

‘Science-policy Interaction’ – More than a problem of communication?

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Before we start....

What are your expectations related to
this presentation?

Please note one word!

Intro: Science and the Wadden Sea

- In the 1980s natural scientists - in the best of all intentions - started to work on a comprehensive report on the natural condition of the North Frisian Wadden Sea
- It was the time of emerging environmental discussions – the *Zeitgeist* was influenced by “Silent Spring”, “DDT”, “Acid Rain”, “Nuclear Issues”, “the Greens”, “Bhopal”...

The natural scientific assessment...

...of the Wadden Sea was published 1996 as the

“Synthese Bericht”:

Stock, M. et al. (eds.):
Ökosystemforschung
Wattenmeer. Synthesebericht.

**Grundlagen für einen
Nationalparkplan.** Heide:
Boyens Buchverlag.



The Public and the Wadden Sea



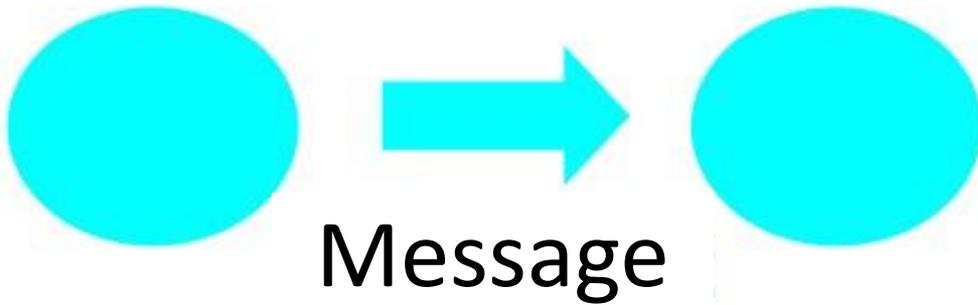
Photo by Hendrik Brunckhorst

The communication problem

Conduit model of communication:

Sender

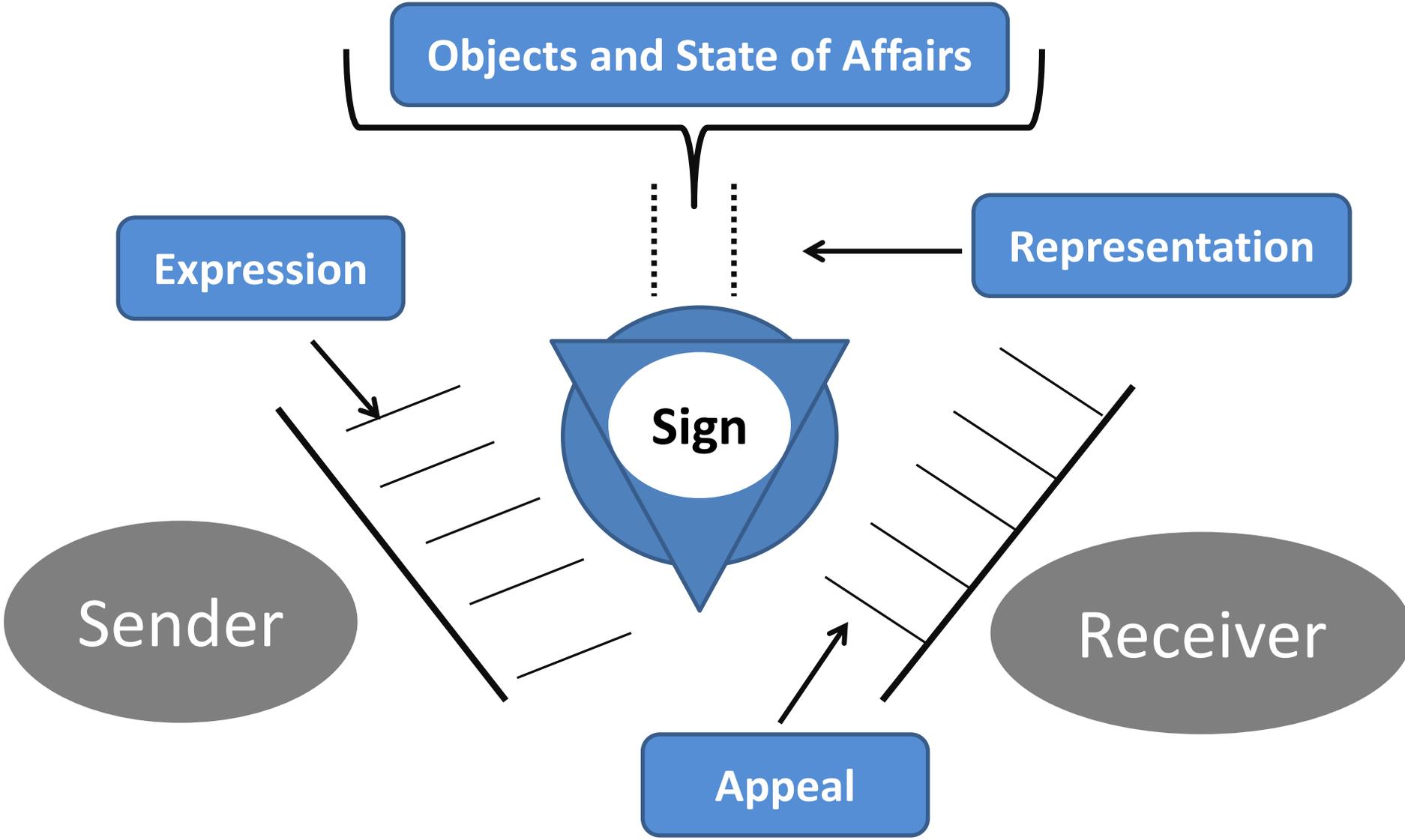
Receiver



There is no such thing as objective communication and information!



