

Short Reflections on Secularism: Mathematical Philosophy Meets Secular Politics



Scott Douglas Jacobsen
&

Dr. Herb Silverman

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Short Reflections on Secularism: Philosophy of Mathematics Meets Secular Politics

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Table of Contents

Acknowledgements	7
Preface: Scott Douglas Jacobsen	8
Introduction: Scott Douglas Jacobsen	9
INTRODUCTION TO HERB	10
Interview with Herb Silverman – Founder, Secular Coalition for America	11
2 ASK HERB 16	
Ask Herb 1 – Separate Church From State, Not Activism From Secularism	17
Ask Herb 2 – Sacrificial Activist: Shepherding Community Civic and Political Life	19
Ask Herb 3 – Founding the Grounding, Keeping on Pounding	21
Ask Herb 4 – The Silverman Lining on Activism	23
Ask Herb 5 – Background Noise and Individual Signal	26
Ask Herb 6 – Activism Without Prayer: Mathematics and a Neutral Universe	28
Ask Herb 7 – God May Play Dice With the Universe, But Human Beings Need to Ethically Calculate Nonetheless	31
Ask Herb 8 – A Hodge-Podge Conjecture: Me Versus Not-Me	33
Ask Herb 9 – Eternal Spring and Brilliant Clothes: The Queen of the Sciences, the Queen of Mathematics, and Civil Disobedience	36
Ask Herb 10 – Judgment: To Smith in Silver, Pith in Word	38
Ask Herb 11 – Thucydides’s Maxim: History of, More Than, the Peloponnesian War	40
Ask Herb 12 – ‘Secular’ Atrocities: Atrocious Views of the Secular	43
Ask Herb 13 – This Is a Torch, Carry It: These Are My Wounds, Learn From Them	47
Ask Herb 14 – Secular Malcontents	49
Ask Herb 15 – Sugar, Spice, and Everything Thrice: or, Three’s Company with Compassion, Reason, and Science	52
3 ASK DR. SILVERMAN 55	
Ask Dr. Silverman 1 — The Philosophy of Mathematics: Its Faces and Facets	56
Ask Dr. Silverman 2 — Epistemology and Metaphysics: How You Know, What You Know, and What You Only Think You Know	59
Ask Dr. Silverman 3 — Myths and Legends	61
Ask Dr. Silverman 4 — Embedment: A Tale of Matrioshka	63
Ask Dr. Silverman 5 — Limits of Mind: Possible Human Science	65
Ask Dr. Silverman 6 — Absolutes: Math as Science	67

Ask Dr. Silverman 7 — Infinity: 1, 2, 3, 4... Until, You Can't Count Anymore	69
Ask Dr. Silverman 8 — Infinity: Behind Every Real Infinite is a Silver Lining	71
Ask Dr. Silverman 9 — Numbers, Numbers, Numbers	73
Ask Dr. Silverman 10 — Mathematical Objects: Number-ology, Not Numerology	75
Ask Dr. Silverman 11 — Nature: Antirealism and Realism	76
Ask Dr. Silverman 12 — Nominally Platonic, Platonically Nominal: Fictionalism, Neo-Meinongianism, and Paraphrase Nominalism	79
Ask Dr. Silverman 13 — By the Godless Integers, People: Mathematicizing Secular Activism	81
Ask Dr. Silverman 14 — The Logician, The Philosopher, the Scientist, and The Theologian	84
Ask Dr. Silverman 15 — Scribble Me This, Mathman!	87
License & Copyright	91
Author Biography	92

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Scott Douglas Jacobsen

January 7, 2026

Preface: Scott Douglas Jacobsen

Dr. Herb Silverman has been a long-term pillar of American secularism. Less well known, he was a distinguished professor of mathematics. We explored both worlds with him. The text is in two parts. One on secularism. Another on the philosophy of mathematics. We open with a brief biographical grounding of the practical secular activism, and then move into the deeper parts with the philosophy of mathematics for Herb.

We cover his Jewish background, his secular organizing and activism, speaking to the Orthodox and cultural Jewish milieu, and his status as a secular Jewish person. We look at the academic pathway based on limits and proof, and the skills for dealing with them. We emphasize the need for a naturalistic, human-centred ethic with an emphasis on compassion and good works, whether an afterlife cashes out or not.

The secular political activism centred on equal citizenship, church-state separation, the rights of minorities, and the importance of strategies over slogans. Any secular activism should emphasize choosing battles, media literacy, and the practical headache of labels.

The mathematics section is not a garnish of STEM. It is a serious philosophy of mathematics series of shorts focused on axioms and proofs, or about how assumptions work, which becomes crucial in theology debates and in the deconstruction of political debate and reconstruction of better arguments upon those ashes.

Secular rights, civic pluralism, and evidence-based reasoning have more of a place in the public domain now than ever. Losses feel visceral, more painful than equivalent gains. We are in a net pain period. Mature democracies never necessarily have settled questions on fundamental values. The objective universe and we, as subjectivities of it, live dynamically and with one another.

Silverman's biography gives a narrative of an individual living in community, contributing to it, and taking part in public-facing litigation and politics, with high-level expertise and training in an epistemic discipline inculcating caution about claims. One can be, as per his example, persuasive without sneering, and win rights without becoming the zealots one challenges.

Every litigation, every organization, every coming-out narrative told, amounts to a contribution, but also entails trade-offs, because everyone faces risks to safety and to stereotypes in this cultural milieu and era in which we find ourselves. The organizations founded and represented by, and led by, Herb have made a lasting impact and will outlast a single lifetime. Leadership is seasonal: recognize their time, then move on to the next.

The presentation and format is dialogic and educational from a biographical sketch to secular community, leadership, and activism, to anti-reification, infinities, limits and convergence, paradox, axiomatic methodologies, formal validity versus the truth about reality in a semantic-syntax split, Euclidean and non-Euclidean geometries, reasoning as to why abstract reasoning provides a conceptual cartography for reality, constructive and existential proof, the imaginary and the irrational, proof versus belief, and the application of such reasoning to the God axiom.

Scott Douglas Jacobsen

January 7, 2026

Introduction: Scott Douglas Jacobsen

The short text divides into three sections with “Introduction to Herb,” “Ask Herb,” and “Ask Dr. Silverman.” Each built in terms of complexity with the first as a biography of Silverman; the second as an educational series on secular activism in a dialogue format with Silverman; and the third as an educational series on the philosophy of mathematics and then moving into some mathematicization of secular activism – in a manner of speaking – in another dialogue format with Silverman. In a natural way, the introductory section of the three provides some basis as to the identity of the “Ask Herb” and the “Ask Dr. Silverman” person (same person). The second section focuses on the public life of Silverman. The mathematics section focuses on some facets of the academic and professional life of him. Herb and I discuss secularism from a variety of angles with an educational and dialogue format in mind. His articles appear in the *Washington Post*, *Huffington Post*, *Humanistic Judaism*, *The Humanist*, *Free Inquiry*, *The Secular Outpost*, and, with *Short Reflections on Secularism* (2019), *Question Time* & *Canadian Atheist* between February 15, 2019 and August 30, 2019, as well as other publications.

Many in the secular movement may not realize the impact of this liberal, Jewish, and Yankee atheist. He was born in Philadelphia and earned a Ph.D. in Mathematics from Syracuse University. He is the former Distinguished Professor of Mathematics at the College of Charleston. He published more than 100 research papers on mathematics and received a *Distinguished Research Award*. He earned the American Humanist Association *Lifetime Achievement Award*. He authored *Complex variables* (1975), *Candidate Without a Prayer: An Autobiography of a Jewish Atheist in the Bible Belt* (2012) and *An Atheist Stranger in a Strange Religious Land: Selected Writings from the Bible Belt* (2017). He co-authored *The Fundamentals of Extremism: The Christian Right in America* (2003) with Kimberley Blaker and Edward S. Buckner and *Complex Variables with Applications* (2007) with Saminathan Ponnusamy.

INTRODUCTION TO HERB

Interview with Herb Silverman – Founder, Secular Coalition for America

2019/02/15

Herb Silverman is the Founder of the Secular Coalition for America. Here we talk about his life, work, and views.

Scott Douglas Jacobsen: What was early life like for you, e.g., geography, culture, language, religion or lack thereof, education, and family structure and dynamics?

Herb Silverman: I was born in Philadelphia, where I lived for 21 years until I ran away from home to graduate school.

My family consisted largely of Orthodox Jews, though my parents were more cultural Jews motivated by anti-Antisemitism. Having had relatives who died in the Holocaust, they did not trust any Goyim (Gentiles), and had as little contact with them as possible.

We lived in a Jewish neighborhood and after public school I would go to an Orthodox Hebrew school. My mother was an authoritarian, who made all the family decisions.

My father worked in a warehouse his entire life, packing Hershey bars that were shipped to underground subway stands. In another era, my mother would have had a job (other than cleaning house and “taking care” of me), which would have made both of us happier.

Jacobsen: What levels of formal education have been part of life for you? How have you informally self-educated?

Silverman: My formal education consisted of a Bachelor’s degree from Temple University in 1963 and a Masters (1965) and Ph.D. (1968) in mathematics from Syracuse University.

My informal education consisted of learning to think for myself and figuring out when to go along with conventional wisdom and when to step to the beat of a different drummer.

Jacobsen: You have a number of illustrious merits to the personal record. One is the founding of the Secular Coalition for America. Another is the founding of the Secular Humanists of the Lowcountry.

A third is the founding of the Atheist/Humanist Alliance student group at the College of Charleston. This leads to some obvious questions. Why found each one of them?

Silverman: Regarding the formation of the Secular Coalition for America, I learned in the 1990s about national organizations that identified as atheists, agnostics, humanists, secular humanists, freethinkers, secularists, and more.

They all promoted causes I supported, like church-state separation and increasing respect for nontheists. However, each organization was doing its own thing without recognizing or cooperating with worthwhile efforts of like-minded groups.

I thought this was a shortcoming that needed to be addressed if we were to make a difference in our culture. So, I contacted all the organizations I could, and some agreed to meet at the Godless Americans March in Washington in 2002, where we decided to form a new coalition.

Regarding the Secular Humanists of the Lowcountry in Charleston, South Carolina, whenever I received media attention I would get calls from people thanking me and saying they thought they were the only atheist in South Carolina. I took their names and we formed the SHL in 1994.

Regarding the Atheist/Humanist Alliance, a student came to my office in 1998 and asked about starting a student group at the College of Charleston similar to the Secular Humanists of the Lowcountry.

I was thrilled and agreed to be its faculty advisor. Despite an attempt by a few Christian students in the Student Council to oppose giving official club status to the group, we prevailed.

Jacobsen: How have these initiatives, founded by you, grown over time?

Silverman: The Secular Coalition for America started with 4 organizations and no budget, and we have grown to 20 national organizations with a dedicated board and staff.

We were the first organization to lobby Congress, in Washington DC, for the rights of nontheists. Initially, I hoped just to have our organizations cooperate on the 95% we had in common instead of arguing about the 5% that set us apart, like which label to use.

We succeeded far beyond my expectations, since we've become a respected and productive lobbying organization in our nation's capital.

The Secular Humanists of the Lowcountry has grown from a few people who met informally into a vibrant organization that meets regularly for lectures, book discussions, social and charitable events.

When the Atheist/Humanist Alliance first met, several students talked about friends or roommates who shunned them because of their nonbelief.

These atheist students came to meetings because they needed a supportive community. Gradually attitudes at the College of Charleston have changed and now students worry far less about becoming unpopular because of openly being atheists.

I've even heard students say they joined the club because atheist students are pretty cool. They are, but they were also cool in 1998. I'm encouraged by the younger generation's wider acceptance of diversity.

Jacobsen: As a Distinguished Professor Emeritus of Mathematics at the College of Charleston, how has acquired knowledge, developed skills, and recognized and nurtured talent in mathematics provided a foundation for secular humanist philosophy?

In that, I assume this produced a way of thinking apart from revelation, magical thinking, and assertions of a there-before or a here-after.

Silverman: My secular humanist philosophy started long before I became a math professor. As a teenager, I decided to take from my Orthodox Jewish background only what made sense.

The good works (secular humanism) remained, but not the irrelevant rituals and beliefs. Pretty soon, I realized that the God I once accepted made no sense.

When I read Bertrand Russell's *Why I am Not a Christian*, I realized that there were others who thought like me. In fact, Russell might have inspired me to become a mathematician.

Jacobsen: Why did you run for Governor of South Carolina in 1990? What was the outcome? What are the lessons for others to learn from this experience?

Silverman: I had been a quiet atheist until a colleague at the College of Charleston pointed out that our South Carolina Constitution prohibits atheists from becoming governor. I knew the US Constitution prohibits religious tests for public office.

So, I went to the American Civil Liberties Union, and its lawyer told me that an atheist would need to mount a legal challenge by running for governor.

He said that the very best candidate would be me. I looked around, and didn't see any competition. After giving it some thought, I agreed to be the 'Candidate Without a Prayer.'

To the surprise of no one, I lost the gubernatorial election. But after an eight-year legal battle, I won a unanimous decision in the South Carolina Supreme Court, nullifying the anti-atheist clause in our state constitution.

One lesson is that any individual can make a difference by going outside his or her comfort zone, especially when you have right on your side.

You also get to meet many interesting people. The best for me personally is that I met Sharon Fratepietro, who volunteered for my campaign, became my campaign manager, and my one and only groupie.

We have been happily together for 29 years, and she doesn't mind being married to someone who never became governor.

Jacobsen: As an author in the secular humanist tradition, what is important, now, in the continual growth of secular humanist literature?

If you were a young person reading this, what authors or books would you recommend for them on secular humanism? If you were an advanced graduate student, what would you recommend for them, in terms of reading in the same genre?

Silverman: For young people I would recommend *The Magic of Reality* by Richard Dawkins, and for even younger people I would also recommend *Maybe Yes, Maybe No: A Guide for Young Skeptics* by Dan Barker. I wouldn't distinguish books for advanced graduate students from books for all adults.

We have a disproportionate number of people in our movement with advanced academic degrees, and I hope we can significantly broaden our base.

A small subset of books I recommend are *A Demon Haunted World* by Carl Sagan, *The God Delusion* by Richard Dawkins, *god is Not Great* by Christopher Hitchens, *Freethinkers* by Susan Jacoby, and the *History of God* by Karen Armstrong.

And to be unabashedly self-promoting, I also recommend my two books *Candidate Without a Prayer* and *An Atheist Stranger in a Strange Religious Land*.

Jacobsen: In an examination of the current fiascos of the Trump Administration, what do you see as the more important areas of work for the activists of secularism and humanism?

Silverman: Well, first the good news. Donald Trump has unintentionally become perhaps the best fundraiser for atheist and humanist organizations.

Many apatheists now realize the need to get involved politically and to promote our point of view instead of being demonized by the fake news coming from Trump.

Just as evangelicals have recently apologized for their support of slavery and segregation, I predict that one day evangelicals will apologize for their support of the “Christian” Donald Trump.

In the meantime, join and support organizations that promote our issues and are fighting to keep our secular democracy from turning into a theocracy.

Jacobsen: How can people become involved through the donation of time, the addition of membership, links to professional and personal networks, giving monetarily, exposure in interviews or writing articles, and so on?

Silverman: Start locally, and then think about becoming active nationally. Join a group if one is near you or perhaps start a local group. Check the Internet for national organizations that support forming local groups. Do what feels right for you and what makes you feel good.

It could be coming out of the closet as an atheist or humanist, writing letters to the editor, enlighten people who assume we are all Christians living in a Christian country.

Also, consider running for public office (not necessarily for governor). For all the faults of the Christian Coalition, they had a good strategy of taking over local offices and school boards.

We even chose the name Secular Coalition in opposition to the Christian Coalition. If you can, donate to organizations you admire. There is an expression “Give until it hurts,” which is better modified to “Give until it feels good.”

This usually means giving to organizations that do good and where you know your money will make a difference. That’s why I feel good about my largest donation going to the Secular Coalition for America.

Jacobsen: Any final feelings or thoughts based on the conversation today?

Silverman: I’m cautiously optimistic about the future because the largest growing demographic are the “nones,” those who don’t identify with any religion. They are disproportionately large among young people. My goal as an old fart (76) is to help pave the way for younger people to increase the visibility of and respect for nontheists in our culture.

To those who are less optimistic that their actions will make a difference, remember that if you do nothing, then nothing will change. Find something to do, and do it!

Jacobsen: Thank you for the opportunity and your time, Silverman.

Silverman: And thank you for the opportunity to spout off.

2 ASK HERB

Ask Herb 1 – Separate Church From State, Not Activism From Secularism

2019/02/21

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about secularism and activism.

Scott Douglas Jacobsen: What are the pragmatics or the first practical considerations of secular activism?

Herb Silverman: What to do, when to do it, and how to frame it? Those are the questions. Since open secularists are still a minority, we must pick and choose our battles. We do not ask for special rights, as many religions do. But we deserve and should demand equal rights in a country with a secular (and godless) Constitution, which does not favor one religion over another or religion over non-religion. We can focus on win-win situations, where we either gain equality or get sympathy for being discriminated against.

As a personal example, the Charleston City Council in South Carolina started its meetings with an invocation, usually a Christian one. Our local Secular Humanist group persuaded one council member to offer more diversity, and he invited me to give an invocation. But as the mayor introduced me, half the council members walked out because they knew I was an atheist. They didn't return until it was time for the Pledge of Allegiance, and they turned toward me as they bellowed the words "under God." Those who heard my invocation, including the mayor, thought it was fine.

