

TRENDS IN FUTURES STUDIES METHODOLOGIES

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INTERNATIONAL RESEARCH CONFERENCE ON
FORESIGHT AND SCIENCE, TECHNOLOGY AND
INNOVATION POLICY

NOVEMBER 18-20, 2015

NATIONAL RESEARCH UNIVERSITY - HIGHER
SCHOOL OF ECONOMICS MOSCOW RUSSIA

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FUTURES STUDIES AND FORESIGHT

I TAKE FORESIGHT TO BE PART OF A WIDER ACTIVITY, KNOWN FOR NOW AS FUTURES STUDIES – THE PURPOSE OF WHICH IS TO UNDERSTAND AND ALTER OUR RELATIONSHIPS WITH OUR FUTURES.

STI FORESIGHT: A FORWARDS LOOK TO THE POSSIBILITIES AND POTENTIAL VALUE OF EXISTING SCIENTIFIC KNOWLEDGE AND ITS MEANS OF CREATION

WHY DEVELOP FORESIGHT METHODS AND METHODOLOGIES?

1. NATURAL ROLE OF FORESIGHT
COMMUNITY TO DEVELOP ITS CAPACITY
2. NEW KNOWLEDGE AND IN NEW FORMS
3. NEW KNOWLEDGE STRUCTURES EXIST
4. NEW RELATIONSHIPS WITH THE FUTURE
EXIST

METHODOLOGY: CONCEPTUAL OR
THEORETICAL BASIS FOR METHODS
TO DISCOVER AND INTERPRET
KNOWLEDGE

COMPLEXITY (PARADIGM)

ANTICIPATORY SYSTEMS (ROSEN:
ONTOLOGY)

POST-NORMAL SCIENCE (FUNTOWICZ AND
RAVETZ: EPISTEMOLOGY)

INTERSUBJECTIVITY AND AFFECT (E.G.
HUSSLERL: METAPHYSICS)

IGNORANCE

(AN ABSENCE OF KNOWN KNOWLEDGE)

GENERATED EXPONENTIALLY FROM NEW
KNOWLEDGE

CONTRIBUTES TO A SENSE OF
UNCERTAINTY AND FRAILTY OF WHAT IS
KNOWN (ONTOLOGY)

ONTOLOGICAL EPHEMERALITY AND FRAILTY

**ONTOLOGICAL
“SECURITY”:**
HAVE A RELIABLE
SENSE OF
'KNOWING' AND
THEREFORE
ANTICIPATORY
CAPACITY IN
RELATION TO THE
ENVIRONMENT
AND *RESOLUTIONS*
OF DISHARMONY

ASYMMETRIC SOCIAL KNOWLEDGE
PRODUCTION

AWARENESS OF UNRECOGNISABLE
PATTERNS AND INTER-CONNECTIONS

AN UNFOUNDED CONFIDENCE IN (FALLIBLE)
'SCIENTIFIC' KNOWLEDGE

A STATE OF ANXIETY OVER “UNKNOWN
UNKNOWNNS”

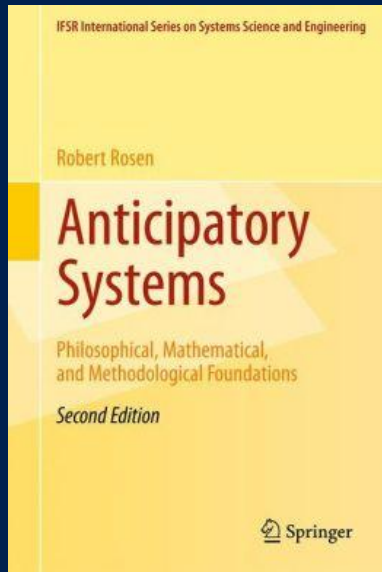
ONTOLOGY: WHAT WE TAKE TO EXIST IN REALITY
EPHEMERALITY: SHORT-LIVED, TEMPORARY

THE IMPORTANCE OF FALLIBILITY

ONTOLOGICAL
FRAILTY AND UNCERTAINTY

KNOWLEDGE
ABOUT
FUTURES

COMPLEXITY
POST-NORMALCY
ANTICIPATORY SYSTEMS



FORESIGHT AS ANTICIPATORY SYSTEM

“AN ANTICIPATORY SYSTEM IS A NATURAL SYSTEM THAT CONTAINS AN INTERNAL PREDICTIVE MODEL OF ITSELF AND OF ITS ENVIRONMENT, WHICH ALLOWS IT TO CHANGE STATE AT AN INSTANT IN ACCORD WITH THE MODEL’S PREDICTIONS PERTAINING TO A LATER INSTANT” (ROSEN 1985, P341).

