

Introduction

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The Modern Age, since the 18th-century Enlightenment or Age of Reason, has promoted advances in technoscience and material quality of life, but a spiral cycle has been created in which the hypertrophy of logic and analysis does not solve the complexity of human phenomena. A more comprehensive understanding of ancient philosophies and traditions has been lost. Understanding has been reduced to knowledge or binary logic, fractioned by narrow analytical and scientific views of reality. Many human sciences borrowed such rationalist models from the hard sciences in a reductionist approach of merely mechanistic or biological-environmental views, which can't be applied effectively to complex human phenomena. In the 21st century, the Western mainstream paradigms can no longer deal with the level of uncertainty, conflicts, polarisation, and ideologization in which the West finds itself, the result of a binary worldview that has its explanations in the Western culture itself, focused on causality, which does not consider the various interactions in dualities, like the subject object and conscious unconscious at intertwined levels, as is clear from Jung's Analytical Psychology and Modern Physics.

In that connection, this book is the result of the Symposium *For an International Transdisciplinary Chair*, organised by the co-editors and promoted by CIRET on the date of March 21-25, 2024. This second volume includes the final papers of the Symposium presentations¹.

For those who study transdisciplinarity, it is common to use TD as an acronym for transdisciplinarity as a substantive or transdisciplinary as an adjective.

The origins of a TD framework can be seen in the United States, France, and Brazil.

In the US, especially in Berkeley, Dutch physicist Fritjof Capra developed his Holistic Systems, initially through *The Turning Point* in 1982, an idea of paradigm shift and rising new culture beyond the dominant Western Newtonian and Cartesian view of reality. Not TD yet, but Capra's systemic paradigm went beyond the binary logic and established a dialogue between ancient traditions/philosophies with Modern Physics². In the same way, David Bohm, himself

¹ The Symposium videos and program are available at <https://ciret.hypotheses.org/activites/symposiums-colloques#chair>, accessed on 05.08.2024.

² Capra Fritjof (1982). *The turning point: science, society, and the rising culture*. Bantam Books, available here: http://pustaka.unp.ac.id/file/abstrak_kki/EBOOKS/CAPRA%20FritjofCapra-The_

professor at Berkeley, began a new way of thinking reality, in dialog with the Indian thinker Krishnamurti³.

In France, Ștefan Lupășcu, also known as Stéphane Lupasco, a Romanian-born philosopher and logician, has made significant contributions to the development of the concept of transdisciplinarity by elaborating a "logic of the included third" which is closely linked to transdisciplinarity⁴. A few years later, the Romanian physicist Barasarab Nicolescu and Brazilian mathematician/ educator Ubiratan D'Ambrosio were among the eminent co-signers of the 1986 UNESCO Charter of Venice, which was the starting point for TD worldwide⁵.

Nicolescu created a transdisciplinary methodology in the late 1980s, considering ideas such as the logic of the included third or hidden third, besides the fruitful complementarity between disciplinarity and TD. In 1987, Nicolescu founded, in Paris, the International Center for Transdisciplinary Research and Studies – CIRET⁶.

In Brazil, D'Ambrosio with the psychologists Pierre Weil and Roberto Crema created the holistic TD approach in the late 1980^s. In turn, French Weil and Brazilian Crema established in 1987 the International Holistic University of Peace – UNIPAZ⁷.

UNIPAZ created a 481-hour course on Holistic TD called FHB, i.e. Holistic Basic Training. Nowadays with 25 instructors, for any student or professional over 18 years old, those seeking a new way of being in the world, or those interested in the holistic TD approach as a tool for improving personal and professional dimensions. Roberto Crema was responsible for implementing and coordinating its Pilot Group at UNIPAZ in Brasilia from 1989 onwards. So, the FHB has already a 35-year tradition⁸.

Also in the US, The ATLAS, Academy of Transdisciplinary Learning &

Turning_Point__Science,_Society,_and_the_Rising_Culture__-Bantam (1988).pdf, accessed on 05.08.2024.

³ Bohm, D. & Krishnamurti, J. (1999). *The Limits of Thought: Discussions between J. Krishnamurti and David Bohm*. Routledge, London.

⁴ In 1951 Lupasco publishes *Le principe d'antagonisme et la logique de l'énergie - Prolégomènes à une science de la contradiction*, in which he enunciates for the first time the principle of antagonism, on which he bases a non-Aristotelian logic (of the third included). Lupasco S., 1951, *Le Principe d'antagonisme et la logique de l'énergie. Prolégomènes à une science de la contradiction/The principle of antagonism and the logic of energy - Prolegomena to a science of contradiction*, 1^{re} éd. Paris, Hermann & Cie (Actualités scientifiques et industrielles, 1133), 2^e éd. Monaco, Le Rocher (L'Esprit et la matière), 1987, préf. de Basarab Nicolescu.