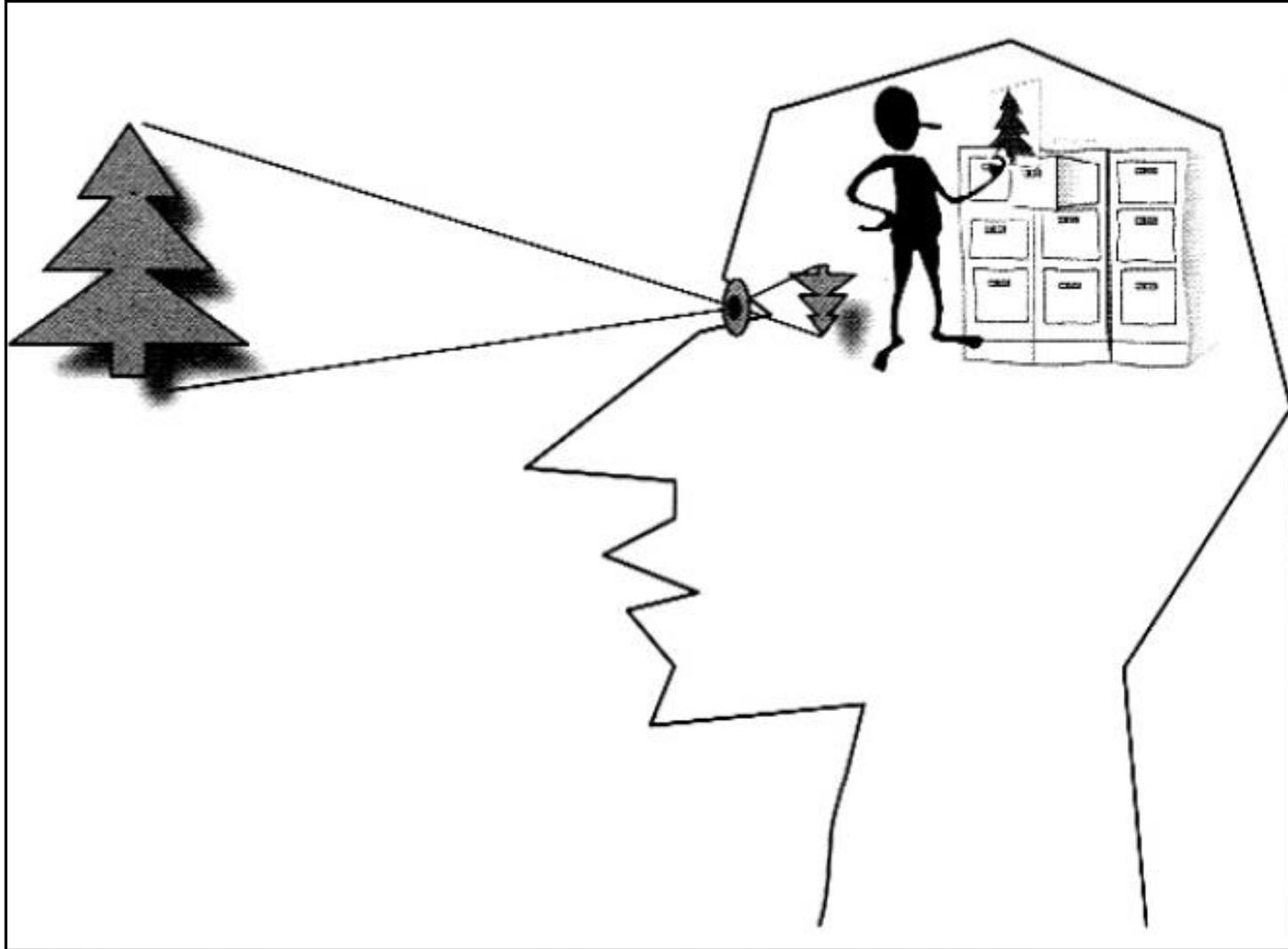
Multifaceted model of communication



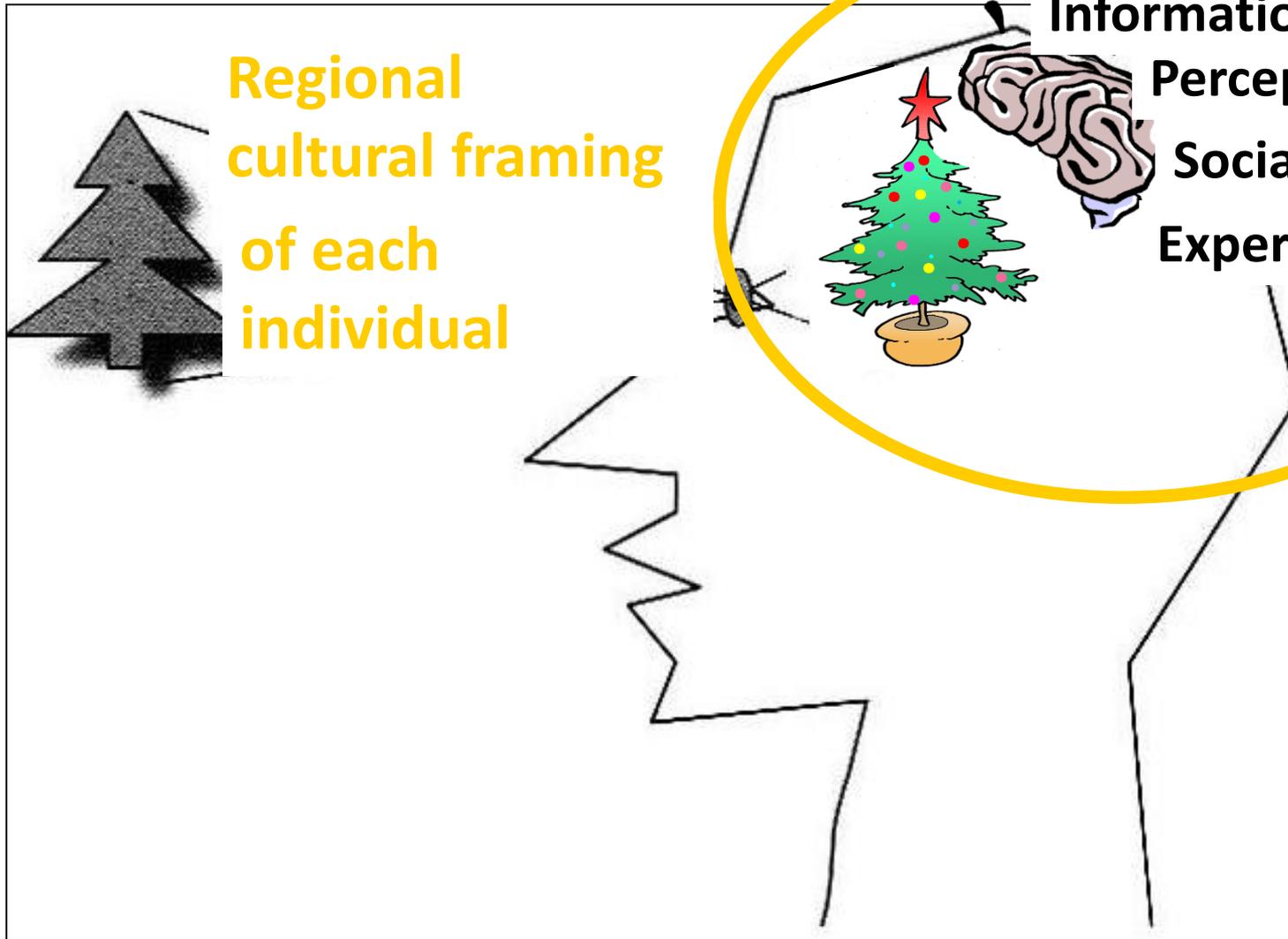
Karl Bühler (1934): Organon model of communication

I say what I say ... and you hear what you hear...

