

1: Falsifiability - Wikipedia

*Karl Popper (Arguments of the Philosophers) [Anthony O'Hear] on www.enganchecubano.com *FREE* shipping on qualifying offers. Shelf wear to dust jacket, page edges tanned. Shipped from the U.K.*

Personal life[edit] Family and training[edit] Karl Popper was born in Vienna then in Austria-Hungary in to upper-middle-class parents. Continuing to attend university as a guest student, he started an apprenticeship as a cabinetmaker, which he completed as a journeyman. He was dreaming at that time of starting a daycare facility for children, for which he assumed the ability to make furniture might be useful. In , he did his maturation by way of a second chance education and finally joined the University as an ordinary student. He completed his examination as an elementary teacher in and started working at an after-school care club for socially endangered children. Around that time he started courting Josefine Anna Henninger, who later became his wife. He married his colleague Josefine Anna Henninger in . Fearing the rise of Nazism and the threat of the Anschluss , he started to use the evenings and the nights to write his first book *Die beiden Grundprobleme der Erkenntnistheorie* *The Two Fundamental Problems of the Theory of Knowledge*. He needed to publish one to get some academic position in a country that was safe for people of Jewish descent. However, he ended up not publishing the two-volume work, but a condensed version of it with some new material, *Logik der Forschung* *The Logic of Scientific Discovery* , in . Here, he criticised psychologism , naturalism , inductivism , and logical positivism , and put forth his theory of potential falsifiability as the criterion demarcating science from non-science. In and , he took unpaid leave to go to the United Kingdom for a study visit. In , after the Second World War , he moved to the United Kingdom to become reader in logic and scientific method at the London School of Economics. Three years later, in , he was appointed professor of logic and scientific method at the University of London. Popper was president of the Aristotelian Society from to . He retired from academic life in , though he remained intellectually active for the rest of his life. In , he returned to Austria so that his wife could have her relatives around her during the last months of her life; she died in November that year. After the Ludwig Boltzmann Gesellschaft failed to establish him as the director of a newly founded branch researching the philosophy of science, he went back again to the United Kingdom in , settling in Kenley , Surrey. Popper and his wife had chosen not to have children because of the circumstances of war in the early years of their marriage. Popper commented that this "was perhaps a cowardly but in a way a right decision". In , he was the first awarded with the Prize International Catalonia for "his work to develop cultural, scientific and human values all around the world". He had at one point joined a socialist association, and for a few months in considered himself a communist. He came to realise that when it came to sacrificing human lives, one was to think and act with extreme prudence. The failure of democratic parties to prevent fascism from taking over Austrian politics in the s and s traumatised Popper. He suffered from the direct consequences of this failure, since events after the Anschluss , the annexation of Austria by the German Reich in , forced him into permanent exile. His most important works in the field of social science – *The Poverty of Historicism* and *The Open Society and Its Enemies* – were inspired by his reflection on the events of his time and represented, in a sense, a reaction to the prevalent totalitarian ideologies that then dominated Central European politics. His books defended democratic liberalism as a social and political philosophy. They also represented extensive critiques of the philosophical presuppositions underpinning all forms of totalitarianism. In contrast he thought that nothing could, even in principle, falsify psychoanalytic theories. He thus came to the conclusion that they had more in common with primitive myths than with genuine science. Psychoanalytical theories were crafted in a way that made them able to refute any criticism and to give an explanation for every possible form of human behaviour. The nature of such theories made it impossible for any criticism or experiment – even in principle – to show them to be false. He considered that if a theory cannot, in principle, be falsified by criticism, it is not a scientific theory. Concerning the method of science, the term indicates his rejection of classical empiricism , and the classical observationalist-inductivist account of science that had grown out of it. Popper argued strongly against the latter, holding that scientific theories are abstract in nature, and can be tested only indirectly, by reference to their implications. He also held that

scientific theory, and human knowledge generally, is irreducibly conjectural or hypothetical, and is generated by the creative imagination to solve problems that have arisen in specific historico-cultural settings. Logically, no number of positive outcomes at the level of experimental testing can confirm a scientific theory, but a single counterexample is logically decisive; it shows the theory, from which the implication is derived, to be false. To say that a given statement e . Rather, it means that, if "T" is false, then in principle, "T" could be shown to be false, by observation or by experiment. It also inspired him to take falsifiability as his criterion of demarcation between what is, and is not, genuinely scientific: This led him to attack the claims of both psychoanalysis and contemporary Marxism to scientific status, on the basis that their theories are not falsifiable. Popper also wrote extensively against the famous Copenhagen interpretation of quantum mechanics. In *All Life is Problem Solving*, Popper sought to explain the apparent progress of scientific knowledge—that is, how it is that our understanding of the universe seems to improve over time. This problem arises from his position that the truth content of our theories, even the best of them, cannot be verified by scientific testing, but can only be falsified. Again, in this context the word "falsified" does not refer to something being "fake"; rather, that something can be i . Some things simply do not lend themselves to being shown to be false, and therefore, are not falsifiable. If so, then how is it that the growth of science appears to result in a growth in knowledge?

2: Sir Karl Popper () | Issue 88 | Philosophy Now

Karl Popper is generally regarded as one of the greatest philosophers of science of the 20th century. He was also a social and political philosopher of considerable stature, a self-professed critical-rationalist, a dedicated opponent of all forms of scepticism, conventionalism, and relativism in science and in human affairs generally and a committed advocate and staunch defender of the 'Open.

Libertarian Alliance; Nicholas Dykes. Nicholas Dykes is a British-Canadian writer currently living in England. Married, with two children, he is the author of *Fed up with Government?* The views expressed in this publication are those of its author, and not necessarily those of the Libertarian Alliance, its Committee, Advisory Council or subscribers. Author of several ground-breaking and highly influential books, and of hundreds of articles; winner of many rare prizes and other honours, such as a British knighthood; and founder of two new schools of thought, Critical Rationalism and Evolutionary Epistemology: Indeed, he called criticism "the lifeblood of all rational thought" [PKP2]³ and, as his obituarists implied, it was towards science, and the logic of science, that his critical powers were chiefly directed. In his magnum opus, *The Open Society and its Enemies*, he wrote: This means, however, that science proceeds on the assumption that contradictions are impermissible and avoidable It is thus surprising to discover that Popper himself hardly lived up to this ideal of non contradiction. Acknowledgements Before beginning, the author would like to express his sincere thanks to David Conway, Anthony Flew, David Kelley, Tibor Machan and David Miller for valuable observations or criticisms which led to the reworking of many passages; to Kevin McFarlane and Brian Micklethwait for encouragement and practical help; and to The Estate of Karl Popper for kind permission to reproduce copyright material. Peirce, who actually coined it long before Popper began his career. The actual method of science, Popper maintained, is a continuous process of conjecture and refutation: These conjectures are controlled by criticism; that is, by attempted refutations, which include severely critical tests. They may survive these tests; but they can never be positively justified: Elsewhere, Popper put the matter more succinctly: He stated that for scientific knowledge to be considered knowledge it had to be refutable: It follows that we can never attain certainty: No scientific theory is sacrosanct They are impossible to attain and therefore dangerously misleading He summed up with an oft-repeated aphorism: Accordingly, Popper refused to grant any philosophical value to definitions: Although he held these positions all his working life, Popper did acknowledge that they were open to criticism: What really took place, according to Popper, was CR, knowledge advancing by means of conjecture and refutation: Hume, said Popper, had shown that: Elsewhere he referred to induction as "a myth" which had been "exploded" by Hume [UNQ 80]. He further asserted that "There is no rule of inductive inference - inference leading to theories or universal laws - ever proposed which can be taken seriously even for a minute" [UNQ ; see also RASC 31]. The problem of induction would indeed vanish if there were no such thing as induction. However, the issue would be resolved much more positively were it to turn out that Hume had been wrong, and that there never had been any problem with induction in the first place. And, in point of fact, this is the case. Despite his great skill as a thinker and writer, Hume missed the point. Induction does not depend for its validity on observation, but on the Law of Identity. Hume stated, in essence, that since all ideas are derived from experience we cannot have any valid ideas about future events - which have yet to be experienced. He therefore denied that the past can give us any information about the future. He further denied that there is any necessary connection between cause and effect. We experience only repeated instances, we cannot experience any "power" that actually causes events to take place. Events are entirely "loose and separate The expectation that the thorn will produce red berries, and the thistles purple flowers, is merely the result of "regular conjunction" which induces an "inference of the understanding. Left standing, they lead to what he himself called "the flattest of all contradictions, viz. Joseph in *An Introduction to Logic*: To assert a causal connexion between a and x implies that a acts as it does because it is what it is; because, in fact, it is a. So long therefore as it is a, it must act thus; and to assert that it may act otherwise on a subsequent occasion is to assert that what is a is something else than the a which it is declared to be. It is not possible to exist without being something, and a thing can only