I didn't expect such defiance, but it was an opportunity for the "Law of Unintended Consequences." A reporter from our local newspaper wrote about the incident, along with comments from those who walked out. One councilman quoted Psalm 14: "The fool says in his heart there is no God. They are corrupt, their deeds are vile, there is not one who does good." He then told me that the walkout was not personal. In other words, his religious beliefs compelled him to demonize an entire class of people he was elected to represent. Frankly, I would rather it had been personal. Another councilman said, "He can worship a chicken if he wants to, but I'm not going to be around when he does it." I responded, "Perhaps the councilman doesn't realize that many of us who stand politely for religious invocations believe that praying to a god makes no more sense than praying to a chicken." (At least you can see a chicken.)

Several days later, six favorable letters appeared in the paper criticizing the improper behavior of council members. I can't tell you how unusual and satisfying it is for Christians in South Carolina to side with atheists against other Christians. Movements are most successful when they appeal to folks outside the group.

It helps to establish a relationship with a religion reporter, who often looks for different kinds of stories. For example, a reporter once asked if atheists in our local group celebrate Thanksgiving, a holiday when Americans thank God for their blessings. Here is the answer from one of our secularists that appeared in the paper: "We gather with friends and family, just like most Americans, and know whom to thank for our Thanksgiving meal. We thank the farmers who cared for the plants and the migrant workers who harvested them. We thank the workers at the processing plant and the truck drivers who brought the food to the grocery store. And finally, we thank our friends for helping prepare the meal and for being present to share in the festivities."

The newspaper got some angry letters about our members not thanking God, but several secular humanists heard about us for the first time and joined our group. That became a pattern. Whenever we received media attention, we'd hear from people who disliked us and also from people who wanted to join us. It was easily worth the trade-off. Almost all publicity is good.

One of the difficulties in getting independent-minded secularists to cooperate revolves around labels. An atheist is simply someone without a belief in any gods, while a secular humanist focuses on being good

without gods. These are two sides of the same coin. Many secularists are uncomfortable with the word “atheist” because it describes what we don’t believe, rather than what we do believe. After all, we don’t go around calling ourselves A-Easter Bunnyists or A-Tooth Fairyists. “Atheist” gets more media attention and “humanist” gets more respect from the general public. Other labels include freethinker, skeptic, agnostic, ignostic, rationalist, naturalist, materialist, apatheist, and more. If you don’t know what each word means, don’t worry. Even those who identify with such labels often disagree on their meanings. Parsing words might be a characteristic of folks engaged in the secular movement.

Certainly word choices can be important, but our special designations are sometimes nothing more than a matter of taste or comfort level rather than deep theological or philosophical differences. We are more effective when we let each person use the word with which they are most comfortable, rather than try to “convert” secularists to their favorite word.

Here’s an interesting distinction between Christians and secularists: Christians have the same unifying word, but fight over theology; secularists have the same unifying theology, but fight over words. At least our wars are only verbal.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 2 – Sacrificial Activist: Shepherding Community Civic and Political Life

2019/02/28

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about activism and sacrifice.

Scott Douglas Jacobsen: Activism, by its nature – real active involvement in community civic and political life, requires sacrifices. How should secular activists gauge their ability to participate in the variety of activist efforts available to them, not only in terms of opportunity costs between different activist efforts but also the costs to aspects of their lives and liabilities to personal safety?

Herb Silverman: Perhaps the most important and effective thing for secular activists to do is to come out of the closet. Attitudes toward gays changed rapidly when people learned that their friends, neighbors, and even family members were gay. Attitudes about atheists are slowly changing as atheists are slowly coming out, especially among millennials.

You've probably heard there has never been an atheist president, but the truth is that there has never been an *open* atheist president. I expect there have been several closeted atheist presidents. Barney Frank, the first openly gay member of Congress, only acknowledged that he was an atheist after he retired from Congress. I also doubt that presidential candidate Bernie Sanders is the only Jewish socialist in the country who believes in God. A recent Harris survey showed that 52% of Jews (myself included) do not believe in God. <https://www.simpletoremember.com/articles/a/jewsdontbelieve/>

The bad news about coming out of the closet is that you might lose some friends, though I would question what kind of friendship it is if you can't be honest about who you are. Of course, caution may well be necessary when dealing with religious family members or employers. The good news is that you will gain friends. I've heard from people who guardedly mentioned their secularism to friends and coworkers and were pleasantly surprised by a "Me, too" response. Better to be comfortable in your own skin than to hide who you are in order to please those you might not respect.

I think it's counterproductive to come out as arrogant atheists. We should not gratuitously bash religion or become atheist evangelists, promoting atheism to those who have shown no interest in discussing religion. We can answer questions about our naturalistic worldview without trying to convince others to adopt it. If questioners are open-minded enough to consider our views thoughtfully, some may convince themselves that atheism makes sense, as many of us did.

We mostly want our worldview to be respected in a culture where many distrust us because we don't believe in a judging God who will reward or punish us in an afterlife. When I hear such concerns, I ask how their behavior would change if they stopped believing in God. If it wouldn't, then it doesn't make sense for them to think we are less moral. If behavior would change because of God belief, what kind of morality is that? I like to emphasize behavior over belief, that we are good for goodness' sake. Religious or not, silent evangelism might be the most effective approach for all of us. People are likely to respect our worldview more for what we do, than for what we preach.

Here are some things to do in our community, while respectfully (as appropriate) describing our worldview. Write letters to the editor, especially countering those that promote ridiculous or unfair religious ideas. Write letters to members of Congress and local politicians, even visiting them in their offices. Support candidates (including financially) who share your values. Those who want to commit more of their time and energy could consider running for public office. There are important offices that might not be too competitive—perhaps local school board positions in some communities.

Atheists need to reach out to and work with progressive religionists who support separation of religion and government, and who judge people more on their deeds than on their creeds. That includes organizations like The Interfaith Alliance, Americans United for Separation of Church and State, Baptist

Joint Committee for Religious Liberty, Catholics for Free Choice, and other allies in liberal churches. When we meet people face to face, we are more likely to become friends and break stereotypes. Working with diverse groups provides an additional benefit of gaining more visibility and respect for our perspective. Improving the public perception of secular Americans may be as important to some of us as pursuing a particular political agenda.

My bottom line advice for atheists is to do what you enjoy doing, according to your comfort level. I understand why many atheists, especially in the Bible Belt, are quiet about their religious views so they won't appear impolite or offend others. However, being polite by avoiding conflicts has never been a guiding light for me.

I think a top priority for most of us should be to fight (nonviolently) against those who try to force their religious beliefs on people who don't share such beliefs. Especially politicians. Government must not favor one religion over another or religion over non-religion. Religious liberty must include the right for taxpayers to choose whether to support religion and which to support. Forcing taxpayers to privilege and subsidize religions they don't believe in is akin to forcing them to put money in the collection plates of churches, synagogues, or mosques.

Some secular activists may be disappointed because they haven't seen change fast enough. But we are evolutionists, not creationists. Evolution takes a long time. Whenever you feel discouraged by slow progress, keep this in mind: If we do nothing, nothing will change. You don't have to do it all, but I hope you will all do something. I hope we will one day see an America that respects secular viewpoints and an America where the influence of conservative religion is mainly limited to within the walls of churches, not the halls of Congress.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 3 – Founding the Grounding, Keeping on Pounding

2019/03/07

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about activism, safety, and more.

Scott Douglas Jacobsen: What is the fundamental risk to normal livelihood for those who enter into a full life of activism through the founding of organizations devoted to church and state separation, or, in other countries, mosque and government division?

Herb Silverman: It's a good question to think about before committing to a full life of activism, especially if you commit to what many view as an unpopular cause. I can mostly describe my own experiences along with what went right and what went wrong.

I expect my situation was less risky than for most, with little or no financial or personal safety concerns. When I began my secular activism, I was teaching at a public institution that prides itself in having academic freedom.

I ran for Governor of South Carolina in 1990 to challenge the state constitution prohibition against atheists holding public office.

Whenever I received publicity, I heard from people who thought they were the only atheists in South Carolina. I took their names and with them founded the Secular Humanists of the Lowcountry (SHL) based in Charleston.

I became its president, newsletter editor, and wrote almost all the articles. In calling for others to take a more active role, I even wrote an editorial titled “Stop the Dictator!”

I encouraged new ideas, but looking back I wasn't very supportive; I'd often respond with reasons why the new ideas would not work. Sometimes I'd ask whoever came up with an idea to develop it on his or her own, without any guidance or assistance.

Nevertheless, others gradually began assuming leadership positions. Since I was becoming engaged with national organizations and had a full-time job as a math professor, I was devoting less time to SHL.

So I worried about doing a half-assed job, but was reluctant to leave the position for fear that the organization I built would fall apart.

This is known as “Founder's Syndrome.” One of the biggest mistakes leaders can make is to believe they are irreplaceable. I've seen many good leaders, whether in atheist or other organizations, outstay a welcome.

For an organization to flourish, I think a high priority for a leader is to make him or herself replaceable. Atheists, above all, should recognize that organizations must not give too much power to any one individual.

We have no “dear leaders” who communicate to us through a supernatural being. We pride ourselves on being independent, and we recognize the fallibility of all.

I left the presidency of SHL after 15 years, and it turned out to be beneficial to both SHL and to me. Not to sound too much like a vampire, but new blood is good.

My first national board involvement was with the American Humanist Association, where I (with considerable leadership objection) proposed that the AHA and other national organizations begin to cooperate in coalition. This eventually led to the Secular Coalition for America.

I left the AHA board after many years when they mostly began to agree with my positions and I was no longer pissing people off, at least not in significant ways. It was not as much fun as in my early years and I had become the oldest board member. It was past time for me to go.

As founding president of the Secular Coalition for America, I looked for and encouraged active participants and talented replacements. I'm still on the SCA board, not as president, and it's a good feeling to know that were I to get hit by a bus tomorrow, the Secular Coalition would continue to thrive.

Now one hazard of having a devotion to a cause is that it might get you labeled a "zealot." If you resent being called the "Z" word, I don't blame you. The word has a sordid past because of the damage done by "religious zealots."

I did not like, nor did I accept, the media-invented pejorative "atheist fundamentalist" because there is no atheist equivalent to religious belief in biblical inerrancy. But "zealot" is more flexible. While zealots are often described as fanatics or extremists, it's not easy to come up with objective criteria for such terms.

What passes as extremism in some circles is viewed as moderate or mainstream in others. An accusation of "excessive" devotion to a cause says as much about the accuser as the accused.

Here's the good and the bad news about zealotry. Zealots are the ones most likely to make a significant difference by achieving their goals and changing the world. Richard Dawkins and Osama Bin Laden are both known as zealots, and they are greatly admired (though never by the same people).

While I've talked about leaders with too much power, there's the opposite danger of members in an organization who do nothing but complain about their leaders. We need to be careful about whether our criticism is constructive or destructive.

Some good leaders have left organizations because of too much micro managing. I have no magic bullet about how organizations should best be managed. It's easier, though, if power is divided among competent people and if everyone has a sense of humor.

It also helps if members are working for the same goals, and if they genuinely like one another. And that brings me to one of the most important insights of all: People are more likely to stay active in an organization if they are having fun. And eating together. Let's drink to that.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 4 – The Silverman Lining on Activism

2019/03/14

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about *Silverman v. Campbell* and more.

Scott Douglas Jacobsen: If you reflect on the *Silverman v. Campbell* of 1996/1997 through the South Carolina Supreme Court case, and other notable and similar cases – especially those that lost, what is the silver lining in this and other cases? Other positives around even some of the negative issues that may emerge from this, e.g., the reinvigoration of religious fundamentalists to push harder than before.

Herb Silverman: Winning is good, but sometimes losing is better—especially when a loss leads to much bigger wins. I'll illustrate with a personal example.

In 1989, a colleague at the College of Charleston pointed out that our South Carolina Constitution prohibited atheists from becoming governor. While I'm no constitutional scholar, I knew this violated Article 6 of the U.S. Constitution, which prohibits religious tests as qualification for any public office. I went to the American Civil Liberties Union office to ask an attorney there how this obviously unconstitutional provision could be removed. The lawyer said, "The best way is for an open atheist to become a candidate." He added, smiling, "In fact, the very best candidate would be you—in a 1990 race for governor of South Carolina." After giving this surprising suggestion much thought, I agreed to run as the candidate without a prayer. I assumed, in my political naïveté, that the state attorney general would then simply consent to bring South Carolina into compliance with federal law, and that would end the matter.

My lawyer knew better. When a reporter asked South Carolina Governor Carroll Campbell what he thought of my candidacy and constitutional challenge, Campbell said, "The South Carolina Constitution is fine just as it is because this country was founded on Godly principles."

My day in court came about a month before the gubernatorial election. Presiding judge David Norton had recently been appointed to the U.S. District Court on recommendation by U.S. Senator Strom Thurmond, a famously conservative senator. My attorney argued against the state's three lawyers and was not optimistic of victory, even though privately the state's lawyers acknowledged we were legally correct. It was discouraging to hear that the law isn't always the primary criterion in deciding cases. A few days before the election, Judge Norton dismissed my case on the grounds that it was not ripe, meaning he would only rule on its merits if I won the election. To the surprise of no one, I lost.

But I'm an optimistic kind of guy, and I always look for positives in a situation. The best for me personally was that I met Sharon Fratepietro when I spoke at the Unitarian Church during my campaign. She volunteered to help, became my one and only groupie, and we've been together ever since.

I then learned in 1991 that South Carolina's Constitution prohibited atheists from serving in *any* public office, and notary public would be the easiest one to challenge. The U.S. Supreme Court

in *Torcaso v. Watkins* had struck down an identical provision in the Maryland state Constitution in 1961. If South Carolina were to grant me a notary public license, it would be an admission by the state that religious tests could no longer be a qualification for public office.

My attorney expected this notary campaign to be successful and shorter than my gubernatorial campaign. Shorter, it was not! Governor Campbell rejected my notary application. When we asked why, he said it would be too burdensome to explain all notary public rejections. But in 1994 we learned that there had been 33,471 notary public applications approved in that time period, and that mine was the only one rejected. As far as I know, I'm the only one in the history of South Carolina to be rejected as a notary public. I then won my case in several lower courts, but the state kept filing appeals.

My lawyer took an 86-page deposition from Governor Campbell in 1995. Among Campbell's many convoluted responses, here is what he said about why it might be permissible to deny office based on religious beliefs: "Would it be right to have somebody running for public office that was avowed to overthrow and destroy the United States of America, and they didn't believe in a supreme being but they believed in a foreign government, and they call that a religion?"

Finally, in 1997 the South Carolina Supreme Court ruled unanimously in my favor, nullifying the anti-atheist clause in the state Constitution.

Although the Religious Right was ultimately unsuccessful, my case indicated the influence they can exert over politicians. None of the political leaders in South Carolina, and certainly not the lawyers advising them, believed they could prevail legally if I continued to pursue my case. Yet those same politicians demonstrated they would prefer to waste time and taxpayer money (close to \$100,000 on court fees) on a lost cause rather than risk the wrath and lose the votes of a well-organized Religious Right.

Mine was a case where the law was unambiguously on our side. Atheists and humanists are somewhat divided on how much effort to put into legal challenges for which there may not be legal precedent, and which could create bad law. Such challenges might also stereotype us as unpatriotic Americans who are trying to destroy all forms of religious expression. Examples include removing "under God" from the Pledge of Allegiance, changing the "In God We Trust" motto, and removing government erections of exclusively Christian monuments on public property. For the record, win or lose, I usually support such challenges.

I think we need to make our voice heard and to educate the public. Most don't know that "under God" was only added to the Pledge during the shameful McCarthy era, turning a secular, inclusive pledge into a divisive, religious one. Or that the *de facto* motto established by our founders had been *E Pluribus Unum*, which is Latin for "out of many, one." Again, this was changed during the McCarthy era, a substitution that excludes an increasing number of Americans who trust and believe in no gods.

The U.S. Supreme Court heard arguments on February 27 in a case brought by the American Humanist Association on the constitutionality of a 40-foot-tall Christian cross towering over an intersection in Bladensburg, Maryland.

There are some well-meaning Christian in the United States who think we are all Christian, or at least that we are all religious. We must do a better job in educating our populace about the importance of separation of religion and government (with lawsuits as a last, but sometimes necessary, resort). We need to proudly promote our founding as a secular country that does not favor one religion over another, or religion over nonreligion, and that the “nones,” those with no religious affiliation, are the country’s fastest growing demographic.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 5 – Background Noise and Individual Signal

2019/03/21

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about expectations in activism, mathematics, Judaism, and ethical values.

Scott Douglas Jacobsen: As the collective background of an individual remains an important consideration, not as an in-depth reflection but as a heuristic of what to statistically expect, in activism, how can knowledge of the background of a collective help explain larger scale phenomena of communities?

For example, as a logician and mathematician, you rejected the rituals and the god of Judaism but accepted the ethical values of the Jewish traditions.

This reflects many ordinary Jewish people who reject the supernaturalism and the ritualisms of Judaism. Your individual flavor of non-religiosity differs in more nuanced and sophisticated respects than this. However, you get the thrust of the point.

If an activist runs for office or wants to become active in community civic and political life, how can a demographic and collective background understanding of the community help with activist work in dealing with the community and in individual interactions with local American citizens – noting, of course, this can extend to other areas of our region or the world as a means by which to effectuate positive change?

Herb Silverman: I think activists who run for public office should not only describe their views on issues that affect the community, but also explain what led them to those views—religious or otherwise. We are all affected by our early influences. Some people change a little, some a lot, and some not at all. Activists should also be able to formulate good reasons to run for public office. I certainly had a good reason to run for governor of South Carolina in 1990—to challenge the provision in our state constitution that prohibited atheists from holding public office. I lost the gubernatorial race, of course, but won a unanimous decision in the state Supreme Court, thus nullifying the anti-atheist clause. Mission accomplished.

