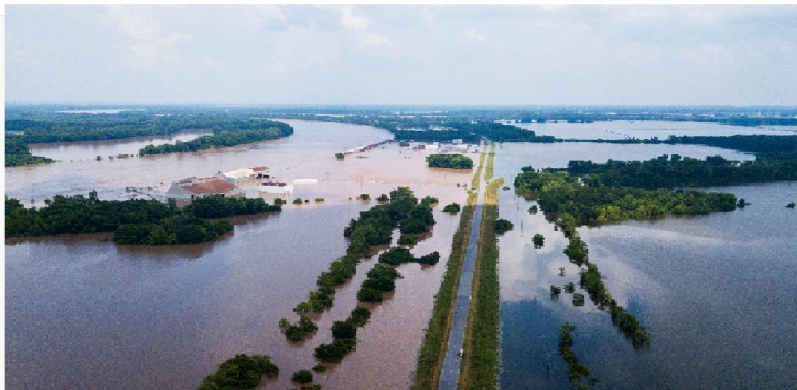




Amsterdam Centre for  
Ancient Studies & Archaeology

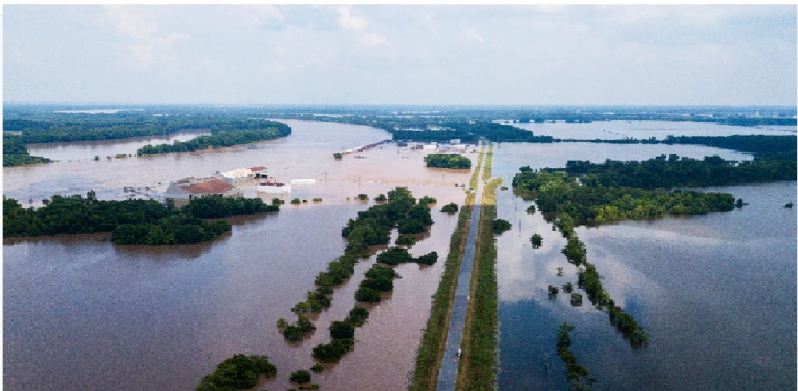
**Global Challenges and Archaeology:  
Resilience Theory (RT)**

**Heleen van Londen  
Gert Jan van Wijngaarden**



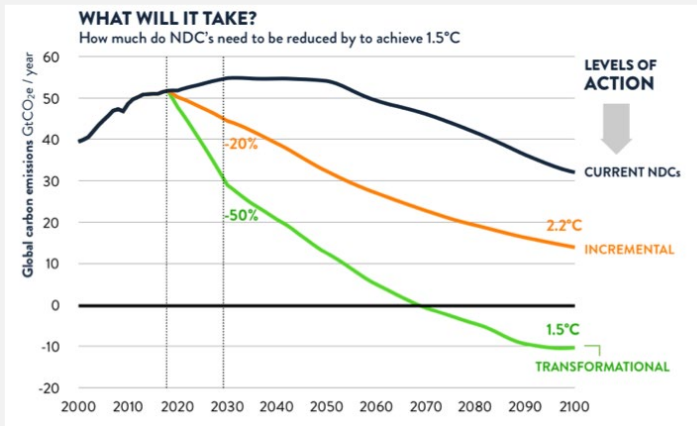
**End of civilization: climate change apocalypse could start by 2050 if we don't act, report warns**

**[ELIZABETH WEISE](#) | USA TODAY**



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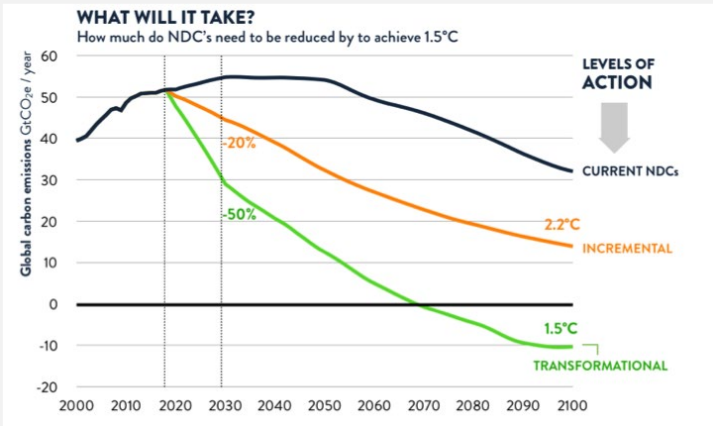
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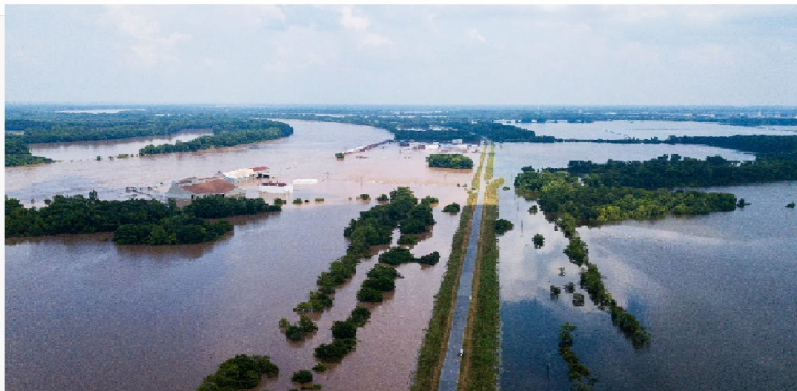
**ANDREW BOLT**  
AUSTRALIA'S MOST READ COLUMNIST

