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Doskonała  
Nauka II

### RECENZJA/REVIEW

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## **Recenzja/Review: Lynda C. Olman (ed.) (2023). *Global Rhetorics of Sciences*. New York: SUNY Press**

The authors of the book *Global Rhetoric of Sciences* question the possibility of science rhetoric that goes beyond the narrow framework of a single culture. The criteria by which we judge whether something is rational, scientific or credible depend on social, political or economic conditions. The Euro-American approach to the practice and dissemination of science does not allow the full utilization of the knowledge resources available to local cultures. Yet, we need new ways of gathering and transferring knowledge to address contemporary challenges.

A memory of Ubiratan D'Ambrosio, a mathematics professor from Sao Paolo who died in 2021 and the founder of a new discipline – ethnomathematics opens a volume. The *Preface in Memorium. Ubiratan D'Ambrosio, Ethnomathematics, and Rhetoric* contains an excerpt that clearly (albeit metaphorically) explains the assumptions behind the entire book:

Metaphorically, I consider disciplines as cages: it is not possible to leave the cage, since wires impede it. The wires are code. I consider codes in the broad sense including symbols, jargon, criteria of truth, rigor and precision and other normative specificities. In the cage, it is not possible even to know the color of the external paint. The search for knowledge within the cage reveals nothing about what is outside (p. ix).

D'Ambrosio studied how Europeans, when conquering America, came up against a system of knowledge so incomprehensible that the simplest solution was to deny its existence entirely.

...codes of Euro-American mathematics influenced the quantification of everything from plants to people, and (...) they restricted the ability of the European colonizers to recognise and respect the epistemologies of the indigenous peoples they encountered. (...) This failure of recognition served a rhetorical function for the colonizers; it “supported efforts to label the encountered cultures as primitive, uncivilized and justified the treatment given by Europeans to the indigenous peoples.” (p. x).

Scientists face an unprecedented rise in conspiracy theories and undermining scientific knowledge. The authors of the chapters collected in this volume seem to share the hope that perhaps a return to historically and ethnically based ways of explaining the world is the key to a return to rationality. At the same time, the book is an example of putting well-understood inclusivity and dialogue into practice. In the individual chapters, the local population is described and allowed to have their say and participate in shaping the text.

In research on the history of science, in science and technology studies, for several decades now, researchers have been writing about the colonising dimension of Euro-American science, the dominant role of scientific discourse based on Western philosophy, and the way of seeing and describing the world.

The reviewed book is innovative in showing the effects of this rhetorical dominance and the possible consequences of breaking it concerning global risk.

...global risks – including climate change, pandemics, and food and energy security – cannot be collectively and effectively managed if we continue to insist that all global systems for knowing and representing natural phenomena be reducible to the Euro-American scientific system. That is a point the present volume takes both very seriously and as a starting point from which to search for new ways to integrate global sciences in the just and collective management of global risk (p. 2).

Epidemics and environmental challenges show that imposing neoliberal solutions from above does not help “vulnerable communities, particularly in the Global South” (p. 3). Therefore, perhaps developing a new, global rhetoric of science will help manage global risk. Lynda C. Olman reminds us in the *Introduction*:

The good news here is that the collective management of risk and uncertainty has been the business of rhetoric for the last 2.500 years and much longer in other global traditions of communication like the Aboriginal practices of Country and Law (...) in the Euro-American tradition, rhetoric was invented by collective of Attic Greek tribes in the 6th century BCE as a social technology used to get collective to act together for the purposes of managing the uncertainties they jointly faced – both environmental and social. It was officially organised and codified as *techne*, a technology or productive art (p. 3-4).

Intercultural exchange has also always been a driving force for rhetoric (ever since the Greek-Roman tradition and Arab culture first met). Therefore, it is safe to assume that rhetoric studies will tell us, “How do we move past the neocolonial era into a more equitable global cooperation in technoscience and politics?” (p. 6).

Lynda C. Olman reminds us that the revival of rhetoric in the 20th century was not limited to “composition pedagogy” but was also related to “social *techne*.”

