



# KARL POPPER'S CRITICAL RATIONALISM AND THE NOTION OF AN "OPEN SOCIETY"

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*I liked America from the first, perhaps because I had been somewhat prejudiced against it... There was in 1950 a feeling of freedom, of personal independence that did not exist in Europe and which was stronger than in New Zealand, the freest country I knew... On my return to England I had an argument about this with Bertrand Russell... I admit that things might have developed in a very different way. "It cannot happen here" is always wrong: a dictatorship can happen anywhere (Karl Popper, [\*Unended Quest\*](#), §28).*

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## I. Introduction

Karl Popper, often named as one of the greatest philosophers of the 20th century, is known primarily for his work in the philosophy of science and political philosophy which are, on his view, related. Popper's constant opponent is *dogmatism*, whether this occurs in philosophy or science or politics. His surprising view is that even the view that what makes a theory scientific is that it can be empirically verified supports a particularly insidious species of dogmatism. In other words, it is not just rationalism, the view that certain views are demonstrable by reason alone, but even empiricism, with its verificationist doctrine, that is prone to dogmatism. In opposition to all species of dogmatism, Popper attempts to build anti-dogmatism into the very logic of scientific reasoning by replacing the standard verificationist criterion with his view that what makes a theory "scientific" is that it can be empirically *falsified*.

Since he sees scientific knowledge as the paradigm of all knowledge, he generalizes this anti-dogmatic view from scientific reasoning to *all* forms of reasoning, in philosophy, morality, aesthetics, politics, etc. His healthy concept of reasoning, which he calls "critical rationalism," can only be realized in a "open society," a society in which *all* views, even one's own most cherished ones, are subjected to rigorous criticism and in which one, like Socrates, subjects oneself to rigorous *self-criticism*.

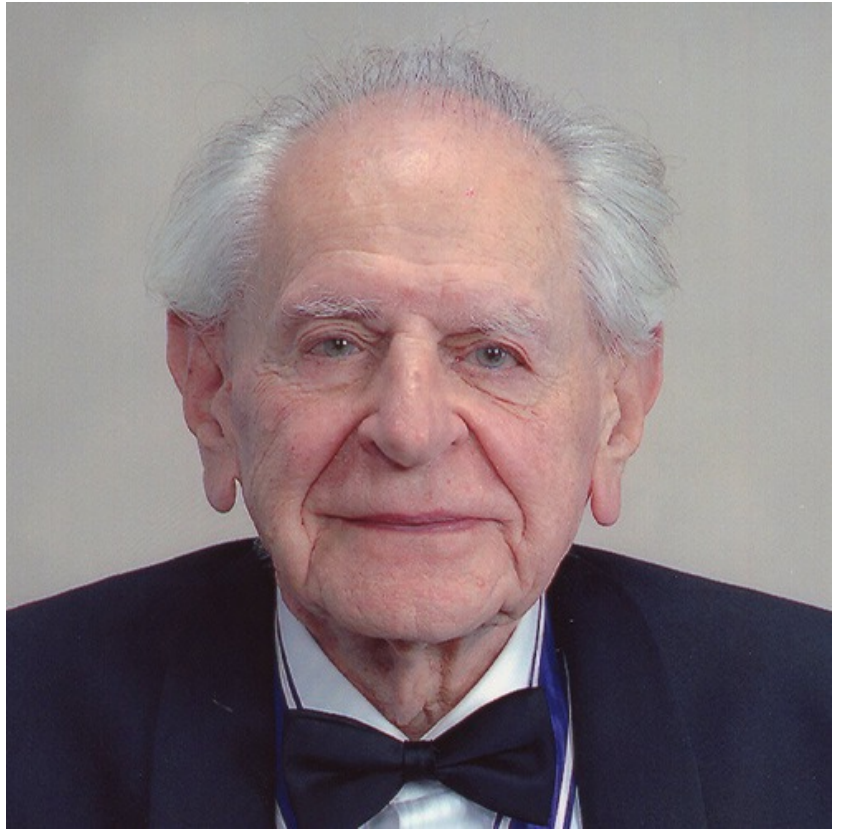
Popper's anti-dogmatic philosophy is especially relevant to our own time in which dogmatism is tearing us apart. For, it is safe to say that if the children at Evergreen University who scream at their teachers and threaten them, the child billionaires in the media who censor people with whom they disagree, and the partisans in the "news" media that are committed to advance a cause rather than report the facts, and so on, were Popperian "critical rationalists," they might realize how little they actually know and abandon their destructive (and self-destructive) totalitarian behavior.

The present article lays out the basic planks in Popper's philosophy of science and "critical rationalism" as a means towards explaining Popper's critique of totalitarianism (that is, Popper's criticism of what he sees as most Western philosophy and of the dominant movements in much contemporary Western "culture").

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## II. Biography

Karl Popper was born in Vienna Austria (Austria-Hungary at the time) in 1902 and died in 1994 in London. His grandparents were Jewish but he was raised a Lutheran. He dropped out of school at age 16 to attend lectures in mathematics, physics, philosophy, psychology and the history of music at the University of Vienna as a guest student. While at university, like so many young people, Popper became attracted by Marxism, socialism, and communism, and by the oft heard claim that such leftist views are supported by science. In his excellent intellectual biography, *Unended Quest*, he writes that for a time he joined several socialist clubs but resisted full-fledged communism until, "in the spring of 1919 [when he was about 17 years old], I, together with a few friends, was converted by their propaganda [and] for about two or three months regarded myself as a communist" and a Marxist.



Karl Popper

However, an event happened that led Popper away from communism and Marxism. A shooting broke out at a demonstration in which he was involved that left several demonstrators dead. Popper was horrified at the police behavior but also at that of his own side which, he thought, rationalized the necessity for such violence.

This left him with a "life-long revulsion of feeling" for such views. Although anyone can get involved in some feel-good political movement and become repulsed when it rationalizes violence, Popper's unhappy experience with socialism, communism and Marxism as a student affected him in an entirely different way that had a major impact on his later philosophical development. For Popper realized that he had accepted these leftist views, as well as the claims that they are supported by science, uncritically. This led him to ask what a genuine critical rational appraisal of any purported theory would be like, eventually leading to develop his theory of falsifiability and his associated notion of "critical rationalism."

