



UNITARIAN UNIVERSALIST CONGREGATION OF FREDERICK

An Honest Heretic: Religion, Science, & Dr. Joseph Priestley

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Originally, the Unitarian and Universalist sides of our heritage were theologically-liberal branches of Protestant Christianity that emphasized Jesus's life, teachings, and ethics. They increasingly taught that Jesus wanted others *not* to worship him, but to *follow* his way of self-giving love in their own time and place. As our UU slogans go, we are a religion of “*Deeds not creeds*” and “*Salvation by character*”: we are saved from ourselves by how we treat others, as opposed to salvation by “believing six impossible things before breakfast” (as the Red Queen told Alice she sometimes does).

As the Unitarians and the Universalists grew closer and eventually consolidated in 1961 to form the Unitarian Universalist Association, they also became an increasingly big tent. The original emphasis on “Jewish and Christian teachings” expanded into the Six Sources that we know today. (Our Six Sources and Seven Principles are listed on the back of each week's Order of Service.)

Additionally, I've heard the argument made that we should add a *Seventh* Source: “Our UU history and heritage.” We are much more than a new-fangled religion that started in the 1960s — not that there's anything wrong with things that started in the '60s! But it is significant to recognize that the roots of our Unitarian heritage go back to the 1500s in Europe. And our Universalist roots going back to the 1700s. If you travel through New England, you will find Unitarian congregations that are well more than 300 years old.

Our theological ancestors courageously demanded that the Bible be interpreted in light of reason, cutting-edge scholarship, and what they knew to be true in their own firsthand experience. It's no coincidence that the Protestant Reformation began in the early 1500s barely fifty years after the invention of the movable type printing press, which helped produce mass copies of the Bible that individuals could read and interpret for themselves. What they discovered conflicted with centuries of tradition, creeds, and liturgy.

Likewise, going back to the 1700s in North America, a time when there was widespread anxiety about whether one's self, family, and friends were predestined for eternal torment in an afterlife, our Universalist ancestors began preaching a message of universal salvation for *all people* based on love — and eventually that our focus should be *not* on salvation in a next world, but on “loving the hell out of *this world*.”

So while I deeply appreciate our Six Sources, we also have more than five centuries of Unitarian history and more than two centuries of Universalist history — our own history and heritage — from we can draw support: ancestors of courage, conscience, and conviction that can inspire our work today in building the Beloved Community.

I've been thinking about our Unitarian Universalist history and heritage a lot in recent months in preparation for a course I'm co-teaching this spring at Wesley Theological Seminary in D.C. on “UU History.” And while I will by no means try to make you all sit through hours of lectures and stacks of books that are required of our seminarians — although I do appreciate that some of you would actually enjoy that — I will be inviting you to experience a few more sermons than usual this winter and spring that draw from what I am calling our “Seventh Source” (UU history and heritage) to share with you some of the insights I am learning. If history is not your favorite subject, there will be lots of other topics in other weeks. My hope is that you will increasingly see our UU history and heritage as a source of wisdom and guidance for us today.

One reason that I am starting this morning with Joseph Priestley is that we are in the subdivision of the UUA known known as the Joseph Priestley District. We named our district after Priestley because of his influence in spreading Unitarianism in this area. Although he raised in a strict Calvinist family, by early twenties he was a free-thinking minister-scientist unafraid to experiment with both theology and science (19).

If this sermon leaves you interested in learning more, there is a recent two-volume biography by Robert Schofield from Penn State University Press, but that weighs in at about 800 pages. A much more accessible introduction to Priestley is Steven Johnson's The Invention of Air, which is only 200 pages and aimed at a popular audience.

Although Priestley's name is less well known today, he was quite influential in his own time. As one example, among the 165 letters that Presidents John Adams and Thomas Jefferson exchanged near the end of their lives, "Benjamin Franklin is mentioned by name *five* times, while George Washington is mentioned *three* times. Their mutual nemesis Alexander Hamilton warrants only *two* references. By contrast, Priestley, an Englishman, who spent only the last decade of his life in the United States, is mentioned *fifty-two* times" (Johnson xiv).