Schematic realism



Experiential constructivism



**Regional
cultural framing
of each
individual**

**Information
Perception
Socialisation
Experience**

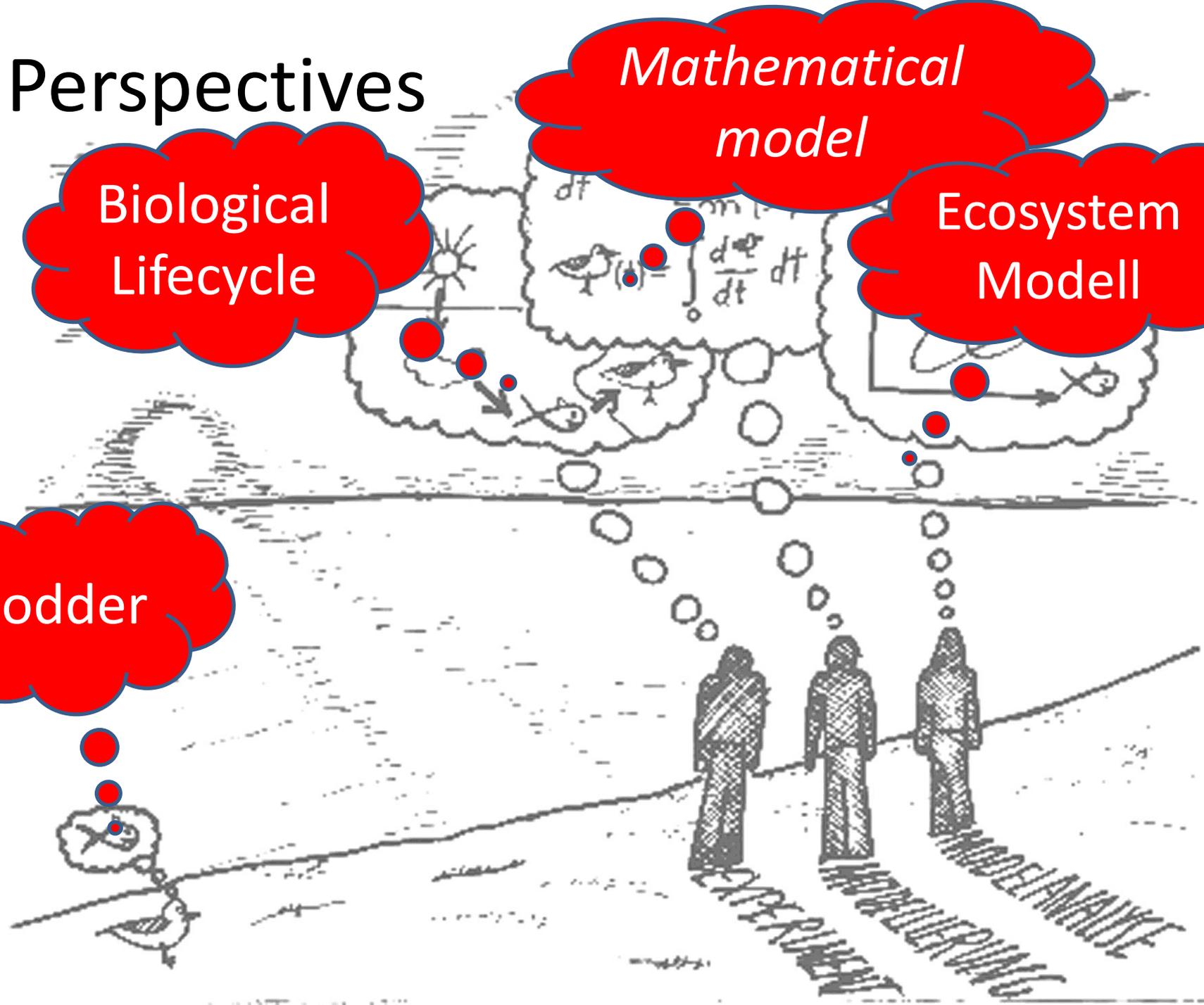
Perspectives

Biological
Lifecycle

Mathematical
model

Ecosystem
Modell

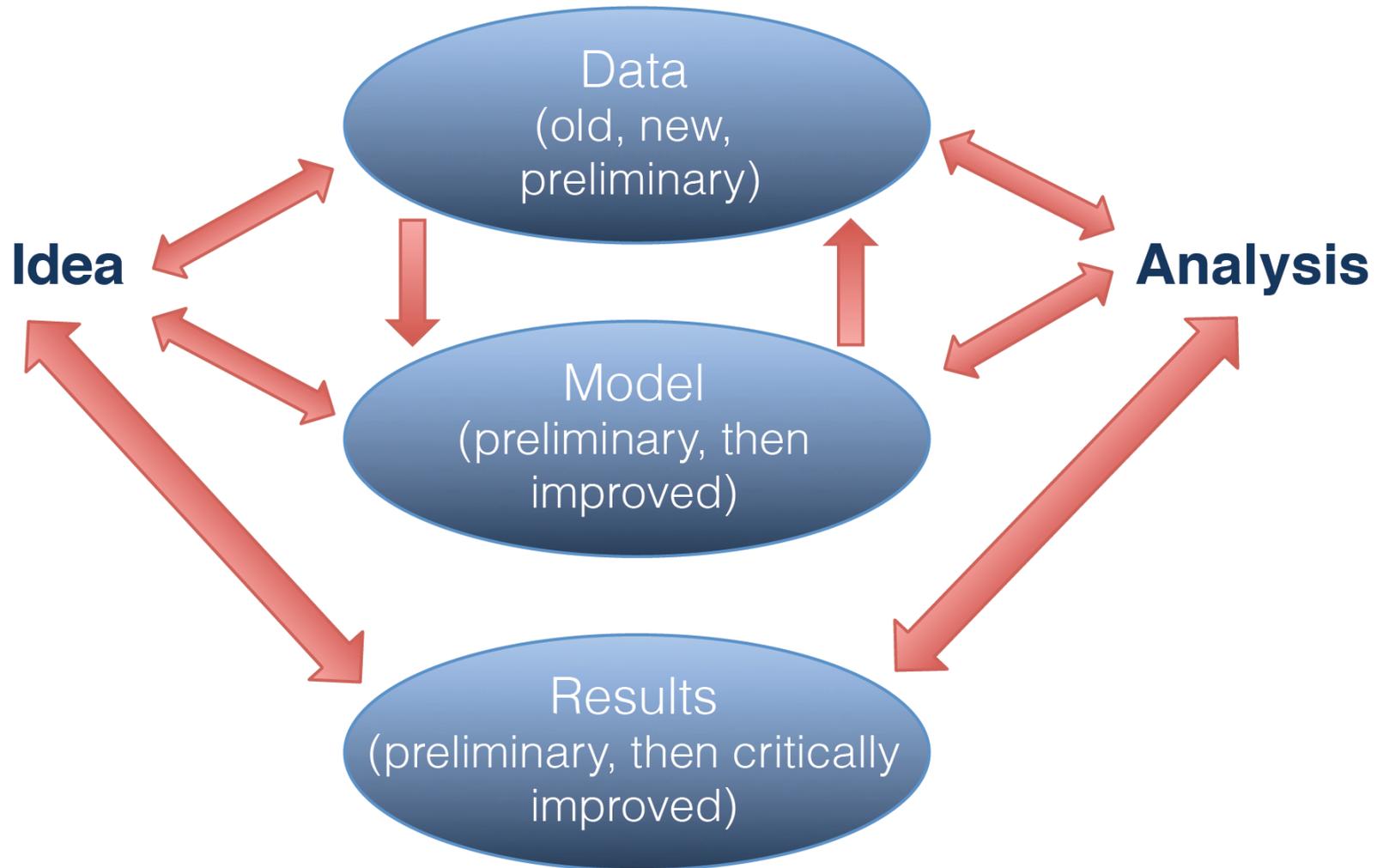
Fodder



Science is supposed to provide... *objective* information for assessing the present and the future



The Logic of Models



Schematic view of evidences, data, modelling, interpretation. The progress is usually an iterative loop with hypotheses testing and developing ideas (G. Lohmann 2002)