We don't deny the planet has warmed. We instead question whether the warming we're seeing — less than predicted — is all bad.

**WARMING IS GOOD FOR US**

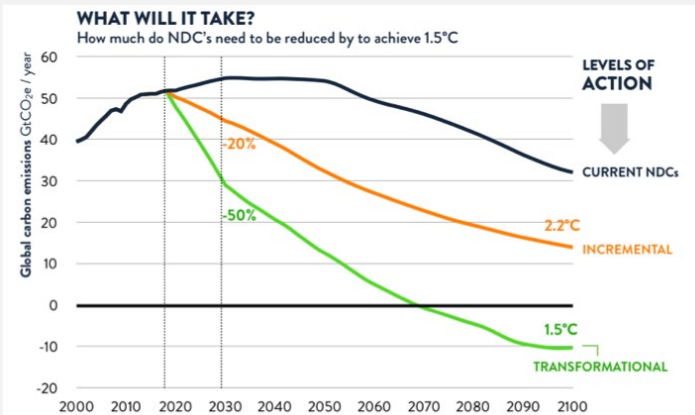
INGERS CALLING SCOE OUT

STAY a scientist. Engage in a debate. Listen to the facts. Don't let a few bad apples spoil the bunch. Don't let a few bad apples spoil the bunch. Don't let a few bad apples spoil the bunch.



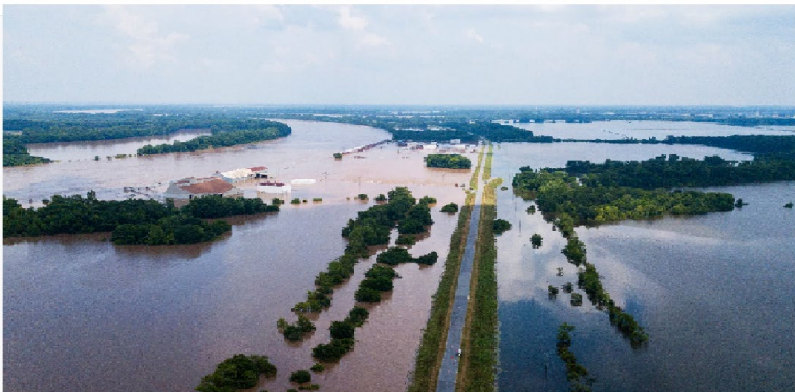
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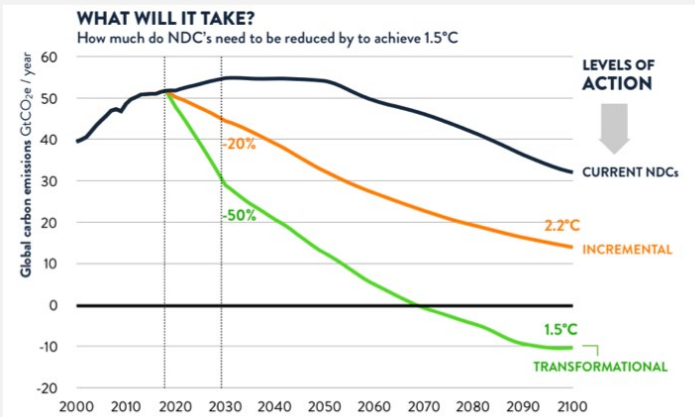
## Key Statement

Archaeology is in an excellent position to shape narratives on global challenges



End of civilization: climate change apocalypse could start by 2050 if we don't act, report warns

