

ANOMIE

in risk research

Rethinking standards for policy-relevant science

David Quist - GenØk - david.quist@uit.no



ANOMIE in risk research

Rethinking standards for policy-relevant science

David Quist - GenØk - david.quist@uit.no



Concept of ANOMIE

goals of a group → anomie (ANOMIE) → goals of greater society

anomie risk score

"In technology - for ANOMIE - we stand, not diverge from a path of goals of a group of individuals or groups who live in the same world as us."

The concept of ANOMIE is a goal of a group of individuals or groups who live in the same world as us. It is a goal of a group of individuals or groups who live in the same world as us. It is a goal of a group of individuals or groups who live in the same world as us.

The concept of ANOMIE is a goal of a group of individuals or groups who live in the same world as us. It is a goal of a group of individuals or groups who live in the same world as us. It is a goal of a group of individuals or groups who live in the same world as us.

Historical Narratives

David Quist-Dachmann

Robert E. Hargrave

Discussion:

How can we achieve a better scientific environment by assessing studies, technologies and future technologies?

How to rethink scientific ANOMIE in RA?

How to make Risk Science more:

A new "standard" for risk science?

ANOMIE in Risk Science

In the context of risk, we consider the relationship between the benefits of a technology and the risks it poses. This is a relationship that is often ignored in the current risk assessment process. We propose a new framework for risk assessment that takes into account the benefits of a technology and the risks it poses.

"Science fails to adequately explore or consider the goals of a group of individuals or groups who live in the same world as us. It is a goal of a group of individuals or groups who live in the same world as us. It is a goal of a group of individuals or groups who live in the same world as us."

In the context of risk, we consider the relationship between the benefits of a technology and the risks it poses. This is a relationship that is often ignored in the current risk assessment process. We propose a new framework for risk assessment that takes into account the benefits of a technology and the risks it poses.

ANOMIE in GMO RA

What is the relationship between the benefits of a technology and the risks it poses? This is a relationship that is often ignored in the current risk assessment process. We propose a new framework for risk assessment that takes into account the benefits of a technology and the risks it poses.

What is the relationship between the benefits of a technology and the risks it poses? This is a relationship that is often ignored in the current risk assessment process. We propose a new framework for risk assessment that takes into account the benefits of a technology and the risks it poses.

Concept of ANOMIE



'A' (without) - 'NOMIE' - (norms), or a disintegration or ~~mismatch~~ of norms of an individual or group with that of collective norms of society.

The concept of ANOMIE emerged as an explanation of deviant behavior arising in the industrial revolution, a time when rapid techno-industrial change was transforming the collective cultural fabric of society.

Thus, ANOMIE occurs when society fails to adequately regulate or constrain the goals and desires of individuals or groups (particularly those driving techno-industrial change).



Historical Narratives

David Émile Durkheim



Durkheim's ANOMIE took on a socio-political narrative or rapid change - progress - its constraining force on modernizing society that produces benefits for some, and good - its constraining force that leads to mismatches with the "collective consciousness" of society.

Robert K. Merton



Merton expands on Durkheim's theme as an open critique on the modern explanation on individual success as a "goal" in American society. ANOMIE - states a strain that emerges when the goal - and the legitimate, socially accepted means to achieve it - is mismatched, leading to deviance.

Discussion:

How can we achieve a better sustainable environment by assessing modern technologies and biotechnologies?

How to remove scientific ANOMIE in RA?
How to make Risk Science more:



A new "standard" for risk science?

ANOMIE in Risk Science

In the research and appraisal of risk, a considerable mismatches exist between the scientific norms and standards that are expected from society to protect health and the environment, and the scientific norms/standards that become enshrined in legislation and expert assessment practice as permissible for evaluating safety.

"society fails to adequately regulate or constrain the goals of certain sectors of society (that are at odds with the goals of society) especially as they gain momentum and influence in political structures.



