Provide multiple answers but suspends judgements given no betting considerations…

<https://nlp.cornell.edu/courses/> - NLP courses

<http://www.cs.yale.edu/homes/spielman/561/> - Spectral Graph Theory

<https://web.stanford.edu/~jugander/mse334/> - Topics in Social Data

<http://www.gaussianprocess.org/gpml/chapters/> - Gaussian Process for ML

<http://www.cs.cornell.edu/courses/cs6241/2019sp/readings/Eikmeier-2017-spectra.pdf>

By studying a large number of real world graphs, we nd empirical evidence that most real world graphs have a statistically signi- cant power-law distribution with a cuto in the singular values of the adjacency matrix and eigenvalues of the Laplacian matrix in addition to the commonly conjectured power-law in the degrees. Among these results, power-laws in the singular values appear more consistently than in the degree distribution. e exponents of the power-law distributions are much larger than previously observed. We nd a surprising direct relationship between the power-law in the degree distribution and the power-law in the eigenvalues of the Laplacian that was theorized in simple models but is extremely accurate in practice. We investigate these ndings in large networks by studying the cuto value itself, which shows a scaling law for the number of elements involved in these powerlaws. Using the scaling law enables us to compute only a subset of eigenvalues of large networks, up to tens of millions of vertices and billions of edges, where we nd that those too show evidence of statistically signicant power-laws.

<https://arxiv.org/abs/1111.4503>

First, we characterize the global structure of the graph, determining that the social network is nearly fully connected, with 99.91% of individuals belonging to a single large connected component, and we confirm the "six degrees of separation" phenomenon on a global scale. Second, by studying the average local clustering coefficient and degeneracy of graph neighborhoods, we show that while the Facebook graph as a whole is clearly sparse, the graph neighborhoods of users contain surprisingly dense structure. Third, we characterize the assortativity patterns present in the graph by studying the basic demographic and network properties of users. We observe clear degree assortativity and characterize the extent to which "your friends have more friends than you". Furthermore, we observe a strong effect of age on friendship preferences as well as a globally modular community structure driven by nationality, but we do not find any strong gender homophily. We compare our results with those from smaller social networks and find mostly, but not entirely, agreement on common structural network characteristics.

Degress of beliefs can be modeled as probs. Rules of prob ensure identical conclusions are made if assumptions and data are identical. Subj int of prob. You can not infer without assuming. Prob desc inference -> deduce/ induce/ abdudce.

Interpolate - Inside

Extrapolate - Outside.

Joint P(x,y) | forms the table

Marginal P(y=a) == Sigma P(x, y=a) | forms table row/col at margins of table as totals

Conditional P(x=b | y=a) | P(x=b, y=a)/P(y=a) | any other kinda row/col subsection in the table.

Bayesian Issues:

#### **4.2.1 Interpretations of the probability over hypotheses**

* Interpreting prob as beliefs from which to act from is an issue.
* - how we should understand the probability assigned to a statistical hypothesis
* probability expresses the strength of belief in the hypothesis
* little sense to attempt a physical interpretation since the hypothesis cannot be seen as a repeatable event, or as an event that might have some tendency of occurring.
* -> This leaves open several interpretations of the probability assignment as a strength of belief. One very influential interpretation of probability as degree of belief relates probability to a willingness to bet against certain odds… There are several problems with this interpretation of the probability assignment over hypotheses. For one, it seems to make little sense to bet on the truth of a statistical hypothesis, because such hypotheses cannot be falsified or verified. it is not clear that beliefs about statistical hypotheses are properly framed by connecting them to behave in this way.
* - > Bayesian formalism requires that we assign a probability distribution over hypotheses
* -> Probs dist sum to 1 -> Certainty that the true hypothesis is included in model
* -> Moreover, the probability assignment over hypotheses seems to entail that the Bayesian statistician is certain that the true hypothesis is included in the model. This is an unduly strong claim to which a Bayesian statistician will have to commit at the start of her analysis. It sits badly with broadly shared methodological insights (e.g., Popper 1934/1956), according to which scientific theory must be open to revision at all times (cf. Mayo 1996). In this regard Bayesian statistics does not do justice to the nature of scientific inquiry, or so it seems.

#### **4.2.2 Determination of the prior**

#### One obvious problem with this idea is that the opinion of the scientist might not be precise enough for a determination of a full prior distribution. It does not seem realistic to suppose that the scientist can transform her opinion into a single real-valued function over the model, especially not if the model itself consists of a continuum of hypotheses. But the more pressing problem is that different scientists will provide different prior distributions, and that these different priors will lead to different statistical results. In other words, Bayesian statistical inference introduces an inevitable subjective component into scientific method.

* the statistical results depend on the initial opinion of the scientist. But it may so happen that the scientist has no opinion whatsoever about the hypotheses. How is she supposed to assign a prior probability to the hypotheses then? The prior will have to express her ignorance concerning the hypotheses. The leading idea in expressing such ignorance is usually the *principle of indifference*: ignorance means that we are indifferent between any pair of hypotheses. For a finite number of hypotheses, indifference means that every hypothesis gets equal probability. For a continuum of hypotheses, indifference means that the probability density function must be uniform.
* Nevertheless, there are different ways of applying the principle of indifference and so there are different probability distributions over the hypotheses that can count as expression of ignorance. This insight is nicely illustrated in Bertrand's paradox .
* -The point is not that ignorance concerning a parameter is hard to express in a probability distribution over those values. It is rather that in some cases, we do not even know what parameters to use to express our ignorance over.
* In part the problem of the subjectivity of Bayesian analysis may be resolved by taking a different attitude to scientific theory, and by giving up the ideal of absolute objectivity. Indeed, some will argue that it is just right that the statistical methods accommodate differences of opinion among scientists. However, this response misses the mark if the prior distribution expresses ignorance rather than opinion: it seems harder to defend the rationality of differences of opinion that stem from different ways of spelling out ignorance. Now there is also a more positive answer to worries over objectivity, based on so-called *convergence results* (e.g., Blackwell and Dubins 1962 and Gaifman and Snir 1982). It turns out that the impact of prior choice diminishes with the accumulation of data, and that in the limit the posterior distribution will converge to a set, possibly a singleton, of best hypotheses, determined by the sampled data and hence completely independent of the prior distribution. However, in the short and medium run the influence of subjective prior choice remains.
* The undeniable advantage of the classical statistical procedures is that they do not need any such input, although arguably the classical procedures are in turn sensitive to choices concerning the sample space (Lindley 2000).
* The philosophy of Bayesian statistics offers a wide range of responses to the problems outlined above. Some Bayesians bite the bullet and defend the essentially subjective character of Bayesian methods. Others attempt to remedy or compensate for the subjectivity, by providing objectively motivated means of determining the prior probability or by emphasizing the objective character of the Bayesian formalism itself.
* The philosophy of Bayesian statistics offers a wide range of responses to the problems outlined above. Some Bayesians bite the bullet and defend the essentially subjective character of Bayesian methods. Others attempt to remedy or compensate for the subjectivity, by providing objectively motivated means of determining the prior probability or by emphasizing the objective character of the Bayesian formalism itself.
* proposed to axiomatize statistics in tandem with *decision theory*, a mathematical theory about practical rationality. He argued that by themselves the probability assignments do not mean anything at all, and that they can only be interpreted in the context where an agent faces a choice between actions, i.e., a choice among a set of bets. In similar vein, De Finetti (e.g., 1974) advocated a view on statistics in which only the empirical consequences of the probabilistic beliefs, expressed in a willingness to bet, mattered but he did not make statistical inference fully dependent on decision theory. Remarkably, it thus appears that the subjectivist view on Bayesian statistics is based on the same behaviorism and empiricism that motivated Neyman and Pearson to develop classical statistics.