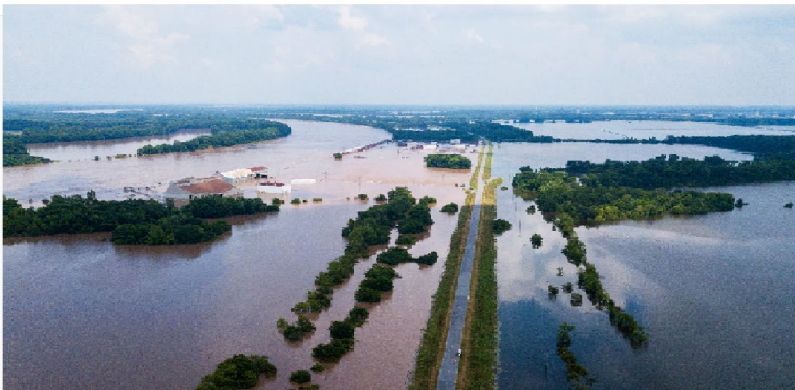
ELIZABETH WEISE | USA TODAY



## Key Statement

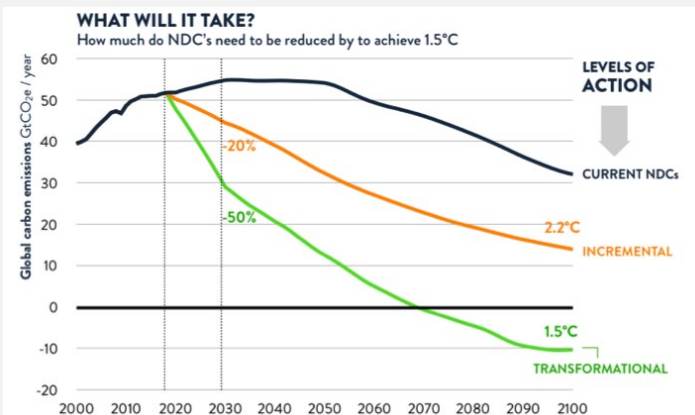
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A long-term perspective for public and academic narratives



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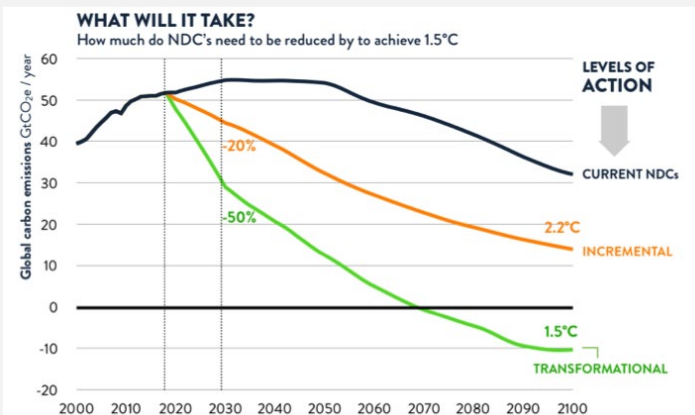
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## Key Statement

Archaeology is in an excellent position to shape narratives on global challenges

A long-term perspective for public and academic narratives

Resilience Theory should be a core concept

- Resilience Theory
- How can archaeology contribute?
- What would we do?





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Annual Review of Ecological Systems 4 (1973), 1-23

## RESILIENCE AND STABILITY OF ECOLOGICAL SYSTEMS

❖ 4050

*C. S. Holling*

Institute of Resource Ecology, University of British Columbia, Vancouver, Canada

### INTRODUCTION

Individuals die, populations disappear, and species become extinct. That is one view of the world. But another view of the world concentrates not so much on presence or absence as upon the numbers of organisms and the degree of constancy of their numbers. These are two very different ways of viewing the behavior of systems and

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Cursive relations between transformations in systems/populations and their changing environments

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# Societal resilience

Cursive relations between transformations in systems/populations and their changing environments

How do systems/populations act and react in rapidly changing environments.



