

Existing Research on the Public

In Chapters 2 and 3, we saw that the vast majority of academics assume that the relationship, and any conflict, between religion and science is based on systemic knowledge. In this view, both science and religion are hierarchically organized systems of justifying concrete truth claims about nature. These systems are logically coherent, so that if you believe in the scientific method to determine how electrons move, you should not also be able to believe that God caused the emergence of humans. In the last chapter I also focused on elites, but looked at recent history, which may be different from the elite debates from more than fifty years ago. We see that among these elites, the debate is more about morality than it is about knowledge.

In this chapter I turn to the public and review existing research, research that would be largely unknown to scholars in the religion and science debate because it is spread across disparate fields. This research suggests, consistent with the last chapter, that it is not plausible that the religious public is in systemic knowledge conflict with science. Propositional belief conflict and moral conflict is likely. This existing research allows me to lay the groundwork for my own data analyses in the next chapter.

Now that I am turning to the public, I begin by offering more detail about the diversity of religion in the U.S. I start by showing that if you look at the official teachings of religions in the U.S., there is only one tradition where the religious public would get support from religious elites for knowledge conflict with science, and that tradition is conservative Protestantism. I then turn to somewhat abstract social science research about the public's use of systemic knowledge, which suggests that the general public would not have such structures. Thus,

systemic knowledge conflict is even less likely. I then turn to what we know about the religion actually practiced by the contemporary American public, and how this has changed in the past fifty years. Contemporary American religion is quite different from the idealized conceptions of academics, and has features that also make systemic knowledge conflict unlikely. In the final section, I examine research on what the public thinks about science and scientists. People are likely to think of scientists in moral terms, and the general public is prone to see scientists as at minimum not like themselves, and at maximum immoral people who need to be controlled. These disparate studies all suggest moral and not knowledge conflict.

ONLY CONSERVATIVE PROTESTANT ELITES TEACH
A BELIEF SYSTEM THAT COULD HAVE KNOWLEDGE
CONFLICT WITH SCIENCE

Most of the larger religious traditions in the U.S. teach that there is not a conflict between their religious belief system and the methodological naturalist version of a scientific belief system. For example, lightning is not due to God's wrath, but due to differential electrical charges in the atmosphere. One way to describe this is that in most traditions the theological synthesizers examined in Chapter 2 have been successful, so religious people in these traditions would be encouraged by elites to not make a supernatural claim about anything that a scientist makes a claim about. Anything about the natural world that is potentially *demonstrable* will have a naturalistic explanation (like the cause of hurricanes), but non-demonstrable claims that no scientist cares about—like the Resurrection—may have a supernatural explanation. But, since the resurrection is not a violation of methodological naturalism, there is no conflict between religion and science.

I generally will not describe the views of religious minorities, because these groups are too small to be observed using the sociological data that I use in later chapters. The exception is Judaism, which I briefly describe, because there is an extensive academic literature on Judaism and science, and because scholars of Christianity use Judaism as a comparison due to Christianity's emergence from Judaism.

To the extent that we can say there are official theologies for American religions, Catholicism, Judaism and mainline Protestantism all have mechanisms for integrating faith with observation and reason. More specifically, their position is that a scientific claim that has come to be thought of as true needs to be incorporated into theological belief. Synthesis is the official stance. It is then unlikely that members of these traditions would have systemic knowledge conflict with science—nor would they have propositional belief conflict with science, as they would be encouraged to think that what scientists claim is true.

Judaism

I begin my tour of American religion with Judaism, which has long held that if science makes one claim and religion another, either could be wrong, and either could be corrected. So, a central feature of Judaism is to account for scientific claims. Historians show that this view goes back farther than my version of history requires, with nineteenth-century Jews seeing themselves as “bystanders” to the debate among Christians in the U.S. For example, in a mid-nineteenth-century authoritative traditionalist Jewish journal a prominent Jewish leader repeatedly asserted that “Judaism, unlike Christianity, was utterly at ease with science.” The founder of the Reform Rabbinical School of the Hebrew Union College, and arguably the most influential Reform Jew in 19th century America, wrote that “Christianity, by its nature, is belligerent towards ‘philosophy, science, and criticism,’ while Judaism, by its nature, is ‘in profound peace’ with them.”¹

By the twentieth century, this view of science became interwoven with Jewish aspirations to integrate into America. Historian Noah Efron writes that science promised to rattle the complacency of exclusionary elites, dissolve sectarianism, and expand universal education. Jews saw science as making fact and data the basis of social policy, rather than tradition and prejudice. So, resistance to science “was taken as resistance to the complex of changes that many Jews advocated explicitly, and many more saw as needed, if Jews were to thrive in America.”² To this day, it is extremely difficult to find Jews in the public sphere who are opposed to any scientific claim, with the exception of some Orthodox Jews. The Orthodox comprise only 10 percent of the 2 percent of Americans who are Jewish.³

Catholicism

At least officially, Catholicism incorporates scientific discoveries into its theology, often with a time-lag, and modern Catholic leaders have claimed that they have no methodological conflict with science. For example, every pope since Pius XI (1929–1939) has affirmed the autonomy of science. Similarly, contemporary Catholic teaching holds the doctrine of “two truths,” that scientific knowledge cannot contradict supernatural knowledge, since both emerge from the same source.⁴ As one prominent Catholic intellectual wrote in the late nineteenth century, “truth cannot contradict truth.”⁵ This has long been supported by Papal statements, including that of Pope Pius XI, who stated in 1936: “Science, which consists in true recognition of fact, is never opposed to the truths of the Christian faith.”⁶ More than fifty years later, Pope John Paul II wrote, “science can purify religion from error and superstition; religion can purify science from idolatry and false absolutes.”⁷

Catholicism also has no tradition of biblical literalism or inerrancy. One reason that Catholics did not get boxed in as Protestants did, as we will see below, is

that Church teaching served as a mechanism for an alternative source of religious authority outside of Scripture.⁸

The one instance of what appears on the surface to be a knowledge conflict for Catholicism in the past two hundred years is instructive. In the 1890s and the first decade of the twentieth century, the newly emerging science on the age of the Earth was not problematic because Church teaching—different from the Bible—had sufficient precedent for seeing the days of creation as either allegorical or representative of another length of time. However, a number of Catholics got in trouble for the endorsement of evolution during these two decades before the Church reverted to its more standard stance of endorsing evolution. It is notable that the conflict was influenced by non-scientific issues and reflected concerns about evolutionary theory outside the realm of biology, disagreements over Augustine and Thomas Aquinas, and growing tensions between liberals and conservatives. For example, Darwinism became controversial when it seemed to move beyond science to claims, such as Herbert Spencer's social evolutionism, that religious thought also was subject to "evolution."⁹ In other words, at the turn of the twentieth century, the Church was not opposed to the scientific claims of Darwin per se, but opposed to how these claims were used to influence a social theory and theological truth.

Contemporary Catholic leaders are the theologian-synthesizer types examined in the previous chapter. There has been some ambiguity about evolution, with the Church seeming at times to move toward agreeing with intelligent design theory, then moving back to agreement with neo-Darwinism, which has been more typical of twentieth-century Catholicism.¹⁰ Reflecting this somewhat ambiguous history, in February of 2009 a Vatican analyst wrote that the Vatican had just "dealt the final blow to speculation that Pope Benedict XVI might be prepared to endorse the theory of Intelligent Design."¹¹ As an example of synthesis, consider this statement by Pope John Paul II to a conference held to commemorate the three hundredth anniversary of Newton's *Principia Mathematica*. The Pope wrote:

If the cosmologies of the ancient Near Eastern world could be purified and assimilated into the first chapters of Genesis, might contemporary cosmology have something to offer to our reflections upon creation? Does an evolutionary perspective bring any light to bear upon theological anthropology, the meaning of the human person as the *imago Dei*, the problem of Christology—and even upon the development of doctrine itself? What, if any, are the eschatological implications of contemporary cosmology, especially in light of the vast future of our universe? Can theological method fruitfully appropriate insights from scientific methodology and the philosophy of science?¹²

So, Catholic elites do not teach either systemic knowledge or propositional belief conflict, but instead defer to science for fact statements about the contemporary natural world. It is then less likely that Catholic members of the public would be in any kind of knowledge conflict with science.

Protestantism

Unlike the differences between greatly distinct traditions like Catholicism and Protestantism, Judaism and Christianity, or Islam and Protestantism, the differences between types of Protestants in America are quite subtle. The major Protestant traditions overlap with each other, and many contemporary Protestants would have a hard time placing themselves in a particular tradition. Moreover, many Protestant denominations have people from more than one Protestant tradition within them. For example, people who would be considered part of the evangelical tradition are found in what are considered to be mainline denominations. Nonetheless, the differences between Protestant traditions are real, and are best visualized as three overlapping bell curves on a two-dimensional space, with “liberalism” and “fundamentalism” as the end points and evangelicalism in between them. Whereas it is difficult to tell people apart in the overlapping areas, if you talk to a liberal Protestant and a fundamentalist, the differences are quite obvious.