#### 4.3.5 Objective priors -> use maths Fisher Information to assign priors. 4.3.6 Circumventing priors -> If we characterize possible priors by means of a set of parameters, we can express this uncertainty about prior choice in a probability distribution over the parameters that characterize the shape of the prior. In other words, we move our uncertainty one level up in a hierarchy: we consider multiple priors over the statistical hypotheses, and compare the performance of these priors on the sample data as if the priors were themselves hypotheses. hierarchical Bayesian modeling (Gelman et al 2013)

* most of the practical use of Bayesian statistics is more or less insensitive to the potentially subjective aspects of the statistical results, employing uniform priors as a neutral starting point for the analysis and relying on the afore-mentioned convergence results to wash out the remaining subjectivity (cf. Gelman and Shalizi 2013). However, this practical attitude of scientists towards modelling should not be mistaken for a principled answer to the questions raised in the philosophy of statistics (see Morey *et al* 2013)

5. Statistical Models

* Whereas in Bayesian statistics the model presents a very strong assumption, classical statistics does not endow the model with a special epistemic status: they are simply the hypotheses currently entertained by the scientist. But across the board, the adoption of a model is absolutely central to any statistical procedure.
* The evaluation of models touches on deep issues in the philosophy of science, because the statistical model often determines how the data-generating system under investigation is conceptualized and approached (Kieseppa 2001). Model choice thus resembles the choice of a theory, a conceptual scheme, or even of a whole paradigm, and thereby might seem to transcend the formal frameworks for studying theoretical rationality (cf. Carnap 1950, Jeffrey 1980). Despite the fact that some considerations on model choice will seem extra-statistical, in the sense that they fall outside the scope of statistical treatment, statistics offers several methods for approaching the choice of statistical models.
* Model Comparison. Evaluation.

#### 5.2 Statistics without models - > There are also statistical methods that refrain from the use of a particular model, by focusing exclusively on the data or by generalizing over all possible models. Some of these techniques are properly localized in descriptive statistics: they do not concern an inference from data but merely serve to describe the data in a particular way.

#### 5.2.1 Data reduction techniques -> The first step in a statistical analysis may then be to pick out the salient variability in the data, in order to scale down the computational burden of the analysis itself. *principal component analysis* (PCA) is designed for this purpose (Jolliffe 2002).

* PCA is only one item from a large collection of techniques that are aimed at keeping the data manageable and finding patterns in it, a collection that also includes *kernel methods* and *support vector machines* (e.g., Vapnik and Kotz 2006).
* For present purposes, it is important to stress that such tools should not be confused with statistical analysis: they do not involve the testing or evaluation of distributions over sample space, even though they build up and evaluate models of the data.
* identify salient dimensions within sample space, along which the data show large variation.
* Practicing statisticians often employ data reduction tools to arrive at conclusions on the distributions from which the data were sampled. little debate over the epistemic status of conclusions reached by means of these techniques. Philosophers of statistics would do well to direct some attention here.

#### 5.2.2 Formal learning theory -> The discipline is here mentioned briefly, as another example of an approach to statistics that avoids the choice of a statistical model altogether and merely identifies patterns in the data. We leave aside the theory of *neural networks*, which also concerns predictive systems that do not rely on a statistical model

* Pioneering work on formal learning was done by Solomonoff (1964). the central idea of Solomonoff is that all possible computable patterns must be considered by the agent, and therefore that no restrictive choice on statistical hypotheses is warranted. Solomonoff then defined a formal system in which indeed all patterns can be taken into consideration, effectively using a Bayesian analysis with a cleverly constructed prior over all computable hypotheses
* This general idea can also be identified in a rather new field on the intersection of Bayesian statistics and machine learning, *Bayesian nonparametrics* (e.g., Orbanz and Teh 2010, Hjort et al 2010). Rather than specifying, at the outset, a confined set of distributions from which a statistical analysis is supposed to choose on the basis of the data, the idea is that the data are confronted with a potentially infinite-dimensional space of possible distributions. The set of distributions taken into consideration is then made relative to the data obtained: the complexity of the model grows with the sample. The result is a predictive system that performs an online model selection alongside a Bayesian accommodation of the posterior over the model.
* Current formal learning theory is a lively field, to which philosophers of statistics also contribute (e.g., Kelly 1996, Kelly et al 1997). Particularly salient for the present concerns is that the systems of formal learning are set up to achieve some notion of adequate *universal prediction*, without confining themselves to a specific set of hypotheses, and hence by imposing minimal constraints on the set of possible patterns in the data. It is a matter of debate whether this is at all possible, and to what extent the predictions of formal learning theory thereby rely on, e.g., implicit assumptions on structure of the sample space. Philosophical reflection on this is only in its infancy.
* One very important topic that is immediately adjacent to the philosophy of statistics is [confirmation theory](https://plato.stanford.edu/entries/confirmation/), the philosophical theory that describes and justifies relations between scientific theory and empirical evidence. Arguably, the theory of statistics is a proper part of confirmation theory, as it describes and justifies the relation that obtains between statistical theory and evidence in the form of samples. It can be insightful to place statistical procedures in this wider framework of relations between evidence and theory. Zooming out even further, the philosophy of statistics is part of the philosophical topic of methodology, i.e., the general theory on whether and how science acquires knowledge. Thus conceived, statistics is one component in a large collection of scientific methods comprising concept formation, experimental design, manipulation and observation, confirmation, revision, and theorizing.
* -Statistics investigates and develops specific methods for evaluating hypotheses in the light of empirical facts.
* A method is called statistical, and thus the subject of study in statistics, if it relates facts and hypotheses of a particular kind: the empirical facts must be codified and structured into data sets, and the hypotheses must be formulated in terms of probability distributions over possible data sets.
* The philosophy of statistics concerns the foundations and the proper interpretation of statistical methods, their input, and their results.
* Phenomenon = truth
* Attributes = subjective representation of the truth (a phenomenon)
* Observation = most objective form of representing attributes derived directly subjective interpretation of phenomenon
* Beliefs - subjective interpretation of the objectively subjective observations.

