Lecture 13: Philosophy of Science

An initial overview

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Is Psychology a Science?

The Ongoing Debate

- **Positivism in Psychology**: Traditional view supporting quantitative methods, treating human behavior as stable, measurable facts.
- **Qualitative Shift**: A focus on dynamic, ever-changing aspects of human behavior, challenging the idea of fixed patterns, and possibly facts!
- Source: (**parker2011?**)

The Role of Qualitative Research

- **Qualitative vs. Quantitative**: The debate isn't about the validity of quantification but the quality of its application in psychology.
- Where is Psychology's non-stick frying pan? (Banyard, 2015)
- **Advancing Scientific Debate**: Qualitative research is at the forefront of discussions about the nature of scientific inquiry in psychology.
- Source: (Parker, 2004)

The Structure of Scientific Revolutions

The Structure of Scientific Revolutions

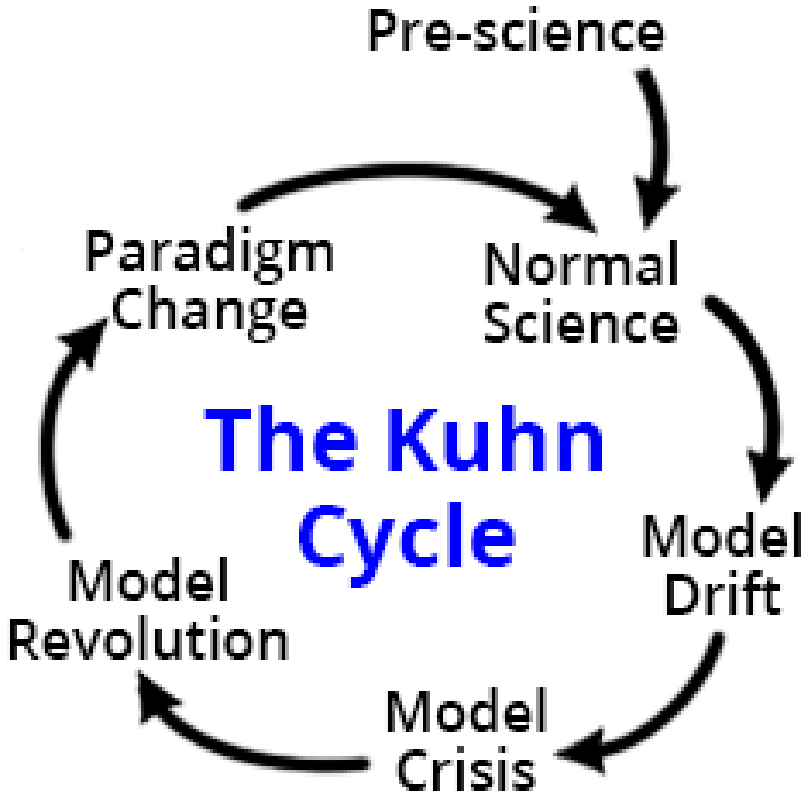
Thomas S. Kuhn

Contents:

Kuhn - Structure

Paradigm Shifts

- **Thomas Kuhn's Theory**: Science progresses through paradigm shifts rather than linear accumulation of knowledge.
- **Application in Psychology**: Shifts from behaviorism to cognitive psychology, and then to more integrated approaches.



Implications for Psychological Research

- **Changing Research Methods**: Embracing diverse methodologies reflecting evolving paradigms in psychology.
- **Interdisciplinary Influence**: Incorporating insights from philosophy, sociology, and neuroscience into psychological research.

Psychology as a 'Soft Science'

- Psychology compared to pre-scientific stages of sciences
- The debate over applying 'the scientific method' in psychology
- The importance of being phenomenon-centered and problem-centered
- Misalignment of methods with research questions

Uher (2021)

Conclusion?

Psychology and Science

- **Dynamic and Evolving**: Psychology, like other sciences, undergoes paradigm shifts and methodological evolution.
- **Beyond Traditional Boundaries**: The discipline is increasingly recognizing the value of qualitative, subjective, and diverse approaches to understanding the human mind and behavior.

Karl Popper and Falsification

The Principle of Falsification

- **Karl Popper's Contribution**: Emphasized the importance of falsifiability in scientific theories.
- **Falsification vs. Verification**: Popper argued that scientific theories can never be completely verified, but they can be falsified.
- **Impact on Psychology**: Encourages rigorous testing of hypotheses and openness to disconfirming evidence in psychological research.

