to a totally different set of problems, it deals with “duration, the length of a time period—different from the period itself.” As Ajdukiewicz explains further, “two different time periods can have the same duration, just as two different segments of a line can have the same length.”

Durations, however, can be not only equal but also different, \textit{i.e.}, more or less similar to one another. Because of their duration they are somehow independent of their context. One can imagine a scale of all possible durations whose lengths would
Figure 1. Four different meanings of time as distinguished by K. Adjukiewicz, seen from two opposite perspectives: the syntagmatic perspective, with its linear scale of time stretching between infinite past and infinite future, and the systemic perspective with its logarithmic scale of time extended between infinitely short and infinitely long time intervals (durations, frequencies, tempi). On the last scale, all temporal phenomena characteristic of music as well as all human activity and existence are associated with specific zones (ranges), which is the basis for the zonal theory of time.

range from infinitely short to infinitely long. Each real time interval is a choice of one value on this scale. At the same time it is an element on the scale of temporal sequence in the context of other time intervals. Time intervals, therefore, have dual links and can be interpreted in two ways. One is expressed through relationship to the code (in our case, to the scale of all possible durations), the other, through relationship to the context. Each of these links connects a time interval with a different set of intervals; in the former case, through alternation, in the latter, through alignment. A given time interval can be replaced by other intervals—fact reveals its meaning, while the contextual situation is defined through its relationship to other intervals in the same sequence, which also influences its meaning.

In his definition, Ajdukiewicz stresses duration. But we should not forget its counterpart, frequency or tempo. We perceive music in both of these categories and other time structures are not devoid of them either. We talk about the tempo of a theatrical performance, the tempo of historical changes, about varied tempi, etc. Obviously, the notion here is something other than the tempo of movement in space.