

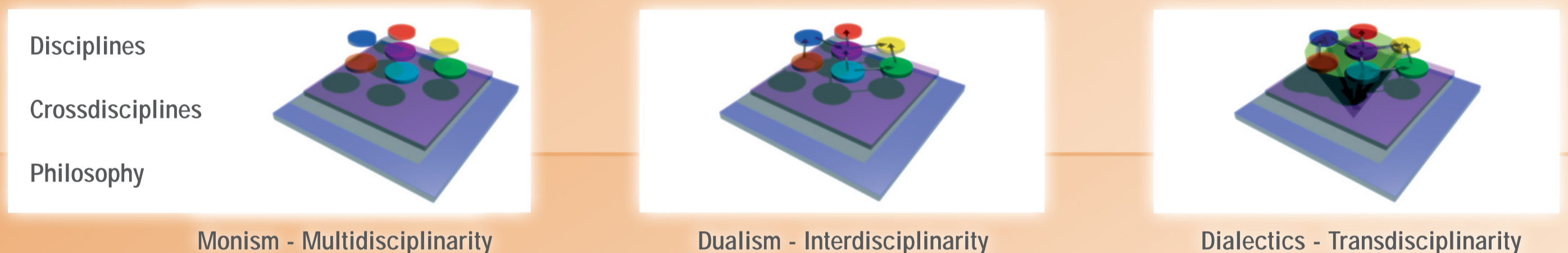


UNITY OF KNOWLEDGE THROUGH DIVERSITY IN SCIENCES TRANSDISCIPLINARITY IN RESEARCH

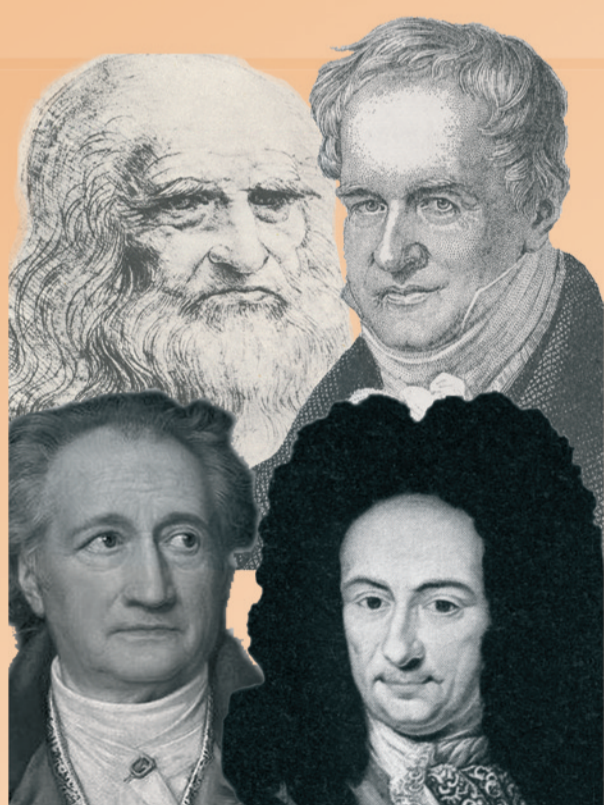
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We must stop acting as though nature were organized into disciplines in the same way that universities are.
[Russell Lincoln Ackoff]

Global challenges societies are faced with cannot be solved with current methods and knowledge found within single disciplines. Hence, an integrative paradigm is needed. To obtain a new way of thinking and problem solving we have to bridge the gap between natural sciences and the humanities. Therefore we have to shift towards transdisciplinarity within current research and studies. As there is no unified definition of transdisciplinarity existing so far, a new approach has to be developed, encompassing three ways of thinking (cp. W. Hofkirchner):



Due to global problems that humanity is confronted with, there is a need to find a solution to cope with today's complex issues. Thus, knowledge of specific subjects will not become obsolete, but societies will have to find wise solutions, whereas single disciplines have to be woven into an entire scientific area with new methods, a new perspective in which a new quality of problem solving will emerge. Stakeholders have to be included in the process of research either. Results of any transdisciplinary research and study can not be reduced to any other single discipline and is based on philosophy as well as it refers mutually to crossdisciplines, such as information science or systems theory. Because of today's complex problems Information Science (and any other discipline) is asked to think transdisciplinarily. Global problems require global solutions and global cooperation.



The scientific World has changed rapidly over the centuries. On the one there is a break between sciences and humanities, on the other hand one can notify an increasing gap between universalists and specialists. Whereas in ancient days one can speak about polyhistorians, such as Leonardo da Vinci, Alexander von Humboldt, Gottfried Wilhelm von Leibniz, Johann Wolfgang von Goethe, Galileo Galilei, etc., these days societies do not need a single person to be a universalist anymore but humanity as a whole requires wisdom. We need Collective Intelligence.



Only the wise human will incessantly have the whole in his mind, think and act in relation to the cosmos. [Bernhard Groethuysen]