

**Science and Ideology**  
*Kelton Rhoads PhD, 2021*

I'd like to give you a boost up the learning curve for papers and posts in this course. This may sound like a Zen master speaking in abstractions, but if you can take this to heart, you'll do better in this social science course. Here goes:

“Be an investigator, not an advocate.”

That's as brief as I can say it. Now let me unpack this very important sentence. Of late, academia has been teaching an increasing amount of advocacy to students—particularly in the arts. Many classes appropriately encourage students to advocate, to state a moral goal and then persuade others to attain it, to change the world, to right past wrongs, to save the earth, and so on. However, advocacy, by its very nature, assumes the advocate has found truth, and that the advocate's role is to propagate his or her insight for the betterment of some. The answer is known; correct behavior has been established; what remains to be done is to compel other people to conform to the advocate's vision of a more perfect world by argument, proofs, inducement, reward, guilt, shame, fear, punishment, or coercion—whatever it takes. These are the tools and the methods of persuasion and compliance (disciplines I have taught at USC for over two decades). This is also the mindset of bias: that the advocate has strong, “correct” opinions of what is true, what is right, what is best.

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“Opinions divorced from knowledge are ugly things.”

-Plato, *The Republic*.

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This class is different, because it belongs to the social *sciences* and is therefore taught from a scientific perspective. Along with the science of persuasion, this class teaches you how to think and write like a social scientist. Science is not advocacy. Science is investigation. Rather than the advocate's opinions and assertions, science asks questions: “What is? What are different ways of perceiving what is? Which of them are best supported by reality?” This requires a shift in your thinking that, if you are accustomed to thinking as an advocate, will require practice, self-discipline, and humility. Scientists do not start with the assumption that they are correct and that others need to conform to their view. The scientist maintains an open mind, a bit of humility, and seeks to see things as they actually are, not as they are desired to be. Science actively pursues disconfirming evidence;

science subjects even its favored ideas to scrutiny. Science proceeds by disconfirmation, rather than confirmation. It advances through the competition of ideas, not through conformity and consensus. Science pits ideas against each other to see which are most likely to thrive in the harsh light of reality.

But a well-rounded person can speak either in the language of science or of advocacy. So how compatible are science and advocacy? Or perhaps I should ask a more specific question: How compatible is science with a strong desire to see results that support a certain conclusion about what is “correct” or “moral” or “right”? Should the results of scientific research stand on their own, apart from moral considerations? Or should research be strained through a moral filter before it’s ready for consumption? Should we suppress results that don’t align with the current morality, and magnify those that do?

Let’s first examine these two concepts that share a troubled border: the methodology of science and the methods of ideology.

### **Scientific Research**

Scientific research is based on empiricism and induction. Careful observations of what can be measured come first. Subsequently, science proceeds from instances to generalizations. While theory has an important role in research, direct observation always takes precedence over theory, for scientific theory *must* follow the evidence. It’s in this way that theories are modified, refined, matured, and not infrequently, discarded.

Science requires an open mind. For example, in the 1950s, psychology was dominated by Skinnerian Behaviorism--theories of stimulus and response, of reward and punishment. The workings of the human mind were of little consequence because, as any good ‘50s-era psychologist knew, it was the stimulus that produced the response, not *thinking about* the stimulus. But by the 1970s the evidence was persistently indicating that the mind interfered powerfully with Behaviorism’s simple models. The data were mounting that the thoughts of an individual, when tracked, greatly increased the ability to predict an individual’s behavior, above and beyond what the stimulus itself could predict. Thus was born the Cognitive Revolution, which overthrew Skinnerian Behaviorism. Because the data--the results--were primary, a more explanatory theory overthrew a less explanatory theory.

This is how science works. New research challenges the old models, perpetually tests them, modifies them, sharpens them, and possibly overthrows and replaces them. In this respect, the ideas of “consensus” and “conformity” are alien to science, which by design is competitive, challenging, striving, evolving, attempting to access a higher plane of knowledge by considering alternatives and modifications to what is known. Yes, science does stand on the shoulders of previous researchers and their theories. Yet at the same time, science constantly questions its own foundations, challenging them to see if more explanatory perspectives exist. Quantum physics overthrows Newtonian physics which overthrows Aristotelian physics, and so on. As you can see, science fashions its methods after nature itself, which is busily employing these same experimental, competitive methods to determine what remains, and what ceases to exist. “Survival of the fittest” also applies to scientific thought.