### 7.1 Pragmatic Vindication

The aim of inductive inference, according to Reichenbach, is “*to find series of events whose frequency of occurrence converges towards a limit*” (1938 [2006: 350]). It is possible that the world is so disorderly that we cannot construct series with such limits. But if there is a limit, there is some element of a series of observations, beyond which the principle of induction will lead to the true value of the limit. Although the inductive rule may give quite wrong results early in the sequence, as it follows chance fluctuations in the sample frequency, it is guaranteed to eventually approximate the limiting frequency, if such a limit exists. Therefore, the rule of induction is justified as an instrument of positing because it is a method of which we know that if it is possible to make statements about the future we shall find them by means of this method (Reichenbach 1949: 475). This justification is taken to be a pragmatic one, since though it does not supply knowledge of a future event, it supplies a sufficient reason for action (Reichenbach 1949: 481).

here are several problems with this pragmatic approach. One concern is that the kind of justification it offers is too much tied to the long run, while allowing essentially no constraint on what can be posited in the short-run. Yet it is in the short run that inductive practice actually occurs and where it really needs justification (BonJour 1998: 194; Salmon 1966: 53).

Related to this is the worry that the justification is weak in the sense that it applies to many other rules of inference as well as the so-called “straight rule” (Salmon 1966: 53). It applies, in fact, to any method which converges asymptotically to the straight rule. An easily specified class of such rules are those which add to the inductive rule a function in which the functions converges to zero with increasing *n*.

Reichenbach makes two suggestions aimed at avoiding this problem. On the one hand, he claims, since we have no real way to pick between methods, we might as well just use the inductive rule since it is “easier to handle, owing to its descriptive simplicity”. He also claims that the method which embodies the “smallest risk” is following the inductive rule (Reichenbach 1938 [2006: 355–356]).

We may compare our situation to that of a man who wants to fish in an unexplored part of the sea. There is no one to tell him whether or not there are fish in this place. Shall he cast his net? Well, if he wants to fish in that place, I should advise him to cast the net, to take the chance at least. It is preferable to try even in uncertainty than not to try and be certain of getting nothing. (Reichenbach 1938 [2006: 362–363])

As Lange points out, the argument here “presumes that there is no cost to trying”. In such a situation, “the fisherman has everything to gain and nothing to lose by casting his net” (Lange 2011: 77). But if there is some significant cost to making the attempt, it may not be so clear that the most rational course of action is to cast the net. Similarly, whether or not it would make sense to adopt the policy of making no predictions, rather than the policy of following the inductive rule, may depend on what the practical penalties are for being wrong. A pragmatic solution may not be capable of offering rationale for following the inductive rule which is applicable in all circumstances

7.2 Formal Learning Theory

As we saw above, one of the problems for Reichenbach was that there are too many rules which converge in the limit to the true frequency. Which one should we then choose in the short-run? It is possible to broaden Reichenbach’s general strategy by considering what happens if we have other epistemic goals besides long-run convergence. Might other goals place constraints on which methods should be used in the short-run? The field of formal learning theory has developed answers to these questions (Kelly 1996; Schulte 1999; also see Schulte 2017).

In particular, formal learning theorists have considered the goal of getting to the truth as efficiently, or quickly, as possible, as well as the goal of minimizing the number of mind-changes, or retractions along the way. It has then been shown that the usual inductive method, which is characterized by a preference for simpler hypotheses (Occam’s razor), can be justified since it is the unique method which meets the standards for getting to the truth in the long run as efficiently as possible, with a minimum number of retractions (Schulte 1999).

Formal learning theory can be regarded as a kind of extension of the Reichenbachian programme. It does not offer justifications for inductive inferences, in the sense of giving reasons why they should be taken as likely to produce a true conclusion. Rather it offers reasons for following particular methods based on their optimality in achieving certain desirable epistemic ends, even if there is no guarantee that at any given stage of inquiry the results they produce are at all close to the truth

7.3 Meta-induction

Another approach to pursuing a broadly Reichenbachian programme is to move to the level of meta-induction. We can draw a distinction between applying inductive methods at the level of events—so-called “object-level” induction, and applying inductive methods at the level of competing prediction methods—so-called “meta-induction”. Whereas object-level inductive methods make predictions based on the events which have been observed to occur, meta-inductive methods make predictions based on aggregating the predictions of different available prediction methods according to their success rates. Here, the success rate of a method is defined according to some precise way of scoring success in making predictions.

The question is then whether there can be a meta-inductive method which is “predictively optimal” in the sense that following that method succeeds best in predictions among all competing methods, no matter what data is received. Gerhard Schurz has highlighted results from the regret-based learning framework of Cesa-Bianchi that there is a meta-inductive strategy that is predictively optimal among all predictive methods that are accessible to an epistemic agent (Cesa-Bianchi & Lugosi 2006; Schurz 2008, forthcoming). This meta-inductive strategy, which Schurz calls “wMI”, predicts a weighted average of the predictions of the accessible methods, where the weights are “attractivities”, which measure the difference between the method’s own success rate and the success rate of wMI.

The main result is that the wMI strategy is long-run optimal in the sense that it converges to the maximum success rate of the accessible prediction methods. Worst-case bounds for short-run performance can also be derived. The optimality result forms the basis for an *a priori* means-ends justification for the use of wMI. Namely, the thought is, it is reasonable to use wMI, since it achieves the best success rate possible in the long run out of the given methods.

Schurz also claims that this *a priori* justification of wMI, together with the contingent fact that inductive methods have so far been much more successful than non-inductive methods, gives rise to an *a posteriori* justification of induction. Since wMI will achieve in the long run the maximal success rate of the available prediction methods, it is reasonable to use it. But as a matter of fact, the maximal success rate is achieved by inductive methods. Therefore, since it is *a priori* justified to use wMI, it is also *a priori* justified to use the maximally successful method at the object level. Since it turns out that that the maximally successful method is induction, then it is reasonable to use induction.

Schurz’s theorems on the optimality of wMI apply to the case where there are finitely many predictive methods. One point of discussion is whether this amounts to an important limitation on its claims to provide a full solution of the problem of induction (Eckhardt 2010).

Reichenbach argued that even if Hume is right to think that we cannot be justified in thinking for any particular application of the rule that the conclusion is likely to be true, for the purposes of practical action we do not need to establish this. We can instead regard the inductive rule as resulting in a “posit”, or statement that we deal with as if it is true.