In some parts of Protestantism in the modern U.S., a church member could find support from elites in their tradition for a knowledge conflict with science. To understand why Protestants could be in knowledge conflict with science, I must delve into history. The story of the splits within Protestantism, and how current institutionalized views came to be, has been well told by many historians, and these splits often involved science. For my purposes I will skip to the late nineteenth century, when there *was* a systemic knowledge conflict underway between religious and scientific elites for what would be at the pinnacle of the pyramid of a legitimate science. One group of scientists was advocating for a purely secular science that we could call materialist positivism. The other set of scientists, more open to religion, were advocating for Baconian science, which was supported by Scottish Common Sense Realism.¹³

Baconian science had been the dominant science in the first part of the nineteenth century. The primary goal of Baconianism was to accumulate facts through observation and, crucially, avoid speculations about that which was not observable. “Such speculations and preconceptions Baconians condemned roundly with their worst pejorative: ‘hypotheses,’” writes sociologist Eva Garrouette.¹⁴ The fine-grained taxonomies could be developed through accumulating facts and patterns observed, eventually inductively resulting in the laws that govern the detailed facts.

One of the attractions of this particular epistemology of science in the mid-nineteenth century was its democratic nature, since it implied that any rational, intelligent person could make a contribution to scientific knowledge. This was the influence of Scottish Common Sense Realism, which appealed in America because it was an antidote to “the scepticism of the modern age,” which was itself the result of abstract speculations by philosophers. Historian George Marsden writes that “Common Sense philosophy could thus combat one of the nineteenth-century

threats to certainty—Germanic speculations—by appealing to the American faith in the common person.” Therefore, in this epistemology, “all normal people were endowed by their Creator with various faculties that produced beliefs on which they must rely.” Basically, you could trust in your sense-perceptions.¹⁵ This fit particularly well with American notions of democracy and the wisdom of the ordinary people.

During this era, the Protestant churches “were populist, democratic, and libertarian, and the churches were strongly identified with the common people.”¹⁶ The Protestants, who dominated the public sphere, saw the Bible and nature as the two books of God, and believed that: “Nature constituted one set of facts and that the biblical Scriptures constituted another, and that scientists and theologians could apply the very same scientific method to the study of both.”¹⁷ The Baconian method of induction was then seen as a “divinely sanctioned mode of reasoning that characterized both true religion and genuine science.”¹⁸

It is important to be clear that conservative Protestant theologians were not reading Bacon or delving into Scottish Common Sense philosophy, but were simply using the dominant definition of science at the time, which was based on these ideas. As Ronald Numbers summarizes in his canonical study, creationists “cobbled their populist epistemology independently of philosophical experts and acquired their definition of science from the obvious place: the dictionary.”¹⁹

“So in the first heyday of evangelicalism in the United States, objective scientific thought was not tinged with the guilt of fostering secularism,” writes historian of evangelicalism George Marsden. “Rather it was boldly lauded as the best friend of the Christian faith and of Christian culture generally.”²⁰ The detailed study of God’s creation through direct observation would reveal the truth of God’s other revelation—the Bible.²¹ In summary, this nineteenth century Conservative Protestant version of science was opposed to abstraction, and held that the things worth understanding were not opaque and were as they appeared to be. Therefore, theories, hypotheses, and metaphysical thoughts were unnecessary.²² Ordinary people could use their common sense to observe nature, build up generalized understandings from these observations, and trust in their observations, and not in theories or models.

According to Marsden, interpreters often have attributed the American emphasis on inerrancy of Scripture to the influence of Common Sense philosophy and Baconianism. While inerrancy was not invented by Baconianism or Scottish Common Sense Realism, it contributed to this hermeneutic approach. God’s truth in nature and the Bible were revealed in the same way: Baconianism meant simply looking at the evidence, determining what were facts, and classifying these facts. One could scrupulously generalize from the facts, but a good Baconian avoided speculative hypotheses. Therefore, the interpretation of Scripture involved careful determination of the facts—what the words mean. “Once this was settled the

facts revealed in Scripture could be known as surely and as clearly as the facts discovered by the natural scientist” writes Marsden.²³ Historian Mark Noll concurs, writing that the principles of Scottish Enlightenment rationality had become so influential “that it was increasingly easy for evangelicals to treat the Scriptures as a ‘scientific’ text whose pieces were to be arranged by induction to yield the truth on any issue.”²⁴

In Marsden’s depiction of the approach to Scripture of one prominent theologian of the time we can see echoes of the good Baconian scientist gathering and classifying specimens to inductively generate a law about insects. This theologian, “like many of his contemporaries, treated Scripture quite frankly as a compilation of hard ‘facts’ that the theologian had only to arrange in systematic order.” The conclusion was that “God would do nothing less than reveal the facts of Scripture with an accuracy that would satisfy the most scrupulous modern scientific standards.”²⁵ Like nature being self-evident to common sense, “the Scriptures fairly translated need no explanation.”²⁶

Protestants in the post-Civil War period were then consistent with the best of science of the day. However, a faction of positivist scientists associated with the modern universities soon developed different ideas, wanting to separate themselves from religious ideas, and by 1910 the isolation of the sciences from religious considerations had become a strict requirement.²⁷ The positivists were successful in destroying the idea that there was a direct connection between your observations of the world and truth. More importantly, they eliminated the idea that anyone with “common sense” could conduct science, replacing it with what we would today call “expertise.” The connection with religion, that the Bible and nature were both to transparently reveal the same truth, was severed—“the old synthesis of evangelical convictions, American ideals, and a common-sense Baconian science faded rapidly away.”²⁸ With the eclipse of the Baconian synthesis, science and Protestant religion were then, at least according to scientists, separate systemic knowledge systems and, in principle, capable of being in conflict.

Contemporary conservative Protestant knowledge conflict with science—at least among elites—has its origins in this transition when, for social reasons, conservative Protestants had to remain committed to the earlier Baconian version of science. Historian Mark Noll narrates this transition through responses to Darwin and through the rise of fundamentalism. Evangelicals had a choice, he argues. They could “follow time-honored Christian practice” of adjusting traditional conclusions to evolution as they had earlier done in response to proposals about the age of the Earth and the nebular hypothesis.” Or they could “draw the line against this new challenge,” he writes. The latter path was to reject evolution out of hand, because it did not fit with standard interpretations of the Bible.²⁹

The challenge was how to square the idea that both the Bible and the best of science were both true. Part of the problem was that the fundamentalists had created

a biblical exegesis built upon the best science from an earlier Baconian era—on the idea that “properly scrutinized results of the main culture’s scientific enterprises should assist biblical interpretation.”

This was the result of “an ominous weakness” in the Common Sense Baconian outlook. In order to obtain interpretive stability in the face of Protestantism’s focus on individual interpretation, “theologians leaned the weight of divine Biblical authority squarely against the wall of humanity’s current scientific knowledge and assumed that the two would support each other.” However, now that science had become autonomous, problems emerged, as it was not clear that the current scientific understandings of nature would be consistent with reverent scientific interpretations of Scripture.³⁰ Noll considers this move to be a huge error for conservative Protestant theology, because it locked his tradition’s theology into nineteenth-century science.

Therefore, “goaded on by the questionable use of science in the larger culture, fundamentalists and their evangelical successors dropped the nineteenth-century conviction that the best theology should understand and incorporate the best science.”³¹ Synthesis was out, potential for conflict was in. The way forward was American fundamentalism, and fundamentalists remained committed to the old Baconian definitions of science. Marsden writes that “the old balance between scientific rationality and Scripture was shored up. The objective authority of Scripture and its inerrancy were affirmed and accentuated. Science and reason continued to be regarded as confirming Scripture, but Darwinian theories were declared speculative hypotheses and not true science.”³² This foray through the history of American Protestantism’s relationship to science explains why contemporary conservative Protestants—to the extent they have been influenced by fundamentalism—could be opposed to at least some propositional beliefs claimed by scientists.

The other path forward during this transition period for science and Protestantism was taken by Protestant liberals, also known as mainline Protestants or modernists, who were the other half of the divide that would define American Protestantism for over one hundred years. In contrast to the conservative approach, they engaged in separating religious truths entirely from dependence on scientific data. Therefore, the Bible’s authority did not need to rest on any scientific claims, and religion was authenticated by personal experience.³³

Disputes over science were just part of the divide between these two traditions of Protestantism, and the conflict over the application of Enlightenment reason to the Bible was probably even more divisive. For example, perhaps a greater divide than whether Protestants could believe Darwin was the question of whether Mary was a “virgin,” as the Bible had traditionally been thought to say, or whether she was a “young woman,” as some modernist theologians using Enlightenment reason would assert.³⁴

Mainline Protestants did not reject all of traditional theology, but remained committed to what they thought of as essential tenets of Christianity. I would say

that these tenets were those not threatened by a methodologically naturalistic science—like the idea that there is a God. For example, Roberts points out that late nineteenth-century mainliners had consensus on the idea that humans were made in the image of God, which is an unfalsifiable belief.³⁵

But, in general, mainline Protestants “maintained that the progress of scientific investigation required Christians to make significant revisions in their apologetics, doctrine, and biblical interpretation,” and that this “has rightly been viewed as one of the defining features of the American liberal Protestant theological tradition.”³⁶ This is the synthesizing approach we examined in Chapter 2.

Mainline Protestant elite thinking eventually evolved into what Barbour would call an independence relationship with science, similar to Gould’s notion of non-overlapping magisteria. Scientists were responsible for the “how,” and theologians for the “why.” This general strategy, which emerged from the divorce from fundamentalist Protestantism, accounts for the fact that there has been no conflict between mainline Protestant elites and science over knowledge. Indeed, you could say that the entire mainline tradition was invented to make religion consistent with modern Enlightenment rationality—including science. To return to the point of this chapter, this means that a mainline Protestant is not going to find support from the elites in their tradition for opposing a concrete scientific claim about the natural world.