ROSEN, R. (1985). *ANTICIPATORY SYSTEMS : PHILOSOPHICAL, MATHEMATICAL AND METHODOLOGICAL FOUNDATIONS*. OXFORD: PERGAMON.

Modeling Relations

- Relations between model, effector and whole system, which includes the model

ANTICIPATORY SYSTEM (ROSEN 1985, LOUIE 2010)

MS IS A COMPOSITE SYSTEM

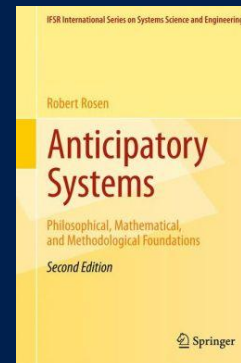
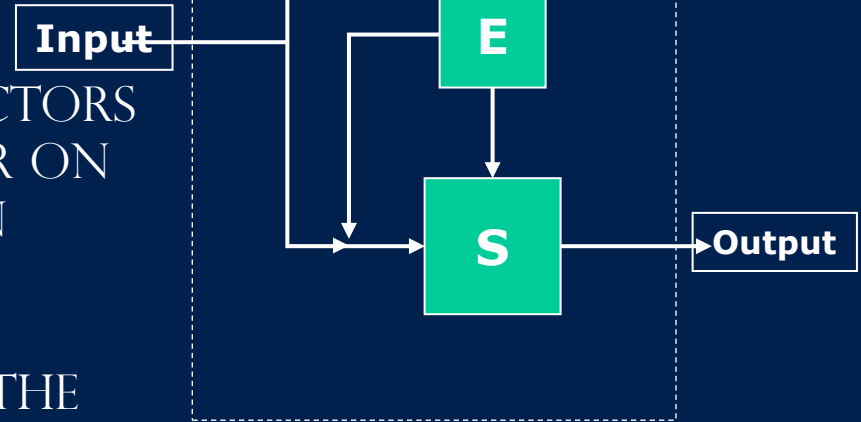
M IS A PREDICTIVE MODEL – BY LOOKING AT A PRESENT STATE OF **M**, ONE OBTAINS INFORMATION PERTAINING TO A FUTURE STATE OF **S**.

M IS EQUIPPED WITH A SET **E** OF EFFECTORS THAT OPERATE EITHER ON **S** ITSELF OR ON THE ENVIRONMENTAL INPUTS TO **S**, IN SUCH A WAY AS TO CHANGE THE DYNAMICAL PROPERTIES OF **S**.

AN ANTICIPATORY SYSTEM **S** ENTAILS THE FOLLOWING:

S POSSESSES A MODEL SUBSYSTEM **M**;
THERE IS AN ORTHOGONALITY BETWEEN THE MODEL **M** AND THE COLLECTION OF OBSERVABLES OF **S** ~ **M**;

THE RATE OF CHANGE (THE ADAPTATION) OF OBSERVABLES OF **S** ~ **M** DEPENDS ON **M**;
THE EFFECT OF THE MODEL **M** CREATES A DISCREPANCY – **S** WOULD HAVE BELIEVED



“AN **ANTICIPATORY SYSTEM** IS A NATURAL SYSTEM THAT CONTAINS AN INTERNAL PREDICTIVE MODEL OF ITSELF AND OF ITS ENVIRONMENT, WHICH ALLOWS IT TO CHANGE STATE AT AN INSTANT IN ACCORD WITH THE MODEL’S PREDICTIONS PERTAINING TO A LATER INSTANT” (ROSEN 1985,