Scholars such as Kenneth Burke, Chaim Perelman, and Lucie Olbrechts-Tyteca returned the focus of the art to collective deliberation; meanwhile, sociologists such as Ulrich Beck were using term like *world risk* to describe the new exigence for collective action in late capitalism. In 1982, Thomas Goodnight coined a new definition of rhetoric for the era: “The creative resolution and

resolute creation of uncertainty”. Since that time, scholars of rhetoric have turned to excavating the ancient roots of rhetoric in collective risk management, focusing in particular on the rhizomatic action of rhetoric as a middle ground between critical paralysis on the one hand, the totalising solutions to risk management on the other, and the circulation of nonsymbolic material and energy in the flow of communication (p. 6-7).

Going beyond the Greco-Roman tradition has led to the emergence of comparative rhetoric (contrastive rhetoric). While rhetorical studies consider cultural, racial and gender differences, the rhetoric of science still remains a kind of monolith. The reviewed book is an attempt to show an alternative.

The editor of this volume, Lynda Olman (formerly Lynda Welsh) from the University of Nevada, has been studying the rhetoric of science for many years. She analyses how the language of science is created – what is described; how it is described and how science is communicated to the public. She studies the public reception of visual STEM arguments and the scientist’s ethos. She has also dealt with environmental rhetoric and non-Western rhetoric. I mention all these research topics that Lynda Olman has explored for a reason. They prove that the book’s editor is a very conscious researcher, aware of the multiple conditions of the creation and perception of science. The reviewed monograph brings together works that touch on all of Olman’s interests.

As she explains, “we do not seek to eradicate Euro-American STEM practices in post- and neo-colonial contexts, but rather to negotiate a new epistemological and rhetorical contract that recognises indigenous sciences and makes them equal partners in the management of global risks” (p. XI). These contemporary global risks are environmental and health challenges, and these topics are developed in the following chapters of the book.

As the editor announces in the introduction, the book’s structure is based on four master tropes: synecdoche, irony, metaphor and metonymy. However, following the challenges of risk and crisis communication, let me briefly discuss the chapters thematically.

The first thread shows how a different approach to knowledge creates a different way of thinking. Kelly E. Happe and Lynda C. Olman (*How Euro-American Science Became Dominant. Transnational Circulations of Knowledge and Capital*) use “reproductive technologies as a case study to illustrate how something as rooted, local and individual as a human ovum came to be the globalised object of Euro-American scientific definition, control and capitalisation” (p. 10).

Francisco Nahoe (*Where Voyaging Ends. Social Cosmology on Rapa Nui*) discusses if Polynesian wayfinding, the carving of moai, and Rapa Nui archaeoastronomy can be understood as kind of “social cosmology and (...) expand our resources for understanding what constitutes the rhetoric of science in a global context” (p. 113).

Evelyn Dsouza (*Celtic Geometric Art as a Visual Rhetoric of Science*) considers “Celtic geometric art (nonlinguistic, non-discursive rhetorical figures of knots, spirals, and symmetric patterns) as a powerful visual rhetoric and rhetoric of science” (p. 140). The author refers to the rhetorical sequencing method proposed by Richard Leo Enos, a historian who argues that ‘rhetorical archaeology’ must go beyond text analysis. It is equally important to recognise all “social, political, and cultural conditions that give rise to cultural values and reconstructing the rhetorical situation or *kairos* that induces discourse” (p. 141). So, the Celtic knot becomes “a visual metaphor that helps us describe and appreciate interrelated and nonlinear associations” (p. 141).

The second theme is the environment and the challenges of the climate crisis. In chapter two, *The Shifting Rhetoric of Environmental Science in Australia. Acknowledging First Nation People and Country* Emilie Ens, Shaina Russell, Bridget Campbell, Sabina Rysnik-Steck, Monica Fahey, Patrick Cooke, Renee Cawthorne, and Daniel Sloane describe how colonial rhetoric has changed the way of life of First Nations Australians and what today’s ecological cataclysms (wildfires, drought, and other ravages of climate change) teach us about the environmental management practices of Indigenous people.

Huiling Ding and Jianfeen Chen (*A Critical Contextualised Approach to Studying Clashing Risk Cultures. Mapping the Transcultural Environmental Risk Communication of PM2.5 in China*) use the example of activities related to air pollution standards to show the differences in transcultural risk communication. The authors refer to selected concepts of models and argumentation types in the public sphere and show that risk communication success or lack of effectiveness cannot be understood without considering cultural specificity.