Psychographics  
<https://simplicable.com/new/cognitive-biases>  
<https://en.wikipedia.org/wiki/List_of_cognitive_biases>  
Ennui

Animus

Plemic

4 types of discourse  
  
[**https://plato.stanford.edu/entries/rationalism-empiricism/**](https://plato.stanford.edu/entries/rationalism-empiricism/) **- “Rationalists generally develop their view in two ways. First, they argue that there are cases where the content of our concepts or knowledge outstrips the information that sense experience can provide. Second, they construct accounts of how reason in some form or other provides that additional information about the world. Empiricists present complementary lines of thought.” .. “We can be rationalists in mathematics or a particular area of mathematics and empiricists in all or some of the physical sciences.”... “Descartes, Spinoza and Leibniz are the Continental Rationalists in opposition to Locke, Berkeley and Hume, the British Empiricists.” … “Historically, the rationalist/empiricist dispute in epistemology has extended into the area of metaphysics, where philosophers are concerned with the basic nature of reality, including the existence of God and such aspects of our nature as freewill and the relation between the mind and body. Major rationalists (e.g., Descartes 1641) have presented metaphysical theories, which they have claimed to know by reason alone. Major empiricists (e.g., Hume 1739–40) have rejected the theories as either speculation, beyond what we can learn from experience, or nonsensical attempts to describe aspects of the world beyond the concepts experience can provide. The debate raises the issue of metaphysics as an area of knowledge.” … “Descartes and Locke have remarkably similar views on the nature of our ideas, even though Descartes takes many to be innate, while Locke ties them all to experience. The rationalist/empiricist classification also encourages us to expect the philosophers on each side of the divide to have common research programs in areas beyond epistemology. Thus, Descartes, Spinoza and Leibniz are mistakenly seen as applying a reason-centered epistemology to a common metaphysical agenda, with each trying to improve on the efforts of the one before, while Locke, Berkeley and Hume are mistakenly seen as gradually rejecting those metaphysical claims, with each consciously trying to improve on the efforts of his predecessors. It is also important to note that the rationalist/empiricist distinction is not exhaustive of the possible sources of knowledge. One might claim, for example, that we can gain knowledge in a particular area by a form of Divine revelation or insight that is a product of neither reason nor sense experience.” … “To be a rationalist is to adopt at least one of three claims. The Intuition/Deduction thesis concerns how we become warranted in believing propositions in a particular subject area. : *The Intuition/Deduction Thesis*: Some propositions in a particular subject area, S, are knowable by us by intuition alone; still others are knowable by being deduced from intuited propositions.” … “The second thesis associated with rationalism is the Innate Knowledge thesis. *The Innate Knowledge Thesis*: We have knowledge of some truths in a particular subject area, S, as part of our rational nature. “ … “The third important thesis of rationalism is the Innate Concept thesis. *The Innate Concept Thesis*: We have some of the concepts we employ in a particular subject area, S, as part of our rational nature ” … “One defense of the Intuition/Deduction thesis assumes that we know some substantive external world truths, adds an analysis of what knowledge requires, and concludes that our knowledge must result from intuition and deduction. Descartes claims that knowledge requires certainty and that certainty about the external world is beyond what empirical evidence can provide. We can never be sure our sensory impressions are not part of a dream or a massive, demon orchestrated, deception” .. “ Deductions of any appreciable length rely on our fallible memory.”**[**https://en.wikipedia.org/wiki/Rationalism**](https://en.wikipedia.org/wiki/Rationalism)[**Empiricism**](https://en.wikipedia.org/wiki/Empiricism)

**Empiricism - Francis Bacon, John Lock, David Hume**

**Rationalist - Rene Descartes, Baruch Spinoza, Gottfried Leibniz**[**Immanuel Kant**](https://en.wikipedia.org/wiki/Immanuel_Kant) **(1724–1804) tried to reconcile** [**rationalism**](https://en.wikipedia.org/wiki/Rationalism) **and religious belief,** [**individual freedom**](https://en.wikipedia.org/wiki/Individual_freedom) **and political authority, as well as map out a view of the public sphere through private and public reason.**

[**https://en.wikipedia.org/wiki/Age\_of\_Enlightenment**](https://en.wikipedia.org/wiki/Age_of_Enlightenment)

**Some consider the publication of** [**Isaac Newton**](https://en.wikipedia.org/wiki/Isaac_Newton)**'s** [***Principia Mathematica***](https://en.wikipedia.org/wiki/Philosophi%C3%A6_Naturalis_Principia_Mathematica) **(1687)**

**French historians traditionally date the Enlightenment from 1715 to 1789**

**The ideas of the Enlightenment undermined the authority of the monarchy and the Church and paved the way for the political revolutions of the 18th and 19th centuries. A variety of 19th-century movements, including** [**liberalism**](https://en.wikipedia.org/wiki/Liberalism) **and** [**neoclassicism**](https://en.wikipedia.org/wiki/Neoclassicism)**, trace their intellectual heritage to the Enlightenment.**

**- Two distinct lines of Enlightenment thought: first, the moderate variety, following Descartes, Locke and** [**Christian Wolff**](https://en.wikipedia.org/wiki/Christian_Wolff_(philosopher))**, which sought accommodation between reform and the traditional systems of power and faith, and second, the radical enlightenment, inspired by the philosophy of** [**Spinoza**](https://en.wikipedia.org/wiki/Spinoza)**, advocating democracy, individual liberty, freedom of expression and eradication of religious authority.**[**[15]**](https://en.wikipedia.org/wiki/Age_of_Enlightenment#cite_note-FOOTNOTEIsrael200615-15)[**[16]**](https://en.wikipedia.org/wiki/Age_of_Enlightenment#cite_note-FOOTNOTEIsrael2010vii%E2%80%93viii,_19-16) **The moderate variety tended to be** [**deistic**](https://en.wikipedia.org/wiki/Deistic)**, whereas the radical tendency separated the basis of morality entirely from theology**