It’s difficult to have scientific inquiry without acknowledging previous, alternate, and opposing points of view.<sup>1</sup> In the absence of considering alternate and opposing views, science is in danger of being abused as a mere prop to the popular passions and fashions of the day, reaffirming the correctness and goodness of what has been socially constructed to be ‘correct’ and ‘good.’ That’s not science’s charter; science is oriented toward the exploration of the unknown, not the perpetual reconfirmation of the conventional wisdom.

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“Analytical thinking requires exploring a range of alternatives, but political crusades require the opposite: exclusive belief and commitment.”  
— *John Ellis, W.S.J.*

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Scientific research recognizes that humans are biased, and formally attempts to combat the bias of the observer. The technical details of hypothesis testing may seem a little odd at first: Science tests the “null hypothesis,” the hypothesis that says “there are no differences to be found; we have found nothing.” Testing the null is done precisely to force researchers to acknowledge the possibility that their alternative hypothesis may be false, that what they are expecting to see may not exist, and that what they are studying may make no difference. Formal hypothesis testing is designed to combat ‘confirmation bias,’<sup>2</sup> one of the most insidious of human biases, and a true enemy of new knowledge. In this way, the ability to easily *disconfirm* the alternative hypothesis is built into the scientific method. Occasionally a theory is badly specified and overly general, so that any results, even opposing results, may be viewed as support for the theory. Scientists have a

special disdain for these “unfalsifiable” theories and they are soon tossed on the rubbish heap.

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“The first rule of good theorizing is to state propositions in value-free language.”  
— *Richard Perloff.*

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If researchers run the numbers and see no significant results, they simply “retain the null” which is to say, nothing happened. If they obtain significant results, they say, modestly, that they have “rejected the null.” A double negative, in other words: “We didn’t find nothing; thus we likely found something.” But the researchers never say “We have proven our hypothesis.” They have simply shown that, in this study,<sup>3</sup> the null hypothesis was not supported, and that their alternative hypothesis remains standing as a possibility.

But this is not considered proof--because it’s not. It’s considered a step in the direction of knowing something new. Only after many tests that favor the alternative hypothesis do we start to develop confidence in it. If a hypothesis is still standing after years of challenges, it becomes a venerated hypothesis, and the science starts to treat it like an established truth. But like the aging alpha wolf of a pack, it is always vulnerable to overthrow by a younger, fitter hypothesis. A comforting sense of permanence doesn’t exist in scientific theory testing. Everything is up for revision if observation and data indicate a revision is needed.

## **Ideology**

Ideologies are organizations, networks, constellations of ideas. They are constructed with an internal logic, even when they may not appear rational to an outsider. Ideologies are highly organized, internally consistent “big ideas” designed to guide or possibly control a person’s life.<sup>4</sup> Exploring the methods of ideology is more dangerous than exploring the methods of science because ideology speaks directly to emotional, moral, and non-rational parts of the human experience. People are quicker to defend the source of their values than they are the source of their facts.

Though ideologies differ in content, they often have similar structures: There is a sense of group membership incorporating a shared set of ideas or values, and members are often arranged in a hierarchy. An in-group vocabulary develops; ideologues of a certain stripe tend to sound alike. Sometimes the use of a single

unique word or phrase can indicate ideological subservience. Tireless repetition of an ideology's particular truths are frequent and ongoing by its members, through articles, speeches, posts, phrases, hymns, memes,<sup>5</sup> tweets, placards, and bumperstickers. Opposing ideas are either suppressed, or examined with the express purpose of refuting them. The ideology identifies right and wrong, moral and immoral, saints and devils, heroes and villains. It often envisions how the world will end, and how salvation may be achieved. Typically, salvation is envisioned as a world where everyone adheres to the ideology, a world where rival ideologies are snuffed out. Most ideologies are profoundly anti-diversity when it comes to what a person is allowed to believe. *Ideologues* or *ideologs* are acolytes who have devoted themselves to an ideology; the ideology animates them, does their thinking for them, sets them and keeps them on a path. None of this is to say an ideology is wrong, only to mark how the functions of ideology are very different from the methods of scientific inquiry.