Ryan Eichberger (*A Rhetoric of the Home Ground: Local Knowledge and Data-Gathering among the North Atlantic Glaciers*) shows new ways of discussing environmental challenges. He refers to the knowledge of one’s land gathered over generations, the collection of data about one’s immediate surroundings.

We urgently need ways to deepen our acquaintance with our home grounds. Rethinking data gathering as not merely the domain of academic European or American science but something we do in everyday life – as people did with glaciers long before institutional science took an interest – is one way to deepen that acquaintance. To record changes in one’s home ground not only builds knowledge by which to understand and steward local ecologies; it can also help retool outdated environmental mindsets (p. 181).

Using this traditional ecological knowledge and incorporating it into environmental rhetoric can result in a much-needed shift in thinking and acting to prevent climate change.

Local ecological knowledge practices also dovetail with the ‘big table’ ethos of contemporary environmental movements, which invite people to bring their distinct backgrounds, skills, and joys to collective climate work. Joy is important: climate work carries mental health risks ranging from exhaustion to grief. A focus on collectivity also runs counter to decades of propaganda that have equated climate action with flipping light switches and reducing carbon footprints (thereby relieving the corporations and institutions most culpable for climate change of the need to do anything about it). (...) In other words, different traditions, experiences, and attunements of knowledge must be integrated (p. 183).

Taking local knowledge into account and engaging people by telling them about the world closest to them can effectively deal with global challenges.

The final topic is health, activities related to prevention and treatment campaigns. Toluwani Oloke and Olusegun Soetan (*African Sciences and Indigenous Knowledge Systems in the West African Ebola Crisis*) show the consequences of not considering local customs and beliefs. The ineffectiveness of the measures taken to combat Ebola was due to the neglect of the power of traditional healing methods. Communication that focused on demonstrating that African knowledge and healing methods were insufficient could not convince the audience because it was opposed to their deep-rooted beliefs, which were based on tradition and personal experience.

Sunnie R. Clahschichiligi, Julianne Newmark, and Joseph Bartolotta (*This Is a Viral Story about Viral Stories: Image and Graphical Power in COVID Communication in the Navajo Nation*) also show the importance of including ethnic traditions in crisis communication. By analysing examples of Indigenous artists’ visual works, they explain *storying*: ‘the active, always-changing process of story-as-action across place and time’.

As we can see, the topics discussed in the book are well-known to researchers dealing with the rhetoric of science, health, or the environment. Researchers dealing with comparative rhetoric will also recognise many issues. What is unique is the combination of these different topics in the context of risk. At the same time, this makes the book challenging to read because, on the one hand, all chapters are case studies, but on the other hand, they refer to very extensive specialist knowledge.

It is certainly not a rhetorical study presenting a well-developed concept in an orderly manner. Even the book’s structure, based on master tropes and proposed by the editor, seems to be as much a gimmicky as a superficial device.

As Lynda C. Olman admits,

this volume on global rhetorics of science comprises a diverse array of contexts, methods, voices, and styles. Most of the scholars in this volume do not even identify as rhetoricians. Notwithstanding, all share a commitment to better understanding the relationship between world-building and community-building, and to contributing to the decolonisation of scientific practice around the world. As they engaged in this project of reconfiguring global rhetorics of science, they attempted to observe key principles set out by the comparative and decolonial rhetorical scholarship reviewed

above. They wrote about communities in which they lived or belonged to whenever possible, and when this wasn't possible, they gave the community space to speak for itself, engaging rhetorics of listening from close readings of social media to interviews (p. 15).

The assumption that it is possible to build a 'global rhetoric' from 'non-rhetorical' elements may seem somewhat risky. However, as Richard Leo Enos, cited in one of the chapters, argued, 'rhetorical archaeology' is about recognising what, how, why and when gained persuasive value. Perhaps the proposal in the reviewed volume is analogous, but it should be called "rhetorical futurology." This is a story about what voices, what points of view and what ways of seeing the world we need to include in the rhetoric of science, which will explain how we cope with an uncertain and risky reality.