Priestley always wanted to share his insights widely. When the English scientist Isaac Newton wrote his landmark book *Mathematical Principles of Natural Philosophy* in 1687, he wrote in Latin. In contrast, less than a century later, when Priestley published his highly influential *The History and Present State of Electricity with Original Experiments*, he instead wrote in English to make his work more accessible. He also intentionally shaped his book with the goal of inspiring readers to conduct further experiments themselves. He wanted readers to see that they too could become scientists and further advance the frontiers of knowledge (34).

Priestley was also fully transparent that his own discoveries were less a result of genius and much more from persistent trial-and-error (29). And speaking of experimentation without guarantee of positive results, the story of Benjamin Franklin flying a kite in a thunderstorm comes from Priestley's history of electricity. "Franklin himself had only published a brief third-person account of his experiment in the *Pennsylvania Gazette*, without specifying that he himself had performed it.... But he willingly gave Priestley extensive details on the event" (27).

Unfortunately, Priestley's full transparency meant that he was a much better scientist than he was an entrepreneur. For instance, he discovered a method for carbonating water.

Think of the untold trillions of dollars that have been generated by the invention of soda water, and yet Priestley happily revealed his formula in letters, pamphlets, and dinner party chatter to anyone who would listen.... A certain Johann

Schweppes fared better in this regard, patenting a method of carbonating water in 1783.... (52)

Priestley's openness helped advance science, but wasn't always the best for his family's bank account.

And there are many more fascinating details that can be traced about Priestley's scientific discoveries, but for allow me to focus the most famous, what Johnson calls "The Invention of Air." The story begins in childhood when, as an eleven-year-old boy, Priestley discovered (as young children sometimes do) that if you trap an insect in a sealed glass jar, it will soon die. Showing an early penchant for the scientific method — and not having an ethics committee to answer to — the eleven-year-old Priestley, in an effort to understand what was happening more precisely, began closely observing how long it took spiders to die when trapped in a sealed jar.

This was around 1744, before either the American or French Revolution. And to appreciate the context, it is important to try and set aside all the scientific insights we take for granted almost three hundred years later. At that time, *no one* knew why insects died — or why candles extinguished — soon after being sealed in a glass jar: "Did the creatures somehow exhaust the air they were breathing — in which case, what was left in the jar? Or were they poisoning their environment with some invisible substance they released? Or was some other factor at work?" (59-60). Before Priestley, for the most part, people thought of the space between objects as basically nothingness (66).

Fast forwarding almost thirty years, as an adult, Priestley picked back up that line of experimentation begun in his childhood. The variation that occurred to him was to investigate what would happen if instead of a spider or candle, he substituted a plant. In late spring, he pulled some mint from his garden: "he fully expected it to wilt and die in a matter of days or weeks. But...something strange and unexpected happened. The plant had stubbornly refused to die.... [and] continued growing all summer" (61, 65). For any young people here this morning, think of this as one of the best science fair project ideas ever! So simple, yet with profound results.

The mysteries then began compounding. He found that, "A candle would readily burn in the jar alongside the mint." And although modern animal rights activists would not approve of

Priestley's methods, he also discovered that, "A *mouse* placed inside the jar with the plant could survive happily for ten minutes, while a mouse placed in a *plant-free* jar in which another mouse had previously expired would begin to convulse within seconds" (65). (Now, don't worry, here end-eth the animal cruelty section of Priestley's experiments.")

The next insight Priestley had was to leave the mint plant sealed in a jar with a candle. When the candle burned out, he knew that no more "wholesome air" would remain." But ten days later, "when he went to light a candle in the glass... 'it burned perfectly well in it.'" It seemed "that plants were restoring something fundamental to the air, or they were creating the air itself" (76). Excitingly, the results were the same every time he repeated the experiment.