**Augustine of Hippo - 354 – 430 AD**

* **influenced the development of the** [**Western Church**](https://en.wikipedia.org/wiki/Western_Church) **and** [**Western philosophy**](https://en.wikipedia.org/wiki/Western_philosophy)**, and indirectly all of** [**Western Christianity**](https://en.wikipedia.org/wiki/Western_Christianity)**.**
* **According to his contemporary,** [**Jerome**](https://en.wikipedia.org/wiki/Jerome)**, Augustine "established anew the ancient Faith".**[**[a]**](https://en.wikipedia.org/wiki/Augustine_of_Hippo#cite_note-21) **In his youth he was drawn to** [**Manichaeism**](https://en.wikipedia.org/wiki/Manichaeism) **and later to** [**neoplatonism**](https://en.wikipedia.org/wiki/Neoplatonism)**. After his baptism and conversion to Christianity in 386, Augustine developed his own approach to philosophy and theology, accommodating a variety of methods and perspectives.**[**[21]**](https://en.wikipedia.org/wiki/Augustine_of_Hippo#cite_note-22) **Believing that the** [**grace of Christ**](https://en.wikipedia.org/wiki/Grace_in_Christianity) **was indispensable to human freedom, he helped formulate the doctrine of** [**original sin**](https://en.wikipedia.org/wiki/Original_sin) **and made seminal contributions to the development of** [**just war theory**](https://en.wikipedia.org/wiki/Just_war_theory)**. When the** [**Western Roman Empire**](https://en.wikipedia.org/wiki/Western_Roman_Empire) **began to disintegrate, Augustine imagined the Church as a spiritual** [**City of God**](https://en.wikipedia.org/wiki/New_Jerusalem#Christianity)**, distinct from the material Earthly City.**[**[22]**](https://en.wikipedia.org/wiki/Augustine_of_Hippo#cite_note-CC-23) **His thoughts profoundly influenced the medieval worldview. The segment of the Church that adhered to the concept of the** [**Trinity**](https://en.wikipedia.org/wiki/Trinity) **as defined by the** [**Council of Nicaea**](https://en.wikipedia.org/wiki/First_Council_of_Nicaea) **and the** [**Council of Constantinople**](https://en.wikipedia.org/wiki/First_Council_of_Constantinople)[**[23]**](https://en.wikipedia.org/wiki/Augustine_of_Hippo#cite_note-24) **closely identified with Augustine's** [***On the Trinity***](https://en.wikipedia.org/wiki/On_the_Trinity)**.**
* **Augustine is recognized as a saint in the Catholic Church, the Eastern Christian Church, and the** [**Anglican Communion**](https://en.wikipedia.org/wiki/Anglican_Communion) **and as a preeminent** [**Doctor of the Church**](https://en.wikipedia.org/wiki/Doctor_of_the_Church)**. He is also the patron of the** [**Augustinians**](https://en.wikipedia.org/wiki/Augustinians)**.**

**Aristotle - 384–322 BC**

* **Along with his teacher** [**Plato**](https://en.wikipedia.org/wiki/Plato)**, he has been called the "Father of** [**Western Philosophy**](https://en.wikipedia.org/wiki/Western_philosophy)**"**
* **tutored** [**Alexander the Great**](https://en.wikipedia.org/wiki/Alexander_the_Great) **beginning in 343 BC**

**René Descartes - 31 March 1596 – 11 February 1650 - founders of** [**modern philosophy**](https://en.wikipedia.org/wiki/Modern_philosophy)**.**

* **Many elements of Descartes' philosophy have precedents in late** [**Aristotelianism**](https://en.wikipedia.org/wiki/Aristotelianism)**, the** [**revived Stoicism**](https://en.wikipedia.org/wiki/Neostoicism) **of the 16th century, or in earlier philosophers like** [**Augustine**](https://en.wikipedia.org/wiki/Augustine_of_Hippo)**.**
* [**René Descartes**](https://en.wikipedia.org/wiki/Ren%C3%A9_Descartes)**'** [**rationalist**](https://en.wikipedia.org/wiki/Rationalist) **philosophy laid the foundation for enlightenment thinking. His attempt to construct the sciences on a secure metaphysical foundation was not as successful as his** [**method of doubt**](https://en.wikipedia.org/wiki/Cartesian_doubt) **applied in philosophic areas leading to a** [**dualistic doctrine**](https://en.wikipedia.org/wiki/Dualism_(philosophy_of_mind)) **of mind and matter. His** [**skepticism**](https://en.wikipedia.org/wiki/Skepticism) **was refined by** [**John Locke**](https://en.wikipedia.org/wiki/John_Locke)**'s** [***Essay Concerning Human Understanding***](https://en.wikipedia.org/wiki/Essay_Concerning_Human_Understanding) **(1690) and** [**David Hume**](https://en.wikipedia.org/wiki/David_Hume)**'s writings in the 1740s. His dualism was challenged by** [**Spinoza**](https://en.wikipedia.org/wiki/Spinoza)**'s uncompromising assertion of the unity of matter in his** [***Tractatus***](https://en.wikipedia.org/wiki/Tractatus_Theologico-Politicus) **(1670) and** [***Ethics***](https://en.wikipedia.org/wiki/Ethics_(Spinoza)) **(1677).**
* **Descartes laid the foundation for 17th-century continental** [**rationalism**](https://en.wikipedia.org/wiki/Rationalism)**, later advocated by** [**Spinoza**](https://en.wikipedia.org/wiki/Baruch_Spinoza) **and** [**Leibniz**](https://en.wikipedia.org/wiki/Gottfried_Wilhelm_Leibniz)
* **later opposed by the** [**empiricist**](https://en.wikipedia.org/wiki/Empiricism) **school of thought consisting of** [**Hobbes**](https://en.wikipedia.org/wiki/Thomas_Hobbes)**,** [**Locke**](https://en.wikipedia.org/wiki/John_Locke)**,** [**Berkeley**](https://en.wikipedia.org/wiki/George_Berkeley)**, and** [**Hume**](https://en.wikipedia.org/wiki/David_Hume)
* **Descartes were all well-versed in mathematics**
* **Descartes'** [***Meditations on First Philosophy***](https://en.wikipedia.org/wiki/Meditations_on_First_Philosophy) **(1641) continues to be a standard text at most university philosophy departments.**
* **Descartes' influence in mathematics is equally apparent; the** [**Cartesian coordinate system**](https://en.wikipedia.org/wiki/Cartesian_coordinate_system) **was** [**named after him**](https://en.wikipedia.org/wiki/Ren%C3%A9_Descartes#Mathematical_legacy)**.**
* **father of** [**analytical geometry**](https://en.wikipedia.org/wiki/Analytical_geometry)**, the bridge between algebra and geometry—used in the discovery of infinitesimal** [**calculus**](https://en.wikipedia.org/wiki/Calculus) **and** [**analysis**](https://en.wikipedia.org/wiki/Mathematical_analysis)**.**
* **Descartes was also one of the key figures in the** [**Scientific Revolution**](https://en.wikipedia.org/wiki/Scientific_Revolution)**.**
* **- Descartes noticed a fly crawling around on the ceiling. He watched the fly for a long time. He wanted to know how to tell someone else where the fly was. Finally he realized that he could describe the position of the fly by its distance from the walls of the room. When he got out of bed, Descartes wrote down what he had discovered. Then he tried describing the positions of points, the same way he described the position of the fly. Descartes had invented the coordinate plane! In fact, the coordinate plane is sometimes called the Cartesian plane, in his honor.**
* [**René Descartes**](https://en.wikipedia.org/wiki/Ren%C3%A9_Descartes)**'** [**rationalist**](https://en.wikipedia.org/wiki/Rationalist) **philosophy laid the foundation for enlightenment thinking. His attempt to construct the sciences on a secure metaphysical foundation was not as successful as his** [**method of doubt**](https://en.wikipedia.org/wiki/Cartesian_doubt) **applied in philosophic areas leading to a** [**dualistic doctrine**](https://en.wikipedia.org/wiki/Dualism_(philosophy_of_mind)) **of mind and matter.**
* **His** [**skepticism**](https://en.wikipedia.org/wiki/Skepticism) **was refined by** [**John Locke**](https://en.wikipedia.org/wiki/John_Locke)**'s** [***Essay Concerning Human Understanding***](https://en.wikipedia.org/wiki/Essay_Concerning_Human_Understanding) **(1690) and** [**David Hume**](https://en.wikipedia.org/wiki/David_Hume)**'s writings in the 1740s. His dualism was challenged by** [**Spinoza**](https://en.wikipedia.org/wiki/Spinoza)**'s uncompromising assertion of the unity of matter in his** [***Tractatus***](https://en.wikipedia.org/wiki/Tractatus_Theologico-Politicus) **(1670) and** [***Ethics***](https://en.wikipedia.org/wiki/Ethics_(Spinoza)) **(1677).**