It's easier to think like an advocate than a scientist; it's more comfortable, less strenuous, and allows a sense of surety and community. Virulent advocacy is prone to co-opt science and pervert it, so that science becomes a mere prop to advocacy. Studies may be conducted to achieve a condoned result. This is what happens when zealots learn the methods of science...they often continue to pursue their ideological goals by cloaking their advocacy in the guise of science. This type of corruption actually has a name: **Lysenkoism**, after the Soviet scientist who perverted studies of biology and genetics to support the philosophy of Communism. Long story short: in the USSR, natural selection was declared incorrect, because competition was antithetical to communism, and "natural cooperation" was declared politically correct in its place. Stalin supported Lysenkoism and arranged for over three thousand scientists to lose their jobs or go to prison (where some died) for not adhering to Lysenko's so-called "science." Being filled with fundamental falsehoods, Soviet genetics made virtually no progress, until after Stalin died.

Unlike science, ideology isn't empirical or inductive; rather it proceeds by deduction, from generalizations to instances. A set of truths is declared by an authority, and reasoning proceeds from those truths. The correct answers are known, even before the data are gathered. Like visitors to the legendary bed of Procrustes, reality is stretched or chopped to fit. Confirmation bias supports ideology; ideologues find evidence that supports their beliefs, and discount evidence that doesn't. Ideologies are self-affirming, self-confirmatory, and resistant to falsification. Replacing the scientist's null hypothesis, is the ideologue's hypothesis of perpetual validation.

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“In general let every student of nature take this as a rule—that whatever his mind seizes and dwells upon with peculiar satisfaction, is to be held in suspicion; and that so much the more care is to be taken, in dealing with such questions, to keep the understanding even and clear.”

— *Francis Bacon, Organon*

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Advocacy and ideology are in some ways the polar opposite of science. In advocacy, the establishment of truth is a social construction and a political process—the “truth” becomes whatever is underwritten by a plurality of an advocacy group. In science there are actual correct answers that aren’t amenable to politics—but they are true even when they’re not popular or fashionable. Recall Galileo, whose idea of a heliocentric solar system was neither popular nor moral for his day.

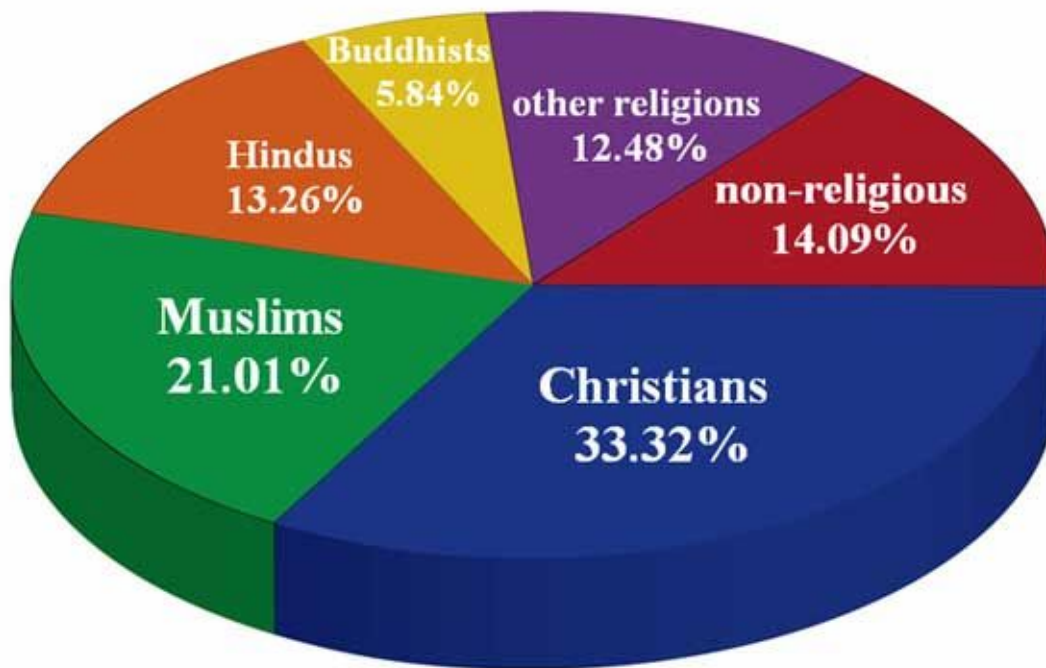
Following is a short list of commonly accepted and almost randomly selected ideologies from various lists found in texts and online; notice that many of them have an “-ism” appended: socialism, humanism, capitalism, communism, anti-intellectualism, Buddhism, feminism, all sorts of nationalism, Christianity, environmentalism, Islamism, progressivism, agrarianism, conservatism, social justice, neo-Confucianism, corporatism, wokeism, identity politics, libertarianism, individualism, fascism, racism, anarchism, Zionism, and many others.