As an added bonus, my campaign turned out to be more educational than I had anticipated—for me and for other South Carolinians. People were curious about who or what turned me into an atheist and on what basis I could live a moral life. It was an opportunity for me to examine my religious beliefs, describe the difference between” evidence based and biblically based morality, and change some stereotypes people had about atheists. I didn’t indiscriminately bash religion, as many had expected. I talked about what I kept from my Orthodox Jewish upbringing, which includes an emphasis on education, promoting social justice, the idealistic aspiration of *Tikun Olam* (repairing the world), and questioning. This last one motivated me to abandon the religious teachings that no longer made sense to me, like meaningless religious rituals, unreasonable dietary restrictions, and God belief. Judaism does not require belief in God, and I’m comfortable being a member of the atheist sect of *Humanistic Judaism*.

Despite my quixotic “political” career, I don’t think atheists running for office should lead with their atheism or even talk about it unless the subject comes up. We should be able to justify our positions through the application of reason, science, and evidence, which is likely why most of us became atheists. At the same time, if asked about our religious beliefs, we should not hide our atheism. During the Q&A in a debate I had about morality, one person said I must be an honest person because I acknowledged being an atheist. Trying to avoid the A-word because you think it is a skeleton in your closet makes it become a skeleton. I think it’s better to openly discuss your so-called skeletons before others discover them. To the surprise of many, I revealed all my skeletons in my autobiography. For better or worse, no opposition research is needed on me.

Whether motivated by activism to run for office or work on important community issues, you will need support from others. It helps to seek common ground, sometimes with people you often disagree (perhaps because of their biblical beliefs). But if they are inspired by religion to treat others fairly and do good works, we can work with them on selected issues. Just about all religions and secular philosophies have grounded morality in some version of the Golden Rule. The good values a religion promotes are human values, not specific to any particular religion. And those are the values we should emphasize when working with religious people. We may differ about a future life, but atheists and theists can work together on concerns that matter in this life, like human rights, racial discrimination, the environment, poverty, peace, and other social justice issues.

In seeking supporters for your cause, it helps to support others in their causes with which you agree. I’ll illustrate with an example. The South Carolina Progressive Network is composed of 36 organizations, including the Secular Humanists of the Lowcountry. Most organizations either have no theological position or have members who are quite religious. All are outside the mainstream and opposed by the Religious Right. The rationale for the Progressive Network is that people are more likely to listen to a network of groups than to one lone group or one lone individual.

For instance, our secular humanist group sought Network support for a Charleston Day of Reason, coordinating with national freethought organizations across the nation. I expected opposition from some religious members because it was on the same day as the National Day of Prayer. I told them the day was picked because reason is a concept all Americans can support, and that we wanted to raise public awareness about the persistent threat to religious liberty posed by government intrusion into the private sphere of worship. To my pleasant surprise, the support was unanimous and the Progressive Network asked Mayor Joe Riley to issue a proclamation in support of a Charleston Day of Reason, which he did.

The Network and others joined in a local park to celebrate a day of reason, tolerance, democracy, and human rights. The celebration began with a member of Charleston City Council reading the mayor’s proclamation. Others, both secular and religious, then contributed freethought statements or comments in support of reason. When we associate faces with organizations, it is much easier for these groups to support each other’s causes. It’s also a great way to make new friends.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 6 – Activism Without Prayer: Mathematics and a Neutral Universe

2019/03/28

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about mathematical training, comprehension of the universe, and the effects on secular activism and personal worldview.

Scott Douglas Jacobsen: In terms of the mathematical training for you, and as you have a high level of mathematical training and expertise connected to a lifetime of activism, how does the comprehension of the relations of numbers to one another and of numbers to physics and cosmology, and of physics and cosmology to the universe as an apparently neutral operator, influence secular activism and personal worldview?

Herb Silverman: As a youngster from an Orthodox Jewish background and an interest in mathematics, I was fascinated and puzzled by an infinite God with infinite power who lived in infinite space for an infinite amount of time. I felt that studying “infinity” would help me understand God. I became intrigued by Zeno’s Paradox of the infinite, and here’s one version of that: An arrow goes halfway to its target. It then goes another halfway, and repeats the process an infinite number of times. Therefore, it can never reach its target. But, of course, the arrow does reach its target.

Zeno was a philosopher, not a mathematician, living in an era before the concept of a limit (the basis of calculus) was discovered independently by Newton and Leibniz. They showed that infinite sums can converge to a finite limit. In Zeno’s case, we can begin with one half, then add half of that (one fourth) and keep adding halves. This infinite series has the limit 1, which is the Zeno target.

I later learned that infinity is a theoretical construct created by humans, and that the number “infinity” does not exist in reality. Since the concept of infinity can help solve math problems, it seemed to me that an infinite God was created by humans to help solve human problems. Infinity, like gods, is not sensible (known through the senses). Mathematically there are many types of infinities, just as people believe in many gods. My mathematics students have sometimes falsely treated infinity as if it actually existed as a real number, and such misuse often got them into trouble. And so it is with many god believers who treat a so-called infinite deity as a real person.

Religious believers assume their god is real and infinite because a finite god would be limited. However, we can show mathematically that there can’t be a largest infinity. In fact, there are **infinitely many infinities**. So, any infinite god could theoretically be replaced by a more powerful infinite god.

The nineteenth century mathematician Leopold Kronecker once said, “God created the integers, all else is the work of man.” I interpret this statement to be more about the axiomatic approach than about numbers or theology. To build a system you have to start somewhere (Kronecker

started with integers). Mathematicians usually begin with axioms that seem “self-evident” because they are more likely to guide us to real-world truths, including scientific discoveries and accurate predictions of physical phenomena, though there may be doubt as to whether the axioms themselves are true. Most ancient religions are also loosely based on axioms. Their most common axiom is “God exists,” which is not as self-evident as it appeared to be in a pre-scientific world. A “God axiom” might give comfort to some, but it lacks predictive value.

Mathematicians are interested in conclusions that may be deduced from axioms, regardless of whether the axioms are actually true. Mathematicians, unlike most theologians, recognize that their axioms are just made up. So, a perfectly valid and logical proof may have nothing to do with reality. Part of the beauty of mathematics is seeing the strange and mysterious places that apparently simple and innocuous assumptions may lead.

Case in point: The Euclidean geometry taught in high school contains five reasonable axioms, like “all right angles are equal” and “there is exactly one straight line between two points.” Euclid’s fifth axiom, known as the “parallel axiom,” says that for a point not on a straight line you can draw exactly one line parallel to the original line that passes through the point. By eliminating Euclid’s fifth axiom, mathematicians developed systems known appropriately as non-Euclidean geometries.

Is this axiom changing merely a useless game? Even if it is, mathematicians can justify it on aesthetic grounds if the subsequent reasoning is deep, innovative, and creative. This particular story has a happy ending even for the most practical individual. Einstein developed his general theory of relativity by making use of the theoretical mathematics of non-Euclidean geometry, and applying it to what we now understand to be a non-Euclidean, four-dimensional universe consisting of three-dimensional space and one-dimensional time. Euclidean geometry, however, still works just fine here on planet Earth. (“Superstring theory” might eventually reconcile quantum mechanics with general relativity, though the theoretical mathematics behind it requires at least a ten-dimensional universe. Sounds impossible, but so did a four-dimensional universe in the days of Euclid.)

Some mathematical discoveries seemed so unusual at the time that they were assigned strange names like “irrational” number, a number that can’t be expressed as the quotient of two integers. The square root of two is one of infinitely many irrational numbers. My mathematics research field, complex variables, might sound supernatural because it deals with what are called “imaginary” numbers. There may be no perfect God, but there are “perfect numbers,” defined as numbers equal to the sum of their divisors. The first is 6 (1+2+3). The next perfect number is 28.

Whether intentionally or otherwise, many scientists may be viewed as secular activists because they have made obsolete many “God of the Gaps” arguments. We can accurately predict future eclipses, which are no longer attributed to God’s wrath. With every natural scientific discovery, there’s less reason to believe in the supernatural. The eighteenth-century French mathematician and astronomer, Laplace, did groundbreaking work on the stability of our solar system. When Emperor Napoleon asked him why he didn’t mention a creator, Laplace said: “I had no need of that hypothesis.” Perhaps a future Laplace will explain to a future Napoleon why our universe had no need of a God hypothesis.

Regardless of current disputes about infinity, I'm happy that we can freely discuss our views without meeting the same fate as Giordano Bruno in 1600. He taught that the universe was infinite with an infinite number of worlds like ours. At that time, it was considered heretical for finite man to discover the nature of the infinite, which was deemed clearly allied with the nature of God. This brilliant mathematician and cosmologist was burned at the stake, one of the last victims of the Inquisition.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 7 – God May Play Dice With the Universe, But Human Beings Need to Ethically Calculate Nonetheless

2019/05/09

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about ethics.

Scott Douglas Jacobsen: Given the response about Giordano Bruno and others in the previous session, and given the universe does – so to speak – roll the die with its lonesome self, this does not remove the classical middle world in which we inhabit, where things in the social world of evolved creatures come with impacts – both positive and negative to the evolved creatures.

In this sense, ethics becomes inevitable, in a sense, or unavoidable. The question becomes what ethic or morality best fits this apparent neutral operator for the world of social creatures including human animals or, rather, human primates. What ethic sits behind the activism for you? Obviously, you have been highly motivated in personal and professional history.

Herb Silverman: We live in an uncaring universe, so I think is up to humans to do what we can to make the world a better place for us, for other species, and for future generations. To do that, we must try to prevent an apocalypse.

I used to enjoy making fun of televangelists who talked about an imminent apocalypse in which God destroys the ruling powers of evil and raises the righteous to life in a messianic kingdom. The signs, they said, were everywhere— hurricanes, tornados, floods, droughts, wildfires, famines, and a general collapse of civilization. I no longer make fun of these apocalyptic signs, which of course have nothing to do with a deity.

Some people are predicting a climate apocalypse in our lifetime. And what we do about it might be the moral problem of our time. By “we,” I don’t necessarily mean you and I as individuals. I do what I can, like recycling, using paper instead of plastic, eating a vegetarian diet, driving a small Prius, and generally trying to leave a low carbon footprint. But this is more an issue for what countries are willing to do and how much influence people like us can have over public policy. We know that our use of fossil fuels emits too much carbon into the atmosphere, heating the world and apparently pushing us closer to mass calamity.

The science is clear. Climate change is real. There is a 97% consensus among climate scientists that humans are contributing to climate change, along with a dangerous rise in sea levels putting our communities and the world at risk. Some prominent climate deniers make money from the fossil-fuel industry. To take environmental issues seriously, we are led to the need for government regulation of some kind, so rigid free-market ideologues don’t want to believe that environmental concerns are real. Many who acknowledge climate change and that humans are at fault say economic costs in change would be too great.

Before turning our way of life and economy upside down, we need a well thought out roadmap for success. There is room for disagreement about the best way to address climate change. The

United Nations International Panel on Climate Change, and even President Trump's own administration, have confirmed that we are facing human-caused extinction if we don't reduce our carbon emissions by 50 percent in the next twelve years and bring them to near-zero by 2050. We need some combination of wind, solar, and nuclear energy, which I think requires an enforceable global treaty to get us off of fossil fuels, onto renewables. We need some version of a Green New Deal, with the United States leading the way.

Despite public statements of support, the political establishment has not agreed that the long-term stability gained by curbing emissions would be worth a painful cost of short-term changes to a society built on fossil fuels. We all have a personal duty to leave Earth in good condition for future generations. To deny the science is to deny responsibility for future generations and the future of our planet.

Sadly, some Evangelicals recognize the dangers of climate change and welcome it as the biblically predicted apocalypse. They believe that God is using climate change to enact his wrath on the world. To quote 2 Peter 3:10: "The day of the Lord will come like a thief, in which the heavens will pass away with a roar and the elements will be destroyed with intense heat, and the earth and its works will be burned up."

Secular Americans believe that policy should be driven by reason, evidence, and science. Unfortunately, this common-sense approach to policy is at odds with many American politicians who have rejected the scientific consensus on climate change. As atheists and humanists, it is crucial that we recognize that the responsibility to create and maintain sustainable methods of living is a collective one. We acknowledge the damage done to our environment has been caused by human action and constitutes an existential threat to humanity and many other species that have not already been wiped out. We understand that only humans can save ourselves from the climate crises we have created.

You might wish to check the websites of the American Humanist Association, the Secular Coalition for America, and other atheist and humanist organizations to see how you can work collectively to help prevent an environmental apocalypse.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 8 – A Hodge-Podge Conjecture: Me Versus Not-Me

2019/05/16

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about math and activism, and barriers.

Scott Douglas Jacobsen: One of the implicitly inevitable and quietly difficult experiences in the world of activism and, probably, in professional mathematics comes from the quiet suffering of pursuing what seems right in spite of the pushback from special interests, in activism, or from cognitive limitations against the hardness of the problem, in professional mathematics.

Any conjecture as to general emotional advice to overcome the unavoidable barriers in either case? Any relatable experiences as to how both contact points relate to one another in some internal way?

Herb Silverman: First about mathematics, which differs significantly from the world of activism. I'm living proof that you don't have to be a genius to be a mathematician. Most mathematicians, myself included, specialize in a small branch of mathematics because the field of mathematics is too big to be able to do research in more than one field. By "research" I mean discovering something new in a field that is deemed worthy of publication in a refereed journal. My specialty is known as complex geometric function theory.

Many mathematicians think their area of research is of utmost importance. The same is true in most academic disciplines. This is rarely the case. I was under no illusion that the world would benefit from my research. I enjoyed it, though, and was paid as a professor to do research, in addition to teaching.

While mathematicians often gain insights by discussing problems and concepts with one another, they usually solve problems alone. Now this is important both in mathematics and in life: "belief" is not the same as "proof." Some beliefs are eventually shown to be false. Weeks of labor might show a particular approach can't possibly solve the problem you are working on, which might even be false, and a reformulation is needed. Proofs of difficult theorems are usually a combination of insight and luck, along with hours of hard work.

Perhaps my (questionable) claim to mathematical fame is that I published joint papers with someone whose former thesis student was once the most famous mathematician in this country—Ted Kaczynski, discovered in 1996 to be the Unabomber. (Kaczynski was a much better mathematician than I am, but a much worse human being). When Kaczynski was caught, a slightly paranoid math colleague became unnecessarily concerned that there might be an anti-mathematician backlash. It helped that nobody could think of other mathematicians who were guilty of anything more than eccentric behavior.

As I approached retirement, my passion for mathematics began to wane as my passion for secular causes continued to grow. Unlike with mathematics, working on secular causes is by no means a solitary endeavor. It requires lots of cooperation. That's why I helped form the Secular Coalition for America, which now has 19 national member organizations covering the full

spectrum of atheists and humanists. While its main focus is on lobbying in our nation's capital, it also works to increase the visibility of and respect for nontheistic viewpoints. Unlike with my mathematical research, I think my work on secular causes is helping to improve our culture.

In terms of a relationship between mathematics and secular causes, I acknowledge that a small minority of mathematicians and scientists may believe in miracles, but they recognize them as (by definition) devoid of scientific evidence. They cringe whenever anyone denigrates evolution as "just a theory." From Darwin on, countless peer-reviewed scientific papers have supported evolution. And mathematicians and scientists don't use the word *theory* the way laymen do in casual conversation, as in "I have a *theory* that the moon is made of green cheese." This ludicrous statement is a hypothesis, not a scientific theory, and easily dismissed. Scientists elevate a hypothesis to a theory only after using rules of procedure to analyze, predict, or otherwise explain specific phenomena.

As mentioned above, my area of mathematical research was complex geometric function theory. Among the theories of evolution, gravity, and geometric functions, only evolution is sometimes maligned. All three theories are well established, yet incomplete. The religious right doesn't denigrate geometric function theory because it has no known implications to a biblical worldview. Not so with the theory of evolution.

The religious right has waged a long and somewhat successful media campaign to persuade the public that the theory of evolution is both scientifically and morally flawed, and should be taught alongside so-called scientific creationism. Their manta is that we should "teach the controversy." But the "controversy" is religious and political, not scientific. Creationism should no more be taught as an alternative to the theory of evolution by natural selection than "stork theory" should be taught as an alternative to sexual reproduction. Creationism is an alternative to Zeus or Krishna, not Darwin.

Some atheists and scientifically minded theists have joined forces to promote science and educate communities about evolution. Though both sides accept the theory of evolution, they dispute its implications. Christian evolutionists try to show the compatibility of evolution and Christianity, fearing that those who are forced to choose will dismiss evolution. Atheists, on the other hand, see evolution as incompatible with the idea that humans are a special creation by a supernatural being. The more we know about evolution, the more it becomes clear that living things, including humans, come about through a natural process, with no indication of, or need for, a benevolent creator.

Over the years, I've participated in many debates with theists about the existence of God, when I'm more likely to bring in science than mathematics. So, I'll close with an exception.

One of the many arguments for God's existence is that objective morality can come only from God. Countless articles have been written about the meaning of morality, whether it's objective or subjective, and whether it's made by God or humans. In response, I won't give a philosophical discourse, but I will pose a mathematical hypothesis.

There are essentially two kinds of mathematical proofs: *constructive* and *existential*. Here's a constructive proof that between any two numbers there's another number. We construct the number by taking the average of the two. So a number between 7 and 8 is 7.5. Around 300 BCE, Euclid proved that there are infinitely many prime numbers (a number whose only divisors are 1 and itself). His proof was *existential* in that it didn't furnish us with a method to actually construct such an infinite list. We only know in theory that such a list must exist.

