## H2 Knowledge and Inquiry Summary

Prepared by Quince Pan (17A15)

Dear reader,

I tried to be as comprehensive as I could in my coverage of the topics, but when the philosophy gets too dense and deep, I stopped following it down the rabbit hole. The pursuit of knowledge is best done when sanity is preserved. For the A-Levels, this should be enough.

All the best!

Quince :D

Youth should be awed, possessed, as with a sense Religious, of what holy joy there is In knowledge if it be sincerely sought For its own sake — in glory, and in praise, If but by labour won, and to endure.

> William Wordsworth The Prelude (1805)

	Basic Epistemology https://plato.stanford.edu/entries/epistemology/
Definition of knowledge	Justified, True Belief (JTB) or Power, if you are Foucault
Sources of knowledge	Perception, Reason, Introspection, Memory, Testimony
Theories of truth	<ul> <li>Correspondence Theory of Truth         A belief is true if it corresponds to reality.         Problems:             <ul> <li>Taking one step back: is the correspondence theory (a belief is true if it corresponds to reality) true? If yes, what in reality does it correspond to?</li> <li>Ethical statements don't correspond to any fact. They are values.</li> </ul> </li> </ul> <li>Coherence Theory of Truth         <ul> <li>A belief is true if it fits in a consistent web of beliefs.</li> </ul> </li> <li>Problems:</li>
	<ul> <li>Effectively, truth is replaced by utility.</li> </ul>

	• Knowledge is a means to an end, not an end in itself.
Gettier problem	<b>Edmund Gettier (1963)</b> The Gettier problem is a major challenge to JTB and internalist theories of justification.
	<b>Bertrand Russell's Broken Clock (1948)</b> A clock ran out of battery and stopped at 12:15 pm. One week later, coincidentally also at 12:15 pm, someone looked at the clock, and concluded that it is 12:15 pm now (which is actually true). Does this person know that it is 12:15 pm by looking at the broken clock?
	<ul> <li>Attempts to resolve the Gettier problem:</li> <li>JTB+X definitions of knowledge</li> <li>JTB, with externalist justification</li> <li>Fallibilism: justification is impossible</li> </ul>
Theories of justification	Agrippa's TrilemmaAll justification has one of the following problems:1. Circularity2. Regression (practically indefensible)3. Axiomaticity (rests on base assumptions and is not inherently truth-conducive)
	<ul> <li>Internalism</li> <li>Justification is mind-dependent. Using our minds alone, we can have justification.</li> <li>Justification requires only factors inside us.</li> <li>S's belief that p is justified if and only if S knows that it is justified.</li> </ul>
	<ul> <li>Coherentism: Solves the circular problem by claiming that coherence (circularity) is acceptable justification.</li> <li>Problems: Closed paradigm. What if one belief is false or poorly justified?</li> </ul>
	<ul> <li>Infinitism: Solves the regressive problem by claiming that a possible infinite chain of valid justification is a sufficient condition for the justification of the final belief.</li> <li>Problems: How do we know this chain is infinite? What if one segment of the chain is poorly justified?</li> </ul>
	<ul> <li>Foundationalism: Solves the axiomatic problem by claiming that some propositions are self-evidently true.</li> <li>Problems: What beliefs are self-evidently true? Are there any?</li> </ul>
	<ul> <li>Externalism</li> <li>Justification is mind-independent. Justification requires other factors outside us.</li> <li>S's belief that p can be justified even if S does not know that it is justified.</li> </ul>
	Externalist theories of justification prioritise truth-conduciveness (likely to give the truth).
	<ul> <li>Causal Theory (Alvin Goldman): A belief is justified if it is the result of a causal chain.</li> <li>Problems: How do we determine such causal chains? Challenged by fallibilism, Hume and Gettier.</li> </ul>
	<ul> <li>Reliabilism (Alvin Goldman): A belief is justified if it is the result of a reliable process. The criterion of a direct causal chain is loosened, making a reliable process sufficient.</li> <li>Problems: Still cannot circumvent Gettier. Too vague and loose.</li> </ul>

