



# SCWS 2017

Connecting the World  
for a Sustainable Future

# Communicating **Sustainability Issues** in Science Museum

Tak-Cheung Lau<sup>1</sup>, Wenhsing Hsieh<sup>1</sup>, Hsu Huang<sup>2</sup>, Chia-Li Chen<sup>3</sup>

<sup>1</sup> Science Education Department, National Museum of Natural Science

<sup>2</sup> Exhibition Department, National Museum of Natural Science

<sup>3</sup> Graduate Institute of Museum Studies, Taipei National University of the Arts

Are the following messages the wake-up calls for the museum world?

# Can Natural History Museums Capture the Future?

BY LEONARD KRISHTALKA AND PHILIP S. HUMPHREY

As natural history museums prepare to enter the twenty-first century, much of their core still sits in the 1800s. Despite enormous expansion in collections and exhibits during the past 100 years, many museums still resemble Victorian cabinets of natural history. Many still behave as isolated island endemics undergoing genetic drift, eschewing the hybrid vigor and collaborative power of a community.

The future of natural history museums requires saltational doses of the very process we study—evolution. It asks for bold, decisive steps—“convention-busting procedures” in the words of Daniel Seymour (1993), president of Q Systems, Palm Springs, CA—if museums are to fulfill their mission to science and society. The future of natural history museums demands that they not be prisoners of history because, as the saying goes, every time history repeats itself, the price goes up.

Natural history museums face a number of fundamental challenges for the twenty-first century. In this paper we address only four:

Although formidable, these four challenges encompass the main responsibility of natural history museums—to deploy their vast research collections, systematics expertise, and knowledge of the planet’s biodiversity to inform the stewardship of life on Earth. Others, most notably Alberch (1993), have sounded this call to arms for natural history museums, but it seems to have been ignored.

In this article, we sound the call to arms again and suggest some answers. More important, we invite dialogue and solutions from all members of the natural history museum community—research curators and faculty, collection managers, students, educators and exhibit specialists, administrators, development personnel, directors, and board members.

## *The challenge of the biodiversity crisis*

Natural history museums have a commanding mission—nothing short of understanding the life of the planet for the benefit of the earth and its inhabitants. Their business is the science of biological diversity. They document and

# Are Natural History Museums Telling the Right Story?

WILLIAM D. NEWMARK AND ERIC A. RICKART

**N**atural history museums are among the most important public institutions for educating the layperson about natural history, ecology, evolution, and the environment. Throughout the United States and other industrialized nations, particularly in urban centers, they represent the most important link between the scientific community as a whole and the general public.

Unfortunately, most natural history museums have largely failed in educating the public about the seriousness of global environmental change, the central role of humans as the cause of these changes, and the potential for human agency to reverse current trends. Most museums have only tangentially addressed the global environmental crisis in their interpretive programs, although exhibits such as

pretive programs is both costly and time consuming, and the wholesale revamping of exhibits is certainly beyond the financial scope of most institutions. Second, most permanent museum exhibits were designed when the scientific community and the general public were less aware of the extent and severity of global environmental change. Third, global environmental change has only recently become a research focus for many museum-based scientists. And fourth, natural history museums, like other public-supported institutions, are concerned about long-term trends in attendance and support, and a theme of global environmental changes is viewed in many quarters as a “gloom and doom” message that will alienate visitors and potential donors.

and global climatic change relative to the past. Decisions that we collectively make concerning patterns of resource use and family size have not only local and regional impacts but also significant global impacts, and this message needs to be clearly articulated. Thus, it is important for museums to inform the public that global environmental change is a result of cumulative impacts, and that decisions that we as individuals make on a day-to-day basis will ultimately determine the distribution and abundance of life on Earth.

Although selected groups and economic interests will almost certainly oppose the adoption of global environmental change as a central theme, natural history museums have always had to contend with controversy. To their great

## Commentary

# Museums, Climate Change and Sustainability

RICHARD J. HEBDA

One of the most important series of reports (Intergovernmental Panel on Climate Change 2007) ever prepared for the global community paints a sobering picture of the future. This most conservative account of climate change includes the following in its “Summary for Policymakers:”

- anthropogenic warming has affected physical and biological systems;
- drought affected areas will increase in extent;
- resilience of many ecosystems is likely to be exceeded;
- global potential for food production may at first increase but then decrease with warming above 3°C;
- health status of millions of people will be affected.