It is also worth pointing that in his quite varied life Popper also worked in construction for a short while but could not cope with the heavy work. He became an apprentice as a cabinet maker and became a journeyman in the trade. He wanted to start a daycare center for children and did voluntary work at one of the psychoanalyst [Alfred Adler's](#) clinics for children.

In 1922 he became a regular student at the university and completed his examination as an elementary school teacher in 1924 before working at an after-school care club for endangered children. He continued studying education, philosophy and psychology and in 1928 earned his doctorate in psychology under the supervision of the psychologist [Karl Buhler](#) and the philosopher [Moritz Schlick](#) at the University of Vienna for his thesis titled *Zur Methodenfrage der Denkpsychologie* [*On Questions of Method in the Psychology of Thinking*].

In 1929 he earned an authorization to teach mathematics and physics at the secondary school level and began doing so. Despite all this, already enough for one life, he still found the energy and time to marry his colleague [Josefine Anna Henninger](#) (1906-1985). Around this time politics intervened. Nazism was raising its head in Austria and, being of Jewish extraction, Popper felt it might not be healthy to remain in Austria. In order to get an academic position in a country safe for people of Jewish descent, he needed a book.

In 1934 he published his groundbreaking *Logik der Forshung* [[The Logic of Scientific Discovery](#)] in which he criticized psychologism, naturalism, inductivism and logical positivism and advanced his view that the capacity for falsifiability, not verifiability, is the proper criterion for distinguishing genuine scientific theories (like Einstein's Relativity Theory) from pseudo-scientific theories like astrology.

In 1935-1936 he took unpaid leave to study in the United Kingdom at Cambridge. In 1936 he was offered a lectureship in Canterbury University in New Zealand. He had the opportunity to remain at Cambridge but when he found that his study position at Cambridge could be transferred to someone else, he suggested that it be given to the young philosopher and member of the Vienna Circle, Friedrich Waismann. This was agreed: Waismann went to Cambridge and Popper went to New Zealand.

In 1946, Popper accepted a position in the London School of Economics which, he later said "was a marvelous institution... in those days." In later life he attempted to obtain a teaching position in Austria, but he was unsuccessful and returned to the UK.

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### III. The Verificationist Criterion

Recall that the lesson that Popper learned from his unhappy youthful association with leftist radicalism was that he had accepted these sorts of views uncritically, which led him to construct an account of what a proper critically rational way of evaluating theories would look like. In order, however, to understand the force of Popper's falsifiability criterion, it is necessary first to understand the view he was reacting against, namely, the view (defended, for example, in A.J. Ayer's classic 1936 book [\*Language, Truth and Logic\*](#) and still invoked by many influential philosophers), that what makes a theory scientific as opposed to superstition is that it is empirically verifiable. The verifiability criterion was also the standard view of the influential Vienna Circle (a distinguished group of logicians, philosophers of science and economists, including [Rudolph Carnap](#), [Otto Neurath](#), [Herbert Feigl](#), [Richard von Mises](#), [Karl Menger](#) and [Kurt Gödel](#), operating in Popper's own Vienna at the time).

The verifiability criterion has a simple naturalness to it. Consider some theory  $T$ . For the sake of simplicity, let us choose a very simple theory, namely, the theory  $T_1$  that a certain Virus  $V_1$  causes a certain disease  $D_1$  in rabbits. That is,  $T_1 = V_1 \supset D_1$ . How does one verify that  $T_1$  is true? Perhaps one introduces  $V_1$  into a healthy rabbit  $R_1$  that has been determined to be free of  $V_1$ .

If, a few days or weeks later  $R_1$  develops the disease  $D_1$ , this is taken to verify  $T_1$ . However, to say that  $T_1$  has been verified by this test does not mean that  $T_1$  has been conclusively verified. After all, a single positive result might be a coincidence, a so-called "false positive." Thus, on the standard view, these test results must be repeatable. Only after  $T_1$  passes multiple such tests can it be regarded as highly verified. For example, Newton's "theory"  $T_2$  that an object close to the surface in earth's gravitational field falls at an acceleration rate of  $32 \text{ ft/sec}^2$  has been tested, not once or ten times or even a hundred times but literally thousands of times. Thus,  $T_2$  is seen as highly verified and no one any longer doubts for a moment that it is true.

What could be more obvious than this that this is how science comes to accept certain theories and reject others? Theory  $T$  implies a certain fact  $F$ . One does a test to determine if fact  $F$  is observed. If  $F$  is not observed, the theory is not verified. If, however, fact  $F$  is observed,  $T$  is verified and if, after repeated

tests T continues to be verified, it can be accepted as virtually certain.

Popper noticed, however, both that 1) It is very easy to find verifications for one's theories and 2) It is a psychological fact that human beings prefer to see their own theories verified.

Consider the case of astrology! A person  $P_1$  goes to see an astrologist  $A_1$  who makes the prediction that  $P_1$  is going to come into a lot of money soon.  $P_1$  is very excited because they need the money for a cancer operation. A few days later  $P_1$  wins \$300 dollars in a lottery and  $A_1$  brags that her "prediction" has come true. But has it? What does one mean by "a lot of money?" In the case at hand, \$300 is not a lot of money when one is talking about a cancer operation that will cost upwards of \$100,000 dollars. The point is that *no matter what happens*, astrologists can find something to claim their prediction has come true. This is because an astrologist's "predictions" are generally so vague that they are consistent with virtually any possible outcome.

To see this, consider another case.  $A_1$  again predicts that  $P_1$  is going to come into a lot of money soon.  $P_1$ 's stockbroker calls them the following week with bad news.  $P_1$ 's stock went down in value by 30% and  $P_1$  has lost tens of thousands of dollars.  $P_1$  angrily complains to  $A_1$  that her prediction has not come true.  $P_1$  has not "come into a lot of money." In fact,  $P_1$  has lost money. However,  $A_1$  points out that many experts had predicted that the stock market would drop by 60%.  $A_1$  claims, therefore, that a stock market loss of 30% is actually a gain over the 60% drop that had been predicted.  $P_1$  has gained money *in that sense*. The vaguer the prediction, the more likely it is to be verified by future developments. As Popper observed, pseudo-sciences are generally *easily verified*. But that means verifiability cannot be the criterion that distinguishes a genuine scientific theory from a superstitious pseudo-science like astrology.

