

## Section 2. TEACHING MATERIALS SAMPLES

### Introduction to the History and Methodology of Global Studies<sup>1</sup>

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In this lecture we will focus our attention on key aspects of history (origin) and methodology of Global Studies. The detailed survey of literature is not an objective of this lecture, as our main goal is to clarify the essence of Global Studies from the point of view, existing in Russian scientific schools.

It is not widely known but the founder of Global Studies in Russia was Mikhail Lomonosov (1711–1765), who was also the founder of the Moscow University. In the year 2011, Russia celebrated the 300<sup>th</sup> birth anniversary of this outstanding scientists.

Mikhail Lomonosov argued that an integral system of congruent deductions consists of many small truths, the so-called *System of Systems*, the *Congruence of the Universe*, or the *Principle Integral of the Universe*.

This is a universal, global system which embodies all partial truths. *'There is a universal constant law of Nature, which is in tune with the voice of nature that is everywhere: in unanimity and harmony, in the accuracy of experiments, in diligence, in truthfulness, in a sophisticated structure of arguments, in the consent of all the reasons. I should like to have an all-embracing view of the totality of all the things that never meet a contradiction. I venture on this and rely on the statement that nature clings to its laws, and it is the same everywhere: the corpuscles in the living and the dead animals are moving, in the living and the dead plants are moving, as well as in minerals and inorganic matter – hence, in everything.'*

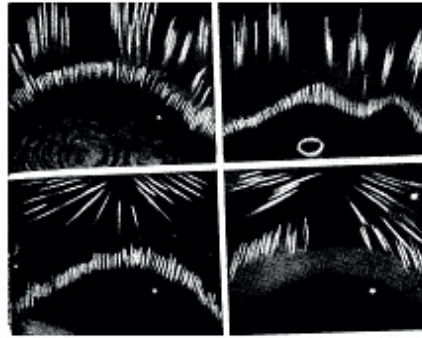
Lomonosov studied global processes on the Earth and beyond its boundaries. To fully understand his scientific contribution to this field of knowledge, we will dwell on some of his investigations. First of all he explored the physics of global atmospheric processes. The historic year 1753 witnessed the release of his fundamental work *A Word about the Air Phenomena Occurring from Electric Force* where he connected the Northern Lights with the electricity phenomena in the atmosphere (Fig. 1).

He described the global system of the atmospheric circulation on the Earth (Fig. 2). This scientific outlook contributed a lot to the understanding of elements and processes of the atmosphere. The today's model of dynamics of atmospheric processes (Fig. 3) only specifies the model suggested by Lomonosov.

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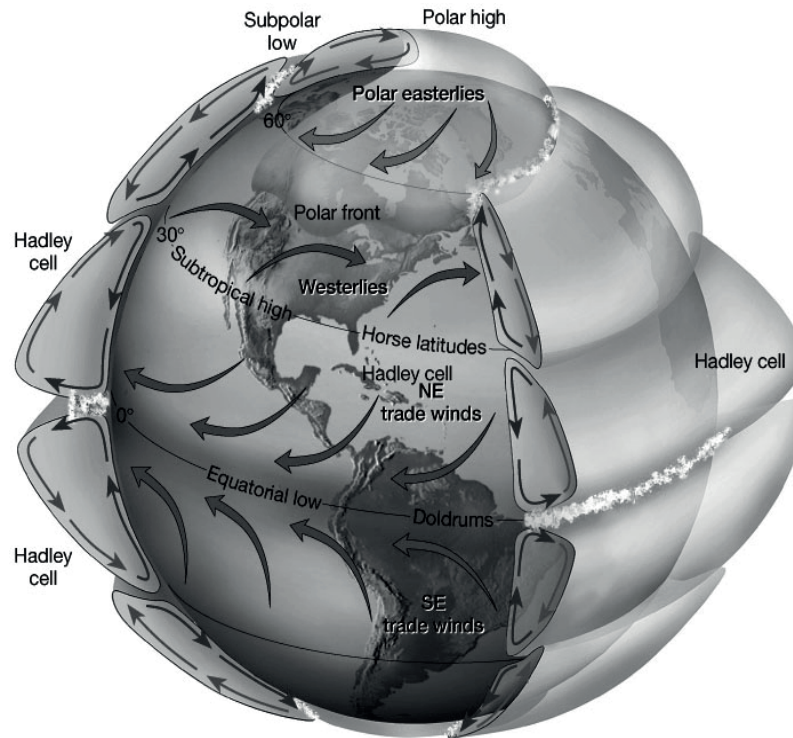
<sup>1</sup> This article was first published in 3G: Globalistics, Global Studies, Globalization Studies: Scientific Digest (edited by I. I. Abylgaziev, I. V. Ilyin). Moscow: MAKS Press, 2012, pp. 7–15.