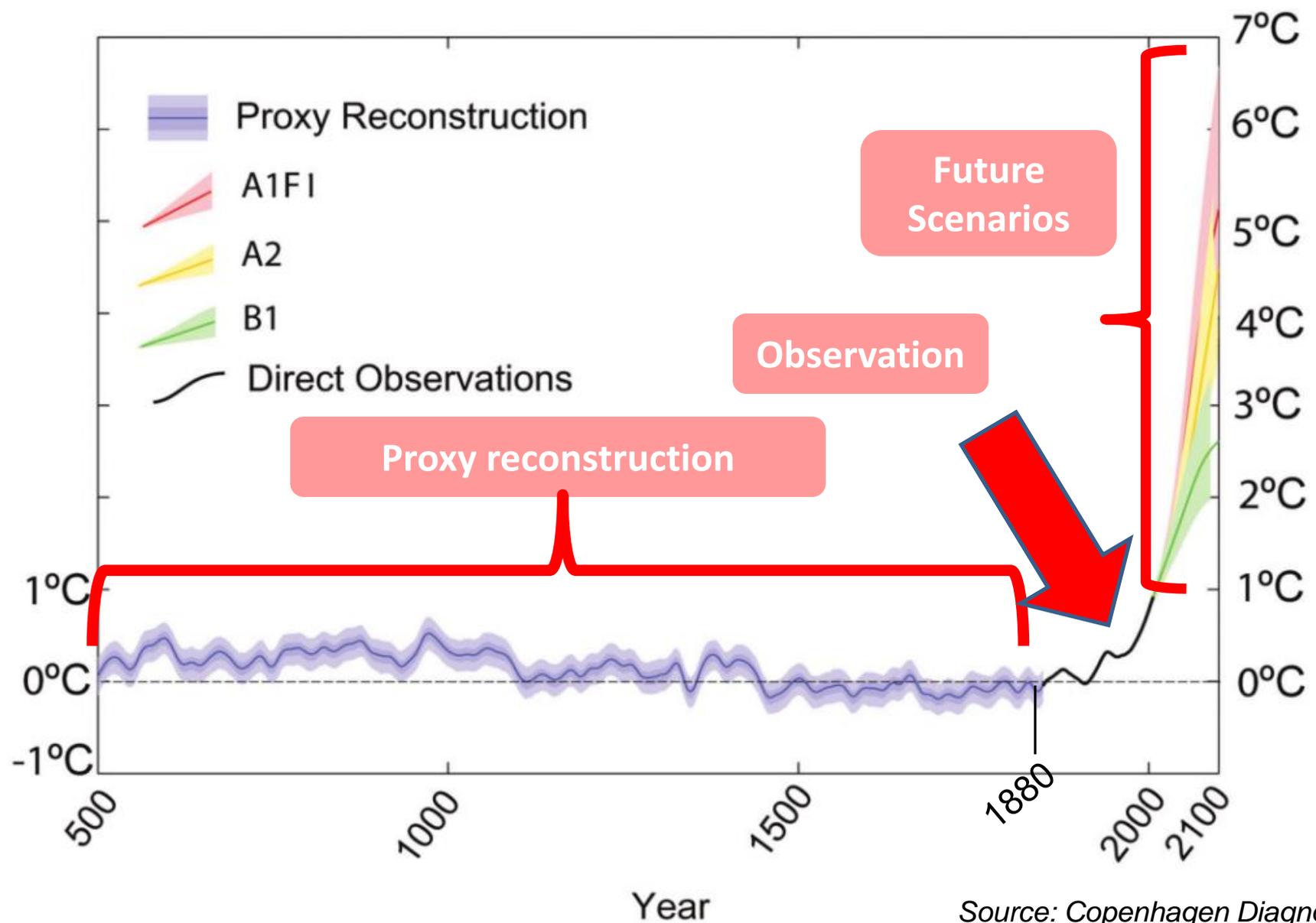
A Model....

- is a human construct;
- is a reductionist tool to test a scientific hypothesis;
- holds the scope that is defined by the research question addressed;
- provides information based on the theories and methods chosen;
- is limited by its inbuilt assumptions;
- **does a priori not represent reality.**