One might reply that astrology is a trivial kind of example. No one would seriously propose that astrology is a candidate for being a genuine science. In fact, Popper briefly mentions astrology several times in his [\*Conjectures and Refutations\*](#) but makes precisely the same point. He makes his central argument by reference to the alleged new "sciences" that were causing a lot of excitement in the universities in his student years, Darwinian evolutionary theory, Freudian psychology and the Marxist theory of dialectical materialism. Popper argues that all of these "theories" are easily verified, in fact too easily, but none of them is a genuine science because none of them can be falsified. Thus, each of these, under close scrutiny, looks more like astrology than it does like a genuine scientific theory like



Einstein's theory of general relativity.

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#### **IV. Three Pseudo-Sciences: Marxism, Freudian Psychology, Darwinian Evolutionary Theory**

Popper states that during his university days there was great excitement about three allegedly new sciences: Marxism, Freudian Psychology and Darwinian Evolutionary Theory. One might add Adler's psychology as well (recall that Popper worked at one of Adler's clinics for a time), but since Adler's theory is, in the relevant logical respects, similar to Freudian psychology, only the former need be discussed here.

The excitement was due to the fact that these three alleged new "sciences" appeared to open up to scientific understanding three areas that had long been believed to be the province of philosophy and dreamy speculation, the laws concerning the genesis of life (Darwin), the laws that govern the mysterious working of the mind (Freud), and laws behind the historical development of human societies (Marx).

However, after, in his youth, being initially impressed by these new theories, Popper came to see each of them as a pseudo-science. Each of them turns out to be a kind of seductive story about their respective subject matters, but none of them is a genuine science. It is, therefore, useful to sketch the basic claims of these three theories in the present section before Popper's arguments that none of them is a genuine science, because none of them is falsifiable, are taken up in the subsequent section

Consider Darwinian evolutionary theory first. In his famous book, *The Origin of Species*, Darwin was trying to explain why certain species (the ones we actually find in existence) rather than others (the one's that went extinct) are the ones that survived. His purported explanatory principle is "the survival of the fittest." That is, the reason the African lion survived to the present day rather than one of the other large powerful saber-toothed cats in existence a million years ago is that the ancestors of the African lion were more "fit" than their saber-toothed competitors. This is interesting.

After all, if one compares the African lion with one of its massive saber-toothed competitors 1 million years ago, the saber-toothed cat certainly appears, at first glance, more "fit." The saber-toothed cat was



more powerfully built and one can imagine an African lion heading for the hills at the sight of those 11-inch-long saber-like fangs. Despite the more fearsome sight of a saber-toothed cat, the African lion with its less muscled body and smaller fangs was actually, all things considered, more "fit" to survive in that specific environment than the saber-toothed cat.

One can even tell an interesting story about why the African lion with its smaller muscles and fangs was more "fit." It was more agile. Its method of killing, cutting off the air supply of the prey, was more efficient than the saber-toothed cat's strategy of slashing the prey and letting it bleed to death, etc. Darwin "explains" why the African lion survives today and the terrifying saber-toothed cats went extinct! Thank you, Mr. Darwin!

Consider now Freudian psychology. Freud claimed to be able to explain the genesis of all neurosis in human adults. Specifically, he holds that all neuroses are explained as the result of repressed sexual trauma in childhood. Consider the following example! A patient S has a frozen right arm but medical doctors can find nothing physically wrong with the arm. The "cause" of the frozen arm must, therefore, be "psychological." Freud "discovers," sometimes in long "sessions" with the patient on the couch, that the patient was sexually abused in childhood. Freudian psychology claims that the fact that S was unable to express this trauma to anyone, that is, the fact that S had to "repress" this trauma, caused S's neurosis.

On Freud's model, a repressed trauma, like the steam building up in a tightly covered boiling pot, will have to be let out one way or the other. If the steam is not let out of the boiling pot in a measured way, the pot will explode. If the sexual trauma in childhood is not let out (expressed) over time, the person will, so to speak, "explode" (develop a neurosis). Since sexual trauma cannot in most societies be expressed openly and honestly (one simply does not talk about such things), it must be expressed in some other way. It will, therefore, be expressed symbolically, perhaps by a frozen arm or by some other neurosis.

This, it must be admitted, is interesting. It sounds plausible. One knows people who have suffered sexual trauma in youth and who do display neurotic symptoms. Perhaps they cannot trust people, even to the point of irrationality. When they talk it out with a therapist, that is when they, so to speak, "let off some steam," they sometimes report a decrease in their neurotic symptoms. Thank you, Dr. Freud!

Consider now the alleged new science of historical development: Marxism. In the Preface to *Capital*

[*Das Kapital*], Marx states that just as the Newtonian mechanics states the laws of physical motion in the physical world, his theory of historical development states the laws of economic motion in the human historical world.

Specifically, Marx holds that human society, beginning with feudalism, necessarily develops in a certain very specific way. Just as a plant necessarily moves from seed, to stem, to blossom to fruit, human society necessarily moves from feudalism to capitalism to socialism and finally to full-fledged communism. Further, just as a plant cannot go directly from seed to blossom, but must necessarily traverse all the intermediate stages in the proper order, human society must move from feudalism to communism without skipping any of the intermediate stages.

In addition, any given stage of human society will break down and give way to the next stage in the sequence only when it is most advanced. For example, a young immature capitalist society will not break down into socialism but, rather, only a mature capitalist society, in which all the internal problems of capitalism have become fully developed, will break down into socialism. Since Marx, when he penned his theories, was living in the most advanced capitalist society of his day, England, he predicted that the socialist revolution would occur in England first.

In addition, since Russia was still in a backward feudal stage, he predicted that the revolution will not occur in Russia until it goes through the capitalist stage. Popper calls any theory that purports to be able to predict the future development of human societies "historicist" theories. He sees "historicist" theories in Plato, [Vico](#), Hegel, Marx, [Comte](#), and [Spengler](#) and traces of "historicism" in [Jaspers](#) and [Heidegger](#).

Marx's "historicism" also seems plausible, but why? First, it is reassuring. Whereas the history one learned in grammar school seemed an incomprehensible chaos of dates, treaties, wars and betrayals, Marx reveals that there is a discernable order to it. Marx makes one feel like the actors in Hollywood who know the end of the script (the butler did it!), and if one knows the end of the script, one can prepare for it. For example, if human society is necessarily moving towards socialism, one knows where to place one's bets. Indeed, since one knows how things are going to turn out, perhaps one can even exert some control over the process. Since capitalism is necessarily going to fall, why not give it a little push to help things along?