Microsoft Research Blog

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Microsoft Research Blog

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Dimensions of social resilience:

- Coping Capacities
- Adaptive Capacities
- Transformative capacities



Microsoft Research Blog

## Societal resilience

Cursive relations between transformations in systems/populations and their changing environments

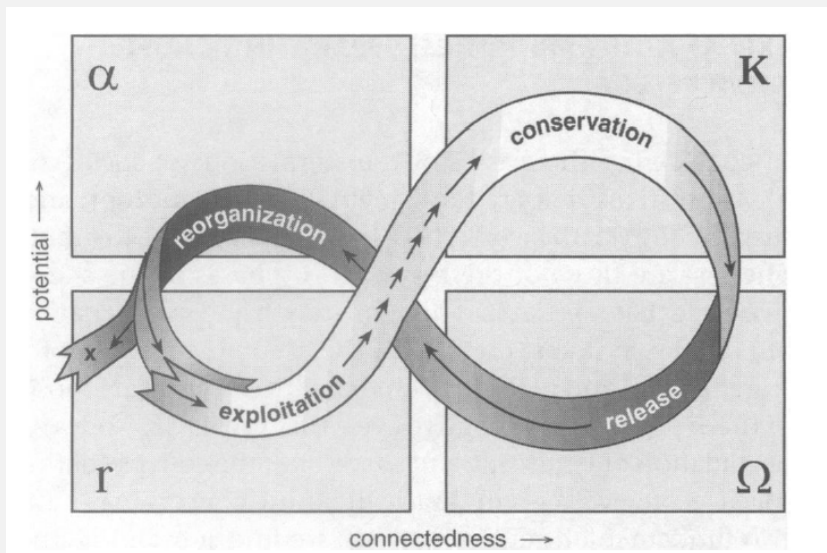
How do systems/populations act and react in rapidly changing environments.

Naturally interdisciplinary

Dimensions of social resilience:

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Resilience and vulnerability analysis



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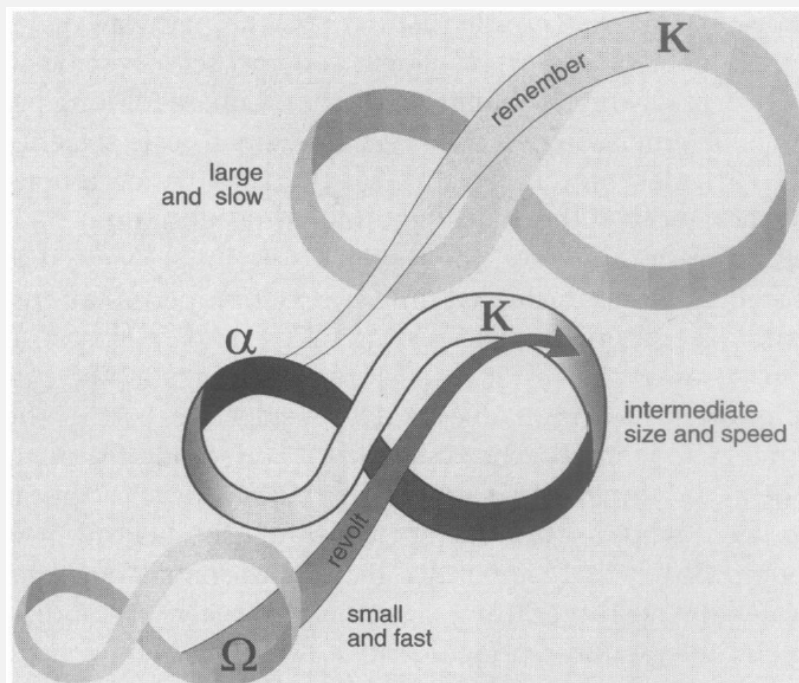
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Dimensions of social resilience:

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Resilience and vulnerability analysis