Johnson writes that, with twenty-first century Universe Story, we know

reaching *back* [13.8 billion years] and *down* to the microscopic world of bacteria and molecules — would have been almost entirely off-limits to Priestley [and to his friend and correspondence partner Benjamin] Franklin. But both men had a hunch that something profound was lurking in the mint's survival.... We can see here the first stirrings of a genuinely new way of thinking about life on Earth and our role in that system [connecting to today with Climate Change]. The air we breathe is not some inalienable fact of life on Earth, like gravity or magnetism, but is rather something that is specifically manufactured by plants. And that manufacture is itself part of a vast, interconnected system links animals, plants, and invisible gases in a "rational" flow. And the choices we make as humans... can have a dangerous impact on that flow.... (80-82)

As a result of his work, he was awarded the Copley Medal ("the Nobel Prize of its day"), "by the Royal Society in London 'on account of the many curious and useful Experiments contained in his observations on different kinds of Air.'"

Now, I have spent a fair amount of time tracing one of Priestley scientific discoveries. And I will likely preach another sermon about Priestley in the future to tell you more about his life and contribution to Unitarian theology. But part of my point for this morning is that the questions, the wonder, and scientific curiosity that Priestley brought to his exploration to the

world are equally worthy of our reflection here on Sunday morning as his theological investigations.

Along those lines, it is significant that Priestley brought the same scientific rigor and empiricism that he used in the laboratory to both politics and theology. Two years after his discovery of Oxygen, the introduction to his book *Observations on Air* said that, “This rapid progress of knowledge...will I doubt not, be the means...of extirpating all error and prejudice, and of putting an end to all undue and usurped authority in the business of religion, as well as science.... The English hierarchy (if there be anything unsound in its constitution) has equal reason to tremble at an air pump, or an electrical machine)” (133). He challenged that all fields — science, religion, politics, and more — must face the scrutiny of reason and experience.

And to tell you some of the highlights of the religious side of his life, Priestley was a minister most of his life. His scientific experiments were conducted in his free time. And in 1774, two years after Priestley won the Copley medal, when Theophilus Lindsey led first Unitarian worship service in England, among the 200 people in attendance were Benjamin Franklin and Joseph Priestley (130).

Almost a decade later, Priestley published a book titled *History of the Corruptions of Christianity* that criticized later corruptions like the Trinity in order to restore a focus on Jesus’ ethics and teachings (152-153). This book helped inspire Thomas Jefferson to create The Jefferson Bible in which he cut out all the supernatural elements. Jefferson later wrote to Adams, “I have read [Priestley’s] *Corruptions of Christianity*, and *Early Opinions of Jesus*, over and over again; and I rest on them...as the basis of my own faith. These writings have never been answered” (156).

Each week, I began our service by saying that “We seek to draw wisdom from all the world’s religions, balanced with the insights of modern science.” Our theological ancestors such as Priestley can be vital inspirations to us today and for future generations as we seek to live ever more fully into the promises of our 4th Principle (“A free and responsible search for truth and meaning”) and Fifth Source (“Humanist teachings which counsel us to heed the guidance of reason and the results of science”).

Priestley died in 1804 at the age of 70. But before then his old friend Benjamin Franklin, wrote in a letter to a mutual acquaintance: “Remember me affectionally to...the honest heretic Dr. Priestley....” (Keep in mind that the Greek root of the word heretic simply means “to choose.” It means someone who chooses for him- or herself what to believe instead of allowing a hierarchy or tradition to choose for you.) Franklin’s letter continued, “Do not, however mistake me. It is not to my good friend’s heresy that I impute his honesty. On the contrary, ’tis his honesty that has brought upon him the character of heretic” (141). What Franklin meant is that Priestley’s *honesty* — his demand that we rely *not* on what others have told us is allegedly the truth, but that we test for ourselves what the truth actually is — that demand brought upon Priestley the *character of heretic*,” the character of one who chooses for him or herself.

May it be so for us. When faced with secondhand information that we discover to be untrue, may we be listen to the still small voice of our conscience and be honest to what we know is true in the crucible of our own firsthand experience. May the “honest heretics” that shaped our living tradition inspire the legacy that we shall leave to future generations. May we may choose for ourselves with integrity and authenticity.