On Extensions of Epistemological Oppositions

The aim of my paper is to present progressive structures in dynamics of knowledge as an extension of Prof. Roman Suszko's *diachronic logic*. Progressive structures can be seen as a toolkit for philosophical study in some aspects of dynamics of knowledge, especially scientific knowledge. They can also be considered as models of rationality - they help to describe and analyze historical and sociological aspects of dynamics of knowledge by means of formal methods.

The project of progressive structures is in some connections with following conceptions: semantic epistemology of Kazimierz Ajdukiewicz, diachronic logic of Roman Suszko, historical epistemology of Jerzy Kmita, and a priori classification of philosophical systems by Jules Vuillemin.

As a formal representation of human knowledge Suszko introduced an ordered pairs of the form $<S, O>$ called *epistemological oppositions* or shortly *E*-oppositions. The language is supplied with some relation of consequence and with the corresponding set of tautologies. The model-theoretic semantic allows to define in a given language, the relation of consequence. According to Gödel's completeness theorem, the relation is identical with the consequence-relation generated in the language by the well-known classical rules of inference.

My aim is to consider the trichotomy: change, development and progress as composed of three strictly axiological concepts. To deal with the notions in axiological way I introduce *progressive structures*. First of all, dynamic structures: which constitute extensions of the conception of transformations of epistemological oppositions in Suszko's sense. Dynamic structure is of the form: $S = <O, R, h>$, where O is a set of transformations of epistemological oppositions, h is hierarchy of values of the structure S, and R is a relation over O. The hierarchy of values h of a structure S is an ordered triple of the form: $h = <V, I, C>$, where V is a non-empty set of *values*, I is an equivalence relation in h, and C is a relation between the classes of abstraction of relation I. Second of all, Progressive structures of the first type: they characterize the changes of hierarchy of values, and finally, Progressive structures of the second type: we consider (compare) two different hierarchies of values.