It's not important to understand Euclid's proof, which relies on the unique factorization of prime numbers, just that it provides a useful analogy for morality. Suppose we could carefully define "morality," along with a set of axioms on which we all agree. Then we might, and I stress *might*, be able to show that there must be some sort of objective morality. But it would most certainly be an existential proof, not a constructive proof. In other words, it would be a theoretical objective morality and not one that we could apply to our daily lives.

People have always promoted different constructive moralities that contradict one another, handed down by various gods or religious authorities, all purportedly having the objective Truth with a capital "T." And deviations from the Truth have often had dire consequences for heretics. Such inflexibility and certainty represent for me the worst form of morality.

Bottom line for me: Mathematics is objective because its conclusions may be logically deduced from its premises. Religion is subjective, and can't be proved (though science has often disproved religious claims).

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 9 – Eternal Spring and Brilliant Clothes: The Queen of the Sciences, the Queen of Mathematics, and Civil Disobedience

2019/06/04

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about math and activism.

Scott Douglas Jacobsen: With respect to the dead, and to the legacy of apprehension of the natural world, what makes mathematics an important foundation to the intellectual traditions of the modern world? How does the secular community benefit from them? What ways does mathematics, even simple arithmetic, assist in reasoning about the modern world? As discussed in prior sessions, what have been cases of civil disobedience on the part of mathematicians, scientists, and similars with a secular and freethought orientation about the world? How do new mental tools – mathematics and science – give a new intellectual garb, and civil disobedience provide, sometimes, novel moral clothes for working in, thinking clearly about, and acting in the modern world to make secular change?

Herb Silverman: The 18th century mathematician Gauss said, “Mathematics is the queen of sciences and arithmetic is the queen of mathematics.” Mathematics is considered the queen of sciences because it is essential in the study of all scientific fields. Galileo referred to mathematics as the language in which the natural physical world is written. When scientific statements are translated into mathematical statements, including about the structure of the universe, we apply mathematics to solve scientific problems. Similarly, arithmetic (the branch of mathematics that studies numbers and their operations) is the foundation that leads to the study of other branches of mathematics.

Mathematics has its own intrinsic beauty and aesthetic appeal, but its value is measured mainly by what we learn from it. The achievements and structures of mathematics are among the greatest intellectual attainments and worthy of study in their own right. The reliance of mathematics on logical reasoning has educational merit in a world where rational thought and behavior are highly valued. Furthermore, the potential for sharpening the wit and problem-solving abilities fostered by the study of mathematics also contributes to acquiring wisdom and intellectual capabilities. Descartes said, “Mathematics is a more powerful instrument of knowledge than any other that has been bequeathed to us by human agency.”

Mathematics has played a major role in bringing about innovations. Many mathematical theories and models of real-world problems have helped scientists and engineers grapple with seemingly impossible tasks. In addition to making technology more efficient and effective, mathematical techniques help organizations deal with financial, manufacturing, and even marketing issues. These advances have influenced where and how we live, what we eat, what we do for work or leisure, and how we think about our world and the universe.

Martin Gardner said, “Mathematics is not only real, but it is the only reality.” And Bertrand Russell said, “Mathematics is, I believe, the chief source of the belief in eternal and exact truth, as well as a sensible intelligible world.”

Regarding secular activism, I was not led directly to it through studying mathematics, though perhaps indirectly. Mathematics requires us to think analytically and critically, with heavy reliance on logical reasoning. Such reasoning helped me give up my childhood belief in God. But being an atheist doesn’t necessarily turn you into a secular activist. I was an atheist for over 30 years before I became a secular activist. When I learned that our South Carolina Constitution prohibited atheists from holding public office, I ran for governor as the *candidate without a prayer*, which eventually helped me to successfully overturn this unconstitutional provision through a victory in the South Carolina Supreme Court.

Most mathematicians and scientists are probably atheists, though they don’t lead with that term or even think about it. And they probably became atheists for the same reason I did—the importance of thinking logically. Whether or not they consider themselves secular activists, they unintentionally are activists when they announce scientific findings that conflict with god beliefs found in holy book about the nature and understanding of our universe. A large body of mathematics has been used by science to show that many theological beliefs are false. With every natural scientific discovery, there is less reason to believe in the supernatural. For instance, we can accurately predict future eclipses, events once attributed to God’s wrath. Such findings make obsolete many “God of the Gaps” arguments.

I think most mathematicians and scientists try to ignore religion because it has nothing to do with their area of expertise. Some, like Steven J. Gould, reluctantly felt the need to engage with religion when religionists denigrated a body of scientific research (like evolution).

I understand why most mathematicians and scientists don’t become secular activists. It does not help, and in some cases might hurt, their careers. Nonetheless, I wish more of them would become secular activists, explaining to the public the importance of science and how many scientific findings have disproved religious claims. We need a more educated society, not a more ignorant and religious society.

Ask Herb 10 – Judgment: To Smith in Silver, Pith in Word

2019/06/25

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about who has done the most for the secular community as a writer, in the opinion of Professor Silverman: Dr. Richard Dawkins.

Scott Douglas Jacobsen: In your work in writing, research, and reading, who, as a writer, seems to have done the most for the secular community in the written word? Why are writers important for the galvanizing of the community? Someone who speaks to the heart of the secular message, consistently over the long term.

Herb Silverman: If I have to pick just one writer who has done the most for the secular community, that writer would be esteemed scientist and outspoken atheist Richard Dawkins. Dawkins' many books include at least a dozen best sellers about science, culture, and religion. He is the most cited scientist alive.

Dawkins uses fact-based science to counter belief in the supernatural. In *The Blind Watchmaker*, Dawkins argues against the watchmaker analogy, an argument for the existence of a supernatural creator based on the complexity of living organisms. Instead, Dawkins describes evolutionary processes as analogous to a blind watchmaker, in that reproduction, mutation, and selection are unguided by any designer. Probably the Dawkins book most meaningful to the majority of atheists is *The God Delusion*, which became an international best seller, with more than three million copies sold. It has been translated into over 30 languages.

Several Dawkins books are offered free to download in Muslim countries, which sometimes forbid the distribution of such books. They have been translated into Farsi, Urdu, and Indonesian. An Arabic translation of *The God Delusion* has been downloaded approximately 13 million times. In the introduction to *The God Delusion*, Dawkins over-optimistically says, “If this book works as I intend, religious readers who open it will be atheists when they put it down.”

Richard Dawkins has been called arrogant because he doesn't suffer fools gladly and because he criticizes religion, just as people criticize politics or choice of cuisine. In *The God Delusion*, Dawkins says that a supernatural creator almost certainly does not exist. He does not make the categorical statement that no gods exist, just that he finds no evidence for existence. You are not likely to hear clergy say that God *probably* exists. So who is more arrogant?

I've always found Richard Dawkins to be a delightful and generous person. We shared a stage for a conversation in front of overflow crowds in my hometown of Charleston, South Carolina and in Clearwater, Florida. I was honored that he wrote the Foreword to my book *Candidate Without a Prayer: An Autobiography of a Jewish Atheist in the Bible Belt*.

I must add that the books by Dawkins did not change my point of view. I was a committed atheist before I knew who Dawkins was. However, his books did help me sharpen some of my arguments, especially about evolution.

Years before Richard Dawkins began writing, a famous author and mathematician changed my life at age 16. Bertrand Russell's book *Why I am Not a Christian* formed the complete atheist section of my local public library in 1958, and that was the first time I learned there were other people who thought like me about God. Russell transformed the lives of many in my generation. It was gratifying to read articulate arguments that confirmed and gave voice to our own lonely skepticism and doubts. Bertrand Russell has countless "nonspiritual" heirs, and I'm pleased there are so many different voices for atheism today.

The importance of writers to educate and galvanize how people think about religion cannot be overstated. Education and consciousness-raising are important tools to combat all kinds of indoctrination, including religious. The books by the so-called new atheists, including Dawkins, have helped change our culture for the better, especially among younger people. Through the Internet, many have learned about atheism and religions other than those in which they were raised, and a good number of these "nones" have chosen to exchange religion for rational thinking.

I'm curious to know what writers will be saying about atheism and religion fifty years from now. If only there were life after death.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 11 – Thucydides’s Maxim: History of, More Than, the Peloponnesian War

2019/07/18

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about peace, war, and more.

Scott Douglas Jacobsen: History remains wrought with wars of human beings – mostly men – murdering and slaughtering one another through bludgeoning of skulls with blunt instruments of combat, crushing of limbs, slashing of flesh, maiming and mutilation of bodies, trampling of soldiers by horseback, and piercing, puncturing, and mangling of internal vital organs with projectiles, and so on.

Thucydides wrote a history of the war between Sparta and Athens in the 5th century BC. Also, some claim a maxim for him, where Thucydides said, “Right, as the world goes, is only in question between equals in power, while the strong do what they can and the weak suffer what they must.” Active involvement in the struggle for a more fair and just society involves similar sentiments, even acts with bloody labour wars and violence.

In American history, how true is this maxim from the struggles for labour rights with the factory girls of Lowell, universal suffrage rather than particular suffrage for land-owning white aristocratic men, rights to equal access to education and the world of work, and modern ongoing battles for reproductive rights and procurement of a decent life? What is the silver lining here, too, though?

Herb Silverman: True, the history of humankind must include the history of warfare. Even our prehistory, through archeological findings, shows that there have always been wars. From our hunter-gatherer past, through the Middle Ages and approaching fairly modern times, the norm across many societies included mutilation of the enemy, murder of enemy infants, routine rape, routine torture of prisoners, and other hideous, cruel and unusual punishments. Public executions for the amusement and instruction of the populace were also common. There is a long list in both time and practice of man’s inhumanity to man.

Today, more than ever, humans have the capacity to use weapons of mass destruction to do away with just about all other humans, as well as the ability to affect climate change that could devastate human life on our planet.

So why am I cautiously optimistic about our future? Because the world has actually become more peaceful than ever before, despite the violence we see repeatedly on the evening news.

About ten thousand years ago, approximately one person in four died of violence. Today, worldwide, it is more like one person in 10,000.

I suggest reading Steven Pinker’s book, *The Better Angels of Our Nature: Why Violence Has Declined*. Pinker presents a large amount of data (and statistical analysis) to demonstrate that violence has been in decline over millennia and that the present is probably the most peaceful

time in the history of the human species. By the way, the book's title was taken from the ending of Abraham Lincoln's first inaugural address. Pinker uses "better angels" as a metaphor for four human motivations — empathy, self-control, the moral sense, and reason that can orient us away from violence and toward cooperation and altruism.

In my own lifetime, there have been tremendous advances in human rights. As we become more civilized, our world is getting more peaceful in nearly every way that can be measured, including instances of war, murder, child abuse, spousal abuse, racism, hatred of gays, animal cruelty, and other inflictions. A lot of these changes occurred in the 1960s when authoritarian and conservative religions lost some of their influence on society, and more individual rights emerged. Perhaps we have also become more peaceful because of the increased participation of women in the public domain. After all, violence is primarily (though certainly not exclusively) a male phenomenon.

And then there's the influence of religion. Whatever you believe about the accuracy of the Bible, its authors, who were a product of their times, condoned the kind of violence that would sicken most of us today. The Bible promotes stoning people to death for heresy, blasphemy, adultery, homosexuality, working on the Sabbath, worshipping graven images, practicing sorcery, and other imaginary crimes. Genocides are required by God. Child sacrifice and slavery are permitted. The punishment for rape is for the rapist to marry his victim and pay her father 50 shackles because his daughter has become spoiled goods (Deut. 22:28). The 10th Commandment orders us not covet a neighbour's wife, slaves, oxen, or other property of the neighbour.

The Christian Bible does have some nice words, like loving your neighbour and doing unto others as you would have them do unto you. However, Christianity was a bizarre cult of sacrifice and crucifixion that led to the killing of millions in the name of Christianity, most notably by the Crusades, the Inquisition and the European Religious Wars of the 17th century. Adolph Hitler picked up on the anti-Semitism of Martin Luther as inspiration to promote a Holocaust, committed mostly by Christians.

The invention of the printing press enabled the spread of ideas about the Age of Reason and the Enlightenment in the 17th and 18th centuries, with their sense of the basic equality for all human beings. This led to more widespread education and an ability for people to free themselves from parochial, prejudicial values. Different groups have successfully fought for their rights, nonviolently. Knowledge and education are primary to becoming a world where we can all be safe from violence. That's just one of the reasons I promote secular humanism.

There are obvious advantages of modern existence, with its lower rates of death in childbirth, modern medicine, longer human lifespan, and modern agriculture. Violence is much less socially acceptable than it used to be, and that unacceptability has come about as humans have developed civilization and sought ways to live together more peacefully. I'm hopeful that we can continue to rise above violence and find nonviolent solutions.

We live in a world more peaceful than at any previous time in human history, and the trend continues to point in an optimistic direction. That doesn't mean there won't be downward blips. There is no inevitability about peace. The Middle East is problematic and our current

administration is not promoting world peace. But if we understand the mechanisms that tend to promote peaceful coexistence, then we can consciously choose courses of action that are more peace-promoting than peace-harming.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 12 – ‘Secular’ Atrocities: Atrocious Views of the Secular

2019/07/23

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about religious and secular debates, and more.

Scott Douglas Jacobsen: If we look into the contexts of the presentation of religious and secular debates, something akin to Godwin’s Law or *reductio ad Hitlerum* – perhaps, a *reductio ad paganus* (reduction to heathen) – tends to emerge, where the secular or non-religious debater’s arguments cannot be defeated, or will not be engaged, and then the religious debater shifts from the logical, philosophical, and scientific into the personal, the emotional, and the historical with an emphasis on assertions about secular, even atheist, totalitarian regimes or autocrats committing atrocities. Those take the place of the previous points of the argument. This happens in sophisticated, educated, and intelligent circles, and in spheres in which none of those three traits exist in unison or alone. Any shorthand retort for this rhetorical flourish or alteration of frame for winning over the crowd rather than the argument in a formal debate? Any recommendation for those who do not spend most of their time thinking about these topics? A shorthand retort and a recommendation, or set of them, designed to bring the debate or the casual conversation into the realm of reasonable discourse of logical argumentation, philosophical dialogue, and scientific analysis rather than personal attacks, emotional appeals, and historical misrepresentation.

Herb Silverman: I’ve debated many fundamentalist Christian ministers, and it’s often the first time that members of a mostly Christian audience get to hear an atheist point of view from an atheist, rather than from their Christian minister.

Many atheists, myself included, have been overly optimistic that rational arguments will change minds. I’ve since learned that you can’t reason someone out of a belief that he or she didn’t find unreasonable through reason. I now think the best we can do is make good points in a reasonable and pleasant manner. I emphasize “pleasant” because many in the audience are affected more by the debater’s personality than by arguments. This was difficult for me to understand at first, since it’s so different from my world of mathematics, where smiling and a sense of humor are useless. I look for opportunities to change atheist stereotypes and to raise questions some Christians may never have considered.

It helps in debates or discussions to treat your opponent and audience with kindness and respect. Assume they believe what they say, even if it sounds like nonsense. If my opponent makes personal attacks, I just ignore them. I acknowledge that there have been bad atheistic regimes, and also point out that most wars have been over religion. While atheists usually want me to bash religion, I try not to do too much of that because I want to reach open-minded Christians. Most conservative Christians are skeptical of whatever I say in a debate. The best I usually hear from them afterward is, “The atheist seemed like a nice person, even though he’s going to hell.”

I also like to praise the Bible, mentioning that every educated person should read the Bible (the only time I get cheers from conservative Christians) because it’s an important part of our culture.

I also provide a list of other books for audience members to read, which includes *A Demon Haunted World* by Carl Sagan, *Who Wrote the Bible* by Richard Friedman, *Why I Am Not a Christian* by Bertrand Russell, and books by Richard Dawkins, Christopher Hitchens, among others.

Now here are some of my responses to questions I hear from my debate opponent or the audience.

Why do you hate God? I don't hate God any more than I hate the Tooth Fairy, and most of us didn't become atheists because something bad happened to us. We became atheists because we find no evidence for any gods.

Don't you know that you'll become a believer when you have a big problem? This is an offshoot of the "no atheists in foxholes" cliché. Check out the organization Military Association of Atheists and Freethinkers. Atheists tend to address problems by looking for practical solutions to resolve them, and through supportive friends, family, and medical doctors. Many believers "talk" to God only when they have a problem, so such a comment is more applicable to theists than to atheists.

Do you see that I feel sorry for you because you don't believe there is a purpose to life? Atheists don't feel sorry for themselves, nor do they feel deprived of something real. We don't need to believe in God to find joy in our lives. There may not be a purpose of life, but we find many purposes *in* life. And by the way, how would you feel if an atheist said he feels sorry for you because he thinks you are basing your life on nonsense? And would a Christian tell a Jew that he feels sorry for him?

If there is no God, what responsibility do we have to be moral? Personal responsibility is a good conservative principle. We should not give credit to a deity for our accomplishments or blame satanic forces when we behave badly. We should take personal responsibility for our actions. I try to live my life to its fullest — it's the only life I have, and I hope to make a positive difference because it's the right thing to do, not because of future rewards or punishment.