⁵ UNESCO (1986). Symposium on Science and the Boundaries of Knowledge: the Prologue of Our Cultural Past, Venice, 1986. Final Signed Report available here: <https://unesdoc.unesco.org/ark:/48223/pf0000068502>, accessed on 05.08.2024.

⁶ The CIRET web page is available here: <https://ciret.hypotheses.org/>, accessed on 05.08.2024.

⁷ The UNIPAZ web page is available here: <https://unipazdf.org.br/>, accessed on 05.08.2024.

⁸ The HFB web page is available here: <https://unipazdf.org.br/produto/formacao-holistica-de-base/>, accessed on 05.08.2024.

Advanced Studies, founded in 2000, is a non-profit organisation by the US Federal Government, providing services to students around the world: i) TD education and research; ii) support social, environmental, economic, and ethical sustainable development throughout the world; and iii) to promote global information exchange through innovative publishing. The ATLAS is also a publisher of TD books free of charge, available at the internet, and there is also a free-access journal for TD articles, the ATLAS-TJES⁹.

There are other TD initiatives, such as ARKOS University in Mexico¹⁰ and the Russia School of TD¹¹. However, this book cannot cover all of them.

Even with all those initiatives, the TD concepts are still not very clear or understood by most of the students/academics. Some may reduce it to the **epistemology of TD**, or even to the **science of TD**. However, TD involves the logic of the Included Third, i.e. the complementarity of opposites. Complementarity is not only a scientific principle coming from Modern Physics but also from ancient traditions/philosophies. So, this dialectical meaning can be seen in the Included Third logic, the Modern Physics wave-particle duality, and the Taoist and the Chinese Traditional Medicine idea of Yin-Yang. Also, beyond the binary logic of true or false, in India Nagarjuna developed the logic of the tetralemma – affirmation/true, negation/false, both, or neither, which was a basis of the Buddhist doctrine, that can be found in Shan and Zen tradition. In the same way of thinking is the Ismaelian philosophy and theosophy. Finally, we can mention Nicolas de Cues and The Star of David in the European Alchemical Tradition. Then, the dialogue between culture and technoscience emerges, as the HPTD-M theory describes in terms of quaternary complementarities, i.e. through many possible interactions in opposites coming from the four epistemic ways, namely philosophy, tradition, art, and technoscience.

TD and holistic view are concepts still not very well understood by some academics, which are unconsciously focused on rational scientific dogmatism. Solving problems on individual, organisational, and civil society levels involves the complexity of human phenomena, which the dominant binary logic of our Western culture cannot cope with.

In this sense, a dialog between culture and technoscience seems to be a reasonable way of dealing with issues that are more complex than the dominant mechanistic approach using the logic of 0 or 1, true or false, right and wrong.

Culture involves the epistemic forms of philosophy, tradition, and art. Technoscience, in turn, is the fruitful dialog between technology and science.

⁹ The ATLAS free access books is available here: <https://theatlas.org/index.php/td-teaching-materials/td-books> and the ATLAS-TJES journal can be see here: <https://www.atlas-tjes.org/>, both accessed on 05.08.2024.

¹⁰ The ARKOS web page is available here: <https://www.ceuarkos.edu.mx/>, accessed on 05.08.2024.

¹¹ McGregor, S. L. T. (2024). „Russian school of transdisciplinarity as a metadiscipline”. *Universum: Social Sciences*, 3 (106), pp. 53–65, available here: <https://7universum.com/ru/social/archive/item/17087>, accessed on 05.08.2024.

Therefore, science alone cannot solve problems at the psychological and psychosomatic level, i.e. in the personal and collective organisational levels.

In this connection, the cover of this book symbolically proposes dawn, a turning point, a paradigm shift, and a transformation of our conscience through dialogue between the new culture, represented by the rising sun at the left, and technoscience, shown by the crane at the right, involving technology and science in the concrete construction of new solutions.

So, if the labels coming behind the idea of TD and holistic view remain uncomfortable for the reader, those can be easily replaced by the concept of dialogue between culture and technoscience, in terms of effective problem-solving framework for the organisations, from the personal to the collective levels.

Finally, about the structure of this book: The idea was to start with the authors involved with education and science, a content that is easier for the academics, and then go to the applied TD which involves problem solving and practitioners in economics, law, psychology, management, public administration, engineering, leadership, and mediation of conflicts.

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