**Francis Bacon, 1st Viscount St Alban**, - 22 January 1561 – 9 April 1626 - credited with developing the [scientific method](https://en.wikipedia.org/wiki/Scientific_method)

* Bacon has been called the father of [empiricism](https://en.wikipedia.org/wiki/Empiricism).[[6]](https://en.wikipedia.org/wiki/Francis_Bacon#cite_note-7) His works argued for the possibility of scientific knowledge based only upon [inductive reasoning](https://en.wikipedia.org/wiki/Inductive_reasoning) and careful observation of events in [nature](https://en.wikipedia.org/wiki/Nature_(philosophy)).

**Thomas Hobbes - April 1588 – 4 December 1679 - founders of modern** [**political philosophy**](https://en.wikipedia.org/wiki/Political_philosophy)**.**

* Hobbes is best known for his 1651 book [*Leviathan*](https://en.wikipedia.org/wiki/Leviathan_(Hobbes_book)), which expounded an influential formulation of [social contract](https://en.wikipedia.org/wiki/Social_contract) theory.
* Empircist -> Worked under Francis Bcon

**Baruch Spinoza - 1632 – 21 February 1677 - Inspired by the groundbreaking ideas of** [**René Descartes**](https://en.wikipedia.org/wiki/Ren%C3%A9_Descartes)**.**

* **Rationalist ->** [**Spinoza**](https://en.wikipedia.org/wiki/Spinoza)**, advocating democracy, individual liberty, freedom of expression and eradication of religious authority.**
* **the** [***Ethics***](https://en.wikipedia.org/wiki/Ethics_(Spinoza))**, was published posthumously in the year of his death. The work opposed Descartes' philosophy of** [**mind–body dualism**](https://en.wikipedia.org/wiki/Mind%E2%80%93body_dualism)**, and earned Spinoza recognition as one of** [**Western philosophy**](https://en.wikipedia.org/wiki/Western_philosophy)**'s most important thinkers**
* **In the universe anything that happens comes from the essential nature of objects, or of God or Nature. According to Spinoza, reality is perfection. If circumstances are seen as unfortunate it is only because of our inadequate conception of reality. While components of the chain of cause and effect are not beyond the understanding of human reason, human grasp of the infinitely complex whole is limited because of the limits of science to empirically take account of the whole sequence. Spinoza also asserted that sense perception, though practical and useful, is inadequate for discovering truth. His concept of "**[**conatus**](https://en.wikipedia.org/wiki/Conatus)**" states that human beings' natural inclination is to strive toward preserving an essential being, and asserts that virtue/human power is defined by success in this preservation of being by the guidance of reason as one's central ethical doctrine. According to Spinoza, the highest virtue is the intellectual love or knowledge of God/Nature/Universe.  
  - Rational/ Emprical/ Godly knowledge**

**John Locke - 29 August 1632 – 28 October 1704 - Father of** [**Liberalism**](https://en.wikipedia.org/wiki/Classical_liberalism) -

* Considered one of the first of the British [empiricists](https://en.wikipedia.org/wiki/Empiricism), following the tradition of Sir [Francis Bacon](https://en.wikipedia.org/wiki/Francis_Bacon), he is equally important to [social contract](https://en.wikipedia.org/wiki/Social_contract) theory
* His writings influenced [Voltaire](https://en.wikipedia.org/wiki/Voltaire) and [Jean-Jacques Rousseau](https://en.wikipedia.org/wiki/Jean-Jacques_Rousseau), many [Scottish Enlightenment](https://en.wikipedia.org/wiki/Scottish_Enlightenment) thinkers, as well as the [American revolutionaries](https://en.wikipedia.org/wiki/American_Revolution).
* Locke's [theory of mind](https://en.wikipedia.org/wiki/Philosophy_of_mind) is often cited as the origin of modern conceptions of [identity](https://en.wikipedia.org/wiki/Identity_(philosophy)) and the [self](https://en.wikipedia.org/wiki/Self_(psychology)), figuring prominently in the work of later philosophers such as [David Hume](https://en.wikipedia.org/wiki/David_Hume), Rousseau, and [Immanuel Kant](https://en.wikipedia.org/wiki/Immanuel_Kant).
* Locke was the first to define the self through a continuity of [consciousness](https://en.wikipedia.org/wiki/Consciousness). He postulated that, at birth, the [mind](https://en.wikipedia.org/wiki/Mind) was a blank slate or [*tabula rasa*](https://en.wikipedia.org/wiki/Tabula_rasa).
* he maintained that we are born without [innate ideas](https://en.wikipedia.org/wiki/Innatism), and that [knowledge](https://en.wikipedia.org/wiki/Knowledge) is instead [determined only by experience](https://en.wikipedia.org/wiki/Empiricism) derived from [sense](https://en.wikipedia.org/wiki/Sense) [perception](https://en.wikipedia.org/wiki/Perception).[[13]](https://en.wikipedia.org/wiki/John_Locke#cite_note-13) This is now known as empiricism.
* Unlike [Thomas Hobbes](https://en.wikipedia.org/wiki/Thomas_Hobbes), Locke believed that [human nature](https://en.wikipedia.org/wiki/Human_nature) is characterised by reason and tolerance. Like Hobbes, Locke believed that human nature allowed people to be selfish.
* against both the [Augustinian](https://en.wikipedia.org/wiki/Augustine_of_Hippo) view of man as [originally sinful](https://en.wikipedia.org/wiki/Original_sin) and the [Cartesian](https://en.wikipedia.org/wiki/Ren%C3%A9_Descartes) position, which holds that man innately knows basic logical propositions
* His arguments concerning [liberty](https://en.wikipedia.org/wiki/Liberty) and the [social contract](https://en.wikipedia.org/wiki/Social_contract) later influenced the written works of [Alexander Hamilton](https://en.wikipedia.org/wiki/Alexander_Hamilton), [James Madison](https://en.wikipedia.org/wiki/James_Madison), [Thomas Jefferson](https://en.wikipedia.org/wiki/Thomas_Jefferson),
* Locke launched liberalism by tempering Hobbesian absolutism and clearly [separating the realms of Church and State](https://en.wikipedia.org/wiki/Separation_of_church_and_state).
* Enjoyed Descartes work. Learnt and evolved from it.
* **Locke** believed that all knowledge is derived from our senses, which produce impressions on the mind which turn to ideas, whereas **Hume's** believed that all knowledge is derived from experiences