How can you be moral without God? You must feel like you can rape and murder and do whatever you think you can get away with. With an attitude like that, I hope that you continue to believe in God. (Alternatively, I sometimes say that I do rape and murder as many people as I want to. Zero.) I often ask the questioner how he or she would behave differently if they stopped believing in God. One minister thought for a minute, and said: "I'm sometimes tempted by other women, but I don't cheat on my wife because of my love of Jesus, knowing how much it would hurt Jesus." I responded that I don't cheat because of my love for my wife Sharon. (I think even the minister's wife preferred my answer.)

Why are atheists so arrogant? Which of these worldviews sounds more arrogant? Worldview 1: I know God created the entire universe just for the benefit of humans. He watches me constantly and cares about everything I say and do. I know how He wants me and everyone else to behave and believe. He is perfect and just, which is why we face an eternity of either bliss or torture, depending on whether or not we believe in Him.

Worldview 2: We're the product of millions of years of evolution. Most species are extinct, as humans will eventually be. I hope to make a positive difference because it's the right thing to do, not because of future rewards or punishments in an afterlife. When I don't know something, which is often, I say, "I don't know."

Why do you think science is more reliable than religion? Because we know how to distinguish good scientific ideas from bad ones. Scientists start out not knowing the answer and go wherever the evidence leads them. Science relies on experimenting, testing, and questioning assumptions critically until a consensus is reached, and even that is always open to revision in light of later evidence. This is why scientific truths are the same in Pakistan, the United States, Israel, and India — countries with very different religious beliefs.

I became a Christian because I know it's true. How do you think we should distinguish good religious beliefs from bad ones? As it turns out, there's a remarkable coincidence to how people choose their religion. The overwhelming majority chooses the religion of their parents. Most Asians are Buddhists, people from India are generally Hindu, Saudi Arabians are Muslims, and Americans are mainly Christians. Religious belief is based more on geography than on theology. With all the conflicting religious beliefs in the world, they can't all be right. But they can all be wrong.

Wouldn't it be safer to become a believer in case there is a heaven and hell? This is a form of Pascal's Wager. You assume that the only existing god would be your Christian version—one who rewards believers with eternal bliss and punishes nonbelievers with eternal damnation. Moreover, it would either be a god who could not distinguish between genuine and feigned belief, or one who rewards hypocrites for pretending a faith that they lack. Suppose I posit the existence of a creator who cares about human beings and elects to spend an eternity with a chosen few. What selection criteria would such a supreme being adopt? I expect this divine scientist would prefer a "personal relationship" with intelligent, honest, rational people who require evidence before holding a belief. Such a superior intellect would presumably be bored by and want little contact with humans who so confidently draw unwarranted conclusions about his unproved existence, and believe only on blind faith.

Don't you at least worry that heaven and hell are real and that you will be going to hell? Here are some questions I have for you about heaven and hell. Why is faith not only important, but perhaps the deciding factor about who winds up in heaven or hell? What moral purpose does eternal torture serve? If we have free will on earth, will we have free will in heaven? If so, might we sin and go from heaven to hell? If not, will we be heavenly robots? If God can make us sinless in heaven, why didn't he create us sinless on earth? Can you be blissfully happy in heaven knowing that some of your loved ones are being tortured in hell? And what do you do for an eternity in heaven without getting bored? Wouldn't a loving God who wants us all to go to heaven make it unambiguously clear how to get there?

Christians, let alone those of other faiths and none, disagree about what to believe or do. My wish is for believers and nonbelievers to focus on helping their fellow human beings and treating them with respect and compassion. I believe that my afterlife will consist of the repercussions of any good works I have done that survive after my death. I expect my body parts will go neither

to heaven nor hell, but to medical school, just where my Jewish mother wanted me to go. I will then feel much like I did before I was born, which was not the least unpleasant.

I understand that few will change their worldviews because of a debate. Those who “feel” the presence of Jesus in their lives and see his miracles on a regular basis will not be swayed by scientific evidence or biblical contradictions. However, some Christians might become less inclined to stereotype atheists, and some Christians and atheists might get to know one another and find ways to cooperate on issues of importance to both their communities. Whenever that happens, I consider it to have been a win-win debate.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 13 – This Is a Torch, Carry It: These Are My Wounds, Learn From Them

2019/08/12

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about passing on the torch and learning from pain.

Scott Douglas Jacobsen: Any activism comes with costs, as discussed in prior parts of the interview. Performing leading activism, these come with a significant level of costs to carve a path through the brush of uncharted territory. As you carried the torch of secular activism forward and made necessary sacrifices for progress seen in the current moment, what were the wounds from the conflicts?

Time with the potential for being spent on more emotionally or intellectually satisfying material, as a modestly gifted and talented mathematician with a significant position in the academic world. Relationships destroyed; professional work missed; chaos imbued into normal life; tensions in intimate relationships over the stress of controversies, and so on.

What can the wounds teach the next few generations of secular activists?

What tricks, deceits, and immoralities will the egregiously fundamentalist, literalist, and so on, utilize in, from their view, an eternal battle between Good and Evil to annihilate the Satanic forces of secular humanism, secularism, modern science including evolution via natural selection, progressive and Enlightenment ideals, equality of women, and the improved status of LGBTI+ and other undesirables and reprobates, including “fornicators,” who do not know their place? The work, again from their view—usually, Dominionist or Reconstructionist—as stated rather bluntly *ad nauseum* (to everyone else as far as I can tell), to fight for the forces of Good, God, nation, the Holy Bible, and, even in some cases, the dominance of the race for their rightful place.

Herb Silverman: My engagement with secular activism turned out to be more of a “blessing” than a sacrifice. I first got engaged with the movement in 1990, by accident, when I learned that our South Carolina State Constitution prohibited atheists from holding public office. So I went to the ACLU to ask how this obviously unconstitutional provision could be changed. The legal director said an atheist plaintiff would need to run for governor in the current election year, and that I should become that Candidate Without A Prayer (later the title of one of my books). I ran and of course lost, so my case was ruled not ripe because I lost. However, in 1997 I won a similar case in the state Supreme Court because the state had not allowed me to become a notary public, and so atheists are now eligible to hold public office in South Carolina.

Through the publicity I received, I heard from many people who had thought they were the only atheist in South Carolina. That inspired me to start a secular humanist group in my hometown of Charleston, and that group still thrives. I also heard from national atheist and humanist groups that I had not previously known about, and I joined them all. This led me to help found the

Secular Coalition for America, which currently represents 19 national, nontheistic organizations to lobby for secular rights in Congress.

Fortunately, the College of Charleston, where I was teaching, is a public institution that takes academic freedom seriously. It didn't try to prevent me from engaging in political activity as long as I didn't imply that the College endorsed my positions. Many of my colleagues told me that they were also atheists. I continued to teach and do mathematical research, though as I engaged increasingly in secular activism my research productivity began to decline. I retired from the College of Charleston in 2009 at age 67 to devote myself full time to secular activism.

As far as friendships go, I didn't lose friends because of my activism. Those who were upset by my activities were not true friends. If I lose a friendship because I am being myself, then I don't consider it much of a loss. I also made many new friends and long-lasting relationships in the secular movement. The best for me personally was that I met Sharon Fratepietro, who volunteered to help in my campaign for governor. We are now married and have been living happily together for 29 years.

I can't speak for others who might worry about losing friends if they become engaged in secular activism, other than to quote from *Hamlet*, "To thine own self be true." I think it's better to be comfortable in your own skin than to hide who you are in order to please those you might not respect. Of course, caution may well be necessary when dealing with religious family members or employers. I've heard from people who mentioned their atheism to friends, family members, or coworkers and were pleasantly surprised by a "Me, too" response, or about the doubts some have about religion. While it is still a stigma in some places to be an atheist, it is less stigmatic than it used to be. The fastest growing national demographic in surveys about religion are the "nones," people with no religion. They are not all atheists, but most are atheist-friendly.

Religious fundamentalists continue to be very active and politically influential, but I think they are beginning to lose some of their influence. Many young evangelicals and those in other religions are breaking away because they oppose the political influence their churches exert on issues like LGBT and women's rights, not to mention the negative effect of hypocritical scandals like pedophilia. And there's no doubt that the abundance of influential scientific findings even more marginalizes the outdated teachings in some religions.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 14 – Secular Malcontents

2019/08/15

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here, we discuss secular issues within secular communities.

Scott Douglas Jacobsen: Secular communities, and community members and leaders and organizations, can make mistakes, as with any human institution. What mistakes have been glaring in the history of secularism in the 20th century? What errors continue to plague the secular communities into the 21st century? What are the taboos of the community needing more open, though respectful, logical, and evidence-based, conversation? Of course, some items are seen as taboo – left, center, and right – and simply aren’t, while some simply remain missed – except by a few who become instantly marginalized. Can’t rewrite the past, can rectify aspects of its effects now, even so, how can secular communities create positive progress on net and in all secular communities without creating new bigotries passing off as secular ideals, and so on?

Herb Silverman: Secularists often disagree about what we should be called. Many secularists are uncomfortable with the word “atheist” because it describes what we don’t believe, rather than what we do believe. After all, we don’t go around calling ourselves A-Easter Bunnyists or A-Tooth Fairyists. Other labels atheists use include humanist, secular humanist, freethinker, skeptic, rationalist, agnostic, ignostic, apatheist, and many more. If you don’t know what each word means, don’t worry. Even those who identify with such labels often disagree about their meanings. Parsing words might be a characteristic of folks engaged in the secular movement. Though there are fine distinctions, which many of us like to argue about, it often comes down more to a matter of taste or comfort level than deep theological or philosophical differences.

I pretty much view “atheist” and “humanist” as two sides of a coin. I’m the same person whether I talk about what I don’t believe as an atheist or what I do believe as a humanist. Atheists and humanists try to be “good without any gods,” though humanists might focus more on “good” and atheists more on “without gods.” The word “atheist” gets more attention and “humanist” sounds more respectable to the general public. My “conversion” from agnostic to atheist was more definitional than theological. As a mathematician, I couldn’t prove there was no god, so I took the agnostic position, “I don’t know.” But when I learned that an atheist is simply someone without a belief in any gods, I also became an atheist.

Here’s an interesting distinction between Christians & secularists: Christians have the same unifying word but fight over theology; secularists have the same unifying theology, but fight over words. At least our wars are only verbal.

Despite the growing number of secularists, we haven’t been nearly as influential politically as most other minority groups. That’s in part because we pride ourselves on being so independent.

Whatever labels secularists prefer, it improves our culture by cooperating on the 95 percent we have in common rather than arguing about the 5 percent that sets us apart.

We need to establish our legitimacy as a demographic. That's why I helped form the Secular Coalition for America, currently with 19 national member organizations, covering the full spectrum of nontheists. Its mission is to increase the visibility of and respect for nontheistic viewpoints, and to promote and strengthen the secular character of our government. The Secular Coalition incorporated as a political advocacy group to allow unlimited lobbying on behalf of secular Americans, with lobbyists in Washington, DC. So please check the website www.secular.org and consider signing up for action alerts.

One problem some secular organizations have is mission creep. For instance, all members of the Secular Coalition care about starving children, but that issue falls outside its mission. The Secular Coalition does get involved with issues like evidence-based education and science denial. Most secular organizations don't have the resources to expand their mission.

While secularists certainly respect science, some also support scientism, which promotes science as the only objective means by which society should determine normative and epistemological values. Scientism claims that the scientific method must be used to answer all important questions, and that science is the only reliable source of knowledge. Some (but not I) would argue that all moral questions can be answered through science.

While fundamentalists in all religions seem to have an "Us vs. Them" mentality, so do many secularists who put all religious people in the same category. We turn off potential allies when we assume all religionists are fundamentalists, and ask them to justify passages in their holy books that they find every bit as absurd as we do. Some atheists make the same mistake as religious conservatives, treating the Bible as either all good or all bad. While it contains many boring, anachronistic, contradictory, misogynistic, and repetitive sections, it also has passages with rich and diverse meanings. The same can be said for Greek mythology—fictional tales that were once religious texts.

Progressive Christians are as appalled as we are by the merger of Christianity and government, embarrassed by Christians who use their religion for political gain, and annoyed that this brand of Christianity grabs media attention. I think we must look for opportunities to bring moderate religionists to our side. They are concerned that too many Christians are neglecting the Christianity promoted by the likes of Martin Luther King, Jr., who worked on behalf of the marginalized—the helpless, the sick, and the poor. Such Christians are more "us" than "them." On most political issues important to secularists (separation of religion and government, LGBTQ and women's rights, etc.), liberal religionists are usually our allies.

I try to find common ground with theists, even when it's difficult. I was once asked if I could find any common ground with Jerry Falwell, and I could. Here's how: Jerry Falwell once said, "God doesn't hear the prayers of a Jew." I agree with Jerry Falwell. But for very different reasons.

As far as taboos go for secularists, I think just about anything can be discussed and argued. Our local secular humanist group once had a meeting at which people could bring up views that other atheists would likely find objectionable. I spoke on "The joys of incest," (and mentioning that for me the topic was purely theoretical). I said I saw nothing wrong if adult siblings wanted to have

sex, as long as they took proper precautions to avoid having children. As did many in the audience, you should feel free to disagree with me about that.

Jacobsen: Thank you for the opportunity and your time, Herb.

Ask Herb 15 – Sugar, Spice, and Everything Thrice: or, Three’s Company with Compassion, Reason, and Science

2019/08/30

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we finish up with an easy positive note and some summary reflections.

Scott Douglas Jacobsen: Freethinkers love to provide themselves with different labels to differentiate on the minutiae of differences in opinion for valid and invalid reasons. Regardless, a triplet value set comes in most of the groupings with compassion, reason, and science. Some minor squabbles about the meaning of each categorization. The general template of humanism here. What seem like the basic tenets for freethinkers? Why those values? How do those play out in everyday life? How would these impact the wider society if enacted in a broader way? What continues onward in their march as the impediments to this advancement fundamental freethinker values?

Herb Silverman: Many secularists are uncomfortable with the word “atheist” because it describes what we **don’t** believe, rather than what we **do** believe. After all, we don’t go around calling ourselves A-Easter Bunnyists or A-Tooth Fairyists. Other labels atheists use include freethinker, humanist, secular humanist, agnostic, rationalist, naturalist, skeptic, ignostic, apatheist, and many more. If you don’t know what each word means, don’t worry. Even those who identify with such labels often disagree about their meanings. Parsing words might be a characteristic of folks engaged in the secular movement. Though there are fine distinctions, which many of us like to argue about, it often comes down more to a matter of taste or comfort level than deep theological or philosophical differences.

Here’s an interesting distinction between Christians and secularists: Christians have the same unifying word, but fight over theology; secularists have the same unifying theology, but fight over words. At least our wars are only verbal.

At this point, you might ask, “What’s the difference between atheism and humanism?” And my answer is, “I’m not really sure.” I pretty much view them as two sides of a coin. I’m the same person whether I talk about what I don’t believe as an atheist or what I do believe as a humanist. Atheists and humanists try to be “good without any gods,” though humanists might focus more on “good” and atheists more on “without gods.”

So which word is better: atheist or humanist? My answer is neither or, more accurately, both, or even more accurately, it depends on the context. “Atheist” gets more attention and “Humanist” sounds more respectable to the general public. My “conversion” from agnostic to atheist was more definitional than theological. As a mathematician, I couldn’t prove there was no god, so I took the agnostic position, “I don’t know.” But when I learned that an atheist is simply someone without a belief in any gods, I also became an atheist.

Conservative religions tend to think morality is more about belief than behavior, and view this life as a preparation for an imagined afterlife. So how do atheists and humanists make moral decisions? We are guided by the expected consequences of our actions. We are committed to the application of reason, science, compassion, and experience to better understand the universe and solve human problems. The plight of the human race—indeed, of the planet—is in our hands, and social problems can be solved by methods that we develop and test.

Views of atheists can change based on evidence. We have principles and values written on paper, not commandments written on stone tablets. We don't give credit to a deity for our accomplishments or blame the devil when we behave badly. We take personal responsibility for our actions. Immortality, for atheists, is the good works that live long after we have died. I know what my afterlife will be. I'm going to medical school, just like my Jewish mother always wanted me to do. I expect to use all my body parts when I'm alive, but hope others can make good use of them when I'm dead.

Despite the growing number of freethinkers, we haven't been nearly as influential politically as most other minority groups. That's in part because we pride ourselves on being so independent. But to gain significant influence, we have to become more cooperative and establish our legitimacy as a demographic. That's why in 2002 I helped form the Secular Coalition for America, currently with 19 national member organizations, covering the full spectrum of nontheists. (Notice we say we are nontheistic, without any gods, so as not to offend those who prefer their special "word.") The Secular Coalition incorporated as a political advocacy group to allow unlimited lobbying on behalf of secular Americans, with lobbyists in Washington, DC.

Some may construe the mere questioning of faith or presenting alternatives to it as too negative. I disagree. Being guided by reason instead of faith is not negative. Religion is a lot like politics—you get more followers by making big promises. Belief in a heavenly father who will always take care of you might be reassuring, but it's important to distinguish between the world as we know it and the world as we'd like it to be. As George Bernard Shaw said, "The fact that a believer is happier than a skeptic is no more to the point than the fact that a drunken man is happier than a sober one."

Here's an example of what I would consider inappropriate. Religious people sometimes say to me: "I'll pray for you." An inappropriate response would be, "O.K., I'll think for both of us." But this hurtful reply would only offend a presumably well-meaning person. I think the best response is, "Thank you." However, if the opportunity presented itself, I might get into a discussion about the efficacy of prayer with questions like: Why would an all-knowing, all-loving, god change his mind because you asked him to? Or why would a god who ignored the prayers of millions of Holocaust victims take a special interest in a football game? But I would only engage a person who seemed receptive to such a discussion.