For much of human history, social and political ideologies didn’t exist. They are becoming more numerous as time goes on, and some observers think this may be due to a dearth of inherent meaning in the modern world. A thousand years ago, people’s lives were filled with meaning if they could fill their stomachs and thrive sufficiently to have a family. That was a real achievement, in a time when survival itself was meaningful. In the modern first world, survival is no longer meaningful, it’s commonplace and dull, anybody can do it. You can quit your job and you’ll still have food, clean water, health care, clothes, possibly shelter, supplied by the safety net spread by the other citizens of your nation. As the goals and activities that have given humans meaning for millennia dissipate, some think that ideologies fill the void and supply the missing, but desired, meaning to life.

Ideologies are prone to falling in and out of fashion—their permanence isn’t guaranteed. How many Zoroastrians have you met lately? Kritarchists?

Nkrumaists? Marhaenists? Cantonalists? Narodniks? Great Han Chauvinists? Antinatalists? Strasserists? Freiwirtschafters? Metaxists? Mladorossi? Tradinistas? Neotribalists? Left-wing Fascists? Hindutvas? Tudjmanis? Kirchnerists? Rexists? Caesaropapists? Likewise, future generations will view some, perhaps most, of our time's ideologies and moralities as quaint, with the same feeling you get when you watch a movie filmed in the 1930s. On the other hand, some very successful ideologies are ancient. Several of the world's most popular religions are thousands of years old. At the same time, some old ideologies are splintering, and new ideologies are being born all the time.

### **World Religions by percentage**



**Source: CIA World Factbook 2010**

Ideologies resist revision, and much effort is expended to keep the ideology “pure.” However revision can occur when an ideology is on the verge of collapse, if it doesn’t make adjustments. For example, the ideology of communism in the USSR found itself forced to incorporate the reviled and incompatible concept of private property, because the collective farms were failing. Thus small plots of land were privatized and given to individual farmers, which helped the USSR greatly toward the goal of feeding its populace. Comrades didn’t like to talk about it—private property was antithetical to the doctrine—but the choice was starve or

modify the ideology. Though ideologies assiduously resist disconfirmation, sometimes ideology collides with reality. Unlike science, however, these collisions with a disconfirming reality are not sought and not welcomed.

## **The Border**

We have briefly examined a few of the main differences between scientific research and ideology. While both are brainy, intellectual pursuits, scientific research proceeds via empiricism and induction. Ideologies proceed primarily through deduction. Research starts with the assumption that it doesn't know; ideology starts with the assumption that it *does* know. Research attempts to limit confirmation bias; ideology thrives on finding evidence that supports it. Research taunts disconfirmation and dares it to engage; ideology runs from disconfirmation with its hands over its ears.

Ideologies have safe spaces. The inside of a mosque, synagogue, temple or church are safe spaces for their respective religions; a meeting of Earth First is a safe space for activist environmentalism; and American academia is a safe space for a number of ideologies with which you are doubtless familiar. Some students write ideological papers because these sorts of papers have received high marks in previous classes. Others write ideological papers because it's all they know. Still others feel it's safer to write from sanctioned ideological perspectives, since a mark against the paper is akin to an affront to the ideology itself, and the ideology has many mechanisms of self-defense, including an army of adherents. Some students are true believers, have difficulty conceiving reality in non-creed ways, and feel compelled that their papers must be persuasive treatises designed to recruit more members into the ideology, or at least, to justify their ideology to the reader. But the problem with ideological papers is this: We know what the "correct" conclusions are—before any data are gathered, before literature is reviewed, before finger is set to keyboard. That's a serious problem for a scientific paper.

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Domination by researchers with *any* narrow outlook, moral perspective, world-view, or political perspective risks creating a social psychology riddled with blind spots, biased interpretations, and distorted and unjustified claims and conclusions.