be what it is: Any actions of that thing form part of its identity: It is not necessary to prolong this discussion. By careful observation - free from preconception - we are able to discover the identities of the entities we observe. Thereafter, we are fully entitled to assume that like entities will cause like events, the form of inference we call induction. And, because it rests on the axiom of the Law of Identity, correct induction - free from contradiction - is a valid route to knowledge. The first premise of CR is therefore false. The grain lies in the precision of our knowledge of future events. Hume denied all knowledge of the future because we can have no experience of it. As we have seen, this is not true, it overlooks the Law of Identity. What is true, is that our prediction of events is limited by the unforeseeable. For, no matter how sound our judgement nor wide our experience, we cannot possibly have complete, certain and absolute knowledge of future events. We are not omniscient: Further, new information about old subjects continuously comes to light and, over time, things can evolve or change. Nonetheless, armed with the Law of Identity, there is no reason to allow the unforeseeable to turn us into sceptics. The universe is not a series of "loose and separate events" any more than time is a series of discrete, unrelated segments of duration. It should also be noted that, in fact, all knowledge of entities, and all knowledge of language, is acquired inductively. If it were true that induction is a myth, then all knowledge of external reality, all language, and all human thought - which depends on knowledge of reality and on language - would be myths as well, including, of course, CR. Where he was wrong is that he did not see that we rarely succeed with our imposition" [OKN 68n31; c. It fails to take account of the fact that the alleged data are In this short paper, there is room only for a single objection. Namely, if it is true that our senses are pre-programmed; if it is true that "there is no sense organ in which anticipatory theories are not genetically incorporated" [OKN 72]; then what flows into our minds is determined and what flows out of them is subjective. If our senses are not neutral, if they organise incoming data using pre-set theories built into them by evolution, then they do not provide us with unalloyed information, but only with prescriptions, the content of which is determined by our genetic make up. Whatever is thereafter produced inside our heads - cut off as it is from any objective contact with reality - must be subjective. According to his own view of his contact with reality, he would not be able to verify the relevance of CR to anybody else. Solipsism looms, yes, but that is a natural consequence of all theories of determinism. For if thought, or the basis of thought, is determined; whether by social class, or the subconscious, or whatever determinant is preferred; then the deterministic theory itself must be determined, according to the theory, and can only be relevant to the person who expounds it. Everybody else is determined by their class, subconscious, genes, material substrate, environment, or whatever it is that is supposed to do the determining. Hume and Kant - who claim that we can only have knowledge of our own sense impressions. If sense data are all we can know, solipsism is the inevitable result: Rather, again following Kant perhaps, he thought the basis for objectivity lay elsewhere: He later restated this slightly differently: Unfortunately, these assertions do not bear the weight placed upon them. The defective logic could hardly be more clear. If senses are subjective individually they are subjective collectively. Knowledge, for most people - and for most scientists - is something which it is possible to be sure of, to justify, to validate, to prove; in other words, to know. Conjecture, on the other hand, is by definition not knowledge. According to Chambers English Dictionary, a conjecture is "an opinion formed on slight or defective evidence or none: Since one cannot define an idea by means of other ideas which are contrary to it, it is clearly illegitimate to place knowledge in the same category as conjecture. More pointedly, the proposition "all knowledge remains conjectural" is a contradiction in terms. Universal and affirmative, it states that "All knowledge remains conjectural" - which is a claim to knowledge. The proposition thus asserts what it denies and is self-contradictory on a second count. When the horse did come first, its win became an item of knowledge. There is little conjectural about the words of a language: Similarly, in all his philosophical and scientific work Popper depended on a broad range of core concepts - evolution, energy, light, atom, mass, force, etc - all of which are normally recognised as unalterable brute facts, not as conjectures. The subtitle of his book by that name is *The Growth of Scientific Knowledge*. A legitimate response to this assertion is: It may well be true that conjectures and refutations play a role in the growth of knowledge, but they could hardly do this without some knowledge to work on. The growth of knowledge via conjecture and refutation presupposes pre-existing knowledge, not pre-existing conjectures. CR

is supposed to replace our commonsense idea of inductively-acquired knowledge with a more accurate one of a continuous process of conjecture and refutation. But that process would be meaningless without something for the process to process, and that something is knowledge, not conjecture. At 11am on 5 May in western England the sun is shining. They are demonstrable to any sane person; either ostensibly, or through the presentation of evidence beyond reasonable doubt, via simple common sense, or by means of logic. They constitute knowledge, not conjecture. Briefly stated, the method urges us to conjecture, then to subject the resultant theory to severely critical tests. If it survives those tests, we are permitted to grant the theory a degree of verisimilitude, the more stringent the tests, the higher the degree. The conjecture or theory to be tested - and Popper said the bolder the better - would presumably be selected by the tester. But no criterion for selection is given.

3: Falsifiability - Karl Popper's Basic Scientific Principle

Sir Karl Raimund Popper CH FBA FRS (28 July - 17 September) was an Austrian-British philosopher and professor.. Generally regarded as one of the 20th century's greatest philosophers of science, Popper is known for his rejection of the classical inductivist views on the scientific method in favour of empirical falsification.