Scepticism and fallibilism	Scepticism, being a much stronger claim, implies fallibilism. The contrapositive also holds.
	Scepticism Nothing is known➡Fallibilism Nothing is certain
	Infallibilism Something is certain➡Common-sensism Something is known
Rationalism and empiricism	Rationalism: all knowledge is a priori         • Relies on coherent truths         • Examples: mathematics, logic
	<ul> <li>René Descartes</li> <li>Cogito ergo sum. / I think, therefore I am.</li> <li>Evil demon / brain in a vat <ul> <li>Even if my thoughts are manipulated by an evil demon, I can still think, therefore my mind exists.</li> </ul> </li> </ul>
	<ul> <li>Problems of rationalism</li> <li>Limited knowledge of the outside world.</li> <li>Quine: even logic and maths is empirical.</li> <li>May lead to scepticism, thence solipsism.</li> </ul>
	<ul> <li>Empiricism: all knowledge is a posteriori</li> <li>Relies on correspondent truths</li> <li>Example: science, any knowledge about the real world</li> <li>Relations of ideas are a priori, but they are pointless in the real world</li> <li>http://philosophycourse.info/lecsite/lec-berke.html</li> <li>https://prezi.com/e-am2kufodsw/empiricism-locke-berkeley-hume/</li> </ul>
	<ul> <li>John Locke</li> <li>All ideas, even mathematical and logical ones stem from experience.</li> <li>Primary qualities = measurable physical properties Secondary quantities = taste, smell, colour, etc.</li> <li>Primary qualities are mind-independent, secondary qualities are mind-dependent.</li> </ul>
	<ul> <li>George Berkeley</li> <li>Esse est percipi. / To be is to be perceived.</li> <li>There are no actual objects, just bundles of sense data (minds and the ideas they perceive)</li> <li>All qualities are mind-dependent.</li> </ul>
	<ul> <li>David Hume</li> <li>Hume's fork: relations of ideas (<i>a priori</i>) vs. matters of fact and existence (<i>a posteriori</i>)</li> <li>Causation cannot be empirically observed.</li> </ul>
	<ul> <li>Problems of empiricism</li> <li>Fallibility of the senses</li> <li>Sellars' myth of the given (foundational belief of empiricism: perception is presuppositionless)</li> <li>Scepticism (brain in a vat)</li> </ul>

Perception	Direct realism (common sense) Mind → object		
	Representative realism (Locke) a.k.a. Mind → sense datum ← object	indirect realism, epistem	ological dualism
	Object directly causes sense data.		
	Idealism (Berkeley) Mind → perceptions		
	Experiencing sense data doesn't imply Objects don't exist, only ideas do.	y that objects cause it.	
	To be is to be perceived. Only minds and ideas does not perceive the object, the object still exi instead of plainly denying the existence of obje	e exist in the world, hence the ten ists, as God is permanently obser ects.)	m "idealism". Even if the mind rving it. (As a concession,
	Phenomenalism (Kant) Mind → perceptions ⇒ object		
	Objects exists in the noumenal world, only access the phenomenal world.	which is inaccessible to us	s because humans can
	Synthetic <i>a priori ⇒</i> we are all born w them ⇒ phenomena vs. noumena	ith "sunglasses", and must	see the world through
	Even if the mind does not perceive the object, t	he object still exists as possible o	experiences.
Processes of			
reasoning		formal integrity?	formal integrity 🗸 true premises?
	Deduction: pure logic and reason	valid / invalid	sound / unsound
	<b>Induction:</b> probabilistic inference based on past experience	strong / weak	cogent / uncogent
	<b>Abduction:</b> inference to the best explanation	strong / weak	cogent / uncogent
Hume's fork			
	Hume's Fork	"relations of ideas"	"matters of fact"
	semantic distinction	analytic	synthetic
	metaphysical distinction	necessary	contingent
	epistemological distinction	a priori	a posteriori
	Hume's fork describes the epistemolo empiricists. Objections to Hume's fork <b>reduction of analyticity to syntheticit</b>	gical divide between the r include <b>Kant's synthetic</b> ( <b>y (holism)</b> and <b>Kripke's ne</b>	ationalists and the a priori, Quine's ecessary a posteriori.

