From Academia



The Magazine of the Polish Academy of Sciences No. 1 (45) 2015 Quarterly ISSN 1731-7401

© Polska Akademia Nauk 2015

Polish Academy of Sciences Office for Popularizing and Promoting Science PKiN, pl. Defilad 1, 00-901 Warsaw, Poland e-mail: academia@pan.pl www.academia.pan.pl www.science-online.pl

> Subscription: academia.prenumerata@pan.pl

> > Editorial Staff:

Jan Strelau Honorary Editor-in-Chief

Anna Zawadzka Editor-in-Chief & Humanities

Katarzyna Czarnecka Deputy Editor & Managing Editor

> Agnieszka Kloch Biomedical Sciences

Agnieszka Pollo Mathematics, Physics, Chemistry, Technology

> Jolanta Iwańczuk Earth Sciences

Daniel Sax Editor, English-Language Version

> Paweł Adamów Art Director

Scientific Council: Chairman:

Jerzy Duszyński President of the Polish Academy of Sciences Edward Nęcka Grażyna Borkowska Leszek Kaczmarek Roman Micnas Lucjan Pawłowski Witold Rużyłło Henryk Szymczak

> Translation by "Sax Translations" (D. Sax, C. Stupnicka, A. Król)

> > DTP by Studio J.P.J. Printed by Edit Sp. z o.o.

Deciphering the World

Back in the 1970s, no self-respecting student majoring in Polish studies or sociology at Warsaw University would allow him- or herself to be seen near campus without a copy of Claude Lévi-Strauss's "Tristes Tropiques" tucked under their arm. Young people frequenting the university quarter even wore Levi Strauss jeans and carried big bags with the cover of a structuralist volume poking out. The words structuralism, structural anthropology, and post-structuralism were part of our daily vocabulary, basic elements in the obligatory education of every young intellectual in those years.

Structuralism was indeed everywhere: in the theory of culture, philosophy, literary studies, architecture, art. Then fashions changed, and post-modernism became the new canon of young intellectuals in the 1990s.

But irrespective of fashions, the study of structure is still doing fine and well. It is an obvious subject of scrutiny for sociology and psychology, and indeed an obligatory consideration in mathematics, chemistry and physics, biology and medicine. Atomic nuclei, proteins, crystals, etc., are all profoundly structural. And indeed, an interesting thing has happened: biology and medicine, physics and chemistry have in some sense come to outstrip philosophy and anthropology, with the former having the upper hand for a few decades now.

Why this has happened is an interesting question. There are a number of answers, and one is offered by an author in this issue of Academia: studying the spatial arrangement, or structure, of proteins, for instance, help us to understand the cogs that make life tick. Such research is also of great practical importance, as knowledge of the spatial layout of biological molecules is crucial for the design of more effective medicines and the diagnosis of genetic diseases.

Already back in the 1970s, when we heard the words "the structure of..." we immediately felt the association "...crystals," due to the title of a movie by Krzysztof Zanussi about two physicists engaged in the study of crystal structure. The mysterious formulas drawn in pen by one of them on a piece of paper enchanted us as mysterious codes able to decipher the world. And, it seems, it is precisely such decipherment of the world, such unraveling of structure, that science in general is after.

The ACADEMIA staff



Poland's most intriguing example of modernist architecture: the POLIN Museum of the History of Polish Jews in Warsaw