In the biotechnological revolution, this can be seen in inadequacies created within IPR/patents regimes, seed market consolidation, deficient regulatory assessments of biotechnologies and their co-products, and imbalances in funding of alternatives. GMOs are a good case in point.

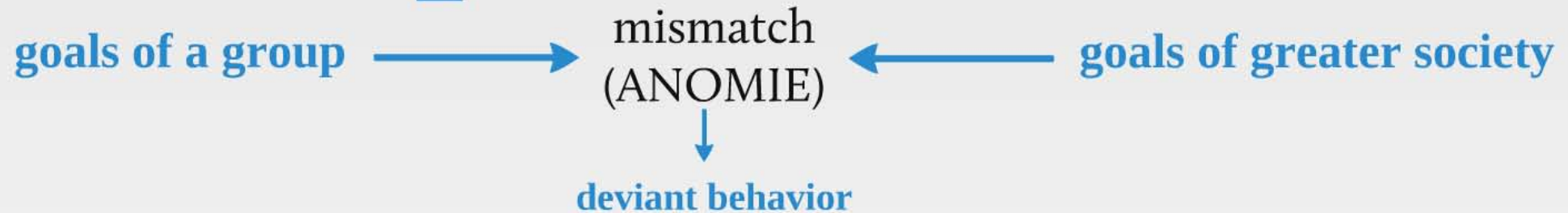
ANOMIE in GMO RA

Goal: Increase robustness, relevance and utility of the science included in risk assessments, and decrease inadvertent bias and inferential errors that may underestimates possible hazards



"Risk Permissive"	"Risk Prudent"
<p>Focus on the "known" (i.e., the "known" risks)</p> <p>CONTEXT: RATIONALE</p> <p>Methodological Approach</p> <p>ANALYTICAL RIGOR</p> <p>DEGREE OF INDEPENDENCE</p> <p>DEGREE OF DIVERSITY</p> <p>DEGREE OF COLLECTIVITY</p>	<p>Focus on the "unknown" (i.e., the "unknown" risks)</p> <p>CONTEXT: RATIONALE</p> <p>Methodological Approach</p> <p>ANALYTICAL RIGOR</p> <p>DEGREE OF INDEPENDENCE</p> <p>DEGREE OF DIVERSITY</p> <p>DEGREE OF COLLECTIVITY</p>

Concept of ANOMIE



"A" (without) - "NOMIE" - (norms), or a disintegration or **mismatch** of norms of an individual or group with that of collective norms of society.

The concept of ANOMIE emerged as an explanation of deviant behavior arising in the industrial revolution, a time when **rapid techno-industrial change** was transforming the collective cultural fabric of society.

Thus, ANOMIE occurs when **society fails to adequately regulate or constrain the goals and desires of individuals or groups** (particularly those driving techno-industrial change).



Historical Narratives

David Émile Durkheim

Durkheim's ANOMIE took on a socio-political narrative on rapid changes-- progress -- its constructive force on modernizing society that produces benefits for some, and greed -- its corrosive force that leads to mismatches with the "collective consciousness" of society.



Merton expands on Durkheim's theme as an open critique on the inordinate emphasis on individual success as a "goal" in American society. ANOMIE exists as a strain that emerges when this goal--and the legitimate, socially accepted means to achieve it--is mismatched, leading to deviance.

Robert K. Merton



David Émile Durkheim

Durkheim's ANOMIE took on a socio-political narrative on rapid changes-- progress -- its constructive force on modernizing society that produces benefits for some, and greed -- its corrosive force that leads to mismatches with the "collective consciousness" of society.



Robert K. Merton

Merton expands on Durkheim's theme as an open critique on the inordinate emphasis on individual success as a "goal" in American society. ANOMIE exists as a strain that emerges when this goal--and the legitimate, socially accepted means to achieve it--is mismatched, leading to deviance.



ANOMIE in Risk Science

In the research and appraisal of risk, a considerable mismatches exist between the scientific norms and standards that are expected from society to protect health and the environment, and the scientific norms/standards that become enshrined in legislation and expert assessment practice as permissible for evaluating safety.