Indeed, Popper points out that "historicists" tend to be attracted to social engineering, the effort to

control history to fit the theory (script). Further, if one lives in a capitalist society, one cannot avoid seeing the gulf between the rich (capitalists) and the poor (workers) and feel compassion for the latter. It is reassuring to know that the oppressed classes will win in the end. In fact, Marxism sounds just like a religious salvation story: "The first shall be last and the last shall be first." (Matthew 19: 29-30).

Finally, there have been various revolutions around the world in which the poor have risen up against their greedy oppressors. It is very reassuring, not to mention profitable, to be on the right side of history, but, for that, one must know what side is the right side. Marx's new "science" of dialectical materialism is more useful than any portfolio manager. Thank you, comrade Marx for the interesting and profitable insights!

Despite the fact that each of these theories seems plausible, and despite the fact that Popper himself was initially attracted to them, he came to the conclusion that each of them is actually pseudo-science, not genuine science. These arguments are discussed in the following section.

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## **V. Popper's "Falsifiability" Criterion**

Popper claims that each of Darwinian evolutionary theory, Freudian psychology, and the Marxist theory of historical development may look like genuine sciences, and each may appear to satisfy the verifiability criterion, but each fails his falsifiability criterion. That is, each is a species of seductive dogmatism disguised as science. It is important to note at the beginning that Popper holds that the specific ways each fails the falsifiability criterion is not exactly the same in all three cases. For this reason, the case of Marxism, with its unique problems, is separated out and considered in the subsequent section.

Consider Darwinian evolutionary theory, which was, and continues to be, touted as an established scientific theory, first! It is important to stress that Popper does not reject Darwinian evolutionary theory altogether. He accepts that Darwinian evolutionary theory is useful for science. Popper calls it a useful "metaphysical research program," that is, a schema that guides one in discovering the specific mechanisms that take place in the evolutionary process. His claim is only that it is not itself a scientific theory. Popper's reasoning is illuminating.

Recall that Darwin's evolutionary theory purports to explain why the species we find in existence today, e.g., the African lion as opposed to some other big cat, has survived. His explanation is that the African lion has survived to the present day rather than one of the other large powerful saber-toothed cats in existence a million years ago because it was more "fit" than its competitors.

But what is the "empirical content" of the claim that it is "more fit" than its competitors? The answer, Popper points out, is that the African lion is the one that has in fact survived. But we already know that independently of Darwin's "theory!" Darwin's "theory" of the survival of the fittest reduces, therefore, to the claim that the one's that survived up to the present time are the ones that are most survivable - but that is akin to the tautology: The ones that survived are the ones that survived: "[A] considerable part of Darwin's theory is not ... an empirical theory but is akin to a logical truism" (*Objective Knowledge*, Chap. II, §16).

One can make the same point from another direction. Although Darwinian evolutionary theory claims it can explain why the African lion survived and its large saber-toothed competitors did not, consider the following thought experiment. Suppose that Darwin is magically transported back to the African plains 1-2 million years ago and provided with an exhaustive list of the facts on the ground about the various competing big cats in existence at the time. Popper points out that even if Darwin were given that knowledge, there is no way he could, with his theory of "the survival of the fittest," have predicted which of these species of big cats would survive into the 20th century! Darwin would have wait, with the rest of us, to see that it was actually the African lion that survived, at which point it would be declared, on that basis, to be "the fittest." But that is no explanation whatsoever. It is just a coronation after the fact.

For this reason, there is no way to show that Darwinian evolutionary theory is false. Since Darwinian evolutionary theory cannot make any predictions, none of its predictions can be falsified ... and that is very convenient. Since Darwinian evolutionary theory confines itself to "explaining" known facts, it can never be wrong in claiming that this known animal (e.g., the African lion) is the fittest. But, of course, it is! It is the one that survived. Further, since explanation and prediction are the two sides of the same coin, and since Darwinian evolutionary theory cannot predict anything, it cannot actually explain anything either. Its purported "explanations" are the result of a "rigged game" in which it already knows the correct answer (the African lion is the one that survived). Thus, a big part of Darwinian evolutionary theory is a logical truism, the ones that survived are the ones that survived, disguised as a scientific theory.

Popper claims that something similar is true of Freudian psychology. For example, Freud purports to explain S's frozen arm as the consequence of repressed sexual trauma in S's childhood. In fact, however, Freud's theory explains nothing. Consider the following thought-experiment. Suppose Freud is presented with a young child, S\*, who we know has just now, today, suffered sexual trauma. Can Freud predict whether S\*, when they have reached 20 years of age, will present neurotic symptoms and, if so, what form these will take?

The answer is obviously "No!" First, since neurotic symptoms take a plethora of forms, and since Freud cannot formulate any psychological laws that correlate specific forms of sexual abuse with specific symptoms, he cannot predict whether S\* when adult will have a frozen arm, or a fear of intimacy, or insomnia, or constant headaches, or agoraphobia, or fear of the dark, etc. Second, Freud cannot even predict whether S\* will display any neurotic symptoms at all in adulthood because, on his view, it is possible that S\*'s repression mechanisms will prevent any neurotic symptoms from becoming manifest by any given time. Just as Darwinian evolutionary theory can only say which species is most "fit" after the fact, that is, after evolution has declared the winners, so too Freud can only claim to be able to explain neurotic symptoms after the fact. That is, only after S presents the frozen arm can Freud claim to be able to explain that it is the result of repressed sexual trauma in childhood – but he could not have predicted the frozen arm in advance!

Further, if one were to present Freud with a child S\* that has just suffered sexual trauma in the present, he can predict nothing about S\*'s future development. He cannot predict which neurotic symptoms they will have. He cannot even predict that they will have any neurotic symptoms at all because their "repression mechanism" might suppress any symptoms. Freud's theory is another example of a theory that purports to be able to explain everything but can predict nothing, and that, for Popper, is the hallmark of a pseudo-scientific theory.

Further, since Freud's theory purports to be able to explain everything, but can predict nothing, it is compatible with all possible outcomes. It is compatible with the view that when S\* reaches adulthood they have a frozen arm, but it is also compatible with the view that when S\* reaches adulthood they do not have a frozen arm. It is compatible with the view that when S\* reaches adulthood they will suffer from agoraphobia, but it is compatible with the view that when S\* reaches adulthood they do not have agoraphobia, and so on.