**Fig. 1.** Northern Lights. Mikhail V. Lomonosov's picture 'A Word about the Air Phenomena Occurring from Electric Force', 1753



**Fig. 2.** The scheme of vertical air flows in the Earth atmosphere. Mikhail V. Lomonosov's picture from 'A Word about the Air Phenomena Occurring from Electric Force', 1753

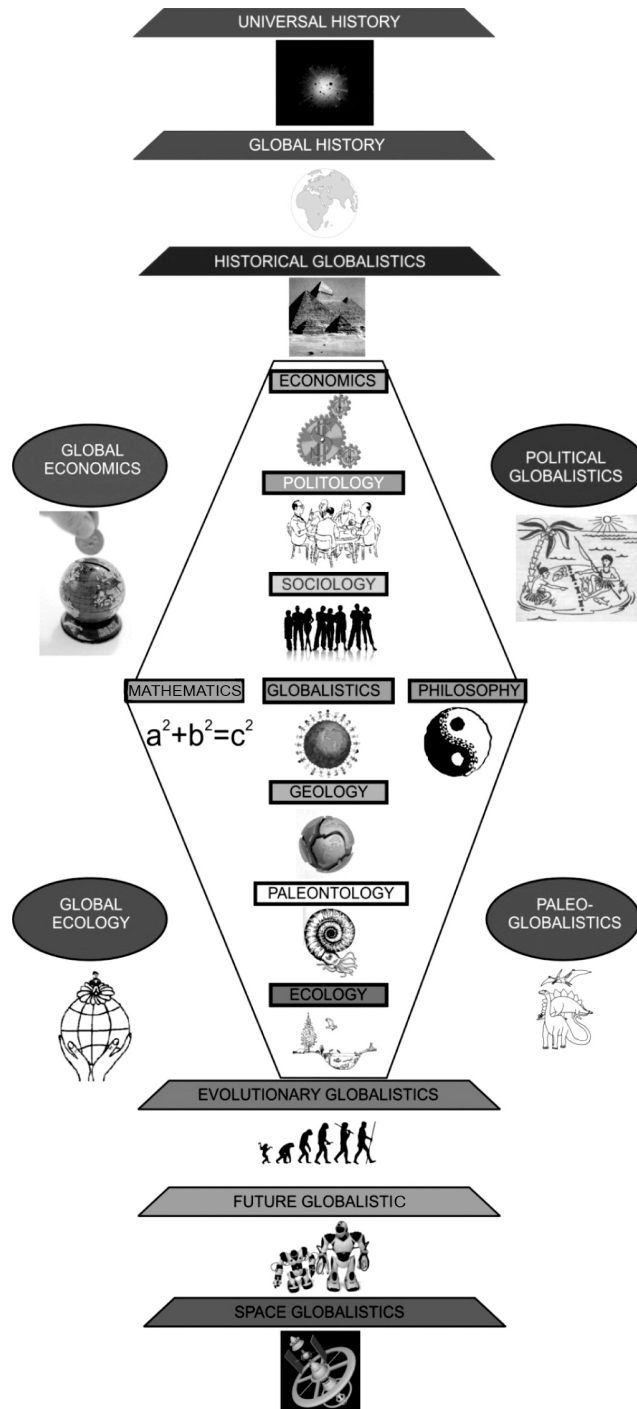


**Fig. 3.** The scheme of the global circulation of the Earth's atmosphere

Globalistics is an emerging area of scientific knowledge about global phenomena and processes, which exists in three forms: as an interdisciplinary research field, the basis for a new world outlook of modern people and a field of the conflict of interests, covering a wide range of public relations, from economy and politics to culture and ideology.