# 南風

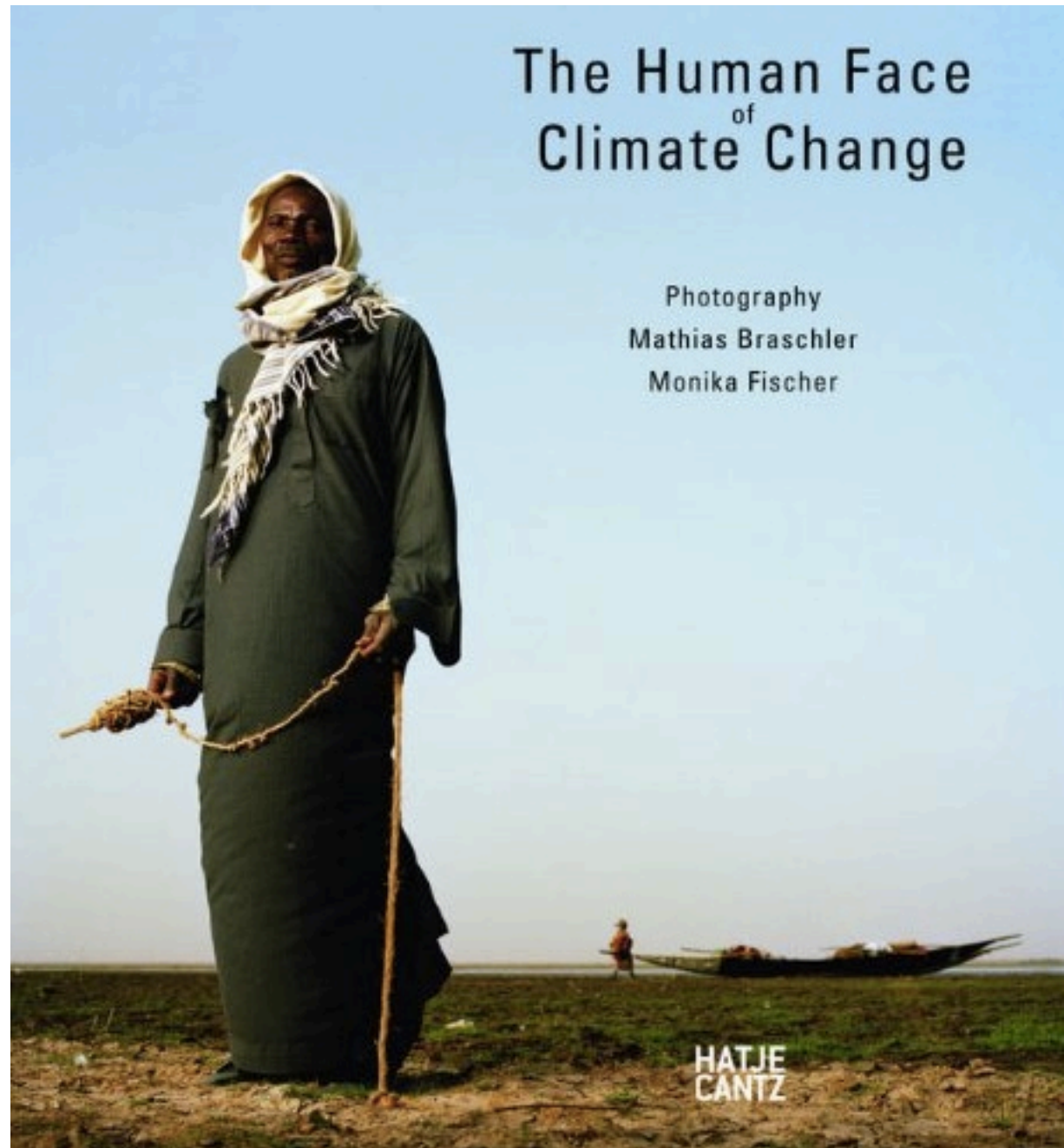
攝影展

台西村的故事 *When the South Wind Blows – the Documentary Photography of Taixi Village*