In fact, Freud's theory is compatible with the view that when S\* reaches adulthood it has no neurotic

symptoms whatsoever. Freud's theory, like Darwinian Evolutionary theory, is unfalsifiable. This is concealed by the fact that Freud already knows the outcome, the frozen arm, before he purports to provide the "explanation" for it! But he could not have predicted it in advance. Since explanation and prediction are the two logical sides of the same coin, Freud cannot actually explain nothing. Freud tells an interesting and compelling story about neuroses and sexual trauma, but he is not doing science. The following section argues that Marxism suffers from defects similar to those in Darwinian evolutionary theory and Freudian psychology.

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## **VI. Marxism As Pseudo-Science**

The reason why Marxism fails the falsifiability criterion is somewhat different from the reasons why Darwinian evolutionary theory and Freudian psychology fail it. Recall that Marx holds that the "historicist" view that human society, beginning with feudalism, necessarily develops in a certain specific predictable way, specifically, that feudalism necessarily breaks down into capitalism, which necessarily breaks down into socialism, which necessarily devolves into full-fledged communism. Further, Marx holds that these successive breakdowns occur in a specific order. First, one cannot skip a step. Second, the breakdown of any form, e.g., capitalism, happens when it is at its most advanced stage. Specifically, Marx predicted that the socialist revolution would occur in England first and that it would not occur in feudal Russia.

Unlike Darwinian evolutionary theory and Freudian psychology which cannot make predictions at all, Marxism does make predictions. Marx does not wait until capitalism falls into socialism and say, after the fact, "See, I told you so." Marx predicts the collapse of capitalism into socialism in advance. This is the sort of risky prediction that for Popper is the hallmark of genuine science.

Thus, the problem with Marxism does not lie in the logical structure of the theory. The problem with Marxism is that when these Marxist predictions fail to come true, which they virtually always do, Marxists refuse to acknowledge this failure and make *ad hoc* hypotheses designed for the sole purpose of saving their cherished theory. For example, whereas Marxism predicts that the socialist revolution will occur first in the most developed capitalist country, England, and not in the still feudal country, Russia, the revolution actually occurred first in Russia and has still, to this day, not occurred in England.

Thus, Marxism got two of its central predictions wrong. A genuine scientist, like Einstein, faced with two major failed predictions, would have gone back to the drawing board and either abandoned the theory altogether or at least made major revisions to it.

To take just one example, when the socialist revolution occurred first in Russia, where Marxism states that it will not occur, Marxists have claimed that the revolution occurred first in Russia because of the great genius of Vladimir Lenin who understood where the historical dialectic was heading and was, therefore, able to push it along a bit faster than it would normally have gone. Unfortunately, the whole point of Marxism, without which it fails to have any predictive power at all, is that the historical dialectic cannot be influenced by individual human beings.

Thus, this "hypothesis," that it was Lenin's unique genius that enabled Russia to skip directly from feudalism to socialism, without going through the capitalist stage, is an *ad hoc* (after the fact) hypothesis designed to save original Marxism from falsification. To put it in the most basic terms, the Marxists, faced with falsifying observations, cheat to save their cherished theory. Faced with the choice between their cherished theory and reality, Marxists by and large choose their theory and give up on reality.

The consequences of the decision to eschew reality can be seen in Marxist countries, like the Soviet Union, Cuba and Venezuela, around the world. It is an interesting question why Marxists, as opposed, for example, to physicists or chemists, tend to cheat on this scale to save their pet theories. However, only a few brief remarks can be made here.

The reason why Marxists tend to cheat to save their cherished theory of historical development from falsification is that Marxism, dealing as it does with things that people value very much (e.g., socialism over capitalism, the comforting belief in the possibility of a utopian socialist "brotherhood" in which everyone is absolutely equal, etc.) readily changes from a purported scientific theory to an ideology believed with all fervor of a religious dogma. In this way, Marxists transformed their purported scientific theory into a matter of faith (and there is no end to the irony in that).

Asserting that "the workers of the world" would rise up in a socialist revolution to take down capitalism was changed from a scientific prediction into a religious ritual. In order to be accepted into the in-crowd of caring "woke" Marxist utopians one is required to chant such lyrics in unison and human nature being what it is, there is no end to the number of people willing to sing along in order to be accepted into the



"woke" in-crowd.

In summary, Darwinian evolutionary theory, Freudian psychology and Marxism all turn out to be unfalsifiable pseudo-sciences, but for different reasons. Whereas it is in the nature of Darwinian evolutionary theory and Freudian psychology to be unfalsifiable, Marxist "historicism," as originally articulated by Marx, is, at least potentially, a genuine falsifiable scientific theory. But Marxism was transformed from a genuine science to a pseudo-science when Marx's major predictions turned out to be false and Marxists chose the comfort of their own tailor-made quasi-religious faith to the trials and tribulations, but also the wonder, of reality.

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## VII. Einstein's Example

Since it might be difficult to obtain an overview of the abstruse philosophical arguments of the preceding four sections (III-VI) about the distinction between genuine scientific theories and pseudo-scientific theories, one might illustrate Popper's central insight in the following easy to understand way. Popper was extremely impressed with Einstein as an example of a genuine scientist to contrast with pseudo-scientists like astrologists, Freudians, Adlerians, Darwinian evolutionary theorists and Marxists. The pseudo-scientists typically put forward some theory  $F_x$  and set out to verify their theory. The schema should now be familiar:

Theory  $T_x$   $F_x$ .  
 $F_x$  is observed.  
Therefore,  $T_x$  is verified.

However, since, as Popper points out, verifications for one's favored theories can easily be found, it is not surprising that the pseudo-scientists typically find that their theories are verified. By contrast, Einstein, a genuine scientist, looked at his theories in precisely the opposite way. Popper puts it this way in [\*Unended Quest\*](#), §9):

*If somebody proposed a scientific theory, he [or she] should answer, as Einstein did, the*

*question: 'Under what conditions would I admit that my theory is untenable?' In other words, what conceivable facts would I accept as refutations, or falsifications, of my theory?*

That is, instead of trying to verify his own theories, Einstein tries to specify the conditions that would falsify his theory and then attempts to falsify it. This leads directly to Popper's main idea: What is important about a theory, what gives it its "empirical content," is not what it rules in, not what "verifies" it, but what it rules out; what, if observed, would falsify it.