A disguised form of Systems Theory?  
Adaptive Cycle

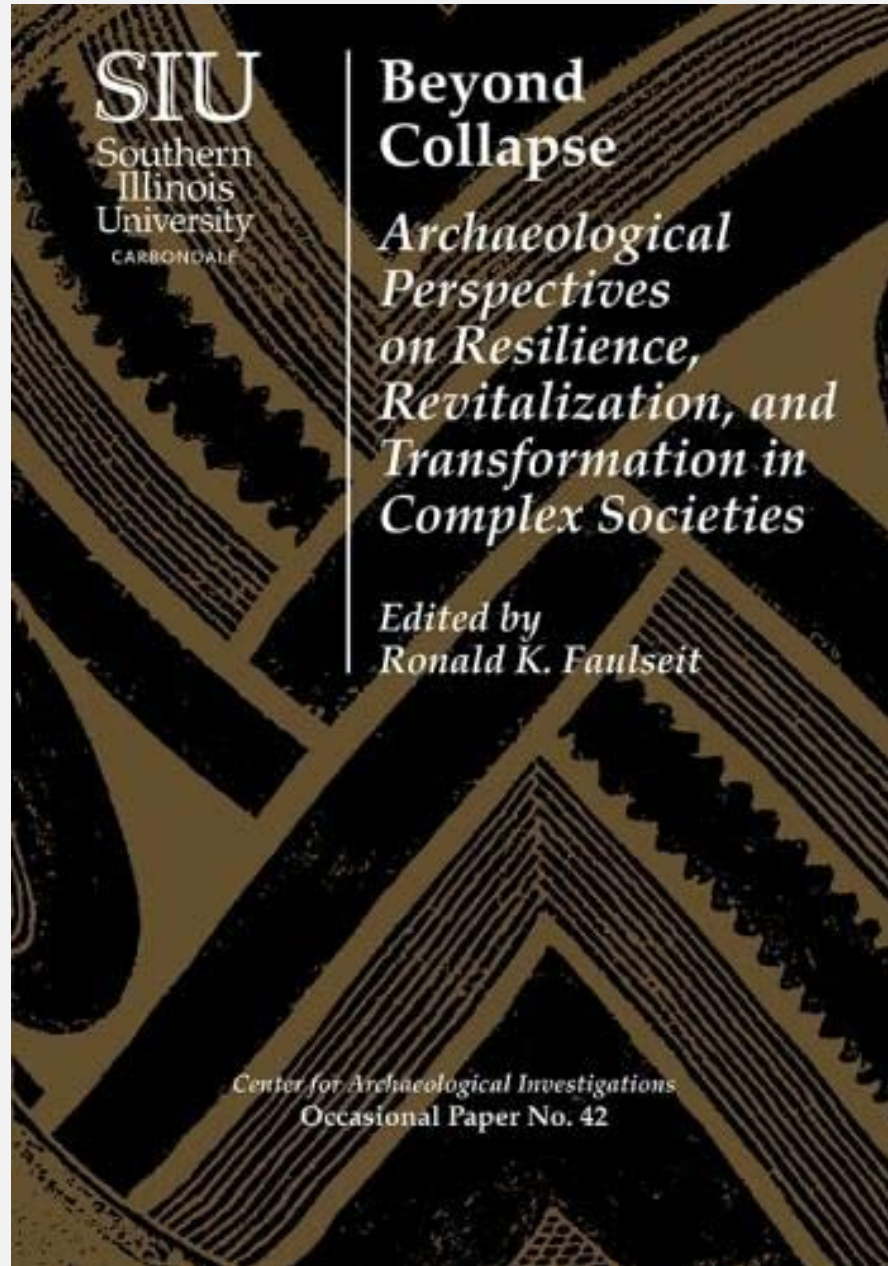






Provides a cross-disciplinary framework to study how social groups act in changing environments (and crises)





- Resistance to RT as a full methodological package
- Heuristic value in associated concepts