Basic epistemological problems	Objectivity → subjectivity Mind-independence → mind-dependence The sceptical challenge is thrown out of the window if we adopt postmodern/standpoint epistemology. Scepticism claims we cannot objectively know anything. Postmodernism claims everything is subjective and subjectivity is to be celebrated. Thus the rise of different historical narratives, scientific paradigms, qualitative social sciences. Naturalism: evolutionary biology		
Alternative epistemologies	Virtue Epistemology         Virtue reliabilism: knowledge is produced using reliable, truth-conducive (virtuous) epistemic processes         Virtue responsibilism: knowledge is produced using epistemically virtuous character traits, such as inquisitiveness, open-mindedness, thoroughness and tenacity         Social Epistemology         Preservationism: individual epistemology within social settings (testimony, belief)         Expansionism: group JTB, impact of institutions on collective knowledge		
	Michel Foucault: power-knowledge Jacques Derrida: deconstruction		
Philosophy of language	Ludwig Wittgenstein: private language argument, language-games Noam Chomsky: universal grammar		
	Ethics	5	
Meta-ethical			
theories	<b>Realism</b> there are moral truths/facts	Anti-Realism / Nihilism there are no moral truths/facts	
	<ul> <li>Cognitivism: moral statements are propositions</li> <li>Ethical Naturalism</li> <li>Moral Relativism</li> <li>Moral Scepticism (there may be moral truths but we can't know them)</li> </ul>	<ul> <li>Cognitivism: moral statements are propositions</li> <li>Error Theory (all moral statements are false propositions)</li> </ul>	
		<ul> <li>Non-Cognitivism: moral statements are not propositions</li> <li>Emotivism (all moral statements are not propositions, so they can't be true)</li> </ul>	
	Moral Realism		
	<ul> <li>Ethical Naturalism</li> <li>Ethics can be derived from observable properties of human nature <ul> <li>Example: utilitarianism (observe that all humans want happiness, conclude that generating happiness is good)</li> </ul> </li> <li>Problems: <ul> <li>Is-ought problem: what is the case may not ought to be the case</li> <li>Naturalistic fallacy: open question argument (good cannot be defined)</li> <li>Assumes there are moral facts, when there are only moral acts</li> <li>Assumes a universal human nature</li> </ul> </li> </ul>		
	Moral Relativism Morality is purely relative to societies and	l cultures	

	<ul> <li>Problems:         <ul> <li>Does not allow constructive analysis of ethical standards, because it denies the existence of ethical standards in the first place                 <ul></ul></li></ul></li></ul>
	<ul> <li>The relativistic proposition is itself an absolute claim, hence it is self-defeating         <ul> <li>Allows for the possibility of all societies to each subjectively arrive at the same moral principles, which makes ethics pretty much objective. (Consensus is basically objectivity.)</li> </ul> </li> </ul>
	<u>Moral Anti-Realism / Moral Nihilism</u>
	<ul> <li>Emotivism</li> <li>Offshoot of logical positivism. Ethical statements are meaningless as they are not empirically verifiable scientific propositions, but expressions of emotion.</li> <li>A. J. Ayer: "Killing is wrong." = "Boo, killing is bad!"</li> <li>Problems: <ul> <li>Not all non-scientific statements are meaningless</li> <li>Does not allow moral criticism</li> </ul> </li> </ul>
Normative	Deontology
ethical theories	1. Christian ethics (rationalist)
	Act on God's will
	Problems of Christian ethics:
	Euthyphro dilemma
	Assumes God's existence
	2. Kantian duty-based ethics (rationalist)
	<ul> <li>Categorical imperatives derived from reason</li> </ul>
	<ul> <li>Treat people as ends in themselves, not as means to an end</li> </ul>
	Problems of Kantian ethics:
	Conflicts of duty
	Being honest is good
	<ul> <li>Protecting others is good</li> <li>Lying to a murderer about the whereabouts of ene's friend in</li> </ul>
	crear to protoct him?
	<ul> <li>Claims that moral emotions (empathy, respect, etc.) are worthless, only</li> </ul>
	reason is superior
	3. Aristotle's Virtue-based Ethics (empiricist)
	<ul> <li>Eudaimonia (the good/virtuous life)</li> </ul>
	<ul> <li>An action is moral if it allows humans to flourish</li> </ul>
	Golden mean
	Problems of virtue theory:
	<ul> <li>Assumes a universal human nature with a common set of values to exist</li> </ul>
	<ul> <li>Self-centred, focuses on the betterment of the self instead of the welfare of others</li> </ul>
	<ul> <li>Virtue ethics is not action-guiding</li> </ul>
	• Virtue theory does not prescribe any moral course of action, but
	<ul> <li>instead says "do what you think helps your character to flourish"</li> <li>Depends on assessment of oneself's capacity for the virtue</li> <li>One man's courage is another man's foolhardiness, so</li> </ul>
	how to judge?