Life Karl Raimund Popper was born on 28 July in Vienna, which at that time could make some claim to be the cultural epicentre of the western world. His father was a lawyer by profession, but he also took a keen interest in the classics and in philosophy, and communicated to his son an interest in social and political issues which he was to never lose. His mother inculcated in him such a passion for music that for a time he seriously contemplated taking it up as a career, and indeed he initially chose the history of music as a second subject for his Ph. The young Karl attended the local Realgymnasium, where he was unhappy with the standards of the teaching, and, after an illness which kept him at home for a number of months, he left to attend the University of Vienna in . However, he did not formally enroll at the University by taking the matriculation examination for another four years. In that year he became heavily involved in left-wing politics, joined the Association of Socialist School Students, and became for a time a Marxist. However, he was quickly disillusioned with the doctrinaire character of the latter, and soon abandoned it entirely. The dominance of the critical spirit in Einstein, and its total absence in Marx, Freud and Adler, struck Popper as being of fundamental importance: Popper had a rather melancholic personality and took some time to settle on a career; he trained as a cabinetmaker, obtained a primary school teaching diploma in and qualified to teach mathematics and physics in secondary school in . At an early stage of their marriage they decided that they would never have children, a decision which Popper was able to look back on in later life with apparent equanimity. In Popper took up a position teaching philosophy at the University of Canterbury in New Zealand, where he was to remain for the duration of the Second World War, though he had a rather tense relationship with his head of department. The annexation of Austria in became the catalyst which prompted Popper to refocus his writings on social and political philosophy and he published *The Open Society and Its Enemies*, his critique of totalitarianism, in . In he moved to England to teach at the London School of Economics, and became professor of logic and scientific method at the University of London in . From this point on his reputation and stature as a philosopher of science and social thinker grew enormously, and he continued to write prolificallyâ€”a number of his works, particularly *The Logic of Scientific Discovery* , are now widely seen as pioneering classics in the field. However, he combined a combative personality with a zeal for self-aggrandisement that did little to endear him to professional colleagues at a personal level. He was ill-at-ease in the philosophical milieu of post-war Britain which was, as he saw it, fixated with trivial linguistic concerns dictated by Wittgenstein, whom he considered to be his nemesis. Popper was a somewhat paradoxical man, whose theoretic commitment to the primacy of rational criticism was counterpointed by hostility towards anything that amounted to less than total acceptance of his own thought, and in Britainâ€”as had been the case in Viennaâ€”he became increasingly an isolated figure, though his ideas continued to inspire admiration. In later years Popper came under philosophical criticism for his prescriptive approach to science and his emphasis on the logic of falsification. This was superseded in the eyes of many by the socio-historical approach taken by Thomas Kuhn in *The Structure of Scientific Revolutions* , whoâ€”in arguing for the incommensurability of rival scientific paradigmsâ€”reintroduced the idea that change in science is essentially dialectical and is dependent upon the establishment of consensus within communities of researchers. Popper was knighted in , and retired from the University of London in , though he remained active as a writer, broadcaster and lecturer until his death in . In the first place, his teenage flirtation with Marxism left him thoroughly familiar with the Marxist view of economics, class-war, and history. Secondly, he was appalled by the failure of the democratic parties to stem the rising tide of fascism in his native Austria in the s and s, and the effective welcome extended to it by the Marxists. The latter acted on the ideological grounds that it constituted what they believed to be a necessary dialectical step towards the implosion of capitalism and the ultimate revolutionary victory of communism. This was one factor which led to the much feared Anschluss, the annexation of Austria by the German Reich,

the anticipation of which forced Popper into permanent exile from his native country. *The Poverty of Historicism* and *The Open Society and Its Enemies*, his most impassioned and brilliant social works, are as a consequence a powerful defence of democratic liberalism as a social and political philosophy, and a devastating critique of the principal philosophical presuppositions underpinning all forms of totalitarianism. These latter, Popper came to feel, have more in common with primitive myths than with genuine science. That is to say, he saw that what is apparently the chief source of strength of psychoanalysis, and the principal basis on which its claim to scientific status is grounded, viz. Psychoanalytic theories by their nature are insufficiently precise to have negative implications, and so are immunised from experiential falsification. The Marxist account of history too, Popper held, is not scientific, although it differs in certain crucial respects from psychoanalysis. For Marxism, Popper believed, had been initially scientific, in that Marx had postulated a theory which was genuinely predictive. However, when these predictions were not in fact borne out, the theory was saved from falsification by the addition of ad hoc hypotheses which made it compatible with the facts. By this means, Popper asserted, a theory which was initially genuinely scientific degenerated into pseudo-scientific dogma. These factors combined to make Popper take falsifiability as his criterion for demarcating science from non-science: For Popper, however, to assert that a theory is unscientific, is not necessarily to hold that it is unenlightening, still less that it is meaningless, for it sometimes happens that a theory which is unscientific because it is unfalsifiable at a given time may become falsifiable, and thus scientific, with the development of technology, or with the further articulation and refinement of the theory. Further, even purely mythogenic explanations have performed a valuable function in the past in expediting our understanding of the nature of reality. *The Problem of Demarcation* As Popper represents it, the central problem in the philosophy of science is that of demarcation, i. Popper is unusual amongst contemporary philosophers in that he accepts the validity of the Humean critique of induction, and indeed, goes beyond it in arguing that induction is never actually used in science. In this way he destabilises the traditional view that science can be distinguished from non-science on the basis of its inductive methodology; in contradistinction to this, Popper holds that there is no unique methodology specific to science. Science, like virtually every other human, and indeed organic, activity, Popper believes, consists largely of problem-solving. Popper accordingly repudiates induction and rejects the view that it is the characteristic method of scientific investigation and inference, substituting falsifiability in its place. For Popper, a theory is scientific only if it is refutable by a conceivable event. Every genuine test of a scientific theory, then, is logically an attempt to refute or to falsify it, and one genuine counter-instance falsifies the whole theory. As such it can be tested and falsified, but never logically verified. Thus Popper stresses that it should not be inferred from the fact that a theory has withstood the most rigorous testing, for however long a period of time, that it has been verified; rather we should recognise that such a theory has received a high measure of corroboration. Popper has always drawn a clear distinction between the logic of falsifiability and its applied methodology. The logic of his theory is utterly simple: Logically speaking, a scientific law is conclusively falsifiable although it is not conclusively verifiable. Methodologically, however, the situation is much more complex: Thus, while advocating falsifiability as the criterion of demarcation for science, Popper explicitly allows for the fact that in practice a single conflicting or counter-instance is never sufficient methodologically to falsify a theory, and that scientific theories are often retained even though much of the available evidence conflicts with them, or is anomalous with respect to them. Scientific theories may, and do, arise genetically in many different ways, and the manner in which a particular scientist comes to formulate a particular theory may be of biographical interest, but it is of no consequence as far as the philosophy of science is concerned. On this criterion of demarcation physics, chemistry, and non-introspective psychology, amongst others, are sciences, psychoanalysis is a pre-science i. *The Growth of Human Knowledge* For Popper accordingly, the growth of human knowledge proceeds from our problems and from our attempts to solve them. These attempts involve the formulation of theories which, if they are to explain anomalies which exist with respect to earlier theories, must go beyond existing knowledge and therefore require a leap of the imagination. For this reason, Popper places special emphasis on the role played by the independent creative imagination in the formulation of theory. In this deductive procedure conclusions are inferred from a tentative hypothesis. These conclusions are