“Earth system models are computer programs in which physical, chemical and biological processes are quantitatively described by mathematical equations.”

G. Lohmann 2002

Global temperature relative to 1800-1900



Source: Copenhagen Diagnosis

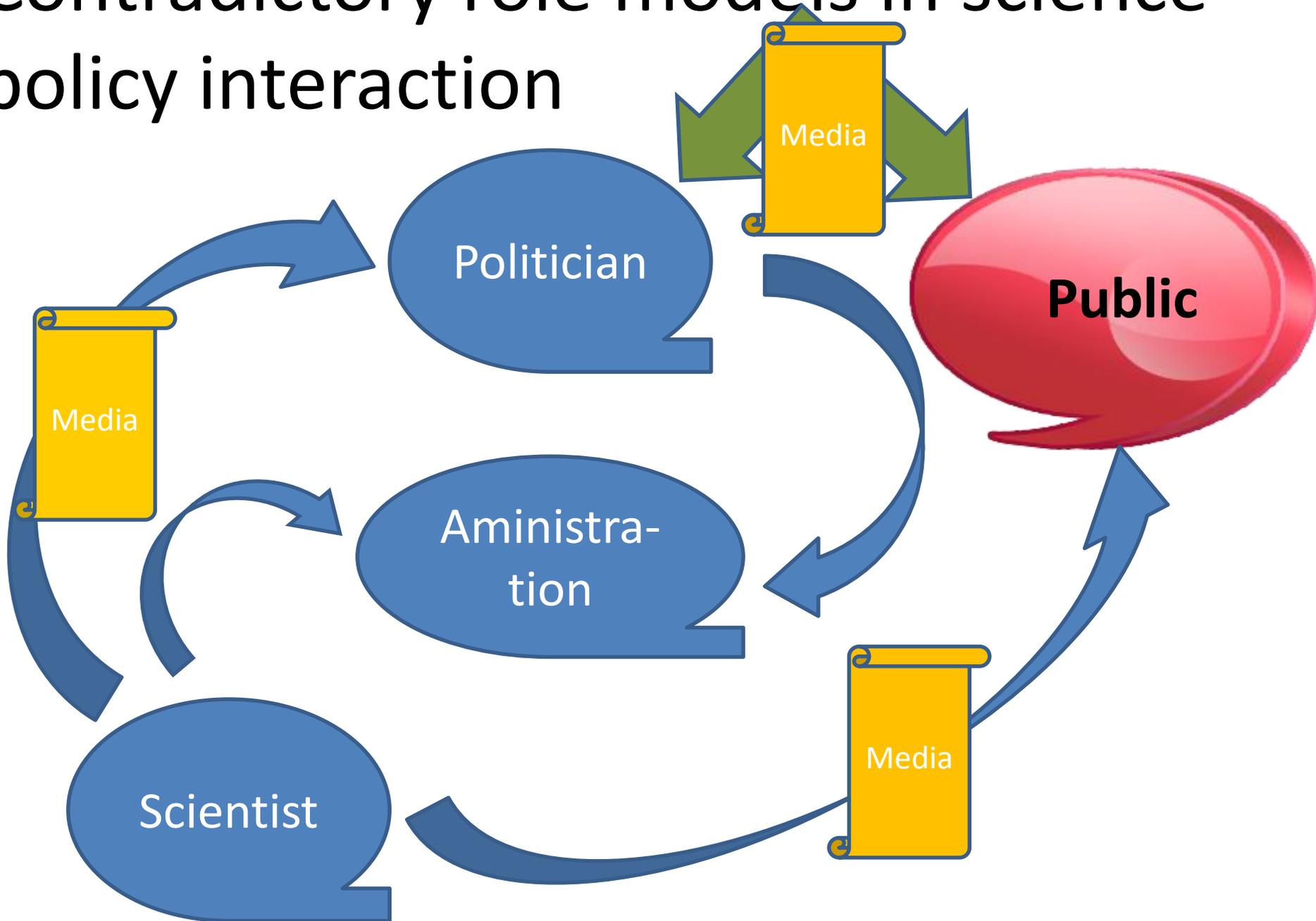
Media *transformation* or Scientific evidence?



