

AXIOMATIC SYSTEM—a set of propositional occurrences ordered by the distinction of the calculable subset of expression, called axioms, within it, and by setting forth the calculable set of calculable operations of inference. The ordering consists in this: that every formula belonging to this set, called a thesis of the axiomatic system, either is an axiom or can be obtained from the axioms by an operation of inference.

The conception of an axiomatic system in its present form is the result of the development of the deductive sciences. In the development of a particular axiomatic system we can, according to this conception, distinguish three phases. The first phase is the pre-axiomatic intuitive phase. Any proposition that seems evident to a particular group of researchers may be accepted as primary theses in this stage (the primary theses correspond to axioms). Any proposition that is a manner evident to this group seems to be implied from previously demonstrated theses may be accepted as derivative theses. Furthermore, terms understood by this group, called primary terms, and terms that can be reduced to these primary terms with the help of definitions, may be employed. The list of primary theses and the list of primary terms are not closed. The second phase of the development of an axiomatic system is the intuitive axiomatic stage. Although the criterium of selection for primary theses, and the basis for deriving secondary theses from them, are evident, the criterium of for accepting terms is that they can be understood, this stage differs from the preceding one in that the list of primary theses and the list of primary terms are closed, which means that these elements are explicitly mentioned and no other evident propositions or intelligible terms can be added to them. In the third stage, the formalized axiomatic stage, the criteria of evidence and intelligibility are left aside, since at this stage the established meanings of terms specific to a given deductive science are left aside in abstracton, and it is decided that the axioms are to be not only major premises, but also axiomatic definitions (by postulates) that constitute the meaning of terms specific to a formalized theory.

Since the empirical meanings that the primary terms of a formalized axiomatic system possess outside of the system are not considered, the following conditions are presented in order to avoid an arbitrary acceptance of axioms: non-contradiction, completeness, resolvability, fulness, and categoriality.

K. Ajdukiewicz, *Logika pragmatyczna*[Pragmatic logic], Wwa 1965, 1974²; idem, *J&281;zyk i poznania*[Language and cognition], Wwa 1965, 1985², II 332-334; L. Borkowski, *Wprowadzenie do logiki i teorii mnogości* [Introduction to logic and set theory], Lb 1991.

Paweł Garbacz