Nowadays, there is no common all-embracing Globalistics concept, which could help to overcome global crises. The creation and development of such a concept can be considered as a key strategic goal of Global Studies which is an interdisciplinary field of scientific knowledge. Fig. 4 demonstrates the interconnection of Global Studies and other scientific fields of knowledge as well as the emergence of new disciplines.

**Fig. 4.** Interconnection of Global Studies and other scientific fields of knowledge and emergence of new disciplines



On the one hand, it is evident that Global Studies are closely related to Sociology, Political Science, Economics, and Philosophy, that is, to social and humanitarian branches of knowledge. On the other hand, Global Studies interact with natural sciences – Geology, Mathematics, Ecology, and Paleontology. The interaction of these disciplines gives rise to the main scientific directions in Global Studies. For example, the conjunction of Global Studies and Economics results in Global Economics, the one of Global Studies and Political Science results in Political Globalistics, the one of Global Studies and Ecology results in Global Ecology, the one with Paleontology results in Paleoglobalistics.

The diachronic research in Global Studies is represented by three scientific areas of different levels, which study the origin and development of global systems and processes, namely, by the Universal (or Big) History (the history from the Big Bang to the present day), by the Global History (the history of the Earth from the moment of the origin of the Solar System and the Earth up to the present), and by the Historical Global Studies (covering the history of globalization from the first civilizations to the present day). The evolutionary trend and temporal aspects are studied by Paleo-, Neo-, Futuro-, and Cosmo-Globalistics.

According to the main issues of global research it is possible to distinguish three main branches within Globalistics (see Fig. 5): study of global problems (challenges), study of global processes and study of globalization. Each sphere has its own specific criteria and infers different approaches to their definitions.

The subject of Globalistics is global evolution, while the object embraces global problems, processes and systems. Global evolution means the whole range of coordinated and co-evolutionary global processes and systems, as it is defined by supporters of the so-called social-natural approach to global issues. Therefore, global processes include global natural processes (GNP), global social-and-natural processes (G SNP) and global social processes (GSP).

**Global natural processes** change the physical structure of the planet (its atmo-, bio-, litho-, and hydrospheric and other structures). They cause major natural catastrophes on the planet and in its regions.

**Global social-and-natural processes** signify the processes of interaction between the society and nature (environmental processes, natural resources exploitation, *etc.*).

**Global social processes** affect the structure of social relations in the world (economic, political, socio-cultural processes, *etc.*)

There are various types of global systems and processes occurring in them or between them. The hierarchical classification of global systems is one of such examples (Fig. 6), covering global social, biological and geological systems. They are usually called socio-sphere, biosphere, lithosphere, *etc.* Within a system we can distinguish hierarchical levels, which form subsystems, and the lower the level, the more subsystems there are.