This leaves the largest religious group in contemporary America for last—the evangelicals, who I have been lumping together with the fundamentalists under the term conservative Protestants. In the early twentieth century, the divide was between the fundamentalists and the modernists (also called mainline Protestants). But, in the 1940s, within conservative Protestantism, the fundamentalists splintered off a group of relatively more liberal members that would form a compromise movement between what they saw as the rigidity and separatism of fundamentalism and the wishy-washy compromising of the mainline. This movement is called evangelicalism.³⁷

Evangelicalism ended up being a far more successful movement than either fundamentalism or mainline Protestantism because it found the most efficient niche in American culture.³⁸ It thoroughly embraces the individualism of American culture and its love of technology. It is engaged and not separatist, so people can be exposed to the tradition and potentially join it. But, its views of the relationship between religion and science is ambiguous and still in flux, best described as falling between the orientations of the fundamentalists and the liberals.

A major difference between fundamentalist, evangelical, and mainline elites is in their orientation toward synthesizing science with theological belief. The mark of the fundamentalist is that they are the only one of the three to sometimes simply state that science is wrong. At the other extreme, a mainliner would have long ago abandoned the idea of the Bible as containing accurate fact-claims about the

natural world. An evangelical wants to be a synthesizer like the liberals we have examined earlier, and wants to say that our observation and reason through science is also correct, while maintaining that what the Bible says is true. To make the fact-claims of science and the Bible both true often requires high-powered hermeneutic feats that are probably lost on ordinary members.

These hermeneutic efforts are exemplified by views of human origins. Nowadays, being a young-earth creationist—who believes that scientific claims about the age of rocks are totally wrong and the earth is six thousand years old—might be the best operationalization of fundamentalism we have. Evangelicals are those who have found a way to make the Bible and contemporary geology both true, by saying, to take one of the many hermeneutic formulations, that each “day” in Genesis actually means millions of years because the Hebrew word in the original Bible can also mean “time period.” So, God still did create the Earth and humans, like Genesis says, just not in a way that contradicts a bottom of the pyramid claim of modern science. Mainliners would not bother with any of this, and simply say that the Genesis writer was from a different era and was struggling to understand the mystery of God, so none of Genesis is meant to be taken literally. While evangelical members of the public are unlikely to get support from leaders for a knowledge conflict, they may well be in knowledge conflict because the fundamentalist approach is influential among the masses and simpler for people’s busy lives than learning the more subtle hermeneutics of evangelicalism.

Finally, African American Protestantism is considered by scholars to be a tradition distinct from all of the essentially white traditions I describe above. African American Protestants generally follow a conservative Protestant and not a liberal Protestant biblical hermeneutic. However, African American Protestant elites have been uninvolved with debates about science but have rather focused on more pressing issues for their communities, like civil rights. They have also not had the modernist/fundamentalist theological split that in many ways created the science debate among white Protestants, with the conservative theological position remaining hegemonic.³⁹ So, while examining attitudes, African American Protestants will appear similar to white conservative Protestants, but it is unlikely that African American Protestants would be centrally concerned with issues of religion and science.

To conclude this section, the elites of Judaism, Catholicism and mainline Protestantism do not teach members to be in knowledge conflict with science, nor do they teach a religious belief system that has incompatibilities with at least the methodological naturalist version of modern science. Protestant fundamentalism is different, and elites would support at least propositional belief conflict with science over a few claims, mostly having to do with human origins. We can imagine, for example, fundamentalist Pastors saying that scientists are wrong about the age of the Earth because the Bible disagrees with the scientists. Whether members

would also learn systemic conflict is the open question. I will leave further discussion of this to the empirical chapters. Evangelicals are an unclear case. On the one hand, the leaders would not advocate either type of knowledge conflict with science. On the other hand, their solutions for making their religious belief system consistent with modern science are so subtle that ordinary members probably lack the time to understand it, and may well adopt the more straightforward fundamentalist approach.

THE PUBLIC LACKS SYSTEMIC KNOWLEDGE STRUCTURES

Having addressed which religious traditions would teach its members either systemic knowledge or propositional belief conflict with science, I now turn to what is in many ways the preceding question. Would the public even use systemic knowledge? Contemporary social science research suggests, in general, that it is unlikely that members of the general public are using deductive logical decision-making pyramids, as I described in the Introduction, regardless of whether they are religious or not. Elites do in their areas of focus, but that is because they are rewarded for doing so. Therefore, it is unlikely that religious people see it as inconsistent that they believe a biblical claim about human origins but believe scientists about climate change. A number of disparate social science writings can be brought together to support this claim.

People's Knowledge Systems Have Low Coherence

You could argue that academics have coherent pyramids of logical justification because this is what being an academic is all about, but academics have also assumed that the public also has these structures. The reason for the difference is that the only people who have the motivation and the time to create logically consistent beliefs all the way up to first principles are those who are rewarded for doing so. Academics are so rewarded, with philosophers being an extreme case. Theology is similar, and theologians specialize in what Max Weber called theoretical rationality, rationalizing “the values implicit in doctrines into internally consistent constellations of values.”⁴⁰ Traditionally, this was also the case with politicians, to the extent that journalists were scouring their every statement looking for inconsistencies. Importantly, if you made an issue important for the man or woman on the street, they would come up with a logically consistent belief system. But, given that scientific beliefs are not important to most people, the difference with elites will remain.

There are many terms for these structures, such as “belief system,” “ideology,” and “worldview.” As one scholar writes about the attitudinal version of these

structures, they are “organized in a hierarchical fashion, in which more specific attitudes interact with attitudes toward the more general class of objects in which the specific object is seen to belong.”⁴¹ For example, in political decision making, ideologies “assume that causation flows from the abstract to the specific,” so that individual preference is “based, in part, on more general principles.”⁴²

The worldview version of these structures implies the strongest hierarchical influence, with the belief at the top being the one that is so deeply assumed that it is tantamount to your sense of reality, and from which flows your sub-beliefs. This is very similar to the imagery in the religion and science debate, where the pinnacle would be something akin to a statement of faith, such as “truth about the natural world is best obtained through observation and reason.” Worldviews have been thought to be so coherent that merely encountering someone who uses a different one—like two people with different religious ideas at the pinnacle—would make one lose faith in one’s own worldview.⁴³

That elites construct these structures but the public does not has long been known by social scientists. As early as 1964 it was demonstrated that political opinions are not organized by more abstract ideologies. Only those with more education and more political involvement—that is, those with the motivation on this topic—have somewhat more coherent constellations of ideas.⁴⁴

Similarly, and much more recently, sociologist Paul DiMaggio summarized cognitive psychology as concluding that “our heads are full of images, opinions, and information, untagged as to truth value, to which we are inclined to attribute accuracy and plausibility.”⁴⁵ It therefore does not bother people that much of this information is contradictory. Moreover, it has been shown that people use incompatible ideologies depending on their social context, such as having one form of reasoning in church and another in their workplace.⁴⁶

Other studies show that the highest level elements in worldviews are very weak predictors of more concrete attitudes on social issues at the bottom of the pyramid.⁴⁷ This suggests that logical entailment from the most abstract justificatory principle to the concrete claim is at best very weak. Other studies of supposedly mutually exclusive worldviews show that they are more diffuse in practice than the worldview imagery suggests.⁴⁸

The result of these investigations of the last few decades is that sociologists are now counselled to avoid assuming that ordinary people hold these logically deductive pyramid structures. For example, William Sewell Jr. states that “our job as cultural analysts is to discern what the shapes and consistencies of local meanings actually are and to determine how, why, and to what extent they hang together.”⁴⁹ Similarly, sociologist Ann Swidler has written that scholars should “no longer build into our assumptions and our methods the notion that culture is by definition a ‘system’” (like an ideology or a worldview), and instead describe the amount of structure that is observed.⁵⁰

So, while philosophers may say that it is not logical to have a scientific explanation for how flowers move but a nonscientific explanation for the emergence of humans, regular people do not have a problem with this reasoning because they do not reason back to first principles. For regular people, there is no scientific belief that matters enough to their lives to spend the effort on creating a coherent logical structure like an expert would. But, Darwin is very important to religious biologists like Francis Collins, so they definitely spend the time to make their religious and scientific beliefs coherent.

Studies of Religion and Science as Knowledge Systems

For over forty years, nobody has spent more effort describing change in the American public's religious beliefs and practices than sociologist of religion Robert Wuthnow, so this chapter will extensively reference his voluminous work. Wuthnow was early in calling for sociologists to not assume that members of the general public have logically coherent belief structures based in deductive reason. In various essays, Wuthnow applied this vision to religion, and occasionally science, but he did not systematically develop a theory of the relationship between the two.