**George Berkeley - 1685 – 1753**

* **theory he called "immaterialism" (later referred to as "**[**subjective idealism**](https://en.wikipedia.org/wiki/Subjective_idealism)**" by others). This theory denies the existence of** [**material substance**](https://en.wikipedia.org/wiki/Matter) **and instead contends that familiar objects like tables and chairs are only** [**ideas**](https://en.wikipedia.org/wiki/Idea) **in the** [**minds**](https://en.wikipedia.org/wiki/Mind) **of** [**perceivers**](https://en.wikipedia.org/wiki/Perception) **and, as a result, cannot exist without being perceived.**
* **Berkeley argued against** [**Isaac Newton**](https://en.wikipedia.org/wiki/Isaac_Newton)**'s doctrine of** [**absolute**](https://en.wikipedia.org/wiki/Absoluteness)[**space**](https://en.wikipedia.org/wiki/Space)**, time**
* **His arguments were a precursor to the views of** [**Mach**](https://en.wikipedia.org/wiki/Ernst_Mach) **and** [**Einstein**](https://en.wikipedia.org/wiki/Albert_Einstein)**.**

**David Hume - 1711 - 1776**

* **Highly influential system of philosophical** [**empiricism**](https://en.wikipedia.org/wiki/Empiricism)**,** [**scepticism**](https://en.wikipedia.org/wiki/Philosophical_skepticism)**, and** [**naturalism**](https://en.wikipedia.org/wiki/Metaphysical_naturalism)**.**
* **places him with** [**John Locke**](https://en.wikipedia.org/wiki/John_Locke)**,** [**George Berkeley**](https://en.wikipedia.org/wiki/George_Berkeley)**,** [**Francis Bacon**](https://en.wikipedia.org/wiki/Francis_Bacon) **and** [**Thomas Hobbes**](https://en.wikipedia.org/wiki/Thomas_Hobbes) **as a** [**British Empiricist**](https://en.wikipedia.org/wiki/British_Empiricism)
* **Hume strove to create a total naturalistic** [**science of man**](https://en.wikipedia.org/wiki/Science_of_man) **that examined the psychological basis of human nature. Against philosophical** [**rationalists**](https://en.wikipedia.org/wiki/Rationalism)**, Hume held that passion rather than reason governs human behaviour. Hume argued against the existence of** [**innate ideas**](https://en.wikipedia.org/wiki/Innatism)**, positing that all human knowledge is founded solely in** [**experience**](https://en.wikipedia.org/wiki/Experience)**.**
* [**Hume's problem of induction**](https://en.wikipedia.org/wiki/Hume%27s_problem_of_induction)**, he argued that** [**inductive reasoning**](https://en.wikipedia.org/wiki/Inductive_reasoning) **and belief in** [**causality**](https://en.wikipedia.org/wiki/Causality) **cannot be justified rationally; instead, our trust in causality and induction result from custom and mental habit, and are attributable only to the experience of "**[**constant conjunction**](https://en.wikipedia.org/wiki/Constant_conjunction)**" of events. This is because we can never actually perceive that one event causes another, but only that the two are always conjoined. Accordingly, to draw any causal inferences from past experience it is necessary to presuppose that the future will resemble the past, a presupposition which cannot itself be grounded in prior experience**
* **Hume's opposition to the** [**teleological argument**](https://en.wikipedia.org/wiki/Teleological_argument) **for God's existence, the argument from design, is generally regarded as the most intellectually significant attempt to rebut the argument prior to** [**Darwinism**](https://en.wikipedia.org/wiki/Darwinism)**.**
* **Hume influenced** [**utilitarianism**](https://en.wikipedia.org/wiki/Utilitarianism)**,** [**logical positivism**](https://en.wikipedia.org/wiki/Logical_positivism)**,** [**Immanuel Kant**](https://en.wikipedia.org/wiki/Immanuel_Kant)**, the** [**philosophy of science**](https://en.wikipedia.org/wiki/Philosophy_of_science)**, early** [**analytic philosophy**](https://en.wikipedia.org/wiki/Analytic_philosophy)**,** [**cognitive science**](https://en.wikipedia.org/wiki/Cognitive_science)**,** [**theology**](https://en.wikipedia.org/wiki/Theology)**, and other movements and thinkers. Kant himself credited Hume as the spur to his philosophical thought who had awakened him from his "dogmatic slumbers".**

**Immanuel Kant - 1724 –1804 - in the** [**Age of Enlightenment**](https://en.wikipedia.org/wiki/Age_of_Enlightenment)**.**