Critiques and Legacy

- **Practical Challenges**: Difficulties in applying falsification principle in complex fields like psychology.
- **Enduring Influence**: Popper's ideas continue to influence scientific methodology and philosophical discussions in psychology.

Epistemology

Epistemology

- **Definition**: The study of knowledge – its nature, origin, and limits.
- **Relevance to Psychology**: Helps in understanding how we acquire knowledge about human behavior and mental processes.
- How do we know what we know, or get to know something new?

Understanding the Ideographic/Nomothetic Divide

Ideographic Approach

- **Focus**: Emphasizes the unique aspects of individual cases or phenomena.
- **Methodology**: Often uses qualitative methods, such as case studies, to explore complex, subjective experiences.
- **Goal**: To understand the depth and complexity of individual experiences.

Nomothetic Approach

- **Focus**: Seeks to identify general laws and patterns that apply across multiple cases.
- **Methodology**: Employs quantitative methods, like experiments and surveys, to gather data on larger populations.
- **Goal**: To formulate generalizations and broad theories applicable to many.

Implications in Psychological Research

Balancing Perspectives

- **Integrating Approaches**: Both ideographic and nomothetic methods offer valuable insights; combining them can lead to a more holistic understanding of psychological phenomena.
- **Challenges in Quantitative Research**: The need to acknowledge and address the reflexive capacity of human beings and the meaningful nature of data from aggregated descriptions of behavior.

- **Innovative Research Possibilities**: Opportunities for innovative research that addresses these challenges, respecting the particularities of individual cases within broader patterns.
- (Robinson, 2012)

Why should we care about this question?

The Esteem of Science

- Science's high regard in society and academia
- The assumption that the scientific method leads to reliable results
- The challenge in defining 'scientific method' and its transferability

Chalmers, 2014 What is this thing called Science?

Conclusion: Rethinking Scientific Method in Psychology

- Recognizing the influence of subjective experiences on observation
- Understanding the interplay between facts, theory, and conceptual frameworks
- The challenge of applying a rigid scientific method to human behavior and experiences

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Abstract

- Psychology's struggle with foundational concepts: mind and behavior
- Lack of unified theoretical framework
- Classification as a 'soft science'
- Need for diverse methodologies and systematic integration
- Galtonian nomothetic methodology's limitations

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Lack of Proper Terms and Definitions

- Discordant and ambiguous definitions in psychology
- Overlap between psychology, neuroscience, and philosophy
- Proliferation of terms and constructs
- Deeply fragmented theoretical landscape

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Lack of Conceptual Integration

- Diversity of epistemologies, paradigms, and methodologies
- Absence of a unified theory in psychology
- Challenges with evolutionary psychology as an integrative framework
- Speculative nature of evolutionary explorations in psychology

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Experience in Psychology

- The dual aspects of experience: objective content and subjective apprehension
- Contrast between natural sciences and psychological approaches
- Psychology's focus on immediate subjective experience
- The role of agency, volition, value orientation, and teleology

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Constructs in Science and Everyday Psychology

- Challenges posed by the transient nature of experience
- The interplay of constructs with everyday knowledge and language
- The entification of constructs and overlooking their constructed nature
- Differentiation between psychical and psychological phenomena

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Psychology's Exceptional Position

- Psychology at the intersection of sciences and philosophy
- Exploration of diverse phenomena across human life
- Requirement for a plurality of methodologies and epistemologies
- Psychology as a non-unitary science due to its wide-ranging study phenomena

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Idiographic and Nomothetic Strategies

- The uniqueness of immediate experience
- The use of idiographic strategies for exploring individual cases
- Limitations of Galtonian nomothetic methodology
- The impact of natural-science principles on psychological research

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Moving Beyond Conceptual Deadlock

- Introduction of the Transdisciplinary Philosophy-of-Science Paradigm (TPS-Paradigm)
- Aiming for critical reflection and development of new theories
- Integration of concepts from various disciplines
- Focus on the individual as the central unit of analysis

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Philosophical Framework of the TPS-Paradigm

- Three sets of presuppositions about research on individuals
- Human limitations in perception and conceptualization
- Concept of individuals as complex, open, and nested systems
- Application of complementarity in methodology

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Metatheoretical Framework

- Formalization of phenomena's accessibility to human perception
- Differentiation of various kinds of phenomena related to individuals
- Integration and development of concepts across fields
- Exploration of psychical phenomena and their connections

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Methodological Framework

- Concepts for matching methodology with phenomena
- Development of methods for comparing individuals
- Analysis of data generation and measurement practices
- Application of metrological principles in psychological research

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