then compared with one another and with other relevant statements to determine whether they falsify or corroborate the hypothesis. How then does the deductive procedure work? Popper specifies four steps *Logic of Scientific Discovery*, 1. In performing this step the scientist makes the logical form of the theory explicit. Failure to do this can lead to category-mistakes – the scientist ends up asking the wrong questions, and searches for empirical data where none are available. Most scientific theories contain analytic *i*. If it does not constitute such an advance, it will not be adopted. If, on the other hand, its explanatory success matches that of the existing theories, and additionally, it explains some hitherto anomalous phenomenon, or solves some hitherto unsolvable problems, it will be deemed to constitute an advance upon the existing theories, and will be adopted. Thus science involves theoretical progress. However, Popper stresses that we ascertain whether one theory is better than another by deductively testing both theories, rather than by induction. For this reason, he argues that a theory is deemed to be better than another if while unfalsified it has greater empirical content, and therefore greater predictive power than its rival. This elucidates the nature of science as Popper sees it: The latter will consequently be provisionally adopted. If such conclusions are shown to be true, the theory is corroborated but never verified. If the conclusion is shown to be false, then this is taken as a signal that the theory cannot be completely correct logically the theory is falsified, and the scientist begins his quest for a better theory. He does not, however, abandon the present theory until such time as he has a better one to substitute for it. More precisely, the method of theory-testing is as follows: From amongst the latter the scientist next selects those which are not derivable from the current or existing theory – of particular importance are those which contradict the current or existing theory. He then seeks a decision as regards these and other derived statements by comparing them with the results of practical applications and experimentation. If the new predictions are borne out, then the new theory is corroborated and the old one falsified, and is adopted as a working hypothesis. If the predictions are not borne out, then they falsify the theory from which they are derived. Thus Popper retains an element of empiricism: But unlike traditional empiricists, Popper holds that experience cannot determine theory *i*. Moreover, Popper also rejects the empiricist doctrine that empirical observations are, or can be, infallible, in view of the fact that they are themselves theory-laden. Popper eliminates the contradiction by rejecting the first of these principles and removing the demand for empirical verification in favour of empirical falsification in the second. Scientific theories, for him, are not inductively inferred from experience, nor is scientific experimentation carried out with a view to verifying or finally establishing the truth of theories; rather, all knowledge is provisional, conjectural, hypothetical – we can never finally prove our scientific theories, we can merely provisionally confirm or conclusively refute them; hence at any given time we have to choose between the potentially infinite number of theories which will explain the set of phenomena under investigation. Faced with this choice, we can only eliminate those theories which are demonstrably false, and rationally choose between the remaining, unfalsified theories. For it is only by critical thought that we can eliminate false theories, and determine which of the remaining theories is the best available one, in the sense of possessing the highest level of explanatory force and predictive power. It is precisely this kind of critical thinking which is conspicuous by its absence in contemporary Marxism and in psychoanalysis. Probability, Knowledge and Verisimilitude In the view of many social scientists, the more probable a theory is, the better it is, and if we have to choose between two theories which are equally strong in terms of their explanatory power, and differ only in that one is probable and the other is improbable, then we should choose the former. But if this is true, Popper argues, then, paradoxical as it may sound, the more improbable a theory is the better it is scientifically, because the probability and informative content of a theory vary inversely – the higher the informative content of a theory the lower will be its probability, for the more information a statement contains, the greater will be the number of ways in which it may turn out to be false. Thus the statements which are of special interest to the scientist are those with a high informative content and consequentially a low probability, which nevertheless come close to the truth. Informative content, which is in inverse proportion to probability, is in direct proportion to testability. Consequently the severity of the test to which a theory can be subjected, and by means of which it is falsified or corroborated, is all-important. For Popper, all scientific criticism must be piecemeal, *i*. More precisely, while attempting to resolve a particular problem a scientist of necessity accepts all kinds of things as

unproblematic. However, he stresses that the background knowledge is not knowledge in the sense of being conclusively established; it may be challenged at any time, especially if it is suspected that its uncritical acceptance may be responsible for difficulties which are subsequently encountered. Nevertheless, it is clearly not possible to question both the theory and the background knowledge at the same time. How then can one be certain that one is questioning the right thing? The Popperian answer is that we cannot have absolute certainty here, but repeated tests usually show where the trouble lies. Even observation statements, Popper maintains, are fallible, and science in his view is not a quest for certain knowledge, but an evolutionary process in which hypotheses or conjectures are imaginatively proposed and tested in order to explain facts or to solve problems. Popper emphasises both the importance of questioning the background knowledge when the need arises, and the significance of the fact that observation-statements are theory-laden, and hence fallible. For while falsifiability is simple as a logical principle, in practice it is exceedingly complicated—no single observation can ever be taken to falsify a theory, for there is always the possibility a that the observation itself is mistaken, or b that the assumed background knowledge is faulty or defective. Popper was initially uneasy with the concept of truth, and in his earliest writings he avoided asserting that a theory which is corroborated is true—for clearly if every theory is an open-ended hypothesis, as he maintains, then ipso facto it has to be at least potentially false.

4: Karl Popper's Paradox of Tolerance Requires We Be Intolerant of Intolerance

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Popper, building upon the doubts expressed in the eighteenth century by David Hume, rejected the possibility of proof in the empirical sciences. While a scientific law could be formulated and tested through laboratory experiment and observations of the real world, no set of observations could exhaustively establish that the law held for all time and all space. It is impossible, for example, directly to observe occasions in the past when the law should have been in operation, or occasions in the future. Popper therefore argued that science proceeds, not by proving its hypotheses or explanations to be true, but by proving them to be false. The task of science is to formulate an explanation of phenomena and typically phenomena that do not behave according to our preexisting expectations of that behaviour. A good explanation will be such that it will entail certain predictions about future events, and that these events are observable. Galileo hypothesised that the mass of an object will not influence the velocity with which it falls to the ground. The explanation is then tested by observing whether the predicted events take place or not. Galileo allegedly dropped two cannon balls of different mass simultaneously from the top of the Tower at Pisa. If the predicted events do occur, then the theory is corroborated which is to say, that it can be accepted, for the moment, as if it were true. If they do not occur, then the theory is refuted. It has been proven to be false, and must be replaced by a better theory. Theories are continually under test, and as more or perhaps more subtle observations become possible, even a well corroborated theory may eventually prove to be false. Popper uses this argument to distinguish between science and pseudo-science. Pseudoscience is such that it refuses to generate empirically testable predictions, or refuses to accept refutation of a theory when it occurs. For Popper both psychoanalysis and Marxism are pseudo-sciences. Science therefore thrives only when there is a continual testing of accepted theories. Any member of the society must be free to criticise any policy proposal, and there must be a real possibility of new ideas being put into practice and thus subject to empirical testing. For Popper such democratic openness is a precondition for economic growth. Open societies are economically more efficient than closed ones. World 1 consists of objective and material reality and thus physical things, animate and inanimate, in the environment. World 2 is composed of subjective, mental phenomena thoughts, emotions, feelings. World 3 is both objective and mental. It is composed of the cultural products of human minds that gain an autonomy from any individual mind. Language, law, religion, art, science, ethics, the institutions of government and education are all examples of entities within World 3. One implication of this account is that while World 3 is a creation of the human mind, it is capable of having consequences and properties that are unintended by the creator. Popper gives the example of mathematics. The sequence of natural numbers is a human construction, yet, once this sequence exists, facts about it can be discovered, such as the difference between odd and even numbers or the properties of prime numbers. That these properties require discovery demonstrates the objectivity in the sense of its autonomy from its creator of World 3.

5: Karl Popper - Wikipedia

Karl Popper: Philosophy of Science. Karl Popper () was one of the most influential philosophers of science of the 20th century. He made significant contributions to debates concerning general scientific methodology and theory choice, the demarcation of science from non-science, the nature of probability and quantum mechanics, and the methodology of the social sciences.

