

SCIENTISTS SOLVE THE DEEPEST MYSTERIES OF THE UNIVERSE, SOCIETY AND INDIVIDUALS

Press Release

Information has always been important and sometimes vital for people but now it has become the most valuable asset and the strongest moving force in the contemporary society. Natural science is a courageous human endeavor in getting information about the universe. Social science is an indispensable human enterprise in getting information about society. Information is the bread and butter of mass media. Everything in the human organism is controlled by flows of information. Information processing and communication systems, such as computers, the Internet, and cell phones, has become the core of the modern society. Thus, it is natural that our time is called the information age.

Understanding importance of information, scientists have studied information developing information theory. However, in spite of their efforts, there is still considerable disagreement about what exactly information is. Different researchers suggested many definitions and descriptions of information but for a long time, neither of them gave comprehensively described information. Moreover, a variety of information theories, including the most popular Shannon's information theory, have been elaborated but neither of them gave an all-embracing representation of information. Information as a natural, social and technological phenomenon became the most puzzling enigma of the 20th century.

Many started thinking that it would be impossible to obtain a comprehensive definition of information or build an encompassing unified information theory. The reason for this pessimistic approach was existence and utilization of a big diversity of kinds and types of information in numerous areas and domains. However, the Director of the Institute Wolfgang Hofkirchner believed in these possibilities predicting and asserting in his papers and the book "*Emergent Information*" that it not only doable but also necessary to build a unified theory of information.

This goal was achieved by the Chief Information Scientist of the Institute Mark Burgin, who created the general theory of information presenting it in numerous papers and the book "*Theory of Information: Fundamentality, Diversity and Unification*". This theory provides means for unification of physics, psychology and information science comprising at the same time, all other areas and directions in information theory, such as Shannon's information theory, algorithmic information theory, semantic information theory, pragmatic information theory and many others.

In addition, the general theory of information was used as a base for elaboration of the most encompassing definition of information. It became possible to overcome all complexities of the information phenomenon due to the innovative approach to the definition of information, which contended relativity of information formalizing it in the form of a free parameter.

An important feature of the new definition of information is that it shows the real essence and place of information eliminating existing misconceptions and misunderstanding of this extremely complex phenomenon. As a result taken in broad context, the new definition made it possible to amalgamate the conceptions of information, physical energy and psychic energy in one comprehensive concept.

Thus, in essence, the general theory of information provides constructive tools for discerning information, measures of information, information representations and carriers of information explaining how information influences life of all people and progress of society. In particular, it explains why mass media are so powerful in contemporary society.