	Consequentialism / Teleology         General problem of consequentialism:         Considers acts, not values that underpin the acts. The same action can produce different results in different scenarios.         1. Utilitarianism (empiricist)         • Maximise happiness/welfare/utility         • Jeremy Bentham's felicific calculus: Σ pleasure > Σ pain         Problems of utilitarianism:         • Cannot quantify happiness         • Cannot measure long-term implications         Act utilitarianism         • Problem: every act is context-specific, impossible to generalise good acts         Rule utilitarianism         • Problem: cannot observe rules, only acts (Hume's problem of causation)
Science and morality	Sam Harris: scientific methods (e.g. evolutionary psychology) can uncover morality Stephen Jay Gould: science/facts and religion/ethics are non-overlapping magisteria
	Science
Popper and Kuhn	<ul> <li>Karl Popper (Conjectures and Refutations)</li> <li>Falsificationism: theories that can be proven false are science, theories that cannot be proven false are pseudoscience <ul> <li>Solution to the problem of demarcation (science vs. pseudoscience)</li> </ul> </li> <li>Thomas Kuhn (<i>The Structure of Scientific Revolutions</i>)</li> <li>Paradigm: framework in which normal science occurs <ul> <li>Incommensurability: theories are incommensurable if they cannot be discussed, cross-compared or cross-evaluated using a shared nomenclature</li> </ul> </li> <li>Paradigm rejection occurs when: <ul> <li>a critical mass of anomalies has arisen, causing people to distrust the existing paradigm (crisis science)</li> <li>a rival paradigm has emerged, and people flock to it (revolution)</li> </ul> </li> </ul>
Problems of scientific knowledge	<ol> <li>Veil of perception         <ul> <li>Everything is just sense-data; no real objects exist at all</li> </ul> </li> <li>Problems of induction (Hume)         <ul> <li>Cannot derive universal laws from finite observations</li> <li>Cannot predict future behaviour based on past events</li> </ul> </li> <li>Problem of causation (Hume)         <ul> <li>Causation cannot be observed, only inferred</li> </ul> </li> <li>Holism / theory-laden observation / Duhem–Quine thesis         <ul> <li>No scientific theory can be tested in isolation</li> <li>Observations alone cannot point to a particular scientific theory</li> <li>Combustion ⇒ phlogiston depletion Combustion ⇒ oxygen depletion</li> <li>Therefore abducing the most likely scientific theory requires knowledge of other scientific theories for coherence/pragmatism</li> <li>Experimenter's regress                <ul> <li>"The length of a string depends on which ruler you use."</li> <li>Reject anomalies based on theoretical predictions/expectations</li> </ul> </li> </ul></li></ol>

	b. Problem of variables
	<ul> <li>Experiment parameters are chosen based on existing theories</li> </ul>
	5. Observer effect
	The act of observation alters the result
	$\circ$ For an electron to become detectable a photon must first
	interact with it and this interaction will insuitably change the path
	of that electron
	6. Observables
	<ul> <li>What we observe may not be the case (illusion)</li> </ul>
	<ul> <li>Movie theatre surround sound: sound seems to come from the</li> </ul>
	screen (from within the movie scene), but is actually from
	speakers around the room
	7. Unobservables
	<ul> <li>We can't be certain of things that are observable, let alone things that are</li> </ul>
	neither observable nor rationally deducible
	<ul> <li>String theory, standard model, Higgs boson</li> </ul>
	Social Sciences
Methodoloaies	Positivism
2	Methods of the natural sciences are appropriate for social enquiry because <b>human</b>
	behaviour is governed by law-like regularities. Sees social science as an organised
	method for combining deductive logic with precise empirical observations of individual
	behaviour in order to discover and confirm a set of probabilistic causal laws that can be
	used to prodict general patterns of human activity
	used to predict general patterns of human activity.
	Auguste Comte: law of three stages (generalisation from observations of western society)
	Emile Durkheim: systematic, empirical study of "social facts"
	Problems of Positivism:
	Too focused on the general
	Problems of science
	• <b>Example:</b> Holism in economics. Economics may have many "laws", but
	these laws are not only rough estimations of human behaviour, but also
	contingent upon the ideology behind the particular brand of economics.
	(Capitalism / Marxism / Austrian School)
	Quantification of intangibles/immesurables
	Hawthorne effect
	<ul> <li>Ignores meaning and culture</li> </ul>
	Interpretivism / Hermeneutic Phenomenology
	Natural science methods are not appropriate for social investigation because the social
	world is not governed by law-like regularities. Hence, a social researcher has to evolution
	and understand the social world through the participante' and their own perspectives; and
	and understand the social world through the participants and their own perspectives, and
	explanations can only be offered at the level of meaning rather than cause. Sees Social
	science as the systematic analysis of socially meaningful action through the direct
	detailed observation of people in natural settings in order to arrive at understandings and
	interpretations of people create and maintain their social worlds.
	Wilhelm Dilthey / Max Weber: human sciences: verstehen, natural sciences: erklären
	Clifford Geertz: thick vs. thin descriptions of culture, rejection of ethnocentrism