FORESIGHT AS EXPLICIT ANTICIPATORY SYSTEM

MODELLING RELATIONSHIP

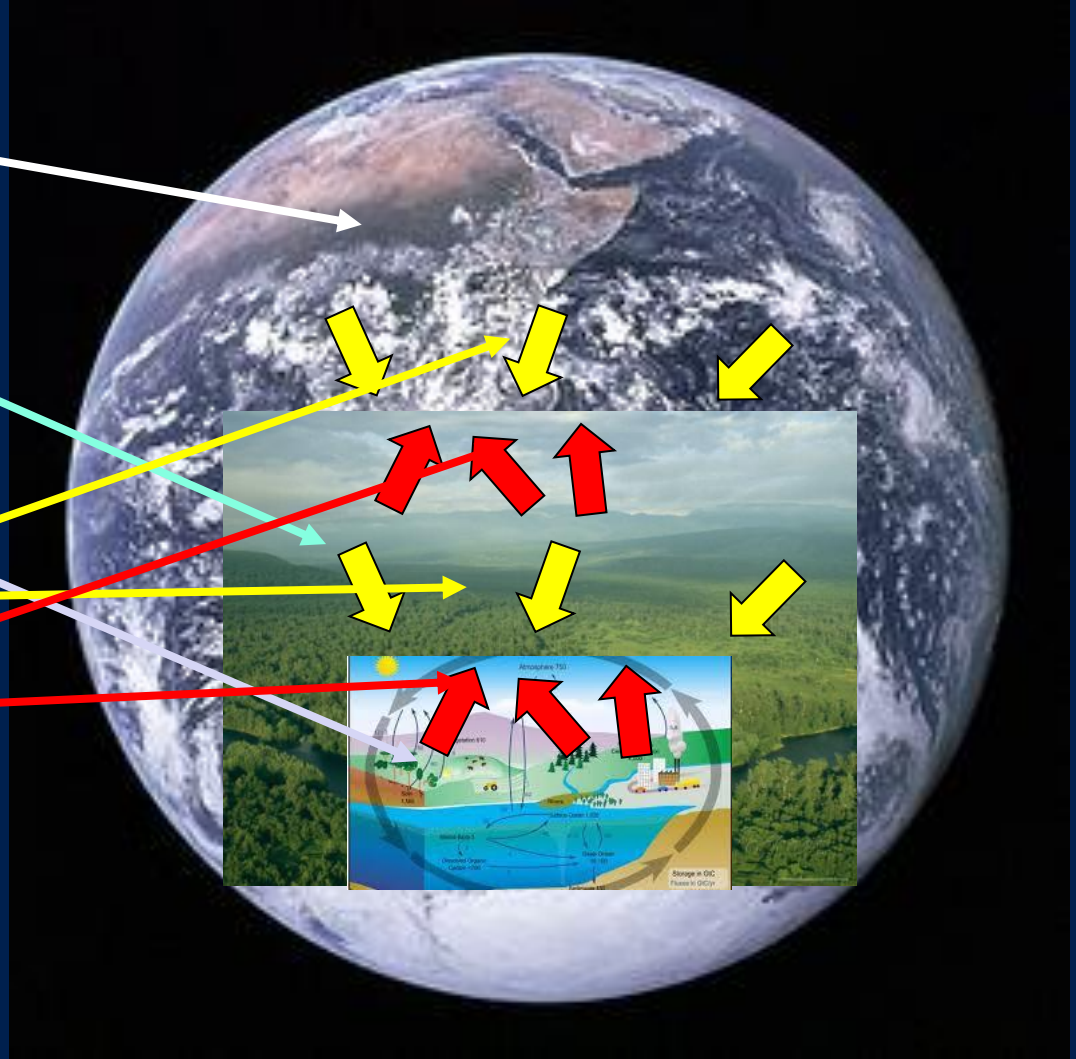
ENVIRONMENT

SYSTEM

MODELS

SENSING

EFFECTORS



FORESIGHT AS ANTICIPATORY SYSTEM

WHAT ARE THE MODELLING RELATIONSHIPS?

WHAT ARE THE EFFECTORS?

All systems, have a distinct quality called **organization** [which...] has to do with more than purely structural or material aspects. For example, organization includes all relations between material parts, relations between the effects of interactions of the material parts, and relations with time and environment, to name a few.

From:

[https://en.wikipedia.org/wiki/Robert_Rosen_\(theoretical_biologist\)](https://en.wikipedia.org/wiki/Robert_Rosen_(theoretical_biologist))

POST NORMAL SCIENCE

(FUNTOWICZ AND RAVETZ 1993, RAVETZ 1999)

“THE MANAGEMENT OF COMPLEX NATURAL AND SOCIAL SYSTEMS AS IF THEY WERE SIMPLE SCIENTIFIC EXERCISES HAS BROUGHT US TO OUR PRESENT MIXTURE OF **TRIUMPH** AND **PERIL**.