Wuthnow argued that since people do not use high-level concepts to justify lower-level beliefs, any knowledge clash between religion and science is unlikely. He started by rejecting the idea that ordinary people's religion is based on the logical knowledge pyramids required for systemic knowledge:

Elaborate philosophical and theological doctrines sometimes supply rational answers that satisfy canons of logic and empirical evidence. Certainly the great creeds and confessions . . . give precise, rational answers to the perplexing questions of human existence and those answers are said to be integrated into larger, internally logical systems. But in daily life the enduring questions of human existence are more likely to be addressed through narratives, proverbs and maxims, and iconic representations rich with experiential connotations. Religious orientations are likely to be structured less by abstract deductive reasoning than by parables that raise questions but leave open precise answers, by personal stories that link experience with wider realities, and by creeds and images that have acquired meaning through long histories of interpretation in human communities.⁵¹

Since people's religion is not structured through deductive logic from first principles, Wuthnow concludes that science (and philosophy) does not strongly impact the religious beliefs of the general public. That is, if a person learns that science says the Earth is four and a half billion years old, this will not cascade through their other beliefs and wipe them out. Religious orientations will not be immune from "the naturalistic attacks of scientists," but "the influence of science and philosophy

will be felt more at the level of story than in terms of rational argument alone.”⁵² “Story” would be, for my case, his explanation for how people make conclusions about on-the-ground-level beliefs, and I will address this specific possibility in subsequent chapters.

Other sociological studies also throw the existence of systemic knowledge conflict into question. If people really reason with systemic knowledge, and the systemic knowledge of religion and science are incompatible, then learning science should cause people to have less religious belief. By extension, education is thought to orient people to science, so education and religion should be incompatible. However, one study shows that education in general does not lead to the decline of religious belief, and the greatest decline in religiosity among youth occurs among those who do not go to college. The authors cautiously conclude that the greatest cause of a decline in religiosity among youth is a clash between moral expectations in religion and the moral experience of most youth of today.⁵³

Similarly, another study shows that taking classes in the natural sciences does not cause a greater decrease in religious belief compared to classes in other fields.⁵⁴ Moreover, having more education only leads to stronger belief in evolution for nonbiblical literalists. For biblical literalists, more education does not change one’s views.⁵⁵ Apparently, learning science does not impact religious belief, suggesting that there is no systemic knowledge conflict between religion and science.

Turning far afield from sociology, psychological research deeply assumes the systemic knowledge conflict model. Psychologists Cristine Legare and Aku Visala have a similar assessment as I do of at least the philosophical and theological literature, saying that these literatures produce theories that “tend to be highly abstract and operate at the level of ideal rationality rather than in the reality of actual believers.”⁵⁶ They *do* assume that both religion and science are about knowledge—both are an “attempt to explain and influence the working of one’s everyday world by discovering the constant principles that underlie the apparent chaos and flux of sensory experience.” The authors also presume that people strive for logical coherence, that “the cognitive task of coordinating multiple explanatory frameworks is a general cognitive problem” and that “people in all societies are faced with the task of conceptualizing potentially contradictory explanations for biological phenomena.”⁵⁷ That is, they are testing the systemic knowledge conflict model.

In my terms, the authors conclude that when people start with on-the-ground beliefs about nature and engage in logical entailment up the pyramid, they do not get very far, and have no problem with holding two seemingly contradictory high-level concepts like “evolution occurred naturally” and “evolution was caused by God.” The authors conclude that “the common assumption that natural and supernatural explanations are incompatible is psychologically inaccurate,” and that “there is considerable evidence that the same individuals use both natural and supernatural explanations to interpret the very same events and that there

are multiple ways in which both kinds of explanations can coexist in individual minds.”⁵⁸ That is, for the public, the systemic knowledge conflict model is psychologically inaccurate.

*Religious Americans Avoid Appearing to Be in Systemic Knowledge
Conflict with Science*

Wuthnow recently published a study of what he calls “The God Problem,” and that problem is how to express your faith and seem reasonable in a secular society at the same time. His study is a bit difficult to integrate into other studies because he does not make claims about what people’s motives are, or whether they are truly in conflict with science, but rather is concerned with the arguments they use. For my purposes, I would describe his study as a description of the discourse people use to fulfill the social requirement of providing a scientific account of the world by making sure their propositional belief conflict is not perceived to be a systemic knowledge conflict. That religious people seem to accept this social requirement suggests that *if* there are people in systemic knowledge conflict with science they are not teaching this perspective to others.

Due to the fact that scientific reason is so dominant in the public sphere, Wuthnow concludes that “the very notion of God raises intellectual difficulties. It is not something that can be studied scientifically or proven logically: It conflicts with ordinary ways of thinking about the affairs of daily life.” As noted previously, one of Wuthnow’s premises is that people do not engage in deductive reason back to first principles. He writes that “we need not assume that thoughtful people are amateur philosophers to see that there is a problem in reconciling God with ordinary life.” Therefore, “the typical middle-class American is not so philosophically wedded to naturalism as to deny the possibility of a supernatural reality. And yet the tacit epistemology of everyday life is quite naturalistic. We do not expect demons to speak, tumors to disappear instantly, or pigs to fly. . . . Yet the vast majority of middle-class Americans believe that God exists, pray fairly often, and claim that miracles can happen.”⁵⁹

In my metaphor, he is asking how, for ordinary people, conflicting beliefs at the bottom of the religion and science pyramids can be publicly presented as not resulting in systemic conflict. An example of these claims would be that “God heals people’s diseases” and “diseases heal only through naturalistic processes.” So, how is it that religious people maintain belief in the transcendent without seeming to be insane by implying they do not believe scientists regarding how diseases function?

The answer is that there are a number of discursive devices that at least well-educated people learn in the public sphere. These language devices provide ways to acknowledge the uncertainty about God while also expressing the convictions that religious people hold. For example, how is it possible to claim that you communicate

with God through prayer and not appear to be mentally ill? The answer is that religious people use devices of language that express a degree of doubt or ambivalence about prayer and what it accomplishes. For example, in a discursive device Wuthnow calls “schema alignment,” people talk about God’s actions in a way consistent with common sense ideas about human action. In one study, evangelical college students are more likely to pray for psychological interventions from God than mechanical or physical interventions, which are less culturally plausible. Or, in another example, people are not praying for God’s direct healing of someone with cancer, but praying for the doctors to be extra wise in dealing with cancer. Believing that God acts through doctors is a lot more sane than believing that God directly intervenes and removes cancerous cells from the body.⁶⁰ It also keeps conflict lower in the pyramids by accepting more of the scientific pyramid.

Similarly, in religious ways of talking about natural disasters, “people who believe in God find ways to think about large-scale catastrophic events that keep God in the picture,” while avoiding viewing God as magician, God as an explanation, or God as a comforter. Religious people have “a kind of script or cultural device that makes it possible to believe God exists and is in charge of everything that happens without having to assume that God intervenes specifically and deliberately in particular events.” One strategy is to invoke inscrutability—the inability to know God’s plans.⁶¹

Of course there are some religious people who make what Wuthnow calls “weird and spooky” claims about the nature of reality that violate scientific fact claims, such as that God directly and thoroughly healed their paralysis in an instant. Or, more spectacularly, claims such as those of Pat Robertson, who claimed that his prayers steered a hurricane away from Virginia Beach, where his broadcasting business was located. My point, consistent with Wuthnow’s data, I believe, is that such people are far and few between—not a large enough population around which to build an entire religion and science debate. By far the dominant move is to make religion compatible with science.

*Religious Americans Do Not Think They Are in a Knowledge
Conflict with Science*

Finally, at one level of abstraction above Wuthnow’s study of how people talk about events in the world are studies of whether the public *thinks* religion and science are in conflict over knowledge. One survey found that when asked whether “science and religion are incompatible,” 17 percent of the public agreed, 14 percent were undecided, and 69 percent disagreed.⁶² While this question does not say what conflict is about, someone holding the systemic knowledge conflict view would not see any compatibilities.

Similarly, sociologists Elaine Howard Ecklund and Christopher Scheitle conducted a survey of the general public’s views of religion and science, asking “which

of the following BEST represents your view. For me personally, my understanding of science and religion can be described as a relationship of: Conflict . . . I consider myself to be on the side of religion; Conflict . . . I consider myself to be on the side of science; Independence . . . they refer to different aspects of reality; Collaboration . . . each can be used to help support the other.”⁶³

While this question also does not indicate whether conflict is about knowledge or moral values, the questions that proceed this one in the survey frame any conflict as concerning knowledge conflicts for the respondent. The most basic finding is that it is the respondents with no religious identity who see knowledge conflict, not the religious respondents. In these data, 53 percent of the nonreligious see conflict. Only 30 percent of evangelicals see conflict, whereas 21 percent see independence and 48 percent see collaboration. This relatively low level of seeing conflict for conservative Protestantism is even lower for other Christians, with only 19 percent of mainliners and 19 percent of Catholics seeing conflict.⁶⁴ I take this to mean that contemporary religious people do not think that they are in knowledge conflict with science. All in all, the research in this section casts doubt on the likelihood that the religious public is in systemic knowledge conflict with science.

WHAT WE KNOW ABOUT CONTEMPORARY AMERICAN RELIGIOUS PEOPLE

The idea of a knowledge conflict between religion and science is very old, and came into place with a particular notion of what “science” and “religion” are. The nature of science has roughly stayed constant from the twentieth century forward, but I will argue in this section that “religion” has changed in the past fifty years. Sociological research of recent decades suggests that American religions, including conservative Protestantism, are not perceived by their members as being centrally about truth or belief, making conflict over systemic knowledge highly unlikely. And, to segue into my point about moral conflict, this recent research also suggests that American religion—and particularly conservative Protestantism—is more about social relationships and morality than belief or knowledge. Like the recent history examined in the last chapter, research suggests that this is a post-1960s change in American culture, so it is not surprising that many academics in the religion and science debate would not even be aware of it, given that many of them were adults by this point in American history.