As an atheist, some people assume I must be anti-religion. Not so. By one measure, I might be the most religious person in America. You see, I have not one, not two, but three different religions: I'm a member of the American Ethical Union, with Ethical Culture Societies; I'm a member of the Society for Humanistic Judaism, with atheist rabbis; and I'm a member of the UU

Humanists. All three religions are nontheistic and active participants in the Secular Coalition for America.

I like to put a positive face on freethought. We want to maximize happiness, which usually involves making others happy, too. We have one life to live, and one chance to do something meaningful with it. I think the mathematician/philosopher Bertrand Russell summed it up nicely: “The good life is one inspired by love and guided by knowledge.” My wife has a T-shirt with a simple four-word message describing freethought. It says, “Be good, do good.” That’s really all you need to do.

Jacobsen: Thank you for the opportunity and your time, Herb.

3 ASK DR. SILVERMAN

Ask Dr. Silverman 1 — The Philosophy of Mathematics: Its Faces and Facets

2019-03-20

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about the philosophy of mathematics, science, and theology in a new series on the philosophy of mathematics.

Scott Douglas Jacobsen: Mathematics works within the constraints of structure or order, relationships between and within structure and order, and the changes in structure or order and the relationships between structure and order.

Philosophy of mathematics deals with the meanings of mathematics, whether its interpretations or its assumptions and derivations. It asks fundamental questions relatable to the structure of the universe, as these question the basic operations behind science in many ways.

What are some basic principles of mathematics? How does this relate to the philosophy of mathematics and, more generally, the philosophy of science? Where does mathematics reach a limit and philosophy of mathematics some extra legs, in some fundamental and important ways?

Dr. Herb Silverman: I'll begin by describing some differences between mathematics and the sciences, mathematics and philosophy, and how they approach fundamental questions like the structure of the universe. I'll then bring in theological approaches to the same fundamental questions.

Mathematicians begin with assumptions (axioms) and try to discover what may logically be deduced from the axioms. Theoretical mathematicians are not concerned with whether the axioms are true. Axioms in some branches are contradictory to axioms in others. The axioms in Euclidean geometry have led to discoveries on planet Earth; results from the axioms in non-Euclidean geometry were applied many years later by Einstein for his general theory of relativity, when he showed we live in a non-Euclidean four-dimensional universe, consisting of three-dimensional space and one-dimensional time.

The 19th-century mathematician Gauss referred to mathematics as the “queen of the sciences,” perhaps because mathematics is essential in the study of all scientific fields. And physicist Eugene Wigner wrote “The Unreasonable Effectiveness of Mathematics in the Natural Sciences.” Unlike mathematicians who are free to begin with any consistent set of axioms, scientists always begin with axioms (hypotheses) they believe to be true. Using the scientific method (collecting data and testing empirically), they hope to find sufficient evidence for their hypotheses to be elevated to theories (like gravity, natural selection, big bang, general relativity). When scientific statements are translated into mathematical statements, including about the structure of the universe, we apply mathematics to solve scientific problems. Perhaps that's why Galileo referred to mathematics as the language in which the natural physical world is written.

Philosophy of mathematics looks into questions about mathematical theories and practices, which may include the nature or reality of numbers, the nature of different mathematical disciplines, limits of formal systems, and why mathematics coming from human minds can have such a relationship with reality. Philosophers, like scientists and unlike many mathematicians, care about whether their axioms are true and what implications they have in the real world. Philosophers, like most mathematicians and unlike scientists, stay mostly in their mind and don't draw conclusions based on applying the scientific method. College courses in logic are taught in either philosophy or mathematics departments.

Kurt Gödel, a mathematician/logician, made a ground-breaking discovery in mathematics that also has implications to both science and philosophy. And it's a rather disturbing discovery.

Gödel showed that with just about any set of axioms there must be at least one true but unproveable statement. In other words, not all true statements in mathematics have formal proofs. Furthermore, we have no way of knowing in advance whether a statement is really hard to prove (or disprove), or whether it is impossible. For instance, mathematician Andrew Wiles proved Fermat's Last Theorem 358 years after it was proposed by Fermat in 1637. The proof was difficult but provable. We don't know if questions about the beginning of our universe and multiverses is really hard to answer completely or is logically unanswerable. Or maybe the human mind is not bright enough to figure it out. I'd say my cat is incapable of learning integral calculus, just as humans might be incapable of answering some deep questions about the universe. And then there's artificial intelligence.

To give more complete answers about math, science, and philosophy, I'd have to be an expert in all those fields, which I am not. I'm a research mathematician specializing in Complex Variables, but I'm not an expert. I'm not quite an expert in the subfield of Geometric Function Theory, but I might be considered an expert in a much smaller subfield of GMF in which I proved the first theorems. But very few mathematicians work in that area, which has no known applications to other branches of mathematics or usefulness other than to help me get tenure.

Deciding on who are “experts” in a field is not clear cut, but I think the number of experts on any topic is inversely proportional to the evidence available on that topic. And by that criterion, we are all experts on God because there is absolutely no evidence for her/his existence. Anyone can make up stuff about God or quote stuff from books made up by others. In fact, acknowledging my ignorance qualifies me as a top God expert. To paraphrase Socrates: “He who believes he knows something when he knows nothing is less wise than he who knows he knows nothing.”

This brings me to debates I've had with some religious people about fundamental questions. They differ considerably from discussions I've had with scientists and philosophers. When these theists were given contradictory or unanswerable questions that didn't match reality, a response was often the unfalsifiable, “God works in mysterious ways.” Assertions about holy book predictions coming true are usually post-dictions (written after the event) or interpretations that they try to make say what they don't say. While all of us are susceptible to confirmation bias, I think that's particularly true in religion. One theologian claimed that the Bible had it right in ways that prominent scientists who believed in an eternal universe had it wrong. Genesis opens with “In the beginning,” which was alleged to be scientific evidence that the Bible described the

big bang. I pointed out that Genesis goes on to say that God then created two lights, the greater to rule the day, and the lesser the night. Almost as an afterthought, God then made stars (which biblical writers did not know were other suns, many larger than our sun).

To describe a significant difference between mathematicians and theologians, I'll close with a popular cartoon on the door of many mathematicians. It shows one mathematician explaining his complicated multi-step proof. Another mathematician interrupts, and says, "I think you should be more explicit here in step two." Step 2 says, "Then a miracle occurs."

Jacobsen: Thank you for the opportunity and your time, Dr. Silverman.

Ask Dr. Silverman 2 — Epistemology and Metaphysics: How You Know, What You Know, and What You Only Think You Know

2019-05-05

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about the epistemology and metaphysics.

Scott Douglas Jacobsen: If we are looking at the formal structure of the field of philosophy of mathematics, it exists within or as a subset of the philosophy of science. How can the philosophy of mathematics provide some deeper comprehension, as alluded in session 1, of epistemology and metaphysics, especially as traditional endeavors, including theology, tend to assert knowledge where none seems apparent?

Professor Herb Silverman: Before trying to answer a question involving metaphysics, epistemology, and the philosophy of mathematics, I feel the need to define these terms, or at least as I understand them.

Metaphysics is a branch of philosophy that studies questions related to what it is for something to exist, what types of existence there are, and the fundamental nature of reality.

Epistemology is a branch of philosophy that studies knowledge, how it is acquired, and what distinguishes justified belief from opinion. It asks how we know what we know.

The **philosophy of mathematics** is a branch of philosophy that studies the assumptions, foundations, and implications of mathematics, and attempts to understand the place of mathematics in people's lives. It looks into questions about mathematical theories and practices, which may include the nature or reality of numbers, the nature of different mathematical disciplines, and limits of formal systems.

What makes mathematical knowledge unique among philosophies is that mathematical knowledge is certain. We know that $3+2=5$ is always true. You may call this an eternal truth. Mathematical knowledge comes from pure thought, not from anything in the real world. We gain knowledge of mathematics by thinking, not by using our senses. Most people are interested in mathematics because it is so useful in describing reality. In fact, part of the philosophy of mathematics deals with why it is so useful. For instance, mathematics has nothing to do with space and time, but mathematics seems necessary to learn deep information about these concepts.

Mathematics does not necessarily give us truths about the real world. If an axiom in a mathematical system happens to be false in some sense, then the conclusion is not applicable in the real world. This is not a problem in mathematics, since it is only required that the conclusion follow logically from the assumptions (axioms).

Mathematics differs from other forms of knowledge, like metaphysics and epistemology, where people reach tentative conclusions based on assumptions they believe to be true and apply what they learn from experience. This is not to make light of these other forms of knowledge. We need

to learn better ways to distinguish belief from opinion, and try to answer fundamental questions about existence.

In one sense, mathematics has nothing to do with theology. The truths of mathematics remain true whether or not there is a god. We still know that $3+2=5$. However, both metaphysics and epistemology often attempt to provide information about theology. They deal with how we distinguish fact from fiction and what we might know about the existence of supernatural beings. Done correctly, I don't think metaphysics or epistemology can give us any information about the existence of such gods. We can examine theological assumptions, and test whether the conclusions follow from the assumptions. If they do, that means the argument is logical. For instance, you can conclude that God exists by making the theological assumption that every word in the Bible is true.

But we also need to examine whether theological assumptions make sense in the real world. If not, then it doesn't matter what conclusions follow from the assumptions. I've never seen a logical argument for the existence of a god where the assumptions made sense. I hope that most practitioners of metaphysics and epistemology agree with me.

Finally, science does not seek to prove or disprove the existence of gods, but it does help us understand our physical universe. How it's put together, how it works. Many mathematicians have solved such problems, which means there is a large body of mathematics that has been used in science to show that many theological beliefs are false.

Jacobsen: Thank you for the opportunity and your time, Professor Silverman.

Ask Dr. Silverman 3 — Myths and Legends

2019-05-14

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about the myths, the legends, and the myths behind the legends, and more.

Scott Douglas Jacobsen: For girls and boys, they take in the stories of Einstein, Newton, and Curie. Singular minds achieving great things in science and mathematics. They are proper science and math legends, but they retain mythological status, too. What is the truth in the legends? What did each discover or create?

Professor Herb Silverman: Albert Einstein, Isaac Newton, and Marie Curie certainly deserve to be honoured, though not deified, as innovative scientists.

Newton was a physicist and mathematician who developed the principles of modern physics, including the laws of motion and the theory of gravity. Along with the mathematician Leibniz, Newton is also credited with developing calculus. Newton said in 1675, “If I have seen further than others, it is by standing upon the shoulders of giants.” He was saying what all scientists recognize, that they discover truths by building on previous discoveries. This idea extends beyond science. There is no such thing as a self-made person. We all benefit from what others have contributed. Learning is cumulative, built from what came before it.

Newton got many of his ideas after studying Descartes and astronomers like Copernicus, Galileo, and Kepler. This is not to imply that people like Newton and others don’t deserve enormous credit for their groundbreaking contributions.

Einstein built on Newton’s concepts and the work of many others, especially Lorentz, to develop something greater and more general, and paved the way for modern cosmology. Lorentz derived the **transformation equations** underpinning Einstein’s theory of **special relativity**. Because Lorentz laid the fundamentals for the work by Einstein, this theory was originally called the Lorentz-Einstein theory. Einstein also said his work would not have been possible without the brilliant minds and the works of Isaac Newton, Michael Faraday and James Clerk Maxwell.

The mathematician Hermann Minkowski is best known for his work in relativity, in which he showed in 1907 that his former student Albert Einstein’s special theory of relativity (1905) could be understood geometrically as a theory of four-dimensional space-time, since known as the “Minkowski spacetime.”

Einstein said, “Since the mathematicians have invaded the theory of relativity, I do not understand it myself anymore.” Einstein also made vain attempts to unify all the forces of the universe in a single theory, which he was still working on at the time of his death.

Marie Curie conducted pioneering research on radioactivity. She was the **first woman** to win a **Nobel Prize**, the first person and only woman to **win twice**, and the only person to win a Nobel Prize in two different sciences (physics and chemistry). She was part of the **Curie family legacy**

of five Nobel Prizes. She actually gave her life in the course of her scientific research and radiological work at field hospitals during **World War I**, dying from exposure to radiation.

Jacobsen: Following from the last question, what are the myths behind the mythology?

Silverman: One way that Newton was different from Einstein and Curie was that Newton believed in God, conforming to the time in which he lived. Newton's religious beliefs were complicated, but he did believe a monotheistic God was a masterful creator whose existence couldn't be denied in the face of the grandeur of all creation. Newton also dabbled in the occult, including the study of alchemy. Newton's writings suggest that one of the main goals of his alchemy may have been the discovery of the **philosopher's stone** (a material believed to turn base metals into gold), and perhaps to a lesser extent, the discovery of the highly coveted **Elixir of Life**.

Albert Einstein, on the other hand, said in 1954, "The word god is for me nothing more than the expression and product of human weaknesses, the Bible a collection of honourable, but still primitive legends which are nevertheless pretty childish. No interpretation no matter how subtle can (for me) change this." He added, "I believe in Spinoza's God who reveals himself in the orderly harmony of what exists, not in a God who concerns himself with the fates and actions of human beings."

Marie Curie abandoned her family's Roman Catholicism to become an atheist as a teenager. She spent much of the remainder of her life pursuing her humanitarian goal of easing human suffering. She had a non-religious marriage to her atheist husband. Here's one of her quotes that describes for her the difference between science and religion. "Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less."

Jacobsen: What would be a proper means by which to teach science and mathematics to encourage future generations of mathematicians and scientists?

Silverman: As far as advice to future generations of mathematicians and scientists, I would tell them not to expect to become another Einstein, but to listen carefully to what he said about himself: "It's not that I'm so smart, it's just that I stay with problems longer." Of course, he is being overly modest. He was really smart, but also spent a lot of time working on problems. As with all scientists, most of the time he was on the wrong track. But look what he discovered when he was right. So block out some time daily to think about the problems you are working on and how best to solve them. And remember, when you chase after knowledge, you strategically position yourself on the shoulders of giants. You may then one day be able to see what others have not seen.

Incidentally, the phrase "standing on the shoulders of giants" did not originate with Isaac Newton. It is attributed to a 12th-century French philosopher named Bernard de Chartres.

Jacobsen: Thank you for the opportunity and your time, Professor Silverman.

Ask Dr. Silverman 4 — Embedment: A Tale of Matrioshka

2019-05-24

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about mathematics and its fields.

Scott Douglas Jacobsen: To simplify the universes of discourse for disciplines, one automatic maneuver comes from segmentation of the the natural sciences into further specialties, sub-disciplines, and so on. What have been the staples of mathematics? How have segmentation help organization ideas and research into mathematics? What fields comprise fundamental areas but remain more fringe as they're a more niche discipline or sub-field of mathematics?

Professor Herb Silverman: After receiving my master's degree in mathematics from Syracuse University in 1965, I passed the qualifying exam for my PhD, which I received in 1968. Students at that time took a qualifying exam in four mathematics specialties in which they could earn a PhD at the university –Algebra, Topology, Real Analysis, and Complex Analysis. Remember there were no computers back then, so the fields of investigation were somewhat limited.

Algebra at the university level is quite different from what you learned in high school. It investigates topics called groups, rings, fields, and other entities too complicated to define here. Topology is a branch of mathematics concerned with the properties of space that are preserved under continuous deformations such as stretching or twisting, but not tearing. An old joke is that a topologist does not know the difference between a doughnut and a coffee cup (because the coffee cup can be topologically transformed into its handle (a doughnut). Real Analysis studies the behavior of **real numbers, sequences** and **series** of real numbers, and **real-valued functions**. Complex Analysis deals with the study of complex numbers and their functions.

Whichever of these branches of mathematics people chose, they always specialized in a subfield because the whole field was too large. I did my PhD thesis in Complex Analysis, doing research in a subfield called Geometric Function Theory.

Today many more fields with related subfields exist in which to do mathematical research, especially in applied mathematics. When a new PhD mathematician applies at a university, he or she usually gives a research talk to the math department before being hired. The applicant is often warned by an advisor, not completely in jest, to divide the talk into thirds. The first third of the talk should be understood by just about all the mathematicians in the department to show that you are a good teacher. The second third should be understood by about half. And the last third should be understood by almost nobody, indicating that your research is deep.

It's not easy to say which areas of mathematics are fringe and which are not. Beautiful mathematical results have often been found in areas not considered part of the mainstream. Some so-called fringe areas today will likely become more mainstream when people see how they might be useful in solving a host of other problems. So I wouldn't denigrate any research area in mathematics, no matter how fringe-like they might appear to some.

As with research in science, I would say regarding what should be considered mainstream in math, “Follow the money.” Areas in which there are a lot of substantial research grants can be called mainstream.

Ask Dr. Silverman 5 — Limits of Mind: Possible Human Science

2019-06-16

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about science, math, and limits (maybe, or maybe not).

Scott Douglas Jacobsen: In one view, the limitations of the human mind set boundaries on possible human science. Human empirical methods with the inclusion of artificially constructed structures can extend the reach of the human mind, whether computational constructs, e.g., algorithms or data collection systems, or tools to manifest the world with greater precision to the senses, e.g., telescopes and microscopes. However, these translate the information back into the range of experience and processing of human beings.

In another perspective, the discoveries about the world reflect the tendencies in thought, and so the limitations, of the human mind, whether individuals or groups. What we know to various degrees, seem to know, and think we know, these reflect the form of information processing of human beings at large. Hills and valleys of fidelity and complexity reflecting the internal mechanics of the mind.

Pure mathematics seems to reflect this the most exquisitely. Some discoveries would, probably, remain impossible without the aid of technology. In particular, the world of large data sets, powerful computational systems, and to-the-task algorithms to help teams of professional mathematicians.