[THE] ROLE OF SCIENCE, STILL ESSENTIAL, IS NOW APPRECIATED IN ITS FULL CONTEXT OF THE **UNCERTAINTIES** OF NATURAL SYSTEMS AND THE RELEVANCE OF **HUMAN VALUES**.

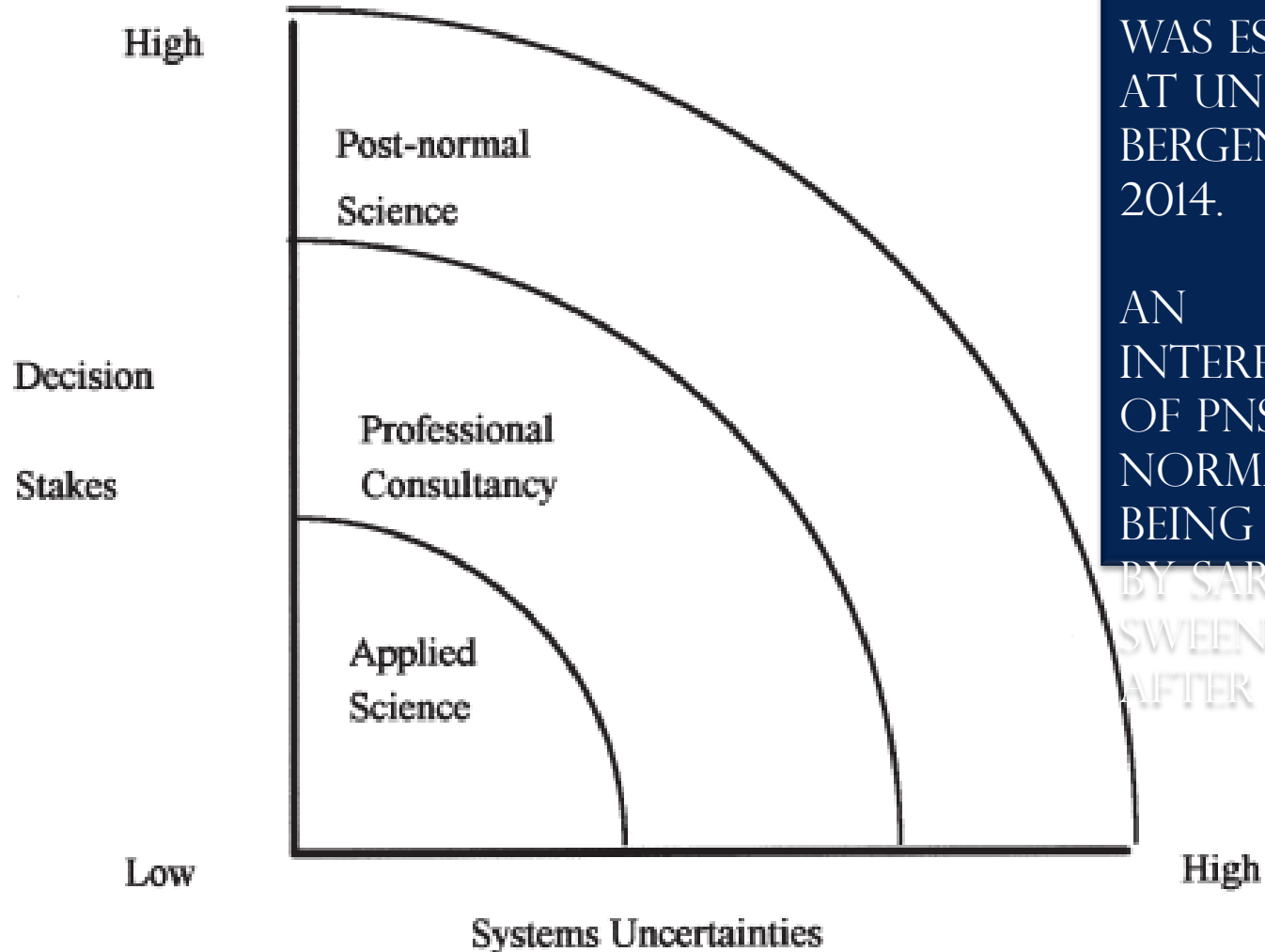
WE NOW SEE THAT THE COMPLEXITY OF POLICY PROBLEMS CORRESPONDS TO THE COMPLEXITY OF THE RELEVANT KNOWLEDGE. THE MAINTENANCE AND ENHANCEMENT OF **QUALITY**, RATHER THAN THE ESTABLISHMENT OF **TRUTH**, IS THE KEY PROBLEM FOR SCIENCE IN THE POST-NORMAL AGE.