The Collapse of Truth

You cannot be in systemic knowledge conflict unless you believe something to be true, or what would there be to be in conflict over? The idea at the top of the pyramid in my analogy has no justification—there are no locations higher in the

pyramid. That is, “God acts in the world” is a statement of faith, but so is “knowledge should be ascertained via observation and reason.” Logical deduction of belief only works if you deeply assume your top statement is true.

But, the contemporary world discourages the public from thinking they know what is true. Sociologists of religion may recognize hints of Peter Berger in this argument, who famously described modernity as a situation in which communities with incompatible notions of ultimate truth or ultimate reality come to interact with each other. He conceived of Catholicism, for example, as ultimately based upon a certain perception of reality, about truths that were so unquestioned, you were not even aware that you believed in them. Science was another worldview with a distinct conception of truth, from which flowed various beliefs. These were just the way the world “is,” as everybody in the communities that held them knew and could not even question. Muslims had a different version of truth, as did Buddhists, and so did the scientific secular worldview.

For Berger, the problem with modernity was the increasing ease of interaction between people with disparate truths. First the wheel, then the train, the airplane, the telephone, television, and then the internet—all make it possible to become aware that there are other people who have ultimate assumptions about truth and reality that differ from yours. Critically, encountering someone who has a different ultimate assumed truth makes you wonder if you should so deeply assume your own truth. This lack of certitude about ultimate truth was, for Berger, the tragedy of modernity.⁶⁵

This meant that since religions were idea systems based upon notions of ultimate truth, the lack of certitude would result in secularization. While Berger may have been wrong about immanent secularization, I think that his view of the decline of certainty in belief in truth—in the top of any pyramid—was accurate. Religion does exist in the U.S., even at nearly the same level of participation as a century before, but in my opinion members of religions have less certitude about truth. Berger’s only error, in my mind, was to assume you need absolute certitude to keep going to church. Observing this lesser level of truth, Chris Smith has labeled this as a shift from Berger’s “Sacred Canopy” to “Sacred Umbrellas.”⁶⁶

Wuthnow concurs, arguing that the public has “a kind of tentativeness, even cynicism, about truth,” that most people think both science and religion are true, and have no problem with the supposed inconsistency. One reason for cynicism about truth is the normative emphasis in American culture on tolerance of opposing viewpoints. We can imagine someone saying, “If you want to say that the Earth is six thousand years old, that is fine, and I’ll just say that the Earth is billions of years old. We are all entitled to our view.” Partly, this is civility. But, Wuthnow points out that in the contemporary world, “a person has difficulty holding fast to a conviction because it is no longer possible to know what is true.”⁶⁷

As an example of this loss of certitude about truth, for fifteen years or so I regularly taught an undergraduate class in the sociology of religion, where I taught

Berger's ideas. In earlier years, I tried to use examples from Christianity or science to find students who assumed some facts to be unquestionably true, such as "Jesus rose from the dead," or "the Earth goes around the Sun." The students never quite understood what I meant by an absolute assumption of truth, and I came to realize that this was because they were not absolutely certain about any of their own religious or scientific beliefs. After a few years I found examples of absolute truth that they *were* absolutely certain about—which were physical properties of reality that they themselves had experienced, not simply a truth that some authoritative figure told them. My new question for the students was: "How many of you are absolutely certain I cannot jump through this wall without making a hole in it?" Finally, I had found a truth that contemporary students, religious and secular, believed in. I could then explain that Berger's theory is premised on religious beliefs having the same status as beliefs about my inability to jump through walls.

In sum, systemic knowledge conflict between religion and science requires people to believe strongly in the truth at the apex of their knowledge pyramid. If people even have such pyramids, which above I suggest they do not, in this section I suggest that their confidence in the truth at the top would not be strong enough to lead them to conflict with competing knowledge claims. You would have to have very high certitude about the earth being six thousand years old to see the claim of a billions-of-years-old earth to be a threat to your entire knowledge structure. Yes, such people do exist, but again, there are not enough of them on which to build a theory of religion and science.

The Collapse of Religious Doctrine

In recent decades, sociologists of religion have also noted the related phenomena of the collapse of doctrine in American religion. Doctrine is "a set of ideas or beliefs that are taught or believed to be true."⁶⁸ In the assumed systemic knowledge conflict, scientific facts disrupt religious doctrine. One of my favorite examples of science impacting doctrine is an early twentieth-century British elite debate between scientists and theologians. One of the concerns of the theologians was that if Darwin was right, there was then no Adam, and then the doctrine of the Fall of humanity⁶⁹ and original sin was moot, and thus most of Christian doctrine—the belief structure—would have to be re-done:

Since the late nineteenth century, liberal Anglicans had accepted the general idea of evolution on the assumption that the progressive development of life could be interpreted as the unfolding of a divine plan. But while this position was compatible with a general theism, it was not widely appreciated that to accept the human race as improved animals was to undermine the foundations upon which the traditional notion of the Fall and the need for redemption were based. Putting it bluntly, even

if evolution was conceived as the unfolding of God's plan, the element of progress made nonsense out of the idea of original sin (since there could be no Fall from an earlier state of grace), and if there was no original sin, one would have to ask what the point of the Atonement would be within the new theology. It would be easy enough to see Christ as a messenger from God pointing the way to future spiritual development, but what was the point of His death on the Cross if there was no need for redemption?⁷⁰

This is the standard concern among elites, that logically believing in one piece of knowledge leads to needing to change another piece of knowledge. These doctrinal claims such as the Fall are midway up the pyramid in my metaphor, and the fact claim of Darwinism is only a problem because the theologian sees that this is inconsistent with the fact claim that God created humans. The knowledge conflict—what motivates the angst and actual human action—is that believing the wrong fact destroys Christian doctrine.

This conflict makes sense for theologians. But, what if contemporary Christians do not know or care about doctrine? In this particular example, they may see that there are two contradictory fact claims about where humans come from, but not be bothered by it, because it does not have any implications for anything—if you do not believe in Christian doctrine. Perhaps they do not know about the doctrine of the Fall.

In a chapter titled “The Strange Disappearance of Doctrine from Conservative Protestantism,” social scientist Alan Wolfe says of fundamentalists: “doctrinaire they may be but interested in doctrine they are not,” due to their belief that the words of the Bible alone are all you need. Evangelicals too have a “lack of confidence in doctrine,” and are then “sometimes hard pressed to explain exactly what, doctrinally speaking, their faith is.” Wolfe concludes that “these are people who believe, often passionately, in God, even if they cannot tell others all that much about the God in which they believe.”⁷¹

Studies of “new paradigm” or “seeker” conservative Protestant churches show something similar. These churches are those that eschew all symbols and trappings of traditional American religion—no steeples, no organs, no formal dress. Rather, churches like this try to make themselves look more like office parks, prefer informal dress, and definitely have no pipe organs. One study of these churches concludes that although the churches in this growing segment of conservative Protestantism “are insistent on the belief in Christ, they disavow dogma. . . . The emphasis is on the individual's relationship with God rather than on holding the correct theological doctrine.” In a telling quote that reveals what is important, one pastor in this tradition said “there are a lot of people who have their theology down but are not in love with Jesus,” while another said “purity of heart is more important than purity of doctrine.” The author of the study concludes that for

these churches, “Christianity is not primarily a matter of cognitive assent; it is an attitude and a relationship between the individual and God.” The people in these churches “express their emphasis on personal conviction over doctrine.”⁷²

Survey data also suggests this shift. In a 1999 survey, when asked to choose between church doctrine and personal experience as the best way to understand God, about 66 percent of young adults aged 21–39 picked personal experience and about 25 percent picked doctrine. Among those over age 65, about 50 percent picked experience and 40 percent picked doctrine.⁷³ While the older respondents could be different because they are in a different stage of life, given its consistency with other data, the fact that younger people are rejecting doctrine seems more likely to reflect a change in American culture.

In my terms, doctrine is the religious systemic knowledge structure. If contemporary conservative Protestants are unconcerned with doctrine, they do not have a religious systemic knowledge structure, or at best have a very loose one, and thus cannot be in systemic knowledge conflict with science. However, conservative Protestants picking beliefs from the Bible without regard to doctrine *could* lead to propositional belief conflict with science.

The Rise of the Bricoleur

Perhaps there was a time in American history—say, the 1950s—when ordinary people’s religious beliefs were more likely to be organized like a hierarchical pyramid. But, if so, that has changed. Religious knowledge in recent history is much more fragmentary. If contemporary religious people do not have doctrine or a religious belief structure, what do they have?