When the South Wind Blows  
The Documentary Photographs of Taixi Village

- 1. 國立自然科學博物館 鍾聖雄 · 許震唐
- 2. 臺灣大學公共衛生學院 財團法人春雨文教基金會 台中市青年醉普協會 衛城出版
- 3. 教育部 資訊及科技教育司 臺灣大學 科學人文跨科際人才培育計畫 社團法人彰化環境保護聯盟
- 4. 彰化縣大城鄉台西村全體村民、差事劇團、〈自從六輕來了〉電子報、雲林縣淺海養殖協會、國家太空中心、尤倉長權、林崇熙、李尚仁、許立儀、施月英、林家安、林進郎、吳松霖、邱嘉斌、袁子軒、陳竹亭、蔡明德、

My inspiration of using  
photographs to  
communicate sustainability  
issues is coming from the  
reading of this book



Adopted from The Human Face of Climate Change, Fischer & Braschler,



They put a human face on the  
existential challenge facing our  
species:

**Make it tangible, intimate, and  
immediate**

.....Jonathan Watts, The Guardian's Asia environmental correspondent

# Bangladesh

Monira Khatun (21) with her son, Jiaur (3)  
Laborer  
Moheshora, Gabura, Bangladesh

Some days we can eat, other days we can't. Our children are hungry. We have no way to make a living. It was different ten years ago. We had no problems then. But they are growing day by day. The tides are getting higher, the embankments are collapsing, and the weather is warming. Floods are more frequent. Our paddy fields have been washed away and the shrimp farms are suffering. There is no steady income. My husband left a few months ago. He told me he was going to Dumuria to cut the crops. He went because he could not earn anything here. He was unable to feed and clothe us. I get jobs sometimes in the salt factory, working in people's houses, or maintaining the shrimp farm, but I live hand-to-mouth.

When I was young, Gabura was a good place. People cultivated rice in the field, and there were vegetables. But now the water is saline so vegetables and trees cannot grow. The land is no longer productive so people are making shrimp farms. I will have to move to a place where I can survive and get a job, but I don't know where that might be.





# 南風

攝影展

台西村的故事 *When the South Wind Blows —  
the Documentary Photography of Taixi Village*

開展時間 / 2014/12/26

- 國立自然科學博物館 ● 鐘聖雄 · 許震唐
- 臺灣大學公共衛生學院 ● 財團法人春南文教基金會 ● 台中市青年醇善協會 ● 衛城出版 ● 教育部 資訊及科技教育司 ● 臺灣大學 科
- 彰化縣大城鄉台西村全體村民、差事劇團、〈自從六輕來了〉電子報、雲林縣淺海資源協會、國家太空中心、尤雯雯律師事務所  
詹長權、林崇熙、李崗仁、許立儀、施月英、林家安、林連郎、吳松霖、邱嘉斌、袁子軒、陳竹亭、蔡明德、范振國、顏山揚、黃冠博



Photo credit: Sheng-Hsiung, CHUNG

The Sixth Petroleum Refinery of Formosa Petrochemical Corporation  
26 Sq. Km, 90% reclaimed land  
1994.07 construction began, 1998 began operation  
>350 smoking stacks



南風裡的  
Portraits in the South Wind  
肖像





Photo credit: Tak-Cheung LAU







## Personal Narration.....

Tell me the facts and I'll learn  
Tell me the truth and I'll believe  
But tell me a story  
and it will live in my heart forever





Taixi village has the highest cancer incidence in Taiwan  
These people are the victims of a slow violence