ACCOMPLISHING THIS REQUIRES [...*INTER-ALIA*...] **MUTUAL RESPECT** AMONG PARTICIPANTS IN A DIALOGUE, AND A RECOGNITION THAT NO SIDE NECESSARILY HAS A MONOPOLY OF **TRUTH OR**

An early but still relevant approach to complexity...

and fallibility

HIGH STAKES, HIGH UNCERTAINTY



A CHAIR IN PNS WAS ESTABLISHED AT UNIVERSITY OF BERGEN IN DEC 2014.

AN INTERPRETATION OF PNS "POST NORMAL TIMES" IS BEING DEVELOPED BY SARDAR, SWENEY ET AL AFTER SARDAR 2010.

OPERATIONALISING PNS AS POST NORMAL TIMES

SARDAR AND SWEENY (2015)

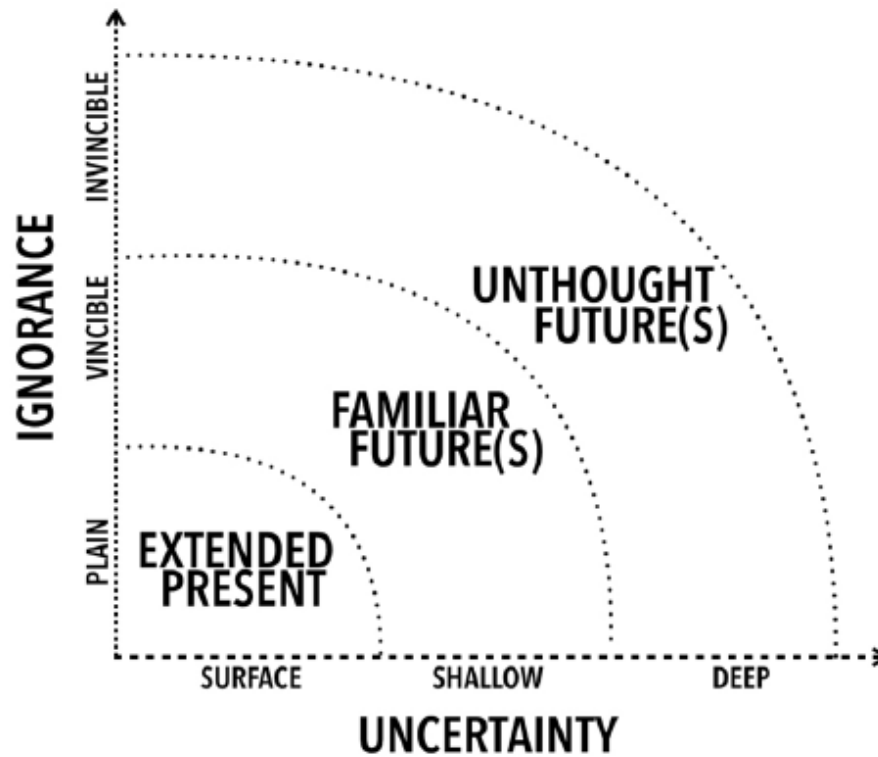


Figure 6

OPERATIONALISING PNS AS POST NORMAL TIMES

SARDAR AND SWEENY (2015)

