

**International Studies Association
53rd Annual Convention 2012
San Diego, California, USA
April 1-4, 2012**

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**Uncertainty, Complexity and
Prediction in Theories of Security**



ASSUMPTIONS OF THE PRESENTATION

“Hidden Order” (Holland 1995)



**“Harnessing Complexity”
(Axelrod and Cohen 1999)**

**“Order out of Chaos”
(Prigogine and Stengers 1984)**

**“Understanding Complex Organizations”
(repeated in various contexts), etc.**



ASSUMPTIONS OF THE PRESENTATION

Recently imagination of readers curious about the causes and consequences of the financial turmoil was mesmerized by such creatures as **“Black Swan”** (Taleb 2007) or mysterious **“Dragon King”** (Sornette 2003, 2009)

Definitional remarks

Prediction vs. forecasting

„Scientific” prediction vs. „common sense prediction”

Contingent prediction, (conditional prediction) “if, then”

**Non-contingent prediction - future events
are depicted in a straightforward manner**

Changes, no matter whether positive or negative.

Known and predictable

Known but not predictable

Unknown, sometimes even unthinkable



Predictions are, essentially, *linguistic* artefacts

Metaphors

Metaphorless ideas, e.g. information, knowledge



The following questions should be a point of departure in any considerations on contemporary interpretations of security:

What are the characteristics of a social collectivity (or system) which can be depicted as secure?



The following questions should be a point of departure in any considerations on contemporary interpretations of security:

How can those characteristics be specified in a more detailed form, not only with a broad but superficial and sometimes contradictory meaning?

Is it possible to elaborate a universal structural pattern standing behind the state of any unit, should it be an individual or collectivity which is called secure?

Prediction and classical concepts of security

Prediction and critical approaches in security studies

Prediction and environmental security
(Main factor of securitization)

Prediction and environmental security – a few questions

Is modern science capable of delivering long-term scenarios of processes taking place in nature at the macro-scale and in the local scale?

What is a reasonable time horizon for predictions of natural processes?

**Prediction and environmental security
– a few questions**

Are the causes of processes properly identified?

To what extent the authors of long-term predictions concerning environment are unbiased and fair?

Are there any vested interests of scholars and policy makers presenting optimistic or pessimistic scenarios?

Prediction and environmental security – a few questions

How the authors of scenarios eliminate or control the impact of assumptions on the final results of simulation models?

To what extent basic epistemological limitations of mathematical modeling, and the limits of probability calculus in particular, are taken into account in building predictive models applied in environmental security?



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Thank you very much!

Dziękuję!