Victim of slow violence

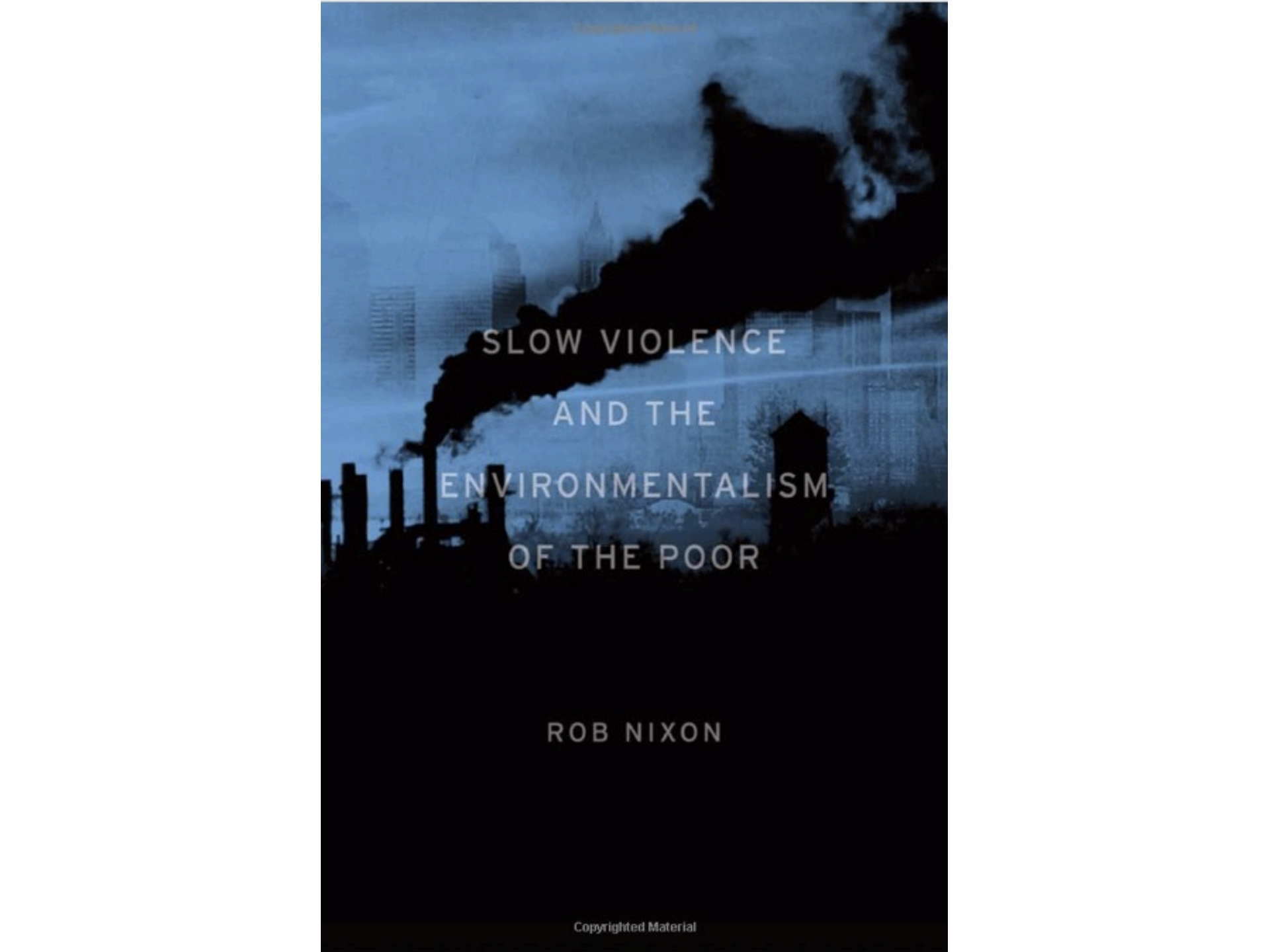


Photo credit: Tak-Cheung LAU

Victim of slow violence



Photo credit: Tak-Cheung LAU



SLOW VIOLENCE  
AND THE  
ENVIRONMENTALISM  
OF THE POOR

ROB NIXON

This is Violence



This is **Slow Violence**



Photo credit: Sheng-Hsiung, CHUNG

A photograph of a computer workstation in a gallery. The workstation includes a black monitor on a stand, a keyboard, and a mouse on a dark desk. In the background, there is a blue wall with various posters and a wooden chair. The lighting is soft and focused on the desk area.

**How we collect our data:**

Three computers were installed in the gallery  
Visitor can leave the message online  
>1000 messages were collected and analyzed  
qualitatively



A computer monitor is positioned on a dark desk in the foreground, viewed from the side. The background is a wall covered in various photographs and documents, some of which are pinned to the wall. The lighting is soft and focused on the desk area.

## What we find out:

Visitors show strong empathy-”I really want to cry when I see these pictures”

Visitors were angry because the government’s indifference to these people

Visitors want to engage in more civic action against air pollution

Visitors want to consider critically about the cost we pay for endless economic development

# In Summary...

- No hard-cold scientific fact was presented in the exhibition.
- We want to evoke a strong emotional response from the viewers.
- After all, our visitors may be more emotional than rational.

In order to make the case for communicating sustainability issues in museums, we need to...

**Make it tangible, intimate, and immediate.**