27. November 2014, 14:07 Uhr, Spiegel.online Eisbären verlieren wichtige Heimatregion
Von Haluka Maier-Borst

.... the new applied Climate-Simulation-Modell is **as precise as to predict exactly** what happens with ocean ice....

Contradictory role models in science-policy interaction



Example 1

Fracking in Dithmarschen



Public Hearing at the Kreistag in
Heide in Nov. 2014:
The Members of the German
Bundestag MdB held their
speech and then ... left –
...before the expert has given his
presentation.

Scientist

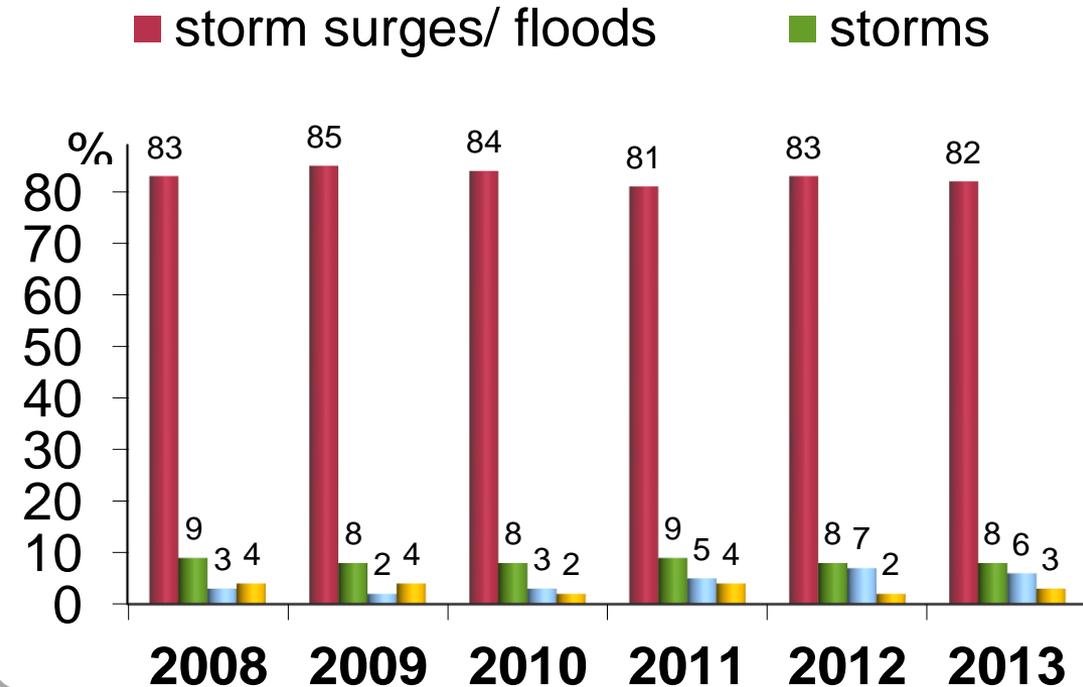
Example 2

HZG: Hamburg Risk perception study

Population survey of
change percep
83% attributed storm
the main hazard ca
climate change

