Description for the General Public

Objective of the project

Topology was founded in the beginnings of 20. century and is a science which explain many problems of mathematics alone (like Konigsberg bridges problem) but also economical or biological ones (for example: stabile marriages problem or proportion 1 : 1 of the number of female to male in a given population).

In the project we intend to show that topology is a fine-grained tool for understanding and interpreting of fundamental ontological concepts and theorems (although ontology alone is regarded to be base for philosophy and sciences (Aristotle, Husserl).

The objective of the project is to analyse both such kind of basic (for ontology) concepts like atom, monad, substance, compound substance (and others) and revision of classical problems like: universal – object relation, object as a system with many strata or ways of substance working. An example of an atom is lego block and Socrates, an example of a substance is God and Socrates and an example of a system both Socrates and University of Łódź. So, the problem arises: how to understand the given objects and concepts?

The research to be carried out

Hence, in the project we will put up the following researches:

1) analysis of fundamental concepts and related ones (properties, perceptions, appetitions etc.); we will show that the so called compound substance in Leibniz' meaning can treated as a collection of topologies with adequate relations between the topologies;

2) study on new theorems of formal and topological ontology given in topological language.

Present reasons for choosing the research topic

We can ask: what is a reason for that project. The answer seems evident. Although ontological concepts and problems have often "long beard", however are still ambiguous and fuzzy. It appears happily that formal and in particular topological tools open some new possibilities: we hope that application general topology to analysis and interpretation of ontological problems results in sequent of creative concepts and theorems and will throw new light on the old philosophical problems. Initial hypotheses are fruitful, although some theorems are not expected.