Once again, it is very easy to find things that verify a given theory, e.g., all of Freud's patients who were very happy by Freud's diagnosis of the sources of their neurosis. But what gives a scientific theory empirical content is not that it can produce verifications, many of which are "safe," but that it makes risky predictions that, if these turn out to be false, refute the theory. Freud's hysteric patients, the African lion, and the fact that a revolutionary banner is flying somewhere in London in 1848 do seem to verify, respectively, Freud's theory, Darwinian evolutionary theory, and Marx's theory of historical development.

But, Popper argues, verifications are cheap. The genuine scientist, like Einstein, asks what would falsify their theory and then they try to falsify it. When one genuinely tries to falsify a theory  $T_x$  and fails, one has the right to count  $T_x$ , not as a verified theory, but as an unfalsified conjecture. Indeed, part of the significance of the title to Popper's excellent book, *Conjectures and Refutations*, is that we should replace talk about "verified theories" with talk about "conjectures that have not been refuted yet." The "yet" is important. For this fosters an undogmatic attitude in science.

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## **VIII. Critical Rationalism And An "Open Society"**

Popper develops his notion of falsifiability specifically in connection with the philosophy of science. His aim is to demarcate genuine scientific theories like Einstein's Theory of Relativity from pseudo-scientific theories like Marxism and Freudian psychology. However, Popper aims to expand his anti-dogmatism from scientific reasoning to all reasoning. This, he holds, is justified because, as he states in the Preface to the first English edition of *The Logic of Scientific Discovery*, scientific reasoning is a kind of paradigm of all of our different kinds of reasoning: "The growth of knowledge can be studied best by studying the

growth of scientific knowledge." Thus, Popper aims to extend his falsifiability criterion, by analogy, to reasoning in philosophy, religion, morals, aesthetics, etc. Obviously, one cannot require that these mostly non-empirical theories and views are empirically falsifiable. However, one can require that theories and views in each of these areas is open to continual criticism.

In order to ensure that this critical spirit is preserved one requires what Popper calls an "open society" rather than a closed one, that is, 1) a society that honors and cultivates problem solving, 2) a society that promotes bold risky theorizing accompanied by unfettered criticism, and, equally importantly, 3) a society that permits the possibility of genuine change as the result of that criticism.

In his 1994 book *All Life Is Problem Solving*, Popper argued that modern Western liberal democracies are the closest approximation we have yet found to open societies and he defended them as "the best of all political worlds of whose existence we have any historical knowledge." The value of these open liberal democracies lies primarily in their ideal of individual freedom and ability to peacefully self-correct over time.

Other philosophers, J. S. Mill, etc., have defended the liberal democracies, but Popper grounds his defence of these systems of government in his epistemological views, specifically in his concept of critical rationalism, which, in turn, is grounded in his account of scientific reasoning as problem solving by means of trial and error, what Popper recasts as "conjecture and refutation."

The United States, which Popper much admired in the 1950's for its cultivation of individuality and freedom, has, until recently, aspired to the idea of an "open society." Unfortunately, both elected and unelected individuals who believe, apparently, that they have some privileged access to the truth and some greater claim to morality than ordinary citizens have begun censoring people, including the elected president of the United States, with whom they disagree (or, perhaps, to be more precise, people who stand in the way of their unfettered accumulation of wealth and power).

One might believe that the United States, with its "Bill of Rights," its first and second amendments to the constitution, the hallmarks of a free self-governing people, and its traditions of tolerance and respect for others can never turn into a dictatorship. However, as Popper, who had to flee Austria during the rise of Nazism knew only too well, one can never be complacent, for "dictatorship can happen anywhere." The following section discusses what Popper saw as the two main intellectual threats to an "Open Society."

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## IX. The Two Intellectual Threats To An Open Society: "Historicism" And "Holism"

In the Introduction to the 2012 edition of [\*The Open Society and its Enemies\*](#), Popper begins by describing the fragility of our own short lived Western "open society:"

*[This book] sketches some of the difficulties faced by our civilization—a civilization that... [aims] at humanness and reasonableness, at equality and freedom; a civilization that is still, as it were, in its infancy, and which still continues to grow and despite the fact that it has so often been betrayed by so many of the intellectual leaders of mankind. It attempts to show that this civilization has not yet recovered from the shock of its birth—the transition from the tribal or 'closed' society, with its submission to magical forces, to the 'open' society, which sets free the critical powers of man. It attempts to show that the shock of this transition is one of the factors that have made possible the rise of reactionary movements [that try to] overthrow civilization and return to tribalism. [The book] suggests that what we now call totalitarianism belongs to a tradition that is just as old, or just as young, as civilization itself... It tries thereby to contribute to our understanding of totalitarianism, and of the significance of the perennial fight against it."*

Popper warns that the citizens in the Western democracies take much in our "open" rational Western civilizations for granted and fail to appreciate how fragile it is, how easily it could fall back into the magical thinking and totalitarianism of the closed societies from which it so recently emerged. In Chapter 5 he describes the nature of these "closed" societies in greater detail:

*It is one of the characteristics of the magical attitude of a primitive tribal or "closed" society that it lives in a charmed circle of unchanging taboos of laws and customs which are felt to be as inevitable as the rising of the sun, or the cycle of the seasons, or similar obvious regularities of nature. And it is only after this magical "closed society" has broken down that the theoretical understanding of the difference between nature and "society" can develop.*

According to Popper, "historicism" and "holism" are the two main intellectual currents in the modern world that attempt to return us to such a comforting "magical 'closed society'" of "inevitable" totalitarian and tribal laws and customs. Both of these tendencies are exemplified in Marx's claim to have

discovered the "laws of economic motion" that govern human history.

The particular "laws of economic motion" that Marx purports to have discovered tell us that human history is moving inevitably, just like the inexorable natural cycle of the seasons, towards the triumph of the ultimate tribe, the charmed circle" of the "chosen people," an abstract communist brotherhood (updated recently to include an absolutely equal sisterhood as well that Marx, in what Kierkegaard might call a moment of "world-historical absent-mindedness," himself forgot to mention at the time), chosen, not by fallible human beings, but by the cosmic historical dialectic itself (the closest thing to a God that remains after the grand "scientific" historicist purge).