Overview[edit] The classical view of the philosophy of science is that it is the goal of science to prove hypotheses like "All swans are white" or to induce them from observational data. As observed by David Hume , Immanuel Kant and later by Popper and others, this method is clearly deductively invalid, since it is always possible that there may be a non-white swan that has eluded observation [6] and, in fact, the discovery of the Australian black swan demonstrated the deductive invalidity of this particular statement. This is known as the problem of induction. One solution to the problem of induction, proposed by Immanuel Kant in Critique of Pure Reason , is to consider as valid absolutely a priori the conclusions that we would otherwise have drawn from these dubious inferential inductions. Falsificationism thus strives for questioning, for falsification, of hypotheses instead of proving them or trying to view them as valid in any way. For a statement to be questioned using observation, it needs to be at least theoretically possible that it can come into conflict with observation. A key observation of falsificationism is thus that a criterion of demarcation is needed to distinguish those statements that can come into conflict with observation and those that cannot, but the criterion itself concerns only the logical form of the theory: I shall require that [the] logical form [of the theory] shall be such that it can be singled out, by means of empirical tests, in a negative sense: This logical form informally implies the possibility of refutations by experience because, in its informal methodological context, a basic statement must be intersubjective and interpretable in terms of observations. Objections can be raised against falsifiability as a criterion of demarcation similar to those which can be raised against verifiability. For example, as pointed out by many [11] and reformulated by Colin McGinn, [w]e have to be able to infer that if a falsifying result has been found in a given experiment it will be found in future experiments; My proposal is based upon an asymmetry between verifiability and falsifiability; an asymmetry which results from the logical form of universal statements. For these are never derivable from singular statements, but can be contradicted by singular statements. Moreover, this singular existential statement is empirical: This shows the fundamental difference between verifiability and falsifiability. Also, in the logical form of the theory, there is no notion of future experiments, but only a formal class of basic statements that contradict it. For example, while "all men are mortal" is unfalsifiable, it is a logical consequence of the falsifiable theory that "all men die years after their birth at the latest". Popper invented the notion of metaphysical research programs to name such unfalsifiable ideas that guide the search for a new theory. At the logical level, scientists use deductive logic to attempt to falsify theories. At the non-logical level, they decide on some criteria, which use falsification and other factors, to pick which theories they will study, improve, replace, apply or further test. These other criteria may take into account a metaphysical research program. They are not considered in the formal falsifiability criterion, but they can give a meaning to this criterion. Needless to say, for Popper, these other criteria, the so called rules of the game, are necessary. In contrast to Positivism , which held that statements are meaningless if they cannot be verified or falsified, Popper claimed that falsifiability is merely a special case of the more general notion of critical rationalism , [19] even though he admitted that empirical refutation is one of the most effective methods by which theories can be criticized. Criticizability, in contrast to falsifiability, and thus rationality, may be comprehensive i. Definition[edit] For Popper and others in any scientific discussion we accept a background knowledge. It remains to define what kind of statements create theories and what are basic statements. Scientific theories are a particular kind of universal statements. Theories have the form of strictly universal statements. Existential and universal statements are built-in concepts in logic. The first are statements such as "there is a white swan". Logicians call these statements existential statements , since they assert the existence of something. They are equivalent to a first-order logic statement of the form: There exists an x such that x is a swan, and x is white. The second

are statements that categorize all instances of something, such as "all swans are white". Logicians call these statements universal. They are usually parsed in the form: For all x , if x is a swan, then x is white. Unlike existential and universal statements, singular and strict statements are not built-in concepts in logic, because they correspond to a specific perspective on our experience of the world. In these examples individual concepts or names appear to be characterized either by being proper names, or by having to be defined by means of proper names, whilst universal concepts or names can be defined without the use of proper names. So, a law of nature cannot refer to particular things. The sentence "This apple is attracted by the planet earth" is not a scientific statement. Popper wrote an entire section on strictly universal and strictly existential statements, [26] because he considers the distinction between universal and individual concepts or names to be of fundamental importance. The sentence "There exists a black swan" is not a basic statement, but the statement "There is a black swan on the shore of the Swan River" is a basic statement, it is a singular existential statement. Popper arrived at these conditions through an analysis of what one expects from basic statements. They should not be confused with the logical rules of inferences used to define falsifiability, which is about the logical form of the theory. To support falsification, Popper requires that a class of basic statements corroborate a falsifying hypothesis. Though it corresponds to the empirical notion of reproducible experiments, this requirement exists entirely at the formal level [12] and must be complemented by methodological rules in a falsification process. Sophisticated methodological falsification, on the other hand, is a prescription of a way in which scientists ought to behave as a matter of choice. The object of this is to arrive at an incremental process whereby theories become less bad. Scientific theories are formed from groups of these sorts of statements, and it is these groups that must be accepted or rejected by scientists. Scientific theories can always be defended by the addition of ad hoc hypotheses. At some point, the weight of the ad hoc hypotheses and disregarded falsifying observations will become so great that it becomes unreasonable to support the base theory any longer, and a decision will be made to reject it. Popper drew attention to these limitations in *The Logic of Scientific Discovery* in response to criticism from Pierre Duhem. Quine expounded this argument in detail, calling it confirmation holism. To logically falsify a universal, one must find a true falsifying singular statement. But Popper pointed out that it is always possible to change the universal statement or the existential statement so that falsification does not occur. People arguing that there is no support for such an observation may argue that there is nothing to see, that all is normal, or that the differences or appearances are too small to be statistically significant. On the other side are those who concede that an observation has occurred and that a universal statement has been falsified as a consequence. Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. Falsified theories are to be replaced by theories that can account for the phenomena that falsified the prior theory, that is, with greater explanatory power. The Youngian wave theory of light i. Furthermore, Newtonian mechanics applied to the atomic scale was replaced with quantum mechanics, when the old theory could not provide an answer to the ultraviolet catastrophe, the Gibbs paradox, or how electron orbits could exist without the particles radiating away their energy and spiraling towards the centre. At each stage, experimental observation made a theory untenable i. Criterion of demarcation[edit] Popper uses falsification as a criterion of demarcation to draw a sharp line between those theories that are scientific and those that are unscientific. It is useful to know if a statement or theory is falsifiable, if for no other reason than that it provides us with an understanding of the ways in which one might assess the theory. One might at the least be saved from attempting to falsify a non-falsifiable theory, or come to see an unfalsifiable theory as unsupportable. Popper claimed that, if a theory is falsifiable, then it is scientific.

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Editions for Karl Popper: The Arguments of the Philosophers: (ebook published in), (ebook published in), (eboo.

The arguments in the two essays overlap a great deal. In fact, *The Open Society* began as a chapter for *Poverty*. Yet there is a difference in emphasis. *The Open Society*, a much longer and, according to Popper, a more important work, included in-depth discussion of historicism and the methods of the social sciences. But it also featured an inquiry into the psychological and historical origins of totalitarianism, which he located in the nexus of a set of appealing but, he argued, false ideas. *Open versus Closed Societies* According to Popper, totalitarianism was not unique to the 20th century. But reactionary forces were unnerved by the instability and rapid social change that an open society had unleashed. Socrates was indicted on charges of corrupting the youth and introducing new gods. In contrast, the individualism, freedom and personal responsibility that open societies necessarily engender leave many feeling isolated and anxious, but this anxiety, Popper said, must be born if we are to enjoy the greater benefits of living in an open society: Popper charged that Plato emerged as the philosophical champion of the closed society and in the process laid the groundwork for totalitarianism. Betraying the open and critical temper of his mentor Socrates, in his *Republic* Plato devised an elaborate system that would arrest all political and social change and turn philosophy into an enforcer, rather than a challenger, of authority. It would also reverse the tide of individualism and egalitarianism that had emerged in democratic Athens, establishing a hierarchical system in which the freedom and rights of the individual would be sacrificed to the collective needs of society. Spartan society focused almost exclusively on two goals: Toward these ends, the Spartan constitution sought to create a hive-like, martial society that always favored the needs of the collective over the individual and required a near total control over its citizenry. This included a primitive eugenics, in which newborn infants deemed insufficiently vigorous were tossed into a pit of water. Spartan males judged healthy enough to merit life were separated from their families at a young age and provided an education consisting mainly of military training. The training produced fearsome warriors who were indifferent to suffering, submissive to authority, and unwaveringly loyal to the city. Fighting for the city was an honor granted solely to the male citizenry, while the degrading toil of cultivating the land was the lot reserved to an enslaved tribe of fellow Greeks, the helots. Rigid censorship was imposed on the citizenry, as well as laws that strictly limited contact with foreigners. Under this system, Sparta became a dominant military power in ancient Greece, but, unsurprisingly, made no significant contributions to the arts and sciences. It was no coincidence, he said, that the Nazis and other modern-day totalitarians were also inspired by the Spartans. These ideas were holism, essentialism, and historicism. Holism may be defined as the view that adequate understanding of certain kinds of entities requires understanding them as a whole. This is often held to be true for biological and social systems, for example, an organism, an ecosystem, an economy, or a culture. For instance, some philosophers argue that human consciousness is an emergent phenomenon whose properties cannot be explained solely by the properties of the physical components nerve cells, neurotransmitters, and so forth that comprise the human brain. Similarly, those who advocate a holistic approach to social inquiry argue that social entities cannot be reduced to the properties of the individuals that comprise them. That is, they reject methodological individualism and support methodological holism, as Popper called it. According to Popper, Plato believed that a just society required individuals to sacrifice their needs to the interests of the state. Popper saw this as profoundly dangerous. In fact, he said, the view that some collective social entity—be it, for example, a city, a state, society, a nation, or a race—has needs that are prior and superior to the needs of actual living persons is a central ethical tenet of all totalitarian systems, whether ancient or modern. Nazis, for instance, emphasized the needs of the Aryan race to justify their brutal policies, whereas communists in the Soviet Union spoke of class aims and interests as the motor of history to which the individual must bend. The needs of the race or class superseded the needs of individuals. In contrast, Popper held, members of an open society see the state and other social institutions as human designed, subject to rational scrutiny, and always serving the interests of individuals—and never the other way around. According to Plato, understanding of any kind of thing—for example, a bed, a triangle, a human being, or a