As technology advances, and as a practical philosophical inquiry, how will science advance? Where will possible human science hit a wall? Will machines launch independent scientific enquiries in the future to make discoveries barely comprehensible to most human beings?

Professor Herb Silverman: Aristotle pioneered the scientific method in ancient Greece alongside his empirical biology and work on logic, rejecting a purely deductive framework in favor of generalizations made from observations of nature. Modern science began to develop in the scientific revolution of 16th- and 17th-century Europe when the scientific method was formalized.

At this point in 2019, I'm not too worried about the possibility of human scientific discoveries hitting a wall. Based on the progress of the history of science and technology, it is not unreasonable to expect that means will be found to circumvent what appear to us now to be absolute limitations.

Look at all the scientific progress we've made in just the last century. People once said that we would never fly, before the Wright brothers did. People said we would never make it into space, until we did. And then that we would never make it to the moon, but we did.

Interstellar travel is one of those future innovations that many people believe will never happen. It won't happen tomorrow or in the next year, but eventually, if we last long enough, I think we will get to Alpha Centauri, the closest star and closest planetary system to our solar system. It is

4.37 light-years from the sun. Using current spacecraft technologies, crossing the distance between our Sun and Alpha Centauri would take several millennia, which would require generations of people in spaceships. But scientists are now investigating nuclear pulse propulsion and laser light sail technology, which might reduce the journey time between our sun and Alpha Centauri to decades.

Some scientists think there will be an end to physics if a “Theory of Everything” (TOE) is discovered. This would entail an all-encompassing, coherent theoretical framework that fully explains and links all physical aspects of the universe. In particular, such a theory would reconcile general relativity and quantum field theory. General relativity only focuses on gravity for understanding the universe in regions of both large scale and high mass: stars, galaxies, clusters of galaxies, etc. Quantum field theory only focuses on three non-gravitational forces, (strong, weak, and electromagnetic force) for understanding the universe in regions of both small scale and low mass: sub-atomic particles, atoms, molecules, etc. At present, there is no candidate for a TOE that includes the standard model of particle physics and general relativity.

A number of scholars claim that Gödel’s incompleteness theorem suggests that any attempt to construct a TOE is bound to fail. Gödel’s theorem, informally stated, asserts that any formal theory sufficient to express elementary arithmetical facts and strong enough for them to be proved is either inconsistent or incomplete. Stephen Hawking, originally a believer in a TOE, after investigating Gödel’s theorem, concluded that a TOE was not attainable.

In fact, Gödel’s theorem seems to imply that pure mathematics is inexhaustible. No matter how many problems we solve, there will always be other problems that cannot be solved within the existing rules. So, because of Gödel’s theorem, physics is inexhaustible too. The laws of physics are a finite set of rules, and include the rules for doing mathematics, so that Gödel’s theorem applies to them.

Also, just about any problem solved in mathematics or science seems to raise additional questions that we would like to solve. So I expect there are infinitely many questions that we would like answers to, which won’t be found in a finite amount of time. There might even be infinitely many possible theories, not all of which humans can ponder. With or without machines, even now the majority of scientific discoveries are barely comprehensible (or incomprehensible) to most human beings.

The limitations on human scientific and mathematical discoveries, I expect, will be based on the limits to human life — which might end from climate change, an asteroid, nuclear war, or for some reason we don’t yet know about. Now that’s what should probably be a priority for us to address.

Jacobsen: Thank you for the opportunity and your time, Professor Silverman.

Ask Dr. Silverman 6 — Absolutes: Math as Science

2019-06-27

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about math as a science.

Scott Douglas Jacobsen: What makes math a science? Does pure mathematics, in a way not seen in physics, biology, and chemistry, derive absolute statements about an abstract world of numbers? Even though, these systems of formal expression may be incomplete and consistent, or complete and inconsistent.

Professor Herb Silverman: Although the 19th-century mathematician Gauss crowned mathematics the “queen of the sciences” because mathematics is essential in the study of all scientific fields, an argument can be made that mathematics is not really a science. Science is empirical, meaning based on observations of nature, and it is potentially falsifiable by new observations of nature. In other words, new evidence can lead us to revise scientific theories, so scientific ideas can never be proved absolutely. Some mathematical ideas, on the other hand, can be absolutely proved.

For a mathematical statement to be accepted as a theorem, its conclusion must be known to *always* be true whenever its hypotheses are satisfied. Mathematicians accept that a conclusion must be true based on a proof rather than empirical evidence. The Pythagorean Theorem, for example, can be proved.

Since mathematics provides the language in which the natural sciences try to describe and analyze the universe, there is a natural link between mathematics and the natural sciences. The natural sciences investigate the physical universe but mathematics does not, so in that sense, too, mathematics is not a natural science. Science is testable because it usually deals with real world phenomena, while mathematics can be quite abstract, and its validity need not have anything to do with the real world. While mathematics may not be a science, mathematics is the language that science speaks in.

To complicate things, though, a case might be made that at least some mathematics can be called science. We roughly classify mathematics as either pure (or theoretical) and applied. Pure mathematics is studied primarily for its own sake, while applied mathematics is the application of mathematical methods to specific fields including science, engineering, business, computer science, and industry. Pure mathematicians prove theorems that have no apparent and clear application, though many such theorems proved by pure mathematicians have later become useful in the real world. The search for practical applications also motivates the development of mathematical theories, which then become the subject of study of abstract concepts in pure mathematics. So activity in applied mathematics may be intimately connected to research in pure mathematics. There is a lot of gray area between pure and applied mathematics.

Some mathematics might be viewed as a bridge between art and science. The famous mathematician G. H. Hardy said, “There is no permanent place in the world for ugly

mathematics.” Mathematicians are often guided by aesthetics, and look for beauty in their proofs. Proofs and methods are routinely referred to as elegant.

Mathematics and science have had a long and close relationship. Mathematics is the universal language and indispensable source of intellectual tools for science. On the other hand, science has inspired and stimulated mathematics, posing new questions, and bringing new ways of thinking. Science and mathematics have certainly been good for one another.

Jacobsen: Thank you for the opportunity and your time, Professor Silverman.

Ask Dr. Silverman 7 — Infinity: 1, 2, 3, 4... Until, You Can't Count Anymore

2019-06-29

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about infinity.

Scott Douglas Jacobsen: What makes infinity, infinite? What makes the finite, finite? Does a middleground exist, at all, between the infinite and the finite? Common sense says, “No.” However, mathematical conclusions can produce anti- or non-intuitive results through basic logical implications of the formulations of the mathematics and the conceptualizations behind them.

Professor Herb Silverman: There is no middle ground between the finite and the infinite, but there are some strange, non-intuitive things we can say about infinity, some of which I’ll describe.

In mathematics, a set (of numbers) is said to be infinite if it can be put into a one-to-one correspondence with a proper subset (not all the numbers) of itself. For instance, the positive integers (1, 2, 3, 4, ...) form an infinite set because there is a one-to-one correspondence between them and the proper subset of positive even integers (1~2, 2~4, 3~6, 4~8, 5~10, etc.).

A set of numbers that is not infinite is called finite. There is no one-to-one correspondence between the set of numbers {1, 3, 7, 13, and 18} and a proper subset of itself. We say that the cardinality of this set is 5 because it has 5 elements, the same as the cardinality of {10, 20, 30, 40, 50}.

Since there is a one-to-one correspondence between the positive integers and the positive even integers, we say there are as many even integers as integers (the same cardinality). The question is whether there are infinite sets with larger cardinality than the integers. What about the rational numbers (fractions)? As it turns out, there are no more rational numbers than integers. On the other hand, not all infinities are equal. There can be no one-to-one correspondence between the integers and the real numbers (rational and irrational). An *irrational* number, like pi and the square root of two, is a real number that is not *rational*.

Furthermore, we say that an infinite set is *countable* if there is a one-to-one correspondence between the set and a subset of the positive integers. If not, we say the infinite set is uncountable. So the rational numbers form a countably infinite set, while the real numbers are uncountable. (The numbers between 0 and 1 are uncountable, as well as the numbers between any other two numbers.) This means that the cardinality of the real numbers is larger than the cardinality of the integers. Are there larger uncountable sets than the real numbers? The German mathematician Georg Cantor showed that there are infinitely many cardinalities larger than the cardinality of the set of real numbers because the set of subsets of a set has a greater cardinality than the set. Stated another way, there are infinitely many different kinds of infinities.

There is also the concept of *infinitely small*, which involves limits (the basis of calculus). For instance, it's easy to see that there is no smallest positive number because we can divide any number by 2 and get a smaller positive number. The sequence $\{1/n\}$, ($n = 1, 2, 3, 4, \dots$), comes arbitrarily close to 0 (and has 0 as the limit) but never reaches 0.

There is still a lot that is unknown in mathematics about infinity. For instance, a *prime number* is divisible only by 1 and itself. The first few are 2, 3, 5, 7, 11, and 13. Euclid proved that there are infinitely many prime numbers. What mathematicians have not yet been able to solve is whether there are infinitely many twin primes (two consecutive odd primes like (3,5), (5,7), (11,13), (17,19) ...). If you can solve this, you will become very famous in the math world.

There are simpler non-intuitive examples that deal with the infinite. For example, did you know that $0.99999999\dots = 1$, where the dots mean you continue the 9's forever?

You learned to accept in elementary school that $0.3333333333 = 1/3$, so just multiply this equation by 3 to obtain the previous equation.

This is all based on properties of infinite series, which I won't get into here. On the other hand, I'll let you know that the infinite series $1/2 + 1/4 + 1/8 + 1/16 + \dots = 1$, while

$1/2 + 1/3 + 1/4 + 1/5 + 1/6 + \dots = \text{infinity}$.

Any other questions?

Jacobsen: Yes. Thank you for the opportunity and your time, Professor Silverman.

Ask Dr. Silverman 8 — Infinity: Behind Every Real Infinite is a Silver Lining Infinite

2019-07-01

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about infinity in a finite way (you're welcome).

Scott Douglas Jacobsen: What types of infinity exist in the real world if any? What types of infinity exist in the abstract world? Why do some of those abstract infinities exist in the real world? Why do some of those abstract infinities not exist in the real world?

Professor Herb Silverman: Early puzzles about the infinite might have begun with the ancient Greek philosopher Zeno. One version of his paradox of the infinite is this: “An arrow goes halfway to its target. It then goes another halfway, and repeats the process an infinite number of times. Therefore, it can never reach its target.”

But, of course, the arrow does reach its target. Zeno lived long before the concept of a limit (the basis of calculus) was discovered independently by Newton and Leibniz. They showed that infinite sums can converge to a finite limit. In Zeno’s case, we can begin with one half, then add half of that (one fourth) and keep adding halves. This infinite series has the limit 1, which is the Zeno target.

As a youngster I was fascinated and puzzled by an infinite God with infinite power who lived in infinite space for an infinite amount of time. I felt that studying “infinity” would help me understand God. I later learned that infinity is a theoretical construct created by humans, and that the number “infinity” does not exist in reality (as a real number). Infinity, like gods, is not sensible (known through the senses). Mathematically there are many types of infinities, just as people believe in many gods. Religious believers assume their god is real and infinite because a finite god would be limited. However, we can show mathematically that there can’t be a largest infinity. In fact, there are infinitely many infinities. So, any infinite god could theoretically be replaced by a more powerful infinite god.

The concept of infinity in mathematics is sometimes called *potential infinite*, as opposed to an *actual infinite*. The question arises as to whether an actual infinite exists. The answer is in dispute. Some argue that the continuity of space and time entails the existence of an actually infinite number of points and instants. So the continuity of spacetime provides evidence of an actual infinite in our universe. Others argue that it has never been proved that space and time are composed of real points and instants.

Einstein’s theory of general relativity suggests that an expanding universe (as we observe ours to be) started at a time in the finite past when its density was *infinite*. Einstein’s theory also predicts that the center of a black hole has infinite density. These infinities, if they do exist, would be actual infinities.

Another question is whether our universe is spatially finite or infinite. The idea of a finite universe raises the question of what is beyond. As far as we know, the universe is everything there is. Also, based on the Big Bang, our universe has been around a finite amount of time (approximately 13.8 billion years), but there might have been infinitely many big bangs and big crunches before that.

Why do people other than mathematicians and scientists care whether there is an actual infinity or just a potential infinity? Because there are many religious people who equate God with the only actual infinity. If an actual infinite can't exist, and God is infinite, then God can't exist.

Probably the most popular argument for the existence of God is a form of the Kalam Cosmological Argument, popularized by well-known Christian apologist William Lane Craig. It can be stated as the following brief syllogism.

1. Whatever begins to exist has a cause;
2. The universe began to exist;

Therefore:

3. The universe has a cause.

Craig concludes that the cause of the universe had to be an uncaused, personal creator of the universe who *apart from* universe is beginningless, changeless, immaterial, timeless, spaceless, enormously powerful, and known as God.

Note that this argument says that God doesn't need a cause because God has always existed. Since time began with the Big Bang, it would be difficult to say that God has been living infinitely long. Further, I would argue that the first premise is wrong. Not everything that begins to exist need have a cause. That appears to be the case in the quantum world of subatomic bits of matter. Since the Big Bang was a quantum event, there is no reason to say that our universe needed a cause.

Moreover, I find it interesting that those who try to argue rationally for the existence of a creator always seem to accept that creator through faith. Even if the Kalam argument worked, which it doesn't, why conclude that there was a single personal creator of the universe? Who knows — there could have been trillions of agents involved in the creation of our universe (or even *infinitely* many).

It's hard for us to wait for science to come up with definitive answers about the universe, so we speculate about some of them. I say, stay tuned.

Jacobsen: Thank you for the opportunity and your time, Professor Silverman.

Ask Dr. Silverman 9 — Numbers, Numbers, Numbers

2019-07-07

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about the meaning of numbers and delve somewhat into the notions, or the formal mathematical concepts, of mathematical objects, and more.

Scott Douglas Jacobsen: What makes a number, a number? How does this relate to the discrete or continuous nature of the world?

Professor Herb Silverman: A number is a **mathematical object** used to count, measure, and label. The original examples are the natural numbers 1, 2, 3, 4,, which were extended to take in 0 and the negative integers. This later included rational numbers (fractions), irrational numbers (real numbers that are not rational) like pi and the square root of 2, and complex numbers like the square root of -1.

Besides their practical uses, numbers have cultural significance throughout the world. For example, in Western society, the number 13 is regarded as unlucky. Some people also believe in *numerology*, which attributes a divine or mystical significance to numbers. One such example, espoused by many Christian fundamentalists, is fear of the number 666, which they refer to as the Mark of the Beast. Numerology is also associated with the paranormal and astrology. Of course, numerology is a pseudoscience, a superstition that uses numbers to give their subject a veneer of scientific authority.

The question about the discrete or continuous nature of the world is an important one, with many implications. By discrete, we mean something we can count and that can't be further divided. An example would be the number of students in a class. Continuous is the opposite of discrete. It can always be divided into finer levels.

How old are you? I could say that I'm 77 years old, but it would be a lie. Though I recently celebrated the seventy seventh anniversary of my birth, it would be impossible to say how old I am. The same with you. As of this writing, I've been alive approximately 77 years, 20 days, 6 hours, 7 seconds, 5 milliseconds, 3 nanoseconds, 1 picosecond (a trillionth of a second)...and so on. I would be simply 77 if time were measured only in years, which it is not.

We treat time as if it is continuous, not discrete. The same with height and weight. It is impossible to know exactly how tall you are or how much you weigh. Similarly, when we see a movie the time it portrays looks continuous, though we know it was made with discrete scenes. In classical and quantum mechanics, time is treated as continuous. Otherwise, the physics would not be applicable. Nevertheless, we don't really know if time (or space) is discrete or continuous.

Max Planck was a theoretical physicist who did revolutionary work in quantum theory. Planck time (approximately 10^{-43} seconds) is the shortest possible time interval that can be measured. With its associated Planck length (approximately 10^{-35} meters), the Planck time defines the scale at which current physical theories fail. On this scale, the entire geometry of spacetime as predicted by general relativity breaks down. It is possible that time might be

advancing forward in tiny but discrete time intervals, or time might be continuous. We just don't know. The same is true about space.

All scientific experiments and human experiences occur over time scales that are many orders of magnitude longer than the Planck time, making any events happening at the Planck scale undetectable with current scientific knowledge. The smallest time measurement has been approximately 10^{-43} to 10^{-44} seconds. Before Planck time all matter, energy, space, and time are presumed to have exploded outward from the original singularity (a point or region in spacetime in which gravitational forces cause matter to have an infinite density, associated with black holes). Nothing is known of this period. Looking backward, the idea is that back beyond a Planck time we can make no meaningful observations within the framework of classical gravitation.

Rather than thinking of discrete intervals, we should recognize that it is not possible for us to make a measurement of length or time smaller than Planck values for length and time. Physics can say nothing about shorter intervals, which is why we can't go back to time zero of the Big Bang. I think that someday more will be discovered, but not in my lifetime and maybe not in yours. It will take a serious amount of time for humans to understand time.

Jacobsen: Thank you for the opportunity and your time, Professor Silverman.

Ask Dr. Silverman 10 — Mathematical Objects: Number-ology, Not Numerology

2019-07-08

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about mathematical objects in brief.

Scott Douglas Jacobsen: What are the types of mathematical objects, e.g., functions, sets, vectors, and so on? What makes each distinct? What is their role in math?

Professor Herb Silverman: Mathematicians don't much think about types of mathematical objects. A mathematical object can be anything that mathematicians work on, including functions, sets, vectors, numbers, points, lines, circles, ellipses, matrices, infinite series, and so on.