The greatest virtue (if one may still be permitted to speak of virtues) of this magical historical dialectic is that the human beings that survive it are relieved of the burden of being free individuals existing in and for themselves by being reduced to a "comrade," a member, just like any other, of the abstract historically chosen brotherhood and sisterhood. Should one be curious about what individuality means for Marx one will be disappointed. The notion of individuality only occurs once in the one thousand and eighty-four pages of Volume 1 of the 1990 edition of *Capital*, and that not in the work itself, but in the Preface to the first edition. Marx there explains that *"individuals are dealt with here only insofar as they are the personification of economic categories, the bearers [Träger] of particular class-relations and interests"* and goes on to add that his standpoint, "less than any other [can] make the individual responsible for [class] relations whose creature he remains..." One must read the last clause carefully, Marx holds that the individual remains "the creature" of [class] relations" for which he is not responsible, or, as Popper might put it, Marx holds that the individual remains "submitted" to magical forces that are, in a "primitive tribal or 'closed' society," seen as just as inevitable as the natural cycles. That is, Popper sees Marxism as a return, under the guise of a new "science," to the magical fortune-telling of totalitarian tribal primitivism.

For Popper, it is no more a surprise that Marx's predictions failed to come true than that the primitive shaman's prediction about the future of the tribe based on his reading of the cracks in a tortoise shell fail to come true. For, there are no secret cycles of history accessible to primitive shamans and Marxists. It is worth pointing out that Popper also sees Freudianism as a return to this same primitive magical thinking based on belief in insight into the secret cycles of history (sexual trauma in child is causally linked to neurosis in adults - but don't ask for any precisely formulated laws linking the two because the link can only be glimpsed by the well-paid shaman sitting beside the paying patient on the couch). Since, however, Marx's magical mode of thinking is our main subject here, Popper's more detailed

critique of Freud's brand of fortune-telling must be left for another occasion.

Popper's basic argument against all species of historicism, given in schematic form in the Preface to his [\*The Poverty of Historicism\*](#), is that since it is impossible to predict the future growth of human knowledge (because, roughly, that would require one to know something before one knows it), and since the growth of human knowledge has a major influence on the development of human history, it is literally impossible to predict the future course of human history (as Marx and other "historicists" purport to do).

The failure of Malthus' prediction about the inevitability of mass starvation in England illustrates Popper's point. For, there is no way Malthus could know on the basis of the scientific knowledge of his day how the future growth of human knowledge would enable human beings to avoid his dire predictions.

The failure of Marx's prediction of the necessary collapse of capitalism into socialism is another. For there is simply no way Marx could know on the basis of the scientific knowledge of his day how the future growth of human knowledge would enable human beings to modify their institutions to escape the collapse of capitalism. There is, for example, no way he could know that capitalism would produce so much wealth that the worker and capitalist classes would begin to merge, thereby defusing the antagonism between them.

Astonishingly, "historicists" in general forget the mundane fact that human beings can actually learn new things that enable them to change the course of their history. Human beings are not termites that build their castle to the cycle of the seasons. Indeed, it is the ability to learn new things and take one's destiny in one's own hands that distinguishes the emergence of human civilization from blind nature.

Popper holds that "historicism" is a threat to an "open society" because historicists tell people that their future is not in their hands but is already determined by the great impersonal forces of history. That is, if the collapse of capitalism and rise of socialism and communism is inevitable, why should one fight to save capitalism? Similarly, since capitalism is doomed by virtue of Marx's "economic laws of motion," why should one not help hasten its demise in order to usher in the inevitable glorious era of socialism and communism?

Since socialism and communism are "necessarily" coming anyways, it is much better, not to mention

more healthy and more profitable, to be on "the right side of history" (much better to be one of the comrades in the communist Ministry of Truth than one of the dissidents in a gulag), but to know what "the right side of history" is one must consult the right shaman or Marxist. It is just a shame that history shows that Marxists and other shamans regularly get their predictions wrong.

Similarly, "holism" (or collectivism) also tells people that their nature and destiny are not in their own individual hands, not something for which Marx's "creatures" are individually responsible, but something that is only determined by the whole collective. In Marx's version of "holism," the whole is one's "class" (defined solely in economic terms). Thus, in a capitalist society, one is either, with a few exceptions, a member of the "worker" class or the "capitalist" class which are, according to Marxist edicts, by their very nature, "antagonistic" to each other. As Marx states in "The Coming Upheaval" (excerpted from the end of his *The Poverty of Philosophy*), the worker's class "constitutes itself as a class for itself," which means that the worker's interests are its "class interests" (period).

Consider, for example, a hypothetical worker Mary. Since Mary's interests are her "class interests" and since the worker's class is intrinsically "constituted for itself" against an antagonistic class of capitalists, Mary's interests are reduced to her working classes struggle with the capitalist class – whether Mary likes it or not. For example, Mary, left to her own individual devices, might not have any intrinsic antagonism towards capitalists. In fact, a capitalist, Rob, gave Mary her job. The two might actually, on the personal level, like and admire each other. However, Marx's holism, his communism, refuses to see Mary as anything other than an abstract representative of the working class ("the personification of economic categories"). Thus, any possibility of a mutually beneficial relationship between Mary and Rob is *verboten*. For the great historical dialectic has determined that Mary must be intrinsically antagonistic to Rob. There is no point resisting this class antagonism because it is a necessary consequence of the great impersonal economic forces of history.

Thus, in the same document, Marx asks, *"Isn't it at all surprising that a society founded on opposition of classes against classes should culminate in brutal 'contradiction', the shock of body against body [violence], as a final dénouement?"* Too bad for Mary and Bob, both of whom, had they been free to be themselves, might have been quite happy together!

It is also worth pointing out that Marx's theoretical assertion of the necessity of violence ("brutal... shock of body against body") between the different classes can become a self-fulfilling prophecy. That is, teaching that class war is necessary to generations of students can lead to the creation of conflict



where none need exist.

After all, if Marxian "science" states that Z, as a worker, is intrinsically antagonistic to members of the capitalist class, then Z is likely to cultivate such antagonisms where none need exist. Why should Z not cultivate these antagonisms? Z is taught that they are written into the structure of the cosmos. It could be, therefore, that the class war is inevitable, not because of Marx's great impersonal forces of history, but because indoctrinating generation after generation of students with these radical theories instills these antagonisms in people that might otherwise have learned to work together to solve problems.