city” requires understanding what Plato called its Form. The Forms are timeless, unchanging and perfect exemplars of sensible things found in our world. Coming to understand a Form, Plato believed, requires rational examination of its essence. Such understanding is governed by a kind of intuition rather than empirical inquiry. For instance, mathematical intuition provides the route to understanding the essential nature of triangles—that is, their Form—as opposed to attempting to understand the nature of triangles by measuring and comparing actual sensible triangles found in our world. Although Forms are eternal and unchanging, Plato held that the imperfect copies of them that we encounter in the sensible world invariably undergo decay. Extending this theory presented a political problem for Plato. The very nature of the world is such that human beings and the institutions that they create tend to degrade over time. For Plato, this included cities, which he believed were imperfect copies of the Form of the city. It required, first, understanding the true and best nature of the city, that is, its Form. This being so, historicists believe that the aim of philosophy—and, later, history and social science—must be to predict the future course of society by uncovering the laws or principles that govern history. Historicism is a very old view, Popper said, predating Athens of the 5th century B. Early Greek versions of historicism held that the development of cities naturally and necessarily moves in cycles: But Plato did not merely describe the gradual degeneration of the city; he offered a philosophical explanation of it, which relied upon his theory of the Forms and thus methodological essentialism. Going further, Plato sought to provide a way to arrest this natural tendency toward decay. This, Popper argued, was the deep aim of the utopian society developed in the Republic—a newly fabricated closed society as the solution to natural tendency toward moral and political decline. Tumultuous democratic Athens would be replaced with a stable and unchanging society. As a young man he saw the citizens of Athens, under the influence of demagogues, back ill-advised military campaigns that ultimately led to the Spartan victory over the city in B. Popper as a young man had also witnessed the collapse of democracy, in his native Austria and throughout Europe. But he drew very different lessons from that experience. For him, democracy remained a bulwark against tyranny, not its handmaiden. Prior to publication of *The Open Society*, Plato was widely regarded as the wellspring of enlightened humanism in the Western tradition. Subsequent scholarship could not avoid addressing his arguments. Like Plato, Aristotle believed that knowledge of an entity required grasping its essence. Plato held that the entities found in the sensible world were imperfect, decaying representation of the Forms. Thus his understanding of history, Popper argued, was ultimately pessimistic: The oak tree, for example, is the final cause of an acorn, the end towards which it strives. As we shall see in the next section, Popper argued that these very same ideas were at the heart of modern totalitarianism, too. Hegel and Karl Marx, whom Popper charged with facilitating the emergence of modern closed societies. The evolution and gradual improvement of philosophical, ethical, political and religious ideas determines the march of history, Hegel argued. In each new mode of production, the political and legal system, as well as the dominant moral and religious values and practices, would reflect the interests of those who controlled the new productive system. Marx believed that the capitalist mode of production was the penultimate stage of human history. The productive power unleashed by new technologies and factory production under capitalism was ultimately incompatible with capitalism as an economic and political system, which was marked by inefficiency, instability and injustice. Marx predicted that these flaws would inevitably lead to revolution followed by establishment of communist society. This final stage of human development would be one of material abundance and true freedom and equality for all. According to Popper, though they disagreed on the mechanism that directed human social evolution, both Hegel and Marx, like Plato, were historicists because they believed that trans-historical laws governed human history. This was the key point for Popper, as well as the key error and danger. The deep methodological flaw of historicism, according to Popper, is that historicists wrongly see the goal of social science as historical forecast—to predict the general course of history. But such prediction is not possible, Popper said. He provided two arguments that he said demonstrated its impossibility. The first was a succinct logical argument: Human knowledge grows and changes overtime, and knowledge in turn affects social events. That knowledge might be, for example, a scientific theory, a social theory, or an ethical or religious idea. We cannot predict what we will know in the future otherwise we would already know it, therefore we cannot predict the future. As long as it is granted that knowledge affects social

behavior and that knowledge changes overtime—two premises that Popper considered incontestable—then the view that we can predict the future cannot be true and historicism must be rejected. But Popper contended that this represents a fundamental misunderstanding of scientific laws. In fact, Popper argued, there is no such thing as a law of historical development. That is, there are no trans-historical laws that determine the transition from one historical period to the next. Failure to understand why this is so represented a deep philosophical error. There may be sociological laws that govern human behavior within particular social systems or institutions, Popper said. For instance, the laws of supply and demand are kinds of social laws governing market economies. But the future course of history cannot be predicted and, in particular, laws that govern the general trajectory of history do not exist. Popper does not deny that there can be historical trends—a tendency towards greater freedom and equality, more wealth or better technology, for instance, but unlike genuine laws, trends are always dependent upon conditions. Change the conditions and the trends may alter or disappear. A trend towards greater freedom or knowledge could be disrupted by, say, the outbreak of a pandemic disease or the emergence of a new technology that facilitates authoritarian regimes. Popper acknowledges that in certain cases natural scientists can predict the future—even the distant future—with some confidence, as is the case with astronomy, for instance. Social systems can never be isolated and stationary, however. Utopian Social Engineering So historicism as social science is deeply defective, according to Popper. Because historicists believe that laws determine the course of history, from their vantage it is ultimately pointless to try to engineer social change. Just as a meteorologist can forecast the weather, but not alter it, the same holds for social scientists, historicists believe. They can predict future social developments, but not cause or alter them. First, historicism and utopian engineering share a connection to utopianism. Utopians seek to establish an ideal state of some kind, one in which all conflicts in social life are resolved and ultimate human ends—for example, freedom, equality, true happiness—are somehow reconciled and fully realized. Attaining this final goal requires radical overhaul of the existing social world and thus naturally suggests the need for utopian social engineering. Many versions of historicism are thus inclined towards utopianism. Second, historicism and utopian social engineering both tend to embrace holism.

7: Wittgenstein's Poker and the Purpose of Philosophy | Paul Gould

DOWNLOAD KARL POPPER THE ARGUMENTS OF THE PHILOSOPHERS karl popper the arguments pdf Sir Karl Raimund Popper CH FBA FRS (28 July 1902 – 17 September 1994) was an Austrian-British.