**Global socio-system** is represented by civilizations, states, *etc.*

**Global bio-system** includes biocoenoses and different taxonomic groups of living organisms.

**Fig. 5.** Three main branches of Global Studies

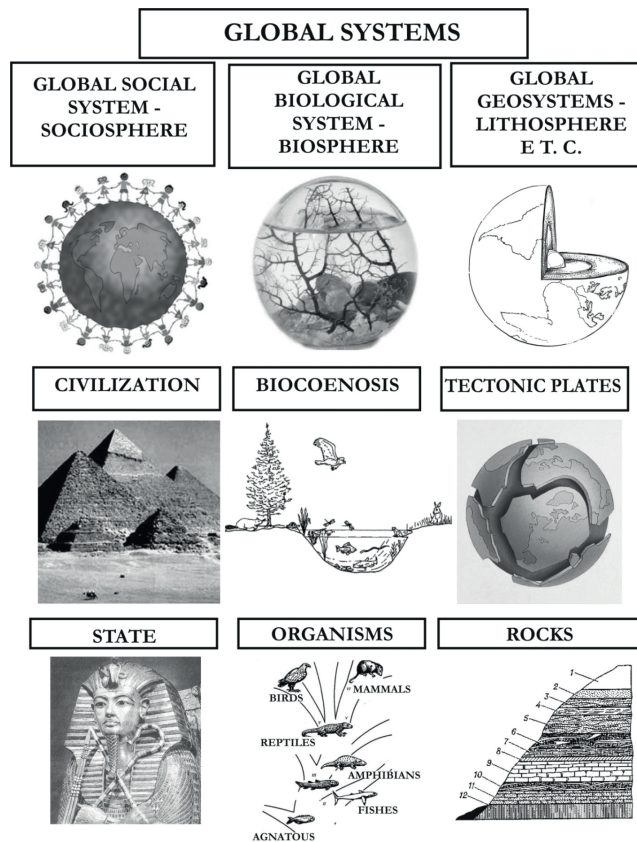


**Global geo-system** is presented by a set of geological bodies, plate tectonics, *etc.*

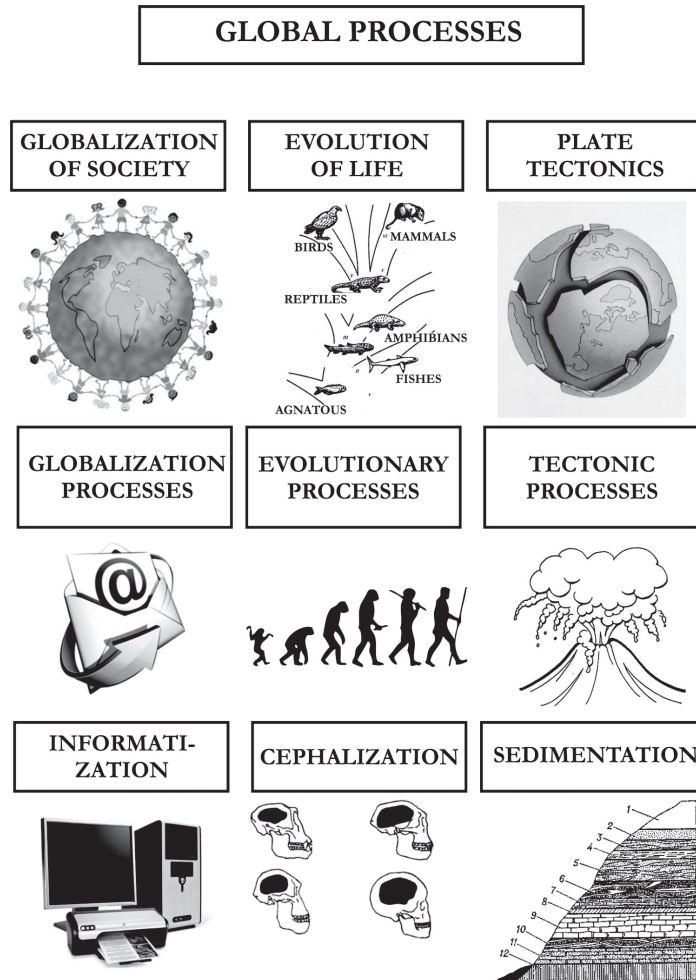
From everything mentioned above it is evident that there is a close interrelatedness of development, that is the co-evolution, and therefore the need for an interdisciplinary approach becomes quite obvious.

Now, let us analyze the hierarchical classification of some global processes (Fig. 7), such as **the globalization of society, the evolution of life and plate tectonics, which correspond to socio-, bio- and geo-global systems, respectively.**

**Fig. 6.** The hierarchical classification of global systems



**Fig. 7.** The hierarchical classification of some global processes



The principle of subordination of hierarchical levels and the increase in the number of the constituents, typical of the lower status level, is also applicable to the issue.