The primitive, magical, tribal belief that there is a necessary antagonism between the different classes, not Marx's fictitious "laws of economic motion," itself makes the destructive cycle of class struggles inevitable. Eldridge Cleaver, a violent socialist, communist and Marxist in his youth, eventually saw through this self-destructive policy and joined his capitalist benefactors.

It is noteworthy that Marx sees his theory of dialectical materialism as a "scientific" antidote to the magical religious superstitions of the past. In his commentary on Hegel's *Philosophy of Right*, Marx describes religion, which he aims to replace by his "science" of dialectical materialism, as "the opiate of the masses." Popper holds that the shoe is on the other foot. That is, Popper sees Marxism (and Freudianism) as a return to the magical tribal superstitions of the "closed" totalitarian tribes of the primitive past.

These kinds of tribal superstitions are seductive for just that reason. Since the human race has only recently escaped its tribal totalitarian past with its seductive magical thinking, the egg-shells of those primitive beliefs still cling to human society. Since, however, the human race has acquired the beginnings of critical rationality, these old magical ways of thinking can only be revived if they are cloaked in the guise of science. Since no genuine scientist could possibly confirm the magical connections conjured by Marx and Freud, it must be a new kind of science, not like Newton's or Einstein's genuine testable sciences, but an unfalsifiable science that resembles a new religious dogma.

Indeed, this is one of the reasons that Marxism is so hostile to religion. For Marxism and religion are competitors. Specifically, Marxism is attempting to occupy the position formerly held by theistic religions like Christianity. Marxism is the translation, so to speak, of the theistic salvation story into a purely "materialistic" medium. The Christian's spiritual pilgrimage through the trials and temptations of

human life is replaced by the dialectical advance through the trials and temptations of capitalism.

When, in a footnote to the end of Chapter 32 of *Capital*, Marx describes the "proletariat" (the working class) "alone" as the "really revolutionary class," he is describing the group redeemer sent by the inexorable dialectical process to save humanity from its capitalist sinners. The spiritual heaven, the absolute unitary whole of God's kingdom that awaits devout Christians in the afterlife, is replaced by the unitary whole of the communist paradise at Marx's "end of history." This is Christian eschatology (the "end of times" story) translated into Marx's materialist terms. The absolute truth of the Christian story of salvation is replaced by the absolute laws and cycles of history as consecrated by the new unfalsifiable "science" of dialectical materialism, the closest thing to a "God" remains for completely material (economic) beings. There is no use resisting the inexorable ("necessary") laws of dialectical materialism for the same reason there is no use resisting the Almighty in heaven. For neither can be resisted. Marxism is cosmic totalitarianism made (pseudo) "scientific" as a new opiate for the "materialist" masses to replace the religious views it attempts to replace.

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## **X. Popper's Ideal Of Socratic Humility**

This article begins by noting the totalitarianism currently overtaking society in the United States, the ignorant angry snarling mobs of children at Evergreen University and other universities around the country threatening their teachers and administrators, the censorship of conservatives and the President of the United States by all-knowing leftist tech billionaires, the Lilliputian members of the "news" media whose shows with their tiny arrows more resemble *Saturday Night Live* than they do a genuine "news" shows, the "cancel culture" that is so afraid of hearing an opposing view that, like the old Soviet Union, it "disappears" people that might hurt its feelings, the return to tribalism in "identity politics" that divides people into antagonistic camps based on their skin color, gender, ethnicity, etc., the calls by transparent partisans about setting up a Ministry of Truth to enlist government power, Soviet-style, to impose their views on the oppressed masses, the unfalsifiable (and, in fact, unformulable) assertions of "white privilege" and "systemic racism," and other recently popular forms of magical thinking used to bully people into submission, etc.

Popper formulated his criterion of falsifiability in his philosophy of science, and, later, his more general notion of "critical rationalism," in order to enable one to distinguish genuine rational thinking from just

these sorts of dogmatic nonsense. Unfortunately, fed by the decay of rational standards in our universities led by Marxists and other tribalists and shamans, all these lessons have been lost in the rush to the bottom. Talk of "rational standards" has become mere words, quickly sacrificed to the emotional cause du jour. As Popper, who lived through a similar national psychosis once before and had to flee Austria because of it, knew, there is literally no way that this ends well.

There is no better way to understand Popper's anti-dogmatic ideal than to realize that although Popper opposed Plato, who he saw as one of the greatest dogmatists of all time, he considered himself as a disciple of Plato's teacher, Socrates:

*The encounter with Marxism was one of the main events of my intellectual development. It taught me a number of lessons I have never forgotten. It taught me the wisdom of the Socratic saying, "I know that I do not know." It made me a fallibilist, and impressed on me the value of intellectual modesty. And it made me most conscious of the difference between dogmatic and critical thinking ([Unended Quest](#), §8).*

One often thinks of Socrates and Plato as virtually indistinguishable because Plato is Socrates' most famous student and because we know most of what we know about Socrates from Plato. However, there are some respects in which the two appear to be virtually opposites. Whereas Plato, in his [Republic](#), outlines a very totalitarian political system in which certain views, even lies ("noble lies") are enforced by the state, Socrates, as reported in Plato's [Apology](#) (21d), taught the opposite, that human wisdom consists in one thing only, that one knows that one knows nothing. Socrates in that passage also adds that wisdom consists in humility before God.

Popper's entire mission is best understood as a call to return to the humble wisdom of the Socratic ideal. He implies this on the very first page of his [Unended Quest](#) where he explains how he became "a disciple of Socrates." The students at our universities who think they know something because they have taken a course, or read a book, or attended some lectures, or acquired a degree, the Lilliputians in big tech and the mainstream "news" media who have somehow acquired the idea that their huge bank accounts somehow imbues them with genuine philosophic wisdom, many of our "educators" and politicians who are blinded by the sin of pride that, unfortunately, seem to infect these professions, and many others that, similarly, have no sense whatsoever of their own great limitations, could benefit by lesson in Socratic humility.

Perhaps every people need a Socrates to make them examine themselves but ours more than most. For acquiring genuine wisdom about the great issues of human life requires a kind of commitment and personal sacrifice, and the humility that only one who makes that kind of commitment and sacrifice can understand, that, as Plato's brother Glaucon, puts it in the *Republic* (450b): [F]or intelligent people, "the proper measure of listening to such arguments is a whole life."

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*The [featured image](#) shows, "View on L'Étang-la-Ville from the ruelle de la Coulette," by Be de Waard, date unknown.*