Karl Popper wrote extensively on the problem of determinism and free will, researched many earlier thinkers on the subject, and formulated his own "evolutionary" model of free will. In April, he noted that earlier thinkers had seen the only alternative to determinism as chance. This is the classic argument against free will, that it comes to a stark choice between determinism or indeterminism. Hume found nothing between chance and necessity, and Eddington had said, there is "no halfway house" between randomness and determinism. But note that Popper may have been inspired by Arthur Holly Compton himself, who said an "act of choice [adds] a factor not supplied by the physical conditions. In his dialogues with John Eccles, *The Self and Its Brain*, at first Popper dismissed quantum mechanics as being no help with free will, but later describes a two-stage model that parallels Darwinian evolution, with genetic mutations being probabilistic and involving quantum uncertainty. I usually avoid talking about free will, because I am not clear enough about what it means, and I even suspect that our intuition of a free will may mislead us. Nevertheless, I think that determinism is a theory which is untenable on many grounds, and that we have no reason whatever to accept it. Indeed, I think that it is important for us to get rid of the determinist element in the rationalist tradition. It is not only untenable, but it creates endless trouble for us. Popper, *Conjectures and Refutations*, Harper, p. Yet I must admit that the doctrine seems to hold good for the quantum-theoretical models which have been designed to explain, or at least to illustrate, the possibility of human freedom. This seems to be the reason why these models are so very unsatisfactory. It uses quantum indeterminacy, and the unpredictability of a quantum jump, as a model of a human decision of great moment. It consists of an amplifier which amplifies the effect of a single quantum jump in such a way that it may either cause an explosion or destroy the relay necessary for bringing the explosion about. In this way one single quantum jump may be equivalent to a major decision. But in my opinion the model has no similarity to any rational decision. It is, rather, a model of a kind of decision-making where people who cannot make up their minds say: And there are of course computers, with built-in penny-tossing devices for producing random results, where such are needed. A driver or a pilot has sometimes to take a snap-decision like this; and if he is well trained, or jug-lucky, the result may be satisfactory; otherwise not. But are snap-decisions really so very interesting? Are they characteristic of human behaviour - of rational human behaviour? They are just the kind of examples which seem to lend support to the thesis of Hume and Schlick that perfect chance is the only alternative to perfect determinism. What we need for understanding rational human behaviour and indeed, animal behaviour is something intermediate in character between perfect chance and perfect determinism - something intermediate between perfect clouds and perfect clocks. But even then it seems to me absurd, for there is, clearly, something like partial knowledge, or partial ignorance. However, in a roundabout way I do think that one may make use of quantum theoretical indeterminacy without committing oneself to the thesis that free-will decisions are probabilistic affairs. Now, let us look for a moment at genetic mutations. Mutations are, it seems, brought about by quantum theoretical indeterminacy including radiation effects. Accordingly, they are also probabilistic and not in themselves originally selected or adequate, but on them there subsequently operates natural selection which eliminates inappropriate mutations. Now we could conceive of a similar process with respect to new ideas and to free-will decisions, and similar things. On these there then operates a kind of selective procedure which eliminates those proposals and those possibilities which are not acceptable to the mind, anchored in World 3 [the world of human knowledge and artifacts, our *Sum*], which tries them out in World 3 and checks them by World 3 standards. This may perhaps be the way in which these things take place, and it was for this reason that I so much liked the suggestion about the inhibitory neurones working like a sculptor who cuts away and discards part of the stone in order to form his statue. He called it Natural Selection and the Emergence of Mind. In it he said he had changed his mind a rare admission by a philosopher about two things. First he now thought that natural selection was not a "tautology" that made it an unfalsifiable theory. Second, he had come

to accept the random variation and selection of ideas as a model of free will. The selection of a kind of behavior out of a randomly offered repertoire may be an act of choice, even an act of free will. I am an indeterminist; and in discussing indeterminism I have often regretfully pointed out that quantum indeterminacy does not seem to help us; for the amplification of something like, say, radioactive disintegration processes would not lead to human action or even animal action, but only to random movements. This is now the leading two-stage model of free will. I have changed my mind on this issue. This seems to me to offer a promising solution to one of our most vexing problems, and one by downward causation. Six years later, Popper wrote some very insightful and critical remarks on knowledge in lower and higher organisms. As we argue in information philosophy, biological information processing systems use their knowledge to achieve their purposes, primarily advancing themselves and their species in the struggle for survival. With life, purpose *telos* entered the universe. All organisms are professional problem solvers: Problems and life entered the world together, and with them problem solving. At first, the problems were sheer survival problems: In time this changed, and a problem today may be for some people a vastly different thing: As Konrad Lorenz noted, everything a priori for the individual is a posteriori for the species. The problems may be created by the clash of the organism with its environment. But the tentative solutions, the trial and the errors all come from, the organism. They are all a priori, even though the environment constantly plays its part, of course. But today an inventor theory of the mind and a discovery theory of the mind and a searchlight theory of the mind ought to be a little more acceptable than they were 60 years ago. But even the lowest animals use their built-in, evolved knowledge to survive. I find it of the greatest importance to get over the myth for it seems to me a myth that anything starts with a stimulus and the ability to respond to it. Everything, I suggest, starts from the organism and its eagerness, its need, which seeks for anything it can use as a message, as information or as a so-called stimulus: I am not quarrelling about words, I am insisting upon the obvious fact that it is not its capability of being stimulated which makes the organism, but the exploratory apparatus, the keenness to respond, which makes the stimulus. It is the organism which, through many trials over millions of generations, learns to respond to this kind or that kind of stimulus: I am a Darwinist and I am not a vitalist or a Lamarckist. But once they exist, they are of immense significance in evolution. The idea that environmental conditions do all the sculpturing by carving away what is less fit, and that the organism is passive, is simply false from an evolutionary point of view. It is the only active agent. It is the environment which is passive. To look at it as hostile, as so many Darwinists do, is mistaking a metaphor for a powerful reality. To think of it as a sculptor, a carver, is to make a god of it. It is always the organism which seeks a better ecological niche, better living conditions, a better life. All else is metaphor. The biologist, observing, experimenting, begins with the stimulus. And he is in danger of believing in the famous couple: But it is the organism which evolves all sorts of responses to find, interpret, exploit and learn from what we mistakenly look upon as the life-evoking, life-demonstrating stimulus of a perhaps even passive response I wish to end with an important proposition. The difference between the growth of animal knowledge and of human knowledge is just this: This makes possible the evolution of human reason, of the use of imagination and of criticism in the search for truth. Thanks to Aaron Sloman for this reference. The aggregation of human knowledge embodied externally - "exosomatically" as Popper puts it - is the core idea of the Sum in information philosophy. It is not chauvinistic or parochial to regard it as the highest form of evolved information in the universe. Nor is it naive to regard it as proof of the Idea of Progress and a possible basis for objective value.

8: Karl Popper: Political Philosophy | Internet Encyclopedia of Philosophy

Among philosophers, Karl Popper () is best known for his contributions to the philosophy of science and epistemology. Most of his published work addressed philosophical problems in the natural sciences, especially physics; and Popper himself acknowledged that his primary interest was nature and not politics.