**The globalization of the society** implies the whole range of global processes. The global virtual space and one of its components – informatization are just some of such examples.

**The evolution of life** is represented by a set of complex evolutionary processes, *cephalization* being its special case. The latter means a sustainable development and complication of brains of living organisms.

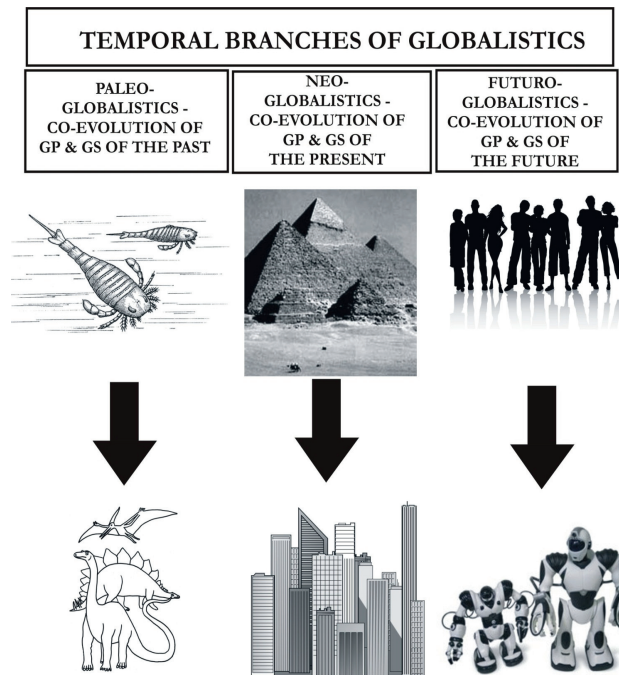
**Plate tectonics, or movement of large blocks of the crust** refers to a set of various tectonic and geological processes, causing the shift of plates in horizontal and vertical planes. This leads to the appearance and disappearance of oceanic and continental basins in which the accumulation of geological sediments (sedimentation) takes place.

Nowadays there is a necessity to employ more effectively modern methods developed in other scientific spheres. These include the Complexity Studies approach, the ecological approach (ecology in its broad meaning being the science which studies the interaction of systems of different organizational levels), and the evolutionary approach. They are to help us better understand global processes by means of the concept of Geo-spheres's co-evolution *etc.*

**Temporal criterion in Global Studies.** Taking into consideration everything mentioned above, it is possible to approach the main temporal 'sections' of Globalistics. It brings us to distinguishing between some temporal branches (Fig. 8), that is, between Paleo-Globalistics (co-evolution of global processes and systems of the past), Neo-Globalistics (co-evolution of global processes and systems of the present) and Futuro-Globalistics (co-evolution of global processes and systems of the future). Moreover, the vector of co-evolution can be traced within each of these diachronic sections even though they do not have clear boundaries.

**Temporal boundaries between the branches of Globalistics.** Paleo-Globalistics studies the global processes starting from the moment of the Earth formation, when there were many systems and processes, which are now either completely or almost non-existent, or they are greatly changed, giving rise to the present systems and processes. Nevertheless, some of these processes and systems are quite topical today. Global processes and phenomena of the present are studied by Neo-Globalistics and scholars researching global processes and systems are already discussing and forecasting global trends for systems and processes of the future. They are in fact handling the problems of Futuro-Globalistics.

**Fig. 8.** Temporal branches of Globalistics





Shifts of dominant global systems and processes, and their co-evolution constitute the subject of Evolutionary Globalistics (Fig. 9). This branch defines exact time periods when one phase of global development gives way to another. Up to now all the global processes and systems have been investigated as applied to the Earth, but human development has a well-defined vector directed towards the outer space colonization. In the nearest future we are to approach a new stage, the ‘Cosmo-Globalistics’ stage, and then, Cosmo-Globalistics will become a most topical issue, which will study cosmic impact on global processes and systems (Fig. 9).

**Fig. 9.** Branches of Globalistics in spatial and temporal coordinates (time and space)