According to Wuthnow, since the 1950s there has been a shift from “dwelling” to “seeking” conceptions of the sacred. He writes that “people have been losing faith in a metaphysic that can make them feel at home in the universe and that they increasingly negotiate among competing glimpses of the sacred, seeking partial knowledge and practical wisdom.”⁷⁴ The “seeking” conception then is “partial” and “practical,” not so concerned with whether disparate ideas taken from different places are all logically consistent with each other. A “dwelling religion” is more cohesive and based on tradition, and a “seeking religion” involves “picking and choosing what they consider personally meaningful rather than feeling a need to accept entire traditions or universal truths.”⁷⁵

The growth of this amorphous, less organized seeking conception of the sacred is best exemplified by belief in angels. According to Wuthnow, encounters with angels are “relatively fluid, personalized, ephemeral, and amorphous, all of which fits with the complex, homeless world in which spirituality is currently sought.” There is no well-organized theology of angels: they are the sort of fragmentary sacred experience of the seeking variety. Wuthnow also does not think

that belief in angels and other seeking conceptions of the sacred is the basis of a new hierarchical belief structure—a “profound epistemological transformation in Western thought.” Rather, “such conclusions are drawn by elites,” where spirituality “often generates thinking that does challenge Cartesian philosophy or Freudian psychology.”⁷⁶

For ordinary citizens, a seeking religion with little to no structure in its knowledge fits with the limited time most of the public has. Beliefs in angels and other supernatural phenomena prominent in the new seeking notion of the sacred can be reconciled with the scientific knowledge that also characterizes American culture because “most people live from day to day, focusing on the realities of daily life, rather than thinking about scientific images of the universe.”⁷⁷ That is, as I have previously noted, most people do not have the time to create hierarchical knowledge structures.

Other sociologists of religion describe contemporary religion similarly. “Sheila,” the now infamous interviewee in the canonical 1985 study of American culture titled “Habits of the Heart,” would be one of Wuthnow’s seekers, and represented a strain of contemporary religious belief scholars now call “Sheilaism.” She treated religious beliefs like a smorgasbord of ideas to pick from, with the principle that moved her fork to the steam pan being “that which makes me feel good.”⁷⁸ At this point I will also just gesture to the massive literature on the rise of religious individualism, which is essentially documenting the same change in American religion.⁷⁹

The underlying cause of this change, and thus the change in the relationship between religion and science, is the structure of American society. The “dwelling” religion idea is less plausible in a society where people experience their social lives as compilations of changing events. People do not have one job from college graduation to retirement, but rather multiple jobs across multiple industries. There is not one family to reside in, but rather your original family, your step parents, your step siblings and step step siblings, as well as various living situations outside of the “traditional” family. People do not live in one neighborhood their whole lives but in a series of neighborhoods in different cities and states. The change is even reflected in how people obtain information: an old fashioned book is very “dwelling,” clicking through links quickly on the internet is very “seeking.” In a world perceived as endless freedom and choice—of fifty types of cereal and two hundred TV channels—people are not going to believe in an inherited knowledge structure when they can believe in something they construct through their own idiosyncratic choices.

In a 2007 summary of myriad data sources, with a focus on younger adults, Wuthnow concludes that those aged twenty-one to forty-five are “a generation of tinkerers” who put “together a life from whatever skills, ideas, and resources that are readily at hand.” They are more likely to be a bricoleur (handyman),

producing a bricolage—"a construction improvised from multiple sources." Thus, in the contemporary world, and particularly for the younger generation, "we piece together our thoughts about religion and our interests in spirituality from the materials at hand." And, critically for my point, a bricolage is not the airtight logical structure that the academics use: "ordinary people are not religious professionals who approach spirituality the way an engineer might construct a building. They are amateurs who make do with what they can. . . . Bricolage implies the joining together of seemingly inconsistent, disparate components."⁸⁰ To continue the metaphor, the constructed machine does not have to make sense, it just has to work.

Wuthnow uses a man in his late twenties as an example. He started his journey by thinking "I believe in Christianity, but that's all I've ever known, so how can I know it's the truth if I don't look around and see what else is out there?" He continues to try to "develop a satisfactory faith of his own" by "piecing together ideas from any source that comes his way," including ideas from a Muslim friend, a book about the Buddha, New Age ideas, Orthodox Judaism, and music.⁸¹

Again, if Americans are seekers, bricoleurs, or religious individualists, taking pieces from different religious traditions without regard for how they would be embedded in a larger logical structure, it is hard to imagine that they have the logical structures about religion and science that elites assume they have.

Conservative Protestantism Increasingly Focused on Individualistic Therapy

The immediately preceding sections described how contemporary religious Americans do not have hierarchical, logically organized belief structures. They have belief, but this belief is not organized like elites would assume. This is still consistent with the idea of propositional belief conflict in that we can imagine conservative Protestants disagreeing about the age of the Earth, but this religious belief would not be related to other scientific or religious beliefs. Contemporary American religion does not include systemic knowledge, but does it even focus on *any* beliefs about the natural world?

People think of conservative Protestantism as the most doctrinaire of the Christian traditions, and to the extent there has been any conflict about beliefs with science by elites, it is primarily with conservative Protestants. However, a number of studies show that if conservative Protestantism was ever about truth claims, it is increasingly an instrument of individualistic therapy and fulfillment. That is, conservative Protestantism is increasingly about people's social relationships and, more specifically, helping people with their problems. Jesus has been transformed from the messenger of God's truth into a friend who helps you in your time of need.

In a strongly worded critique, Alan Wolfe's study of the transformation of American religion in the late twentieth century concludes that conservative Protestantism has joined the culture of narcissism. This religion is no longer about worshipping a transcendent God, but has transformed "already individualistic worship styles into ones even more capable of helping believers with the mundane practicalities of modern life." As many a contemporary critic has noted, gone are the days of Jonathan Edwards talking about how you are barely perched above the fiery pit of hell. Today, Jesus is your friend, here to solve your social problems.

Wolfe describes a prayer group at one Baptist church where the group does not offer prayers of adoration or devotion, but prayers about the health and healing of members, financial difficulties, real estate, and issues facing the church. The group keeps a large tablet that serves as "God's scorecard" where prayers God has acted upon are put in the "praise" column and those not acted upon yet are put in the "petition" column. Wolfe concludes that "the concerns that so many believers express in prayer suggest that, in their minds, God helps those who focus on themselves." In fact, a survey shows that this is a broadly accepted idea. Eighty percent of Americans believe that Benjamin Franklin's aphorism "God helps those that help themselves" actually comes from the Bible.⁸²

Similarly, a sociological review of what is known about the growing number of American megachurches, which are largely conservative Protestant, states that these churches are based in "the therapeutic personalism that marks Baby-Boomer religiosity," with the "seeker" sub-variety of church emphasizing "the personalistic aspects of faith—a believer's personal relationship with Jesus and the ways in which faith can help individuals address numerous domestic or personal issues." One of the explanations for the rise of these churches is that Americans have come "to expect religion to be a tool in the individual's quest to develop the self."⁸³

This narcissistic approach to religion has apparently reached epidemic proportions among the young, where religion is almost exclusively about social and moral relationships. In an extensive study of American teenagers, Christian Smith concludes that if you generalize across the religions of American youth, their beliefs are best described as "moralistic therapeutic deism." The principles of this new dominant form of religion include: "A god exists who created and ordered the world and watches over human life on earth;" "God wants people to be good, nice, and fair to each other, as taught in the Bible and by most world religions;" "The central goal of life is to be happy and to feel good about oneself;" "God does not need to be particularly involved in one's life except when God is needed to resolve a problem;" and "good people go to heaven when they die."⁸⁴

Religion in the modern age is thus about being moral to each other, about God helping you feel good about yourself, and about God solving your problems. Smith concludes that in this view of religion, God is "something like a combination Divine Butler and Cosmic Therapist: he's always on call, takes care of any

problems that arise, professionally helps his people to feel better about themselves, and does not become too personally involved in the process.”⁸⁵

Therapeutic religion reaches its peak in a conservative Protestant movement called the Prosperity Gospel. While roundly condemned by evangelical elites who see Prosperity preachers as heretical charlatans, it is the logical extension of the aforementioned trends in conservative Protestantism. The movement is based on the idea, at its most crass, that if you give the pastor ten dollars, God will somehow give you one hundred dollars.

More generally, the central message of the Prosperity Gospel is that God and religion exist for your happiness. In her extensive study of the origins of the American Prosperity Gospel movement, Kate Bowler defines it as “a wildly popular Christian message of spiritual, physical, and financial mastery.” She sees some of the unifying themes of the Prosperity Gospel as faith, wealth, and health. Faith is “an activator” that “unleashes spiritual forces and turns the spoken word into reality,” and proper faith is demonstrated by a person’s wealth and health.⁸⁶

The “hard” version of the Prosperity Gospel makes a mechanistic connection between your action and the good outcome. This is the “give me ten dollars and God will give you one hundred dollars” variety. This “hard” version is nowhere near as prevalent now, at least in the U.S., as is “soft prosperity,” embodied in phrases like “God is a good God!” and “Expect a Miracle!” and “Something good is going to happen to you!”⁸⁷ Bowler describes megachurch pastor Joel Osteen sitting down on the TV talk show *The View* and providing a “confidence that God provides the tools to reach into the heavenlies and pull out a blessing: a promotion, weight loss, a lovely home, a happy marriage or top-flight schools for their kids.”⁸⁸ Bowler sees this movement as the culmination of the trends I have been discussing in this chapter, writing that the soft version “rose to popularity in the 1990s with the turn toward therapeutic religion and the desire for language of sweet certainty. It was the perfect theological language for an experiential and consumptive generation who longed for a God who not only showed up but whose blessings could be measured.”⁸⁹

Some of the most famous conservative Protestant pastors fit into this mold. Joel Osteen has a thirty-eight-thousand-member congregation and is the author of self-help bestsellers such as “I declare! 31 Promises to Speak Over Your Life.” His television show is ubiquitous. Nielsen Media has determined him to be America’s most-watched inspirational figure, with a weekly audience of seven million. T. D. Jakes was described by *Time* magazine as “one of America’s most influential new religious leaders” with a thirty-thousand-member church, media conglomerate, and more than two dozen books on emotional healing. Creflo Dollar is the pastor of a thirty-thousand-member congregation in Atlanta.⁹⁰

While you would be hard pressed to find an evangelical theologian who agrees with this movement, it seems to be very influential among the conservative

Protestant public. While a recent poll found that only 17 percent of Christians identified themselves as part of the prosperity gospel movement, this underestimates the more generalized acceptance of these ideas. In the same poll, 31 percent believed that “God increases the riches of those who give.” Two-thirds agreed that “God wants people to prosper.” Another survey showed that 43 percent of Christians agreed that the faithful receive health and wealth.⁹¹

Needless to say, this is not the only version of Christianity that is possible. A nice counterpart for our thinking is an older “gospel” movement, the *social* gospel movement. Found among mainline and liberal Protestants in the early twentieth century, the point of this movement was to create the Kingdom of God on earth by eradicating social evils like poverty that befell *others*.⁹² Religion was not supposed to make *you* happy, but you had a religious obligation to make *others* happier.