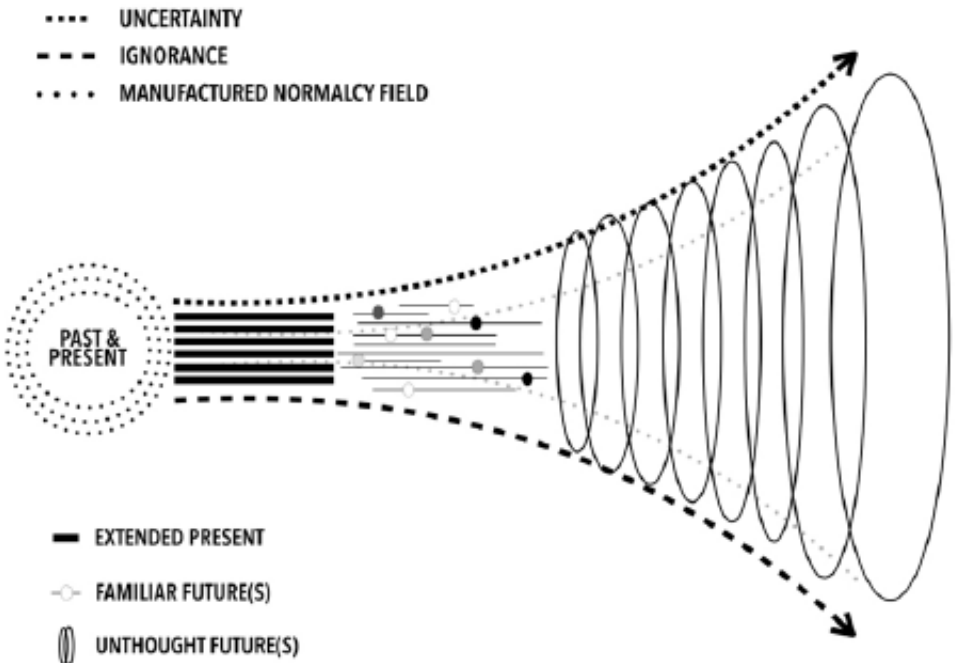
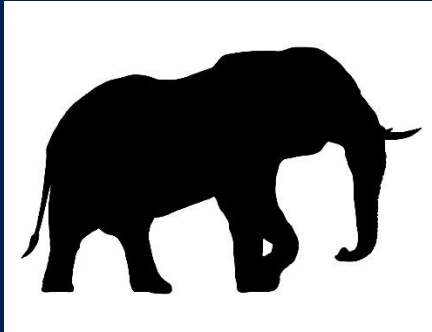


Figure 3

INTERSUBJECTIVITY

PSYCHOLOGICAL RELATION BETWEEN
PEOPLE...

...SHARED (OR PARTIALLY
SHARED) *DIVERGENCES* OF MEANING

PLAYS A ROLE IN ESTABLISHING THE TRUTH
OF PROPOSITIONS, AND CONSTITUTING
THE SO-CALLED OBJECTIVITY OF OBJECTS.

AFFECT IS A PRIME ORGANIZER OF
EXPERIENCE

THE FUTURE AS CULTURAL FACT*

“THREE NOTABLE HUMAN
PREOCCUPATIONS THAT SHAPE THE
FUTURE AS A CULTURAL FACT [...]

AFFECT
(EMOTIONS,
SENSATIONS
FEELINGS...)

IMAGINATION,
ANTICIPATION AND
ASPIRATION...”

“... WE NEED NOT ONLY TO EXAMINE THE
EMOTIONS THAT ACCOMPANY THE FUTURE
AS A CULTURAL FORM BUT ALSO THE
SENSATIONS THAT IT PRODUCES: AWE,
VERTIGO... [P237]”

*Arjun Appadurai (2013), *The Future as Cultural Fact, Essays on the Global Condition*,
Verso

RE-ADJUSTING PERSPECTIVES

NATURAL
WORLDS: WHAT
IT MEANS TO
CONTROL
NATURE, AS IF
HUMANS HAD
NO

INTERSUBJECTIVE
**KNOWLEDGE
ABOUT FUTURES**



SOCIO-CULTURAL
'HUMAN' WORLDS:
WHAT IT MEANS TO
BE HUMAN AND
INTERSUBJECTIVE

**RELATIONSHIPS
WITH FUTURES**

ANTICIPATION AS PROCESS...

... MEDIATES (BETWEEN)
KNOWLEDGE AND ACTION, AND
HENCE HAS CAUSAL POWER.