WORDSWORTH CLASSICS OF WORLD LITERATURE

THE  
**DECLINE AND FALL**  
OF THE  
**ROMAN EMPIRE**

EDWARD GIBBON

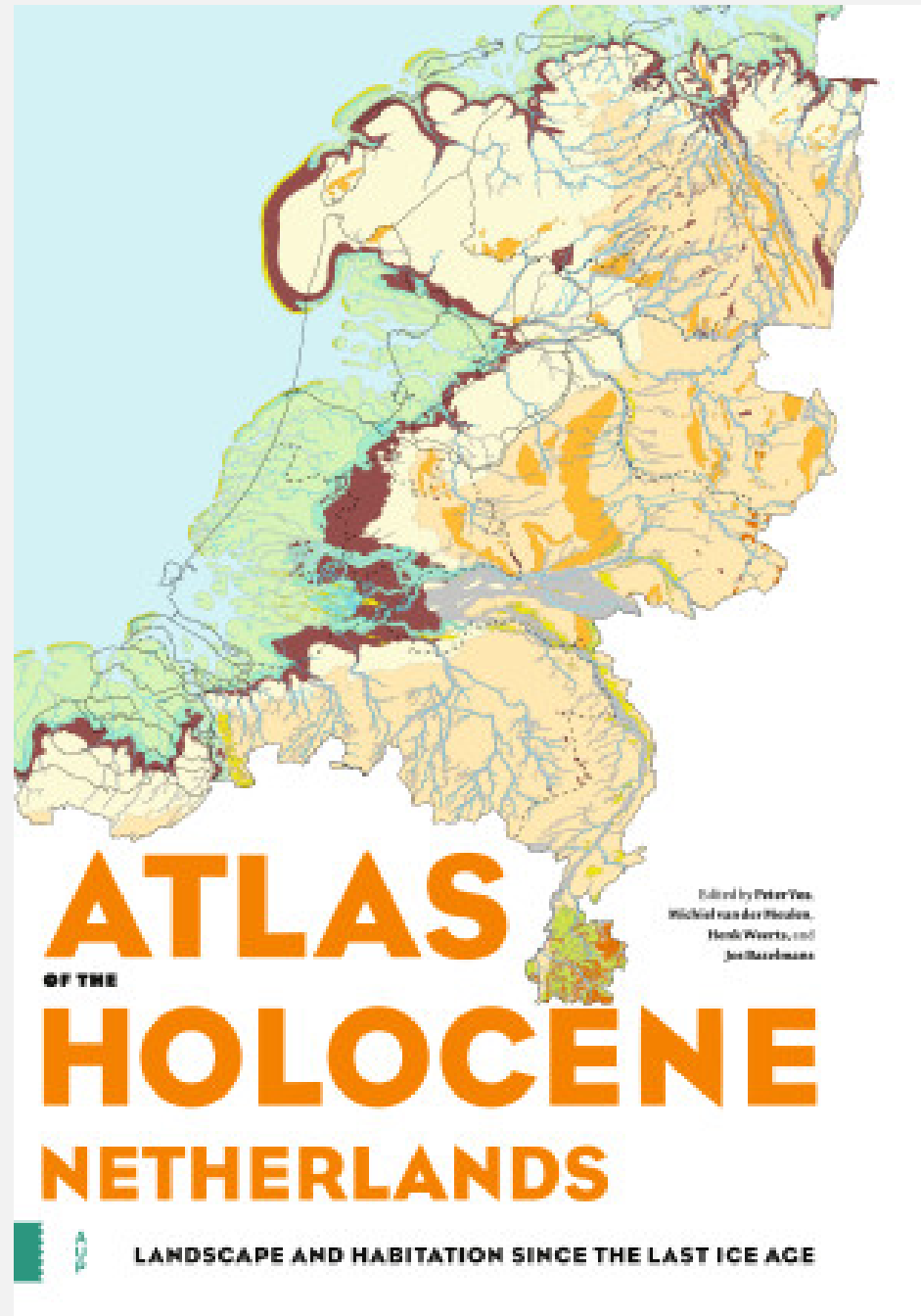


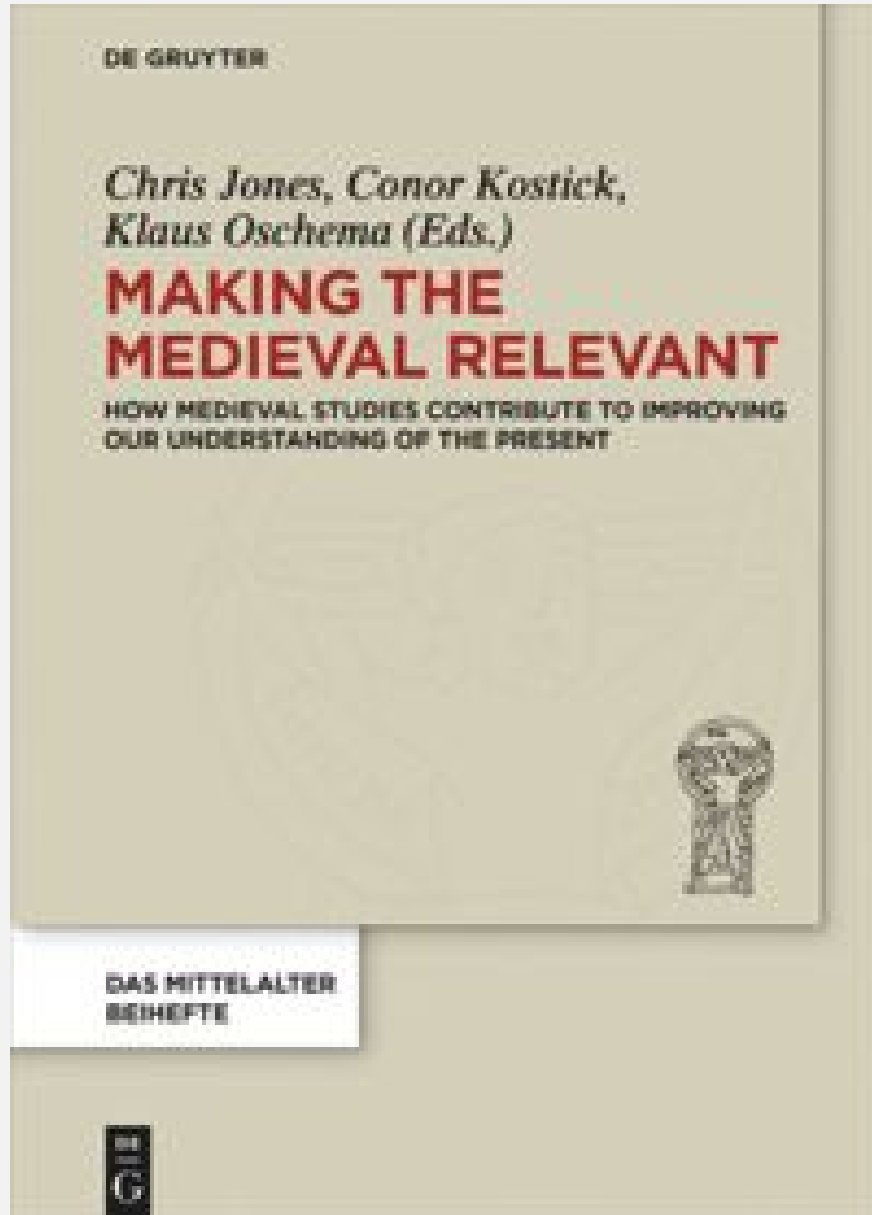
## Resilience Theory and Archaeology

- Resistance to RT as a full methodological package
- Heuristic value in associated concepts
- Revision of many 'collapses' in archaeology as 'transformations'

1776-  
1788

How can archaeology contribute to Resilience Thinking?





How can archaeology contribute to Resilience Thinking?

1. Analyses of global challenges and resilience in the past



How can archaeology contribute to Resilience Thinking?

1. Analyses of global challenges and resilience in the past
2. Transformation in archaeological landscapes and materials on multiple temporal scales



Mai 2020

## How can archaeology contribute to Resilience Thinking?

1. Analyses of global challenges and resilience in the past
2. Transformation in archaeological landscapes and materials on multiple temporal scales
3. Heritage Community Resilience



Pathways to the Present and Resilience: what would we do?





What would we do?



Archaeological Time:  
Material Culture Change

Troy, Turkey 2019



What would we do?

Archaeological Time:  
Material Culture Change

More than 5000 years of material change



Troy, Turkey 1890



What would we do?



Archaeological Time:  
Material Culture Change

More than 5000 years of material change

Biographical approach

Haussner 2004



What would we do?



Archaeological Time:  
Material Culture Change

More than 5000 years of material  
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Biographical approach

Monumental places cope, adapt and  
transform in relation to their environment  
on different temporal scales



What would we do?



Archaeological Time:  
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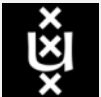
Monumental places cope, adapt and transform in relation to their environment on different temporal scales

Many of the dimensions of social and material resilience are played out on longer temporalities



