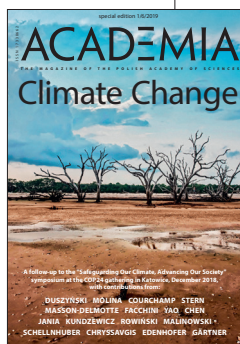




Table of Contents

Declaration	A JOINT CALL FOR ACTION	4
Prof. Mario Molina	EVIDENCE COMES FROM SCIENTISTS	6
Dr. Franck Courchamp	EATING BIODIVERSITY	12
Prof. Nicholas Stern	A STORY OF GROWTH	16
Dr. Valérie Masson-Delmotte	EVERY HALF A DEGREE MATTERS	22
Dr. Maria Cristina Facchini	TWO SIDES OF THE SAME COIN	28
Prof. Tandong Yao Prof. Fahu Chen	ALONG THE SILK ROAD	34
Prof. Jacek Jania	TELLING THE FUTURE FROM ICE	38
Prof. Zbigniew Kundzewicz	KEEPING OUR HEADS ABOVE WATER	44
Prof. Paweł Rowiński	TOO MUCH FEEDBACK	48
Prof. Szymon Malinowski	NOT TO BE IGNORED	54
Prof. Hans Joachim Schellnhuber	EMPATHY IS KEY	58
Rev. Dr. John Chryssavgis	RELIGIOUS AND SPIRITUAL PERSPECTIVES	62
Prof. Ottmar Edenhofer Juliana Gärtner	CLIMATE AND CHRISTIANITY: THE LEGACY OF POPE JOHN PAUL II	66
	CORE CONCEPTS AND TERMS	70



The Magazine
of the Polish Academy
of Sciences
special edition 1/6/2019
ISSN 1733-8662
2100 copies printed

PUBLISHER:

© Polish Academy of Sciences

Office for Popularizing
and Promoting Science

pl. Defilad 1,
00-901 Warsaw, Poland

e-mail: academia@pan.pl
academia.prenumerata@pan.pl
www.scienceonline.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
Exact Sciences

Jolanta Iwańczuk
Earth Sciences
Daniel Sax
English version editor
Andrzej Figatowski
Layout design
Andrzej Kozak
Photo editing
Translations by:
Sax Translations

SCIENTIFIC COUNCIL:

Jerzy Duszyński
Chairman
Edward Nęcka
Grażyna Borkowska
Leszek Kaczmarek
Roman Micnas
Lucjan Pawłowski
Witold Rużyłło
Henryk Szymczak

PHOTOGRAPHY P. 1, 2, 3 BY: BE&W, QIMONO/WWW.PIXABAY.COM, JAKUB OSTAŁOWSKI



A World Gone Awry?

Scientists are carefully observing the rapid, ongoing changes in the Earth's climate. We already know for certain that these processes are caused by human activity, by the emission of greenhouse gases, chiefly carbon dioxide and methane, from industry, heat plants, power stations, agriculture, and households. Consequently, scientists continue to posit increasingly dire and alarming forecasts. Like all scientific projections, these scenarios are expressed in terms of their likelihood. However, science already says that there is a 60% chance that, within a decade or two – in other words during the lifetime of most of us alive now – the world will witness significant floods, heatwaves, typhoons, rising sea and ocean levels, and in their aftermath, increasingly widespread famine, shortages of drinking water, and migrations of entire nations.

However, the voice of scientists continues to resonate poorly with societies and decision-makers. Why is that the case?

In his short story *The Lady with the Dog*, Anton Chekhov describes a scene in which the main character in the story, a man named Gurov, unable to share with anyone the pain he feels deep in his soul, finally explodes at an unexpected moment:

One evening, whilst emerging from the doctors' club together with his card-playing partner, a public official, he could not help himself and said: "If only you knew what a fascinating woman I became acquainted with in Yalta!" The official got into his sleigh and drove away, but then turned back suddenly and shouted: "Dmitri Dmitritch!" "Yes?"

"What you said earlier was right: the sturgeon had indeed gone a bit off!"

In Chekhov's short story, Gurov feels insulted by this remark about the sturgeon, thinks of it as trivial and shallow, terribly off-topic. Compared to the intense drama he is experiencing in his own mind, the bureaucrat's down-to-earth comment seems absurd.

Scientific scholars and religious leaders alike harbor no illusions about the causes, pace, and directions of climate change and its dramatic consequences. This was particularly audible during the joint symposium organized by the Polish Academy of Sciences, the French National Centre for Scientific Research (CNRS), and the Pontifical Academy of Sciences during the United Nations Climate Change Conference COP24, held in Katowice in December 2018. The threats and potential means of preventing them are discussed in the Katowice Memorandum, the final document adopted by the participants in the symposium. In this special issue of *Academia* magazine, we are proud to present the positions of a number of the prominent thinkers and researchers that were involved.

Their warnings are indeed very much down-to-earth, but the serious problem is that to many members of society, they may seem terribly off-topic and trivial, compared to the day-to-day concerns they are absorbed with. However, a failure to pay heed to those warnings may have a very profound effect on entire societies in just a few years. The whole world may then realize that scientists were indeed right, that the world has not just "gone a bit off" but indeed gone profoundly awry.

PROF. JERZY DUSZYŃSKI,
PRESIDENT OF THE POLISH ACADEMY OF SCIENCES