	Problems of Interpretivism:
	<ul> <li>Too focused on the particular</li> </ul>
	<ul> <li>cannot (and does not aim to) provide general laws of human behaviour</li> </ul>
	too passive to catalyse social change
	too passive to catalyse social enange
	Critical Theory
	Concerned with empowering people to overcome oppressive social structures. It tends
	to be used as an umbrella term covering various more specific research movements
	drawing on theories including nee Marview and subsequently feminism social models of
	drawing on theories including neo-marxism and, subsequently, terminism, social models of
	disability, critical race theory, and queer theory.
	Karl Mary society is made up of economic classes
	Michel Feuerult neuror knowledge. Depentieen bieneuror beurreesie enpressien
	Michel Foucault: power-knowledge, Panopticon, biopower, bourgeois oppression
	Edward Said: Orientalism, the other, exocitisation/fetishisation, colonial gaze
	Simone de Beauvoir: women are othered and subjugated by patriarchal power structures
	Judith Butler: gender performativity
	Problems of Critical Theory:
	Too edgy
	<ul> <li>Interpretivism taken to the extreme</li> </ul>
	History
Historical	<u>Objective</u>
knowledge	
	Leopold von Ranke: history is the study of "how it really was"
	Problems:
	• We cannot directly observe the past, thus positivism fails.
	Impossible to record all facts
	<ul> <li>History is part fact, part story (E.H. Carr)</li> </ul>
	Subjective
	<b>E H Carr</b> : history = selection + interpretation of facts
	Havden White: history = narratives
	Everything's a story
	<ul> <li>4 Modes of Emplotment: remantic tragic comic satirical</li> </ul>
	Creat Man manamuthia parrativas
	Problems:
	<ul> <li>History has objective elements, it is not just a story.</li> </ul>
	Undermines all historical authority.
	<ul> <li>No objective facts, just stories: scepticism repackaged.</li> </ul>
	Art
What is art?	Definitions of Art
	<b>Eamily Desemblance (Wittgenstein):</b> Art is a member of a chain of family recomblances
	Family Resemblance (will genstern): Art is a member of a chain of family resemblances
	Formalism: Art is a collection of significant forms
	Expressivism: Art is the artist's emotional expression / authorial intent
	Institutionalism: Art is whatever the art world calls art

Meaning in art	The Ontology of Meaning in Art and Its Implications on Truth
	<ul> <li>Formalism: the meaning of an artwork lies in the forms it possesses</li> <li>Problems: <ul> <li>Only one correct interpretation</li> <li>Correspondent truth</li> </ul> </li> <li>Wittgenstein's private language argument <ul> <li>Audience cannot access artist's thoughts via the symbols in the artwork</li> <li>Collapses to the reader-response theory</li> </ul> </li> </ul>
	<ul> <li>Reader-response: the meaning of an artwork lies in the audience</li> <li>Problems: <ul> <li>Plurality of equally valid interpretations</li> <li>Pragmatic truth</li> </ul> </li> </ul>
	<ul> <li>Institutionalism: the meaning of an artwork is decided by the art world</li> <li>Problems: <ul> <li>Meaning is arbitrary, contingent on social epistemology</li> </ul> </li> </ul>
Neuroaesthetics	<u>V. S. Ramachandran</u> Eight Laws of Artistic Experience: scientific study of beauty <b>Problems:</b> problems of science/positivism, ignores different cultures and meanings
	Mathematics
The nature of mathematical knowledge	The Ontology of Mathematical Objects and Its Implications on Truth         physical/non-physical = occupies space / doesn't occupy space         abstract / concrete = other-worldly / this-worldly (spatiotemporal)         mind-dependent / mind-independent = in our heads / not in our heads         Realism (mathematical objects exist)         • Platonism: non-physical, abstract and mind-independent (i.e. ideal forms)         • Concrete Nominalism: there are no abstract objects, mathematical objects exist, thus mathematical objects exist and are concrete         • Psychologism: non-physical, concrete and mind-dependent         • Psychologism: non-physical, concrete and mind-dependent         • Physicalism: physical, concrete and mind-independent (i.e. ordinary physical objects)         Agnostic Realism (mathematical objects may exist)         • Paraphrase Nominalism: there are no abstract objects, and if mathematical objects exist, then mathematical statements are true         Anti-Realism (mathematical objects do not exist)         • Fictionalism: all maths is false because there are no mathematical objects don't exist (there are no abstract objects, and mathematical objects don't exist (there are no abstract objects, and mathematical objects don't exist (there are no abstract objects, and mathematical objects don't exist (there are no abstract objects, and mathematical objects are abstract, thus there are no mathematical objects)
The construction of mathematical knowledge	Image: The Practice of Mathematics         Logicism (Leibniz, Frege, Russell): Maths can be reduced to logic.         Problems:

	<ul> <li>synthetic a priori (e.g. angles in a triangle sum to 180°)</li> <li>Russell's paradox, Gödel's incompleteness theorems.</li> </ul>		
	<b>Intuitionism (Brouwer):</b> All of maths is invented by humans using their intuition. Intuitionism is a type of constructivism. Intuitionists only accept constructive proofs. Intuitionists reject the law of the excluded middle and thus reject non-constructive proofs, such as proof by contradiction.		
	Formalism (Hilbert): Maths is just a game of symbols; operations are just game rules.		
Famous arguments in the philosophy of mathematics	<u>Quine–Putnam Indispensability Argument (for realism)</u> If mathematics is purely rational, why is it so indispensable to science? Why can mathematics describe the world so well? It seems that mathematical objects do correspond to reality. Thus, mathematics empirical, which implies realism.		
	<b>Benacerraf's Epistemological Problem (against Platonism)</b> Benacerraf assumes Goldman's externalist theories of justification. Under causal theory or reliabilism, there cannot be any causal or reliable chain of justification between concrete humans and abstract mathematical objects. Thus, humans cannot have mathematical knowledge.		
Problems of mathematics	Non-Euclidean Geometries Riemannian / Elliptic Geometry: the sum of all interior angles in a triangle exceeds 180° Hyperbolic Geometry: the sum of all interior angles in a triangle is less than 180°		
	<b>Russell's Paradox</b> Let S be the set of all sets that are not elements of themselves. Thus, S = (X + X + Y)		
	Case 1: $S \in S$ $S \in S \Rightarrow S \in \{X : X \notin X\}$ $\therefore S \notin S \cong$		
	Case 2: $S \notin S$ $S \notin S \Longrightarrow S \notin \{X : X \notin X\}$ $\therefore S \notin S \bigotimes$		
	Defeats Cantor's naive set theory, prompting the creation of Zermelo–Fraenkel set theory.		
	<b>Axiom of Choice and the Continuum Hypothesis</b> Both the axiom of choice and the continuum hypothesis are independent of the standard axioms of Zermelo–Fraenkel set theory (Cohen, 1963).		
	<ul> <li>Only with the axiom of choice can we prove:</li> <li>The law of the excluded middle in constructive set theory</li> <li>That a union of countably many countable sets is itself countable</li> <li>That the continuum hypothesis is equivalent to 2<sup> ℕ </sup> =  ℝ  = 2<sup>ℕ</sup> = ℵ<sub>1</sub></li> <li>That every surjection has a right inverse</li> <li>That every infinite set has a countable subset</li> </ul> Gödel's incompleteness theorems <ol> <li>Any Peano-arithmetic consistent axiomatic system contains propositions that can neither be proved nor disproved within itself.</li> </ol>		
	2. No Peano-arithmetic consistent axiomatic system can prove its own consistency.		

## **Fancy Quotes for KI**

Basic	je pense, donc je suis / cogito ergo sum
Epistemology	René Descartes
	Discourse on the Method
	Bishon George Berkeley
	A Treatise Concerning the Principles of Human Knowledge
	I refute it thus!
	Samuel Johnson upon kicking a stone in rebuttal against Berkeley Life of Samuel Johnson by James Boswell
	[the attainability of objective knowledge (the view from nowhere)] makes sense only in terms of an epistemology that is significantly rationalist
	Thomas Nagel
	The View From Nowhere
Science	Science must begin with myths, and with the criticism of myths.
	Karl Popper Conjectures and Refutations
	the proponents of competing paradigms practice their trades in different worlds Thomas Kuhn
	The Structure of Scientific Revolutions
History	wie es eigentlich gewesen
	Leopold von Ranke
Social Sciences	erklären, verstehen
	Johann Gustav Droysen, Wilhelm Dilthey
	Grunariss der Historik
	multiplicity of complex conceptual structures
	transient examples of shaped behavior
	creative power of aroused masculinity, destructive power of loosened animality
	Clifford Geertz The Interpretation of Cultures