* **In his doctrine of** [**transcendental idealism**](https://en.wikipedia.org/wiki/Transcendental_idealism)**, he argued that** [**space**](https://en.wikipedia.org/wiki/Space)**,** [**time**](https://en.wikipedia.org/wiki/Time)**, and** [**causation**](https://en.wikipedia.org/wiki/Causality) **are mere** [**sensibilities**](https://en.wikipedia.org/wiki/Sensibility)**; "**[**things-in-themselves**](https://en.wikipedia.org/wiki/Thing-in-itself)**" exist, but their nature is unknowable**
* **Kant believed that** [**reason**](https://en.wikipedia.org/wiki/Reason) **is the source of** [**morality**](https://en.wikipedia.org/wiki/Morality)**, and that** [**aesthetics**](https://en.wikipedia.org/wiki/Aesthetics) **arise from a faculty of disinterested judgment.**
* **the mind shapes and structures experience, with all human experience sharing certain structural features**
* **In one of Kant's major works, the** [***Critique of Pure Reason***](https://en.wikipedia.org/wiki/Critique_of_Pure_Reason) **(1781),**[**[22]**](https://en.wikipedia.org/wiki/Immanuel_Kant#cite_note-22) **he attempted to explain the relationship between reason and human experience and to move beyond the failures of traditional philosophy and** [**metaphysics**](https://en.wikipedia.org/wiki/Metaphysics)**.**
* **Kant wanted to put an end to an era of futile and speculative theories of human experience, while resisting the** [**skepticism**](https://en.wikipedia.org/wiki/Philosophical_skepticism) **of thinkers such as** [**David Hume**](https://en.wikipedia.org/wiki/David_Hume)
* **Kant regarded himself as showing the way past the impasse between** [**rationalists**](https://en.wikipedia.org/wiki/Rationalists) **and** [**empiricists**](https://en.wikipedia.org/wiki/Empiricists)**,**[**[23]**](https://en.wikipedia.org/wiki/Immanuel_Kant#cite_note-23) **and is widely held to have synthesized both traditions in his thought.**[**[24]**](https://en.wikipedia.org/wiki/Immanuel_Kant#cite_note-24)
* **Hegel was one of Kant's first major critics. In response to what he saw as Kant's abstract and formal account, Hegel brought about an ethic focused on the "ethical life" of the community.**[**[141]**](https://en.wikipedia.org/wiki/Immanuel_Kant#cite_note-143) **But Hegel's notion of "ethical life" is meant to subsume, rather than replace,** [**Kantian ethics**](https://en.wikipedia.org/wiki/Kantian_ethics)**. And Hegel can be seen as trying to defend Kant's idea of freedom as going beyond finite "desires", by means of reason. Thus, in contrast to later critics like Nietzsche or Russell, Hegel shares some of Kant's most basic concerns**

**François-Marie Arouet ( Voltaire ) - 21 November 1694 – 30 May 1778  
-** [**Voltaire**](https://en.wikipedia.org/wiki/Voltaire) **and** [**Jean-Jacques Rousseau**](https://en.wikipedia.org/wiki/Jean-Jacques_Rousseau)**, who argued for a society based upon reason as in ancient Greece**

* **their ideas played an important part in undermining the legitimacy of the Old Regime and shaping the** [**French Revolution**](https://en.wikipedia.org/wiki/French_Revolution)

**Georg Wilhelm Friedrich Hegel - 1770 – 1831 -**

* **Hegel has been seen in the 20th century as the originator of the** [**thesis, antithesis, synthesis**](https://en.wikipedia.org/wiki/Thesis,_antithesis,_synthesis) **triad,**
* **Of special importance is his concept of spirit (**[***Geist***](https://en.wikipedia.org/wiki/Geist)**, sometimes also translated as "mind") as the historical manifestation of the logical concept and the** [**"sublation"**](https://en.wikipedia.org/wiki/Aufheben) **(*Aufhebung*, integration without** [**elimination or reduction**](https://en.wikipedia.org/wiki/Reduction_(philosophy))**) of seemingly contradictory or opposing factors: examples include the apparent opposition between necessity and** [**freedom**](https://en.wikipedia.org/wiki/Freedom_of_will) **and between** [**immanence**](https://en.wikipedia.org/wiki/Immanence) **and** [**transcendence**](https://en.wikipedia.org/wiki/Transcendence_(philosophy))**.**
* **the development of self-consciousness as such in an encounter between what are thereby (i.e., emerging only from this encounter) two distinct,** [**self-conscious**](https://en.wikipedia.org/wiki/Self-awareness) **beings. The essence of the** [**dialectic**](https://en.wikipedia.org/wiki/Dialectic) **is the movement or motion of recognizing, in which the two self-consciousnesses are constituted in being each recognized as self-conscious by the other. This movement, inexorably taken to its extreme, takes the form of a "struggle to the death" in which one masters the other, only to find that such lordship makes the very recognition he had sought impossible, since the bondsman, in this state, is not free to offer it.**
* **A person who has already achieved self-consciousness could be enslaved, so self-consciousness must be considered not as an individual achievement, or an achievement of natural and genetic evolution, but as a social phenomenon.**
* **Hegel's principal achievement was his development of a distinctive articulation of** [**idealism**](https://en.wikipedia.org/wiki/Idealism)**, sometimes termed** [***absolute idealism***](https://en.wikipedia.org/wiki/Absolute_idealism)**,**[**[33]**](https://en.wikipedia.org/wiki/Georg_Wilhelm_Friedrich_Hegel#cite_note-33) **in which the dualisms of, for instance, mind and nature and** [**subject**](https://en.wikipedia.org/wiki/Subject_(philosophy)) **and** [**object**](https://en.wikipedia.org/wiki/Object_(philosophy)) **are overcome. His philosophy of spirit conceptually integrates psychology, the state, history, art, religion and philosophy. His account of the** [**master–slave dialectic**](https://en.wikipedia.org/wiki/Master%E2%80%93slave_dialectic) **has been highly influential, especially in 20th-century France.**
* **like Hegel, Marx held that social and historical forces give rise to ideas about morality and ethics, including Marx’s own ideas (Sayer, 2012). More specifically, Marx saw progress in these processes, as societies followed a succession of “modes of production” or developmental stages. The conflicts generated by each mode of production undermined it, leading to the birth of a new order.**
* **Friedrich Nietzsche is most famous for his rejection of morality as something “bad” that should be not only rejected, but actually overcome. Indeed, Nietzsche is famously known as the first “immoralist” for his anti-morality stance (Clark, 2015).**
* **The essence of Nietzsche’s thought on this point is that there are higher systems of values than the moralities with which society is familiar. The reason morality occasioned such animus in Nietzsche was his own believe that morality held people back from their true, and splendid, potential. So long as “morality” reigns supreme in society, Nietzsche says, humans will fail to attain true greatness (Leiter, 2003).**
* **Like Marx, Nietzsche sought the origins of morality in history. However, his scenario was very different: Nietzsche believed that both traditional Judeo-Christian morality and its modern, secularized counterpart had their origins in “slave” morality, and exalted the ascetic ideals of weakness and self-effacement (Leiter, 2013). “Master” morality, on the other hand, exalted the individual. For those who could grasp the will to power, “master” morality could propel them to a true fulfillment of everything they could become.**
* **Personal fulfillment in freedom is a common theme in the works of both Marx and Nietzsche. Their thought evinces a great many differences: Marx was concerned with the overthrow of oppressive power structures, while Nietzsche decried “slave” morality and championed “master” morality. Nonetheless, the convergence between the two is notable, inasmuch as both were concerned with attaining a conception of freedom from societal strictures.**