I refer you to Bowler’s fascinating book for more details about the Prosperity Gospel. Suffice it to say that adherents of the Prosperity Gospel probably “know” that as evangelical Protestants they are supposed to believe that evolution is incorrect. But, this seems like it would be a very minor aspect of their faith. Front and center is a concern about social relationships—most notably, for this movement, how they themselves are doing socially compared to everyone else in the world. Again, this is not a religion dedicated to fact claims about nature, but to social and moral relationships, making knowledge conflict unlikely.

It is only because the religion and science debate started so long ago, when a different version of conservative Protestantism was in place, that we think that a conflict between religion and science for the public would be about fact claims about the natural world. If we restart the debate today, as I am advocating, we would instead be looking at the moral values of science and religion to see how and when they clash.

THE PUBLIC IS LIKELY TO THINK SCIENCE AND SCIENTISTS ARE CONCERNED WITH MORALITY

We should remind ourselves of what would be required for the religious public to be in systemic knowledge conflict with science. On the one hand, they would need to think of their religious belief system as a cohesive knowledge structure where a scientific claim like human evolution would threaten a religious belief such as the Resurrection. So far in this chapter, I have shown a plethora of disparate studies that collectively suggest that if American religion was once a coherent structure of belief that could be threatened by a scientific fact claim, that is no longer the case.

For moral conflict, religious people would need to think of religion as producing moral claims. I think that it is uncontroversial that this is indeed the case. However, they would also need to see science as producing moral claims. While this is not what we find in the elite debate, and is contrary to scientists’

self-perceptions, existing research across the social sciences and humanities suggests that the public is likely to see science and scientists in moral terms.

Let us then start with what is obvious when we move our gaze from elites to the public. Where does the public learn about science? Not from science teachers, at least after they finish twelfth grade. Communications scholars conclude that after formal science education ends, the media is the most available and sometimes the only source of information about scientific discoveries and scientists.⁹³ This media—such as TV, movies, and the news—describes science as deeply concerned with morality, so it is no surprise that religious people would interpret scientists as engaging in moral action.

For example, a study of the discursive frames found in media stories about science-related policy debates included categories of: social progress (improving or endangering the quality of life); economic development; morality and ethics; scientific and technical uncertainty; public accountability/governance; and “Pandora’s box/Frankenstein’s monster/runaway science.” Of these categories, only scientific and technical uncertainty could be described as concerning scientific knowledge *per se*.⁹⁴ The remainder are largely about social relationships or morality.

Depictions of Scientists in Popular Culture

I suspect that most people’s view of scientists comes from popular culture, not newspapers. As of this writing, the BBC drama *Orphan Black* is in its third season, having won numerous awards. The premise is that in the 1980s, a group of scientists in the U.K. decided that the time was right to clone humans—illegally. The motivation of the scientists was to use our human abilities to direct our own human evolution. The cloned embryos were placed in a large number of surrogates, born and grew up apart—but, each clone with a spy monitoring them to gather data for the scientists. Control of the human species was not the only motive of scientists, but written into the DNA of each of the clones, using code, is a patent statement. Not only would the species be perfected, but the perfection would be profitable.

The underlying theme of much of the show is the consequences of trying to control the nature of human life. That of course sounds like the eugenics movement, and those who are aware of the history of the eugenics movement are given sly references as the plot of the show develops. For starters, one of the sinister scientists’ name is Aldous. This is a vaguely British name, but surely this is a reference to Aldous Huxley, author of the dystopian classic *Brave New World*. In fact, as clever bloggers with too much time on their hands have noted, if you look carefully in the beginning scene of the pilot episode, the name of the train station where the plot first develops is “Huxley Station.”⁹⁵ Later we find that the scientific institute dedicated to creating the clones was called the “Cold River Institute.” In the real world, the Eugenics Record Office in Cold Spring Harbor, New York was the base

of the American eugenics movement of the early twentieth century. Much later we discover the inspiration for the cloning was a 19th century British eugenicist.

Part of the popularity of the show is undoubtedly that the same actress plays, as of this writing, seven different adult cloned women, each with different mannerisms, surface-level appearance, and accent. But the message of the show is not far under the surface. While perhaps the original scientists who created the seven female clones were just interested in what would happen, the team of scientists who took over and have been following the women are simply sinister, soulless, and have no problem killing people to protect their experiment. At minimum, scientists are portrayed as amoral and at maximum they are portrayed as wanting to flaunt the morality of the public in Promethean schemes for control of nature. The show does not show any knowledge conflict—no one questions the science of human cloning—only moral conflict.

The original *Star Trek* series is another great example of how the morality of scientists is portrayed as being at odds with public morality. The science officer for the Enterprise was Mr. Spock, a Vulcan who tried to enact the perfect emotionless rationality of his species. It makes complete sense given the tropes of American culture that he was the science officer and not the doctor, who was portrayed as having the expertise, values, and mannerisms of a small-town family practitioner transported to space. A repeated theme in the show was that Spock's radical utilitarianism, depicted as "rational" and thus scientific, was kept in check by Captain Kirk's Kantianism. "The needs of the many outweigh the needs of the few," Spock would proclaim when urging that someone be allowed to die to save others, whereas the emotional Kirk would risk the many to save the individual, which is depicted as the "human" response. Kirk channels his inner Kant when he turns Spock's catchphrase on its head saying "because the needs of the one outweigh the needs of the many," thus representing the "human" vs. the Vulcan (i.e., scientific) response. Science, logic, and rationality are thus put at odds with human values.

The scientist as utilitarian works for *Star Trek* because it has a kernel of truth to it. If we go back to the 1950s, medical research scientists were conducting experiments on prisoners and orphans without their knowledge. For example, the Tuskegee syphilis study was based on not treating poor African American men who had developed the disease to see what would happen to them. All of this was justified with the premise that medical knowledge that would benefit everyone needed to be developed. Then, a social movement in the 1960s now called "bioethics" began to argue that individuals cannot be sacrificed for the greater good, rejecting the morality of many scientists at the time. People would have to give their informed consent to be experimented upon—they would have to agree to sacrifice themselves for the greater good. The degree of public outrage that occurred when the public found out about the Tuskegee experiment, as well as experiments on orphans and so on, is indicative of how the scientists' morality

differed from the public's morality, and entire institutions of research ethics were invented to rein in the questionable morals of the scientists. Indeed, the system of ethics that is now used to govern human experimentation is described by academics as "the public's morality."⁹⁶

Star Trek and *Orphan Black* work because their portrayals of scientists are so deeply entrenched in American culture. For the public, the most famous scientist is probably not Francis Collins, or even inventor of the polio vaccine Jonas Salk, but Dr. Frankenstein. While the original 1818 novel had a different meaning, the movie version which most people know does not question whether Frankenstein knows his science, or whether he was making correct fact claims about the natural world. Rather, Dr. Frankenstein is famous for circumventing public morality to do what he wanted to do. As one scholar writes, "in the Hollywood tale, the fate of the Frankenstein monster becomes a moral lesson illustrating the punishment for ambitious scientists who seek to usurp the place of God by creating life."⁹⁷

The scientist who does what they want regardless of what the public thinks is a vision that continues to this day. For example, in the 1993 movie *Jurassic Park*, scientists figure out how to clone dinosaurs and bring them back to life, resulting in negative consequences, suggesting that scientists should not really be led by their own moral compass.