"society fails to adequately regulate or constrain the goals of certain sectors of society (that are at odds with the goals of society) especially as they gain momentum and influence in political structures.

In the biotechnological revolution, this can be seen in inadequacies created within IPR/patents regimes, seed market consolidation, deficient regulatory assessments of biotechnologies and their co-products, and imbalances in funding of alternatives. GMOs are a good case in point.



ANOMIE in GMO RA

Goal: Increase robustness, relevance and utility of the science included in risk assessments, and decrease inadvertent bias and inferential errors that may underestimates possible hazards



"Risk Permissive"

Science in the service of regulatory expediency (what we have)

CONTEXT INSENSITIVE

accepted practice
low acceptable
limited
unuseful

LESS

lacking and unnecessary
type I avoidance
broad
largely assumptions based
unnecessary

LOW

limited and constrained

LOW

producers of knowledge interested in outcome
Lacking (RA/RM)

LOW

unuseful
limited

LOW

limited
lacking
largely irrelevant

Types of mismatches/ANOMIE
SCIENTIFIC ANOMIE

Methodological Approach

use of surrogates
sample numbers
study durations
use of non-targeted approaches

Analytical Rigor

uncertainty analysis
error Type minimization
use of comparitors
deductive approach
analysis of Power

Degree of transparency

Reproducible?
Verifiable?
Accessible?

Degree of independence

conflicts in interest
separation of assessment
and its interpretation (RA/RM)

Degree of Inclusivity

use of observer networks in hazard identification
inclusion of interested actors identifying assessment needs

Degree of reflexivity

utilization of new knowledge
utility assessment
consideration of alternatives

"Risk Prudent"

Science in the service of the society (what society demands)

CONTEXT SENSITIVE

not accepted, use real product
low unacceptable where power lacking
life cycle assessment
valuable for hazard ID

MORE

Informative and essential
Type II avoidance
specific only
largely empirically based
informative

HIGH

no data/samples, no market

HIGH

producers of knowledge separated
from incentives
Advocates of RA/RM independence
and extended peer review

HIGH

useful
essential

HIGH

essential
useful
relevant to produces socially
acceptable outcomes

"Risk Permissive"

Science in the service of
regulatory expediency
(what we have)

CONTEXT
INSENSITIVE

accepted practice
low acceptable
limited
unuseful

LESS

lacking and unnecessary
type I avoidance
broad
largely assumptions based
unnecessary

LOW

limited and constrained

Types of mismatches/ANOMIE
SCIENTIFIC ANOMIE

Methodological Approach

use of surrogates
sample numbers
study durations
use of non-targeted approaches

Analytical Rigor

uncertainty analysis
error Type minimization
use of comparitors
deductive approach
analysis of Power

Degree of transparency

Reproducible?
Verifiable?
Accessible?

"Risk Prudent"

Science in the service of the society
(what society demands)

CONTEXT
SENSITIVE

not accepted, use real product
low unacceptable where power lacking
life cycle assessment
valuable for hazard ID

MORE

Informative and essential
Type II avoidance
specific only
largely empirically based
informative

HIGH

no data/samples, no market

LOW

Degree of independence

HIGH

producers of knowledge interested in outcome
Lacking (RA/RM)

conflicts in interest
separation of assessment
and its interpretation (RA/RM)

producers of knowledge separated
from incentives
Advocates of RA/RM independence
and extended peer review

LOW

Degree of Inclusivity

HIGH

unuseful
limited

use of observer networks in hazard identification
inclusion of interested actors identifying assessment needs

useful
essential

LOW

Degree of reflexivity

HIGH

limited
lacking
largely irrelevant

utilization of new knowledge
utility assessment
consideration of alternatives

essential
useful
relevant to produces socially
acceptable outcomes

Discussion:

How can we achieve a better sustainable environment by assessing modern technologies and biotechnologies?



How to remove scientific ANOMIE in RA?

How to make Risk Science more:



A new "standard" for risk science?