- *Jussim, Ideological Bias in Social Psychology Research*

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Science asks you to move away from subjectivity, from yourself as the measure of all things. Science asks you to step outside of yourself into an objective world that can be shared and validated. The expression of your value system, your opinions, and your unique reality is reserved for other types of writing. Sitting opposite the title of Walt Whitman's book, *Song of Myself*, scientific writing is instead a song about a reality in which we can all participate. Science invites you into a world of objectivity, of things that can be observed and measured in ways that other observers may duplicate your observations and assessments, and perhaps arrive at similar inferences—even in the absence of a shared value system. In this manner, science reaches across some of the highest and most formidable barriers built by humankind.

Can an ideologue write a quality research paper? Can the border be crossed? Yes, if they practice *epoché*. There are many fine science papers authored by, for example, Hindus, Atheists, Christians, Progressives, and so on. Ethical social scientists lay aside their ideology during investigation and writing; they are aware of their biases and actively combat them. Scientists do better work when they are interested in, but not passionate about, a topic. Intellectual attraction to a subject area is different from emotional involvement; the former leads to objectivity and the latter to bias. Can ideologues write unbiased research papers on their own ideologies, or on competing ideologies? That's another story! Such a thing is much more difficult, and it's not something I would recommend to a student who is learning the social sciences and the ways in which it communicates.

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*Epoché*. /philosophy : skepticism : deontological doubt/ : (Gr. ἐποχή, “suspension”) – an active suspension of disposition. The suspended state of judgment exercised by a disciplined and objective mind, in preparation to conduct research. A state of neutrality which eschews ideological, religious, biased rational, risky provisional, or dogmatic dispositions when encountering new observations, ideas and data. In contrast with apathy, *epoché* is a form of active investigation based upon a discipline of impartiality. A desire to find the answer, tempered by the wisdom that answers do not come as easily as most people believe. The bottom line is, *epoché* is a discipline of ‘going back to the source, and looking for yourself’.<sup>6</sup>  
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Once you learn the methods of science, you can study whatever you like. But while you are in training, my recommendation is to lay your ideology aside. You can

always pick it up again later. In the meantime, be open to empirical and objective ways of thinking about reality, which may further inform your views of the world. There are many interesting topics that require no ideological perspective to investigate.

In this class, pursue empiricism. View reality first, then generalize (not the other way around). Please lay aside the urges to assert and advocate—you can do that in other classes that call for it, but it is not appropriate for this social science class. Fight bias—your own bias, not somebody else’s. Open your mind to the methods of science. Let your mind entertain questions rather than repeat memes and slogans.

“Be an investigator, not an advocate.”

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<sup>1</sup> The competitive nature of science is nicely encapsulated in the title of the classic book on academic writing, *They Say I Say*. It’s difficult to think or write science without reference to alternate points of view.

<sup>2</sup> Confirmation Bias is one of the many human cognitive biases known to the social sciences, but a particularly potent one. This bias inclines the observer to interpret new evidence as confirming beliefs that are already held. Humans naturally tend to test their own hypotheses of the world by searching for evidence that confirms, rather than disconfirms, a hunch.

<sup>3</sup> "In this study" is a crucial delimitation. Effects can be generalized carefully, and here Dr. Curt Bay of A.T. Still University explains that the Latin phrase "ceteris paribus" applies, meaning “all else being equal.” In the context of science, "the effect of A causing B holds, if all other relevant factors remain unaltered." It means that, in the long run, over many replications of this study, with a similar sample, and a similar context, we could expect, on average, to find support for the alternative hypothesis.

<sup>4</sup> Observers of ideology think this distinction is vital. It’s known as the “walking the dog” analogy. Are you walking the dog, or is the dog walking you? Do you use an ideology as a guide to correct behavior, or does the ideology commandeer your thoughts and control you? Who is in charge, a living human or an inanimate set of ideas?

<sup>5</sup> A worthwhile paper on the heuristic persuasiveness of “Meme Activism,” and how it serves to silence dissent and encourage superficial thinking, has been written by Seth Moskowitz, June 21, 2021 at <https://www.persuasion.community/p/against-meme-activism>

<sup>6</sup> <https://theethicalskeptic.com/tag/epoche/>