**PROJECT??**

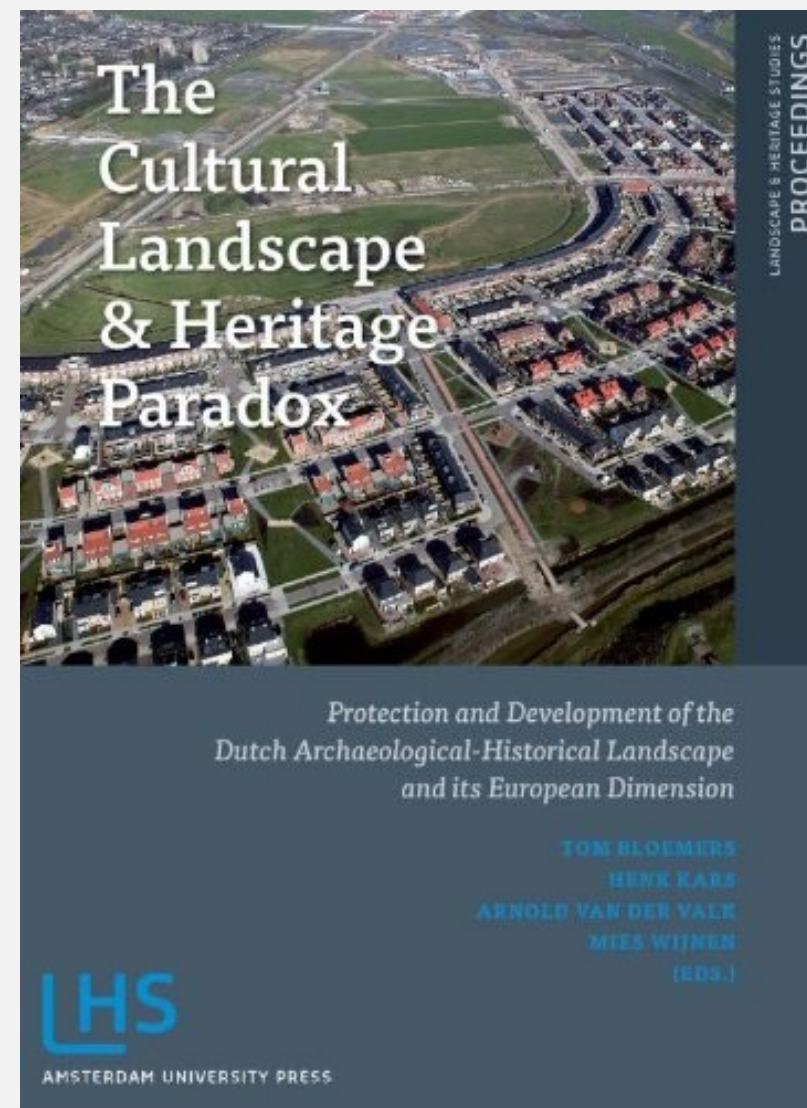
**ENGAGING IN LANDSCAPE FUTURES!**



# Landscape futures....

Building on the basis of

- 1 Environmental Act: **area-specific** approach
- 2 European Landscape Convention (ELC)
  - **'carrying capacity'** of the landscape character
- 3 The BBO program
  - adding **ecology** to the interdisciplinary approaches
- 4 Landscape biography:
  - now looking at transformations **from a resilience perspective**





## ....and connect it to “Heritage Community Resilience”

- a target and a process in which cultural heritage supports the building of a community able to prevent, cope with and recover from disturbances and/ or disasters:

→ FARO: *the social and connecting value of heritage and the importance of participation by society*





# ...in the context of the transformation on our doorstep

## Nationale omgevingsvisie (NOVI)

## Coming years

- Construction of c. 1 million houses;
- Transformation towards renewable energy sources;
- Adaption to climate change;
- Development of a circular economy;
- Transformation towards circular farming.

Planbureau voor de Leefomgeving

### NOVI1: 4 opgaven

Naar een duurzame en concurrerende economie

Naar een klimaatbestendige en klimaatneutrale samenleving

Naar een toekomstbestendige en bereikbare woon- en werkomgeving

Naar een waardevolle leefomgeving

Hans Mommaas (PBL), Congres 'Grip op Omgevingswet', Binnenlands Bestuur, Amsterdam

28 september 2017

8

➔ All within the same landscape!



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Social Resilience is an important concept to do so:

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2. Transformation in archaeological landscapes and materials on multiple temporal scales
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Thank you !!

Any Ideas??



## References

- Fauseit, R.K. (ed.) 2016, *Beyond Collapse. Archaeological Perspectives on Resilience and Transformation in Complex Societies*, Carbondale: Southern Illinois University Press.
- Garmezy, N., 1985. Competence and adaptation in Adult Schizophrenic Patients and Children at Risk. In: Cancro, R., Dean, S.R. (Eds.), *Research in the Schizophrenic Disorders: the Stanley R. Dean Award Lectures 2*, Dordrecht: Springer Netherlands, 69-112.
- Holling, C.S. 1973, Resilience and Stability of Ecological Suystems, *Annual Review of Ecological Systems* 4, 1-23.
- Holling C.S., Gunderson L.H. 2002, Resilience and Adaptive Cycles, in: Gunderson, L.H. & C.S. Holling (eds.), *Panarchy. Understanding Transformations in Human and Natural Systems*, Washington: Island Press, 25-62.
- Kwok, A.H., E.E.H. Doyle, J. Becker, D. Johnston, D. Paton 2016, What is 'Social resilience'? Perspectives of Disaster researchers, Emergency Management Practitioners and Policy Makers in New Zealand, *International Journal of Disaster Risk Reduction* 19, 197-211.
- Mai, X. 2020, Spotlight on Urban Resilience, *Geography* 105-3, 161-166.
- Middleton, G. 2017, 'The Show must go on': Collapse, Resilience and Transformation in 21<sup>st</sup> century Archaeology, *Reviews in Anthropology* 46(2-3, 78-105.)
- Nativ, A. 2018, On the Object of Archaeology, *Archaeological Dialogues* 25-1, 1-21.
- Redman, Ch. L. 2005, Resilience Theory in Archaeology, *American Anthropologist* 107-1, 70-77.