ANTICIPATION

ANTICIPATION AS PART OF THE
TEMPORALITY OF BEING *(CF HEIDEGGER)*

ANTICIPATION GIVES ABSENCE MEANING

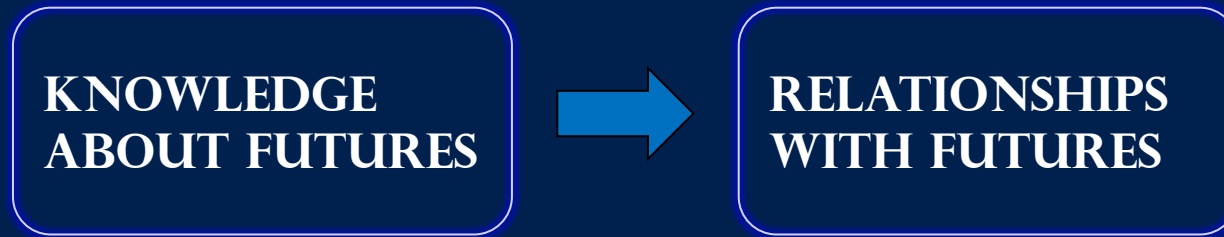
ANTICIPATION CAUSES EFFECTS AND
STABILITY

VALUES AND THE ANTICIPATION OF VALUE
IS CENTRAL TO THE RELATIONAL MODEL.

RE-ADJUSTING PERSPECTIVES

ONTOLOGICAL

ETHICAL



COMPLEXITY
AND SYSTEMS

ANTICIPATORY PROCESS
RESPONSIBILITY

RESPONSIBILITY

“THE CONTEMPORARY IMPERATIVE OF RESPONSIBILITY REQUIRES THAT RESPONSIBILITY BE ADEQUATE TO THE SPHERE OF INFLUENCE.

THIS VERY REASONABLE DEMAND, HOWEVER, MOVES ETHICS FROM THE TANGIBLE SPHERE OF SPATIALLY DELIMITED RIGHTS AND DUTIES TO COMPATRIOTS AND CONTEMPORARIES, TOWARDS THE OPEN AND UNLIMITED REALM OF BEINGS AND ORGANISMS UNBORN AND UNKNOWNABLE...

...OUR MORAL DUTY, [...] IS TO ENSURE THE FUTURE OF BEING AND HUMAN SPONTANEITY.”

BARBARA ADAM (2011) TOWARDS A TWENTY-FIRST-CENTURY SOCIOLOGICAL ENGAGEMENT WITH THE FUTURE, INSIGHTS VOL4, 11, UNIVERSITY OF DURHAM INSTITUTE OF ADVANCED STUDY

ANTICIPATORY REGIMES

“CRUCIALLY, PREDICTABLE UNCERTAINTY LEADS TO ANTICIPATION AS AN *AFFECTIVE* STATE, AN EXCITED FORWARD LOOKING SUBJECTIVE CONDITION CHARACTERIZED AS MUCH BY NERVOUS ANXIETY AS A CONTINUAL REFRESHING OF YEARNING, OF ‘NEEDING TO KNOW.’”

ADAMS, V., M. MURPHY, ET AL. (2009)

RE-ADJUSTING PERSPECTIVES

KNOWLEDGE
ABOUT
FUTURES



RELATIONSHIPS
WITH
FUTURES

ON ETHICS IN FUTURES STUDIES – RECENT
SPECIAL ISSUE OF FUTURES JOURNAL 2015

GARY ET AL : HINES AND GOLD (2013)
NOTED THAT PROFESSIONAL FUTURISTS
(AS A BODY) LACKED, AMONG OTHER
THINGS, PROFESSIONAL ETHICS (*INTER
ALIA*)

BATEMAN “TO FOCUS MORE BROADLY
ON EXPANDING AND **DEEPENING THE
CHOICES** OF WHAT STUDENTS LEARN”
[BY RELINQUISHING CONTROL]

CELASCHI AND CELI: “ADVANCED DESIGN
COMMUNICATES DIRECTLY [...] IN AN
ATTEMPT TO RE-ESTABLISH **COMMON
INTERESTS AND VIRTUOUS RELATIONSHIPS**”

POLI: BE SURE THAT THE RELEVANT AGENTS
ARE **GENERATING THEIR [OWN] FUTURE**. OR
AT LEAST, THAT THE GENERATION OF NEW
FUTURES EXCEEDS THE CONSUMPTION OF

SUMMARY

HUMANKIND IS CAPABLE BOTH OF
DESTROYING ITSELF AND OF HUMAN
FLOURISHING

FORESIGHT SHOULD BE UNDERSTOOD AND
PRACTICED AS AN INHERENT AND LARGELY
EXPLICIT ANTICIPATORY SYSTEM

ANTICIPATION IS A CAUSAL PROCESS AND
REQUIRES ETHICAL GOVERNANCE AND
RESPONSIBLE PRACTICES