Headline of the SH-Zeitung 14.5.08:
“Hamburger haben Angst vor
Sturmfluten”

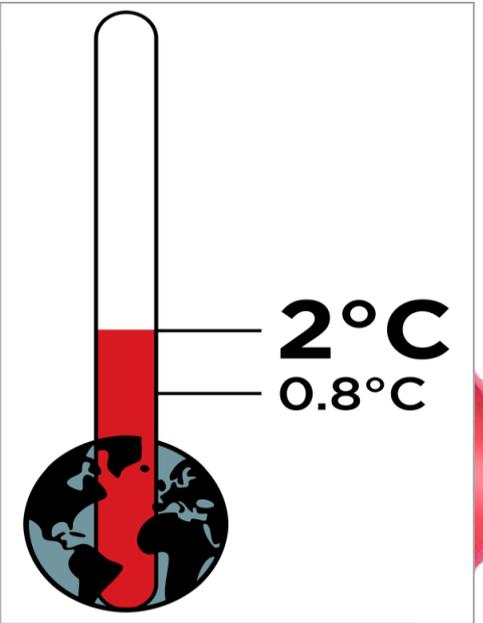
Which of the following hazards do you believe to have the biggest impact on Hamburg due to climate change?



Example 3

2°C Target

“Threshold of danger”



For the international political negotiations politicians demanded clear targets – and the scientists provided them the 2°C target

– *without scientific evidence or scientific grounding*

Scientist

Conflicting role models

- Policy expects to get information from science to legitimately manage problems:
 - they want clear answers!
- Science does not provide unequivocal answers:
 - They can only help in political opinion formation.

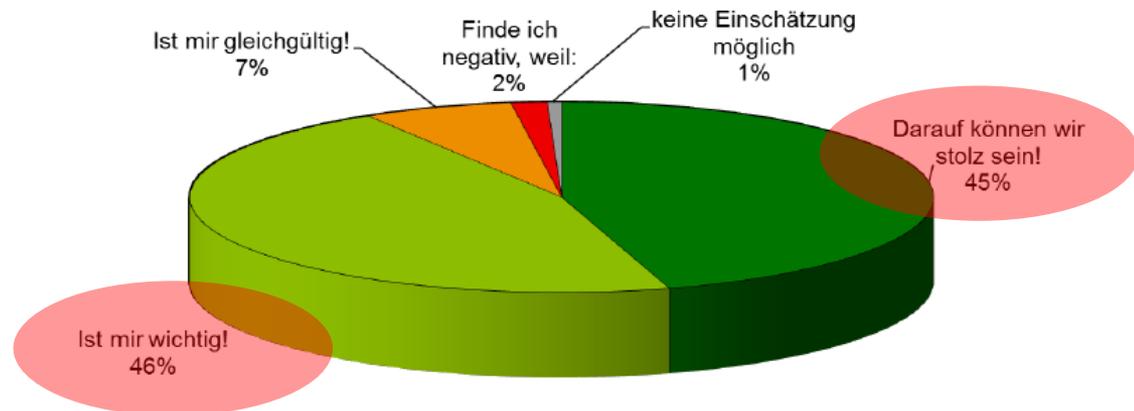
Science role as „issue advocate“ or „honest broker“?

The Wadden Sea

- After years of fierce dispute, the Wadden Sea protection is important for the people; NPs do **not hurt, contribute to the regional economy,...**
- The acceptance of National Parks and of Wadden Sea protection grew in the last decade and culminated in the inscription of the Wadden Sea as a World heritage in 2009.
→ In 2013 people

Das Schleswig-Holsteinische Wattenmeer ist seit 1985 als Nationalpark geschützt. Welche Bedeutung hat es für Sie, einen Nationalpark vor der Tür zu haben?
(geschlossene Frage)

Dithmarschen und Nordfriesland



Back to the beginning

What did you expect – and what did you get?

- News?
- Confirmation of aspects already known?
- Nothing at all?
- A nice show?
- An answer to a open questions?
- A surprise...
- Or just OLD WINE in NEW Bottles?

I say what I say ... and you hear what you hear...

Take home message:



Yes, there is a communication problem
– *Do we all talk about the same issues?*

However, there are also discrepancies in role models –
Do we accept the other as other?



Photo by Martin Döring

....I say what I say – and you hear what you hear.....

**Floodings!
Forest fires!
Temperature records!**

**And how is the
weather going to be
tomorrow?**



Bremer Energie-Konsens GmbH