Frankenstein and *Jurassic Park* are not unique stories in this regard. One study of 990 horror movies from 1931 to 1984 found that "science is historically the most frequent type of monstrous threat in horror films."⁹⁸ Another analysis of 222 movies is even more clear that scientists are depicted as amoral or immoral people who cannot be trusted. The title of the study is telling: "Of Power Maniacs and Unethical Geniuses." Science is portrayed as alarming because it concerns the modification of the human body and the violation of human nature. Scientists are portrayed as pursuing new knowledge in secret without social controls.⁹⁹

Besides a reiteration of the finding that scientists are portrayed as having a moral agenda, and a negative one at that, this study is important because it also summarizes what morals the scientists are violating. Movies are not made about scientists measuring quarks or describing molecules. Rather, the immoral scientists are intervening in humanity itself—in our human nature and in our bodies. The author of the study of the Frankenstein movies writes that "more than a moral lesson, the celluloid Frankenstein story is a powerful metaphor for addressing the ways in which American society responds to the rapid pace of discoveries in biology and medicine, discoveries that challenge traditional understandings of what it means to be human."¹⁰⁰

As I will describe in Chapter 7, declining trust by religious conservatives in the scientists who run scientific institutions in the U.S. coincided with a shift in scientific interest from the physical world (e.g., physics, nuclear power) to the human body (e.g., human genetic engineering). "The human" is religious territory, and

scientists are not only moving into that area in recent decades, but our popular culture is teaching the public that the morals of the scientists are particularly untrustworthy in this area.

It is even worse for scientists. In the study of 222 films, many of the scientists are portrayed as the “mad scientist” who trespasses ethical boundaries to gain forbidden knowledge or fame. However, even the scientists coded as “good” or “benevolent” should not be trusted, because they are naive, meaning well but seeing their discoveries put to some unethical use.¹⁰¹ Cultural historian Christopher Frayling reaches similar conclusions, writing that in popular films “the mad scientists (the fictional ones) have outnumbered the saintly scientists (the real life ones) by a very wide margin indeed.”¹⁰²

According to one review of this literature on science and popular culture, the overall picture is “a cinematic history expressing deep-rooted fears of science and scientific research in the twentieth century.”¹⁰³ Frayling concludes that studies show “that the dystopias outnumber the utopias by a factor of about a hundred to one . . . the cinema has spent much of its history telling audiences that science and technology, actually or potentially, are likely to be very bad for them.”¹⁰⁴

These depictions of scientists are not only found in television and movies. Western literature also teaches the public that science is primarily a moral or social enterprise, stocked with scientists whose morality is in contradiction to the morality of the public. In her sweeping analysis of scientists in Western fiction from the Middle Ages to the late twentieth century, Roslynn Haynes finds that “scientists as depicted in literature have, with few exceptions, been rated as “low” to “very low” on the moral scale. The early Faustian stereotype of the enchanter, versed in the black arts and most probably in league with the devil, has spawned a series of equally unattractive offspring: megalomaniacs bent on world destruction; absent-minded professors shuffling in slippers and odd socks while disasters befall their beautiful daughter in the next room; inhuman researchers who think only in facts and numbers and are unable to communicate on any other level.” Haynes finds six archetypes of scientists that are reworked over the centuries, the majority of which “represent scientists in negative terms, as producing long-term liabilities for society.”¹⁰⁵

These teachings from popular culture about the behavior and motivations of scientists appear to be already known by very young children. Scholars have been studying the images of scientists held by adolescents for over fifty years by having them draw pictures of scientists. The classic study from 1958 determined that children viewed the scientist as an elderly or middle-aged man with glasses, beard, and a white coat in a laboratory surrounded by equipment. More importantly, a summary of more recent studies concludes that in addition to these physical traits, the stereotypical scientist is viewed as a genius “who may be antisocial, crazed, or even evil.”¹⁰⁶

These data are supported by some of the experiences of scientists tasked with improving their image. A scientist leading a project on the impact of the media on children's attitudes about science tells of visiting elementary schools with scientists, and how the children do not believe they are actually scientists. The reasons are that they are "too normal," and "too good-looking." More strikingly, some children say "I did not think he was real because he seemed to care about us."¹⁰⁷

There is not an extensive social science research literature on what the public thinks about the morality of scientists. One exception is a set of recent psychology experiments where the subtitle of the paper is a good summary: "Scientists are associated with violations of morality." Using a number of controlled experiments about the sort of person who would engage in extremely deviant acts, they find that scientists were perceived by Americans as more likely than others to engage in serial murder, incest, and necrobestiality. This finding is even more striking given that the experimental surveys were administered to samples from the population that are, in the authors' own estimation, more similar to scientists than other Americans. The sample is far less religious, far more liberal, and more educated than the general public. If replicated with a nationally representative sample, the results would presumably depict scientists even more negatively.¹⁰⁸

For my purposes, it is not only important that scientists in popular culture are depicted as people who are morally at odds with the rest of society. The more general point is that scientists are not depicted as sticking to conducting investigations about the natural world that society has asked them to do. Rather, scientists are portrayed, both positively and negatively, as people who act morally with a particular agenda, for good or bad. It is hard to imagine that any average citizen views science as just a morally neutral investigation of the natural world. Rather, they probably perceive scientists as a group promoting moral and social interests.

If Not Immoral, At Least Not Like Us

The scientist as madman portrays a particular morality of scientists. What is worse for scientists is that, even if portrayed as good or neutral, they are perceived as not like "ordinary" people. If scientists are not like you and me, as foreign, it is hard to imagine that scientists can be trusted to have the same values as you or me.

Consider one last TV show, *The Big Bang Theory*. This American comedy is about a group of young scientists at the paragon of American science institutions—the California Institute of Technology. The show and its actors have won multiple awards, such as the Emmy Award and the People's Choice Award. It is in its ninth season, with between twenty and twenty-five episodes per season and about twenty million people watching each episode in the U.S. About 6 percent of the

population of the U.S. is watching each original episode, and its global reach is further. Earlier seasons are now in syndication, suggesting that even more people are watching.¹⁰⁹ In terms of what “an elite scientist is like”—the type that a citizen would read about in the newspaper—I have no doubt that *The Big Bang Theory* is far more influential than any other non-TV cultural work or movie in shaping the public’s views.

The show works with stereotypes of the nerd and the mad scientist.¹¹⁰ The show largely lacks the “scientists as evil” trope described above, with a sympathetic view of the mad scientist, but fully reinforces the view that scientists are not like you and me. The basic comedic premise of the show is to play off of all of the available tropes in American culture about how scientists are unlike the rest of us. “The rest of us” is played by a waitress from Nebraska who moves into the apartment across the hall from the two primary scientific characters in the show, and we see through her eyes how odd the scientists are compared to everyday people.

The star of the show is Sheldon Cooper, a brilliant theoretical physicist who started college at age eleven, studying string theory and quantum mechanics. He lacks the ability to understand social situations or others’ feelings and continuously notes that he is smarter than everyone else. Sheldon’s friend is another physicist, Leonard Hofstadter, who plays the one scientist in the group who approaches a normal understanding of social relationships—which provides a continuous comedic well. Another physicist is Raj Koothrappali, who, at least in the earlier seasons, is so awkward that he cannot speak to a woman unless he drinks a lot of alcohol. The final member of the group is Howard Wolowitz, who is not quite the failure with women that Koothrappali is, but is nonetheless wildly inappropriate. The group of friends pass their time at the comic book store and watch a lot of science fiction movies. The basic message one gets from the show—never explicitly said, but not needing to be—is that elite scientists are not like you and me. Since they are not like you and me, it seems unlikely that the public will assume they share the public’s values.

Social science research also finds that the public views scientists as not like the general public. The psychology study referenced a few paragraphs ago found that “scientists are perceived as significantly more nerdy, robot-like, goal-oriented, and emotionless than regular persons and atheists.”¹¹¹ Similarly, the National Science Foundation conducted surveys in 1983 and 2001 that in part measured the public’s images of scientists. We only need to look at the questions they asked to see how scientists are thought of as “not like us.” The survey asked for evaluation of the statements: “scientists have few other interests besides their work,” “scientists don’t get as much fun out of life as other people do,” scientists “are apt to be odd and peculiar people,” scientists “are not likely to be religious people,” and “scientific work is dangerous.”¹¹² The conclusion is that scientists are not considered to be “like us.”

CONCLUSION

In Chapters 2 and 3 we saw that the systemic knowledge conflict view dominates academic thought. Academics either explicitly extrapolate this view to the public, or by not being explicit that they are only talking about elites, imply that this is what ordinary religious people would think. In Chapter 4 I showed a range of recent elite debates that throw the systemic knowledge conflict perspective into doubt, even for elites. In this chapter I summarized disparate existing research on the public that suggests that while we may find some instances of propositional belief conflict between religion and science, we are unlikely to find systemic knowledge conflict. Research has shown that the only people who have hierarchically structured belief systems controlled by logical constraint are those who spend the time to construct them, and the vast majority of regular citizens do not have the incentive to do so. Therefore, people are not “logical,” as the systemic knowledge perspective implies.

If we look at recent studies of American religious people, we see that they are not, if they ever were, concerned with systems of belief, but rather see religious belief as episodic, taking beliefs as they need them from various cultural sources. Moreover, conservative Protestantism has turned, probably in the past fifty years, toward being quite concerned with therapeutic individualism. If religion is, for the average person, “about” solving their problems, then even if they claim a fact that is opposed by science, it will not matter enough to them to actually act upon it.

For the religious public to engage in systemic knowledge conflict with science, they need to think of their religion as making fact claims about nature—and scientists as doing the same. Whereas people probably know that scientists try to discover fact claims about nature, it is extremely unlikely that they view this pursuit as morally neutral. Given how science and scientists are portrayed in the popular culture, and the public sphere more generally, it is most likely that they see that fact gathering as having a moral agenda that is different from their own. Religion and science are primed to conflict—over social and moral issues, not knowledge.