It is a fascinating story about a ten-minute yes, a ten-minute!! Ludwig Wittgenstein and Karl Popper. What was the nature of the philosophical dispute that took place between Wittgenstein and Popper on October 25, ? It had to do with the purpose of philosophy. According to Wittgenstein, the purpose of philosophy was to solve various puzzles about Language. The aim of philosophy was to solve real philosophical problems and not merely to solve puzzles about language use. For Popper there are real problems about the world that philosophers should engage in—such as the structure of society, the nature of science, the problem of induction, probability, infinity, and causation to name a few. Rather, I see in the fly unable to escape the bottle, a striking self-portrait of Wittgenstein. Usually, his antics would silence his opponents, but Popper came to the meeting looking for a fight. And so the discussion escalated. Eventually Wittgenstein picked up the fire poker and began to wave it in the face of Popper. Someone—accounts vary either Russell or Richard Braithwaite told Wittgenstein to put the Poker down—which Wittgenstein did as he stormed out of the meeting. This was Poppers only meeting with Wittgenstein. The book is entertaining, informative, and its underlying question on the aim of philosophy hit a nerve for me. So, what is the aim of philosophy? On this question, I am decidedly with Popper. Philosophy is not merely about language use. It is about solving real problems. Simply put, the aim of philosophy is to discover the truth. Answers to the questions these problems surface are a necessary but not sufficient condition for a life well lived. In this more robust conception of philosophy, the integration of the head, heart, and hands is the goal. The viable life is the fully integrated life. Our theorizing must at some point be integrated into our actions. We are one and all making judgments on God, self, and the world. The only choice we have is whether we will be a good or bad philosopher. After all, we have a life to live, and real problems to solve.

9: www.enganchecubano.com: Customer reviews: Philosophy and the Real World: An Introduction to Karl

In sum, Gattei's Karl Popper's Philosophy of Science is an important reassertion of the value, novelty, and coherency of Popper's programme. It is an important historiographical contribution, particularly because it leads us to reevaluate our tradition of painting Kuhn as an epistemological radical, when that title more properly belongs to Popper.

For centuries philosophers have sought to establish how knowledge can be securely founded. No matter how often evidence is found to verify some theory, only one piece of sound contradictory evidence is sufficient to falsify it. This, in his view, killed Logical Positivism, which was based on an unworkable Principle of Verification. Popper developed a philosophy of Critical Rationalism, which argued that security for knowledge can only lie in its ability to withstand new evidence and severe, sustained criticism. Critical Rationalism sees new scientific knowledge as gained by a process of conjecture and refutation rather than by inductive reasoning the process of verifying a general law. If a conjecture can survive all the arguments and evidence which can be adduced against it, that is reason enough to act as if it were true. He was deeply influenced in this view by two twentieth century intellectual developments, and the contrast between them. A theory once thought to be securely founded was overthrown because it could not account for small discrepancies in the motion of the planet Mercury. Popper also saw how in stark contrast psychoanalytic theories seemed impervious to unwelcome evidence, and so he concluded that psychoanalysis was not a science. The fierce anti-authoritarianism which Popper brought to the philosophy of science, and his conviction that, since mistakes are unavoidable, energies are better spent on their cure rather than their prevention, informed his work over a wide range of topics. He was, however, much better at advocating the value of criticism than accepting it. Ferocious and tenacious in argument, in a famous encounter he became possibly the only person ever to get the better of Wittgenstein in a face-to-face dispute. The son of assimilated Jewish parents who had converted to Lutheranism, he grew up in a comfortable, cultured and tolerant family. They nurtured in him curiosity, a passion for learning and books, and a lifelong love of music. Unwilling to be a burden, Karl left home in the winter of 1928. After working as a labourer, then as an apprentice cabinet-maker, he became a fully matriculated student in the University of Vienna in 1931, qualifying to teach in primary schools in 1933. There Popper met Hennie, who became his wife, amanuensis, and life-support system. Working as a primary school teacher, Popper began to teach at the Institute unofficially, to give seminars, and to work towards a PhD, gained in 1935. Qualifying as a teacher of mathematics and physical sciences in 1936, he joined the lower secondary school system and started to develop the ideas which led to his masterpiece *Logik der Forschung*, published in 1935. It is one of the most important books ever written on the philosophy of science. Despite this, an English translation, *The Logic of Scientific Discovery*, was not published until 1959. Popper visited the University of London twice during 1937-1938, where his work aroused the sympathetic interest of Professor John Woodger. As the threat of fascist oppression grew in Austria, Woodger suggested to Popper that he answer an advertisement for a post teaching philosophy in Canterbury College of the University of New Zealand. Although they had hoped for a post at Cambridge, Karl and Hennie grasped their chance to escape, arriving in New Zealand in March 1939. Popper was appalled by the tragedies taking place in Europe, and determined to make his own contribution to the struggle against oppression. He sought to expose and discredit the intellectual origins and claims of totalitarianism, attacking both fascism and communism, since a defeat of Hitler would open the way to a new threat from Stalin. He saw historicist myth-making as inspiring totalitarianism thinking from Plato through Hegel and Marx to Hitler and Stalin. Popper felt isolated in New Zealand, especially by the difficulty of finding publishers. He did however meet and befriend the future Nobel Laureate in medicine, John Eccles, with whom he later collaborated. As the war in Europe was drawing to a close, a wholly unexpected telegram arrived from Friedrich Hayek, the Nobel Prize-winning free market economist, offering him a Readership in the University of London at the London School of Economics. With the help and support of the indefatigable Hennie, Popper sought to develop *The Logic of Scientific Discovery* into a comprehensive masterwork, by producing a series of Postscripts to it. This monumental effort started in 1959 and continued for over twenty years. But his health deteriorated, and in his eyesight began to fail. Returning to Vienna, he

underwent operations for detached retinas on both eyes. Work on the Postscripts had to be abandoned. It restarted, but had to be again set aside in 1963, and the piecemeal production of this huge enterprise was not completed until the 1970s. There finally emerged the three volumes which together comprise the Postscripts: Together with *Conjectures and Refutations* and *Objective Knowledge*, these works constitute a coherent, compelling contribution to the philosophy of science. Popper advanced a hypothesis that mind, language and consciousness form an evolved hierarchy which allows sentient organisms the freedom to pose and find solutions to the problems of interacting with their environment. This led him to develop a picture of three distinct but interacting domains – the physical, the mental, and the world of the products of human mental activity. This theory of three distinct, interacting domains has had detractors by what mechanisms do they interact? Nevertheless, it attacked a major philosophical problem, and can be re-formulated in a less extravagant form, in terms of three interrelated types of knowledge – subjective, objective and inter-subjective. In early 1963, Hennie was found to have a malignant tumour. This had so much worsened by that the Poppers returned to Vienna, where Hennie died in November of that year. Although both had resumed Austrian nationality, and despite efforts to make him stay in Austria, Popper returned to England in 1969. Working to the end, he died after an operation on 17th September 1994. Britain, his adopted country, also recognised his outstanding achievements, making him a knight, a Companion of Honour, and one of the very few people to have been elected to both the British Academy in 1981 and the Royal Society in 1989. Sir Karl Popper was a realist, a rationalist, an objectivist and an indeterminist, with a high regard for common sense and imagination. Humanists applauded his scholarship and his passionate advocacy of freedom; scientists valued his grasp of science and his insight into the scientific process; and both admired the power, clarity and coherence of his arguments. The Logic of Scientific Discovery In the early 20th century, a group of Austrian thinkers who became known as the Vienna Circle developed the idea that only statements which could in principle be verified by observed facts were meaningful; all other statements, including those about religion and ethics, were just useless metaphysics. This approach, known as Logical Positivism, was introduced to the English-speaking world by A. Ayer in his book *Language, Truth and Logic*. Then Karl Popper pointed out in his book *The Logic of Scientific Discovery* that while no amount of evidence supporting a theory can ever prove it beyond all doubt, a single piece of evidence contradicting a theory is enough to bury it. He therefore turned Logical Positivism on its head, saying that the criterion of a meaningful statement was not whether it could in principle be verified, but whether it could in principle be falsified.

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