The various specialties of mathematics, like linear algebra, abstract algebra, topology, real analysis, complex analysis, geometry, combinatorics, and many more, can be organized by the type of mathematical objects they primarily concentrate on.

Different areas of mathematics have some objects in common. For instance, most mathematical areas deal with objects like numbers, functions, and sets.

Jacobsen: Thank you for the opportunity and your time, Professor Silverman.

Ask Dr. Silverman 11 — Nature: Antirealism and Realism

2019-07-12

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about Platonism, the nature of mathematics, the real and the unreal, and more.

Scott Douglas Jacobsen: What defines Platonism? How does this relate to the nature of mathematics? What defines antirealism? How does this relate as a counter to the previous descriptions about the nature of mathematics — and a previous session's definition of numbers? What seems like the majority view of the practicing mathematicians now? Are numbers in the head, in the world, or both?

Professor Herb Silverman: Platonism says abstract objects exist even when they do not exist in space or time, and so they are therefore non-physical and non-mental. For instance, numbers are abstract, non-physical objects. Most mathematicians probably think that mathematical objects exist (as concepts) independent of our human intellect, and that such mathematical objects can be used in determining how any conceivable universe would work. This is an example of Platonism.

However, the existence of mathematical objects, as mathematicians understand the notion of existence, is based on the set of axioms mathematicians use. Different axiomatic theories can be useful to model different physical processes, and mathematics is the combined set of all mathematical theories. While we can postulate any axioms we wish, we usually choose only sets of axioms that yield theories we find useful. Platonists would probably try to find an axiomatic theory that is *the* theory of the universe.

Platonists contend that abstract objects exist in a framework of reality beyond the material world. Platonism argues that these abstract objects do not originate with creative divine activity. There appears to be no place for a divine being in Platonism. Theism, on the other hand, contends that God is *uniquely* necessary, eternal, uncaused, and is the cause of everything that exists. Some theists, however, try to reconcile theism and Platonism by concluding that necessarily existing abstract objects have their origin in the creative activity of God.

Before discussing anti-realism, we need to define realism. Realism is the belief that reality can lie outside the human mind. Realism focuses on what can be observed, as well as things that exist independently of what the human mind believes to be true. An example of realism is that a tree exists in nature whether or not a human is able to recognize it as a tree. Realism has nearly nothing to do with the human mind, but has everything to do with the way the world functions outside of the mind. *Realists* believe in rational thought and will only perceive things the way that they are truly seen, without any type of interpretation. Realists tend to believe that whatever we believe now is only an approximation of reality, whose accuracy and understanding can be improved. Realism can be applied to the past and the future as well as mathematical entities like natural numbers

In anti-realism, the truth of a statement can be demonstrated through internal logic, in contrast to the realist notion that the truth of a statement must correspond with an external, independent reality. For the anti-realist, most of what we believe to be the case about the world is due to how our minds project or create certain features or characteristics of what we perceive. Anti-realist arguments contend that natural thought processes can account for mathematical reasoning. Because anti-realism encompasses statements containing abstract ideal objects, like mathematical objects, anti-realism may apply to a wide range of philosophical topics, including science, mathematical statements, mental states, the past and the future.

Realism is also sometimes applied to moral categories. Moral realism is the belief that ethical positions exist objectively, independent of subjective opinion. Moral anti-realism and moral skepticism deny that moral propositions refer to objective facts. I've been in several debates about whether humans can be moral without input on morality from a supreme being (God). My opponent always takes the position that an objective morality exists and it comes from God.

What follows is the more nuanced view I've taken in debates about whether there is an objective morality.

Most atheists believe that ethical values are derived from human needs and interests; are tested and refined by experience; and that morality should be based on how our actions affect others. I think morality is a necessary invention of humans to construct a livable society. But morality requires flexibility because circumstances under which we live continue to change and we discover what works better. So I don't think there's the kind of objective morality that can be attributed to a deity.

But suppose, for the sake of argument, that we could demonstrate the existence of objective morality. I'll first give a math analogy. There are essentially two kinds of mathematical proofs: Constructive and Existential. Here's an example of a *constructive* proof, which shows that between any two numbers there's another number. We simply construct the new number by taking the average of the two. So a new number between 7 and 8 is 7.5. On the other hand, Euclid gave an *existential* proof that there are infinitely many prime numbers. His proof did not give us a way to actually make such an infinite list. We only know in theory that such a list exists.

Suppose we could carefully define "morality" and come up with a set of axioms on which we could all agree. Then we might, and I stress *might*, be able to show that there is some sort of objective morality. But that would be an existence proof, not a constructive proof. In other words, it would be a theoretical objective morality and not one that we could readily apply to our daily lives.

Different people today and in past centuries have claimed an objective morality, but these sets of objective morals often contradict one another. They were handed down by different gods or religious authorities, all claiming to have the objective Truth with a capital "T." And deviations from these so-called objective moralities often had dire consequences for heretics.

Our morality today differs significantly in many ways from biblical morality. Throughout history, the Bible has been quoted to justify slavery, second-class status for women, anti-Semitism,

executing blasphemers and homosexuals, and burning witches and heretics. Some actions that were deemed moral 2000 years ago are considered immoral today. Morality evolves over time as our understanding changes about human needs within a culture.

Christians who claim to have the one true universal morality can't seem to agree on what it is. The same occurs within other religions. Associating God with morality can be very problematic, especially for those who view this life as just a prelude to an afterlife. To put love of an imagined god above the love of real human beings is immoral. One biblical character, Abraham, is revered as a prophet in all three monotheistic religions: Judaism, Christianity, and Islam. He is admired for having such great faith that he was willing to kill his son because God told him to do it. Reasonable people may disagree on the right thing to do in a given situation, but there is no reason to imagine that a supernatural belief system, based what you think a god wants, can offer anything over a secular morality based on reason and compassion.

Jacobsen: Thank you for the opportunity and your time, Professor Silverman.

Ask Dr. Silverman 12 — Nominally Platonic, Platonically Nominal: Fictionalism, Neo-Meinongianism, and Paraphrase Nominalism

2019-07-18

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about fictionalism, neo-Meinongianism, and paraphrase nominalism, and more.

Scott Douglas Jacobsen: With mathematical Platonism as the assertion of mathematical objects unbound but working in and through the physical system, materials, and dynamics of the universe, and covered in some of the previous questions, and mathematical nominalism as the opposite of this, we can examine the versions of mathematical nominalism, too: fictionalism, neo-Meinongianism, and paraphrase nominalism. Without the specific terminology in these three aforementioned versions of mathematical nominalism, the educational series responses, from you, covered some of the facets of each. More formally, however, what defines general mathematical nominalism? What defines mathematical nominalism fictionalism? What defines mathematical nominalism neo-Meinongianism? What defines mathematical paraphrase nominalism? How do these apply to some of the other moral, social, and theological and atheological issues within the increasingly secular and scientifically rationalistic West?

Professor Herb Silverman: Mathematical nominalism, also known as mathematical nominalism fictionalism, is the view that mathematical entities, such as, numbers, functions, and sets do not exist. The opposing view, mathematical realism or platonism, holds that at least some mathematical entities exist. Nominalists say that mathematical entities do not seem to be the kinds of things that have space-time locations or causal powers. So, if they exist, we can't have knowledge of them. On the other hand, mathematical entities play crucial roles in any area of science. Nominalists see the benefits of and applicability of mathematics, but refuse to recognize abstract objects. I think these arguments are mostly semantical, and not particularly interesting to me.

Neo-Meinongianism, named after the Austrian philosopher Alexius Meinong, holds that there are non-existent objects, including mathematical and other abstract objects. For example, a round square is a non-existent object. Of course, there are things that could possibly exist, but don't — like world peace. Everything is an object, even if unthinkable. It then has the property of being unthinkable. I'm not a philosopher, so these arguments don't interest me either, because they also seem mostly semantical.

There are also objects known as fictional characters, like Donald Duck. Some people (fictional antirealists) believe that there are no fictional entities. They would say that fictional entities do not exist in the *actual* world but only in some other possible worlds. For instance, talking donkeys and Sherlock Holmes don't exist in the actual world, although they might exist in a world in which the Holmes stories are factual.

This brings us to creationists, like William Shakespeare, who created wonderful fictional plays, like Hamlet. Of course, not everything in Hamlet is fictional. Countries mentioned in the play, Demark and Norway, are real. Fictional objects come into being once they are conceived by their authors. They are authorial creations. Not only do we say that a fictional object was created at a certain point of time, but we might also describe it as having a certain age. Hamlet is now more than 400 years old.

Creationist authors create fictional characters through the creation of fictional works in which they appear. These characters are not concrete creations. They are non-concrete, abstract creations.

Unknown creationists created the mythical God, Zeus, who was not created by gathering various properties and embedding them in a certain narrative. Which brings us to the Bible. We don't know who most of the creationists of the Old and New Testaments are. The authors are largely unknown, though Mark, Matthew, Luke, and John get popular credit inaccurately. Most of the Bible's characters are fictional, including Adam, Eve, Noah, Abraham, Isaac, Jacob, and Moses. Some others have been shown through historical and archaeological research to have been real, including David, Paul, James, John the Baptist, and probably Jesus. But there are many fictional stories written about these real characters in the Bible.

Our modern culture refers to Creationists as those who believe the Bible is inerrantly true and that humans originated from supernatural acts of divine creation. I don't like such terminology because, unlike Shakespeare, these so-called Creationists have created nothing, themselves. They just happen to believe created stories that were handed down to them. I prefer to call such people Fictionalists, those who believe that fiction is true. Unfortunately, I doubt that this more accurate term will catch on.

Jacobsen: Thank you for the opportunity and your time, Professor Silverman.

Ask Dr. Silverman 13 — By the Godless Integers, People: Mathematicizing Secular Activism

2019-07-26

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about secularism, mixing with mathematics, and studying effective methodologies in history, and more.

Scott Douglas Jacobsen: When we think of social dynamics for the secular and the efficacy of forms of social change more in line with the ideals proposed by the secular community, and the founding of the United States, we tend to think of the separation of church and state, where some, though, while espousing the ideal to some public media and lay circles, return to their respective religious communities and proclaim the necessity of getting ‘God back into the homes, the schools, and the government.’ The secular communities require the separation of church and state for equality. Without it, the second-class status becomes a logical implication. If we want to make a modest heuristic science of the work for secularism in America, and Canada too, who studied the history of secularism? What were the conclusions from the research? Whether this has or has not been done, what might provide some interesting insight into the effective secular activism with a mathematicization of activism from the past? The examining and modelling the secular activism that succeeded and failed — in what ways and to what degrees. How might this be done?

Professor Herb Silverman: The concept of separating church and state is often credited to the writings of English philosopher John Locke. According to his principle of the *social contract*, Locke argued that the government lacks authority in the realm of individual conscience, something rational people could not cede to the government. Locke’s views were influential in the drafting of the United States Constitution. Though the separation phrase is not explicitly in the Constitution, Thomas Jefferson used the metaphor of the “wall of separation between church and state” in an 1802 letter to the Baptist Association in Danbury, Connecticut. This phrase, as the Supreme Court noted, has come to be commonly accepted as an authoritative declaration of the scope and meaning of the First Amendment to the Constitution.

Having seen the religious wars in Europe, our founders viewed religion as a private matter, without government involvement. The U.S. Constitution is a godless document, with no mention of any deities. It begins with the words “We the people,” not with “Thou the deity.” Secular government guarantees freedom to follow any religion or none. It allows people to explore religious questions according to individual conscience, but does not take sides itself. Those who wish to promote Christianity, other religions, or atheism, are free to do so — but without government assistance. All beliefs are protected, which is what guarantees religious freedom.

Article VI of the U.S. Constitution says, “No religious test shall ever be required as a qualification to any office or public trust under the United States.” Article VI was why I ran for governor of South Carolina in 1990 to challenge the provision in the South Carolina State Constitution that prohibited atheists from holding public office. After an eight-year battle, I won

a unanimous decision in the South Carolina Supreme Court, striking down this religious test requirement.

Despite the history of success with separation of church and state, some opponents of church-state separation are trying to rewrite American history to promote their assertion that the U.S. is an official “Christian nation.” Many of them claim that the founders formed a Christian nation, and they interpret the First Amendment prohibition against “establishment of religion” to mean that no single Christian *denomination* could be officially favored. They argue that official prayers, religious monuments, and participation by church bodies in government were all part of the “original intent.” But our founders were careful and thoughtful writers. Had they wanted the U.S. to be a Christian nation they would have mentioned it somewhere in the Constitution. Instead, President John Adams signed (and the U.S. Senate approved unanimously) the 1797 Treaty of Tripoli, which said in part, “the Government of the United States of America is not, in any sense, founded on the Christian religion.

Many Americans wrongly believe that tax dollars should go to support Christian symbols or beliefs. The First Amendment is constantly under attack by religious people — most notably, Evangelical Christians — who want the government to promote religion and, in many instances, give Christians special rights. It doesn’t bode well for separation of church and state that white Evangelical Christians currently have such influence over the government. Supreme Court Justice Sandra Day O’Connor wrote in 2005: “Those who would renegotiate the boundaries between church and state must therefore answer a difficult question: Why would we trade a system that has served us so well for one that has served others so poorly?”

What can those of us who want to keep the wall between church and state strong do? An excellent national organization worthy of support is *Americans United for the Separation of Church and State*. However, I wish they would change their name to the more accurate and diverse *Americans United for the Separation of Religion and Government*. Government should also be separate from synagogues, mosques, temples, kingdom halls, and many more religious bodies. Of course, *Americans United* does use “church” as a metaphor to include all religions.

Separation of religion and government should prevent private citizens, when acting in the role of government officials, from having their private religious beliefs imposed on others. The Establishment Clause limits some free speech rights of public-school teachers, principals, and staff when communicating with students. Teachers can’t promote one religion (or atheism) over another to other people’s children. Local officials can’t require certain religious practices on the part of government employees, for example by hosting specific, approved prayers. Government leaders can’t make members of other religions or no religion feel like second-class citizens by using their position to promote particular religious doctrines. Tax-exempt houses of worship have been violating provisions of the Johnson Amendment, which prohibits them from intervening in elections by endorsing or opposing candidates.

Private religious organizations should not be able to act through the government by having their doctrines and beliefs codified into law or policy. The government must remain a government for all citizens, not a government favoring one denomination or one religious tradition battling for “their share” of the public purse.

Today, many people blame “secularism” for the polarization of politics and Americans, instead of blaming divisions over race, misogyny, immigration, income inequality, and President Trump’s Twitter. For decades, the Religious Right has been blaming secularism for what they consider social ills and have told Americans to embrace their brand of traditional conservative religion to set things right. It’s true that an increasing number of Americans are leaving organized religion, and have become more secular, especially younger people. In part, they are leaving because of church scandals and politicized houses of worship.

One reason secular activism hasn’t been as effective as it should be is that many well-known and admired secularists in the past have been in the closet about their secularism or did not promote it. For instance, leaders of the feminist movement, like Susan B. Anthony and Elizabeth Cady Stanton were agnostics. Many, if not most, of today’s feminists are secular.

The civil rights movement has always been over-represented by secularists. Though Martin Luther King, Jr. was religious, he advocated for the separation of religion and government, and supported the Supreme Court’s decision to prohibit government-sponsored prayer in public schools. Bayard Rustin, who helped organize freedom rides, the Southern Christian Leadership Conference, and King’s March on Washington for Jobs and Freedom, was an atheist. So was A. Philip Randolph, who also helped organize the March on Washington, where King gave his “I have a dream” speech. James Baldwin, civil rights leader and author, was an atheist, as were activist W. E. B. DuBois and Alice Walker, author of *The Color Purple*. Actress Butterfly McQueen, who played a maid in *Gone with the Wind*, was an atheist, saying in 1989, “As my ancestors are free from slavery, I am free from the slavery of religion.”

A disproportionate number of Jews were involved with the civil rights movement for African Americans. During the 1964 Freedom Summer in Mississippi, three civil rights workers, James Chaney, Andrew Goodman, and Michael Schwerner, were abducted and murdered. They had been attempting to register African Americans to vote. Both Goodman and Schwerner, from New York City, were secular Jews.

An excellent, comprehensive book to read on the history of secularism in the United States is Susan Jacoby’s *Freethinkers: A History of American Secularism*.

I’m pleased that today so many fine authors write or blog about their atheism, and either inspire others to become atheists or inspire atheists to come out of the closet. I think people “coming out” is the most effective way for secular activists to change society. It worked for the LGBT movement and it can work for secularists.

Jacobsen: Thank you for the opportunity and your time, Professor Silverman.

Ask Dr. Silverman 14 — The Logician, The Philosopher, the Scientist, and The Theologian

2019-08-16

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about science, religion, philosophy, and logic.

Scott Douglas Jacobsen: As far as I can discern, in professional/non-mediocre academic circles, oftentimes, theologians simply get put in the position of philosopher, where philosophers cover a wider range of material unencumbered by religious dogma, e.g., assertions of the inspiration of purported holy texts by the divine or the transcendent and fundamentally mysterious, and theologians amount to philosophers plus religious strictures of one form or another in the guise of “the study of God” and its relation to the world & humanity/”Mankind.” The logician dealing with a branch of philosophy. A scientist using the tools of the logician, intuitions and inferences of the philosopher, and then with the inclusion of the scientific method in a 21st-century sense with advanced algorithms and vast computational power (both continuing to improve) and large expert teams with wads of cash. Science is powerful, but theology is not in it. Unless, one sees one’s work as a devotion to God or the universe as God and, therefore, one’s work as delving into the nature of God through examining the nature of nature. What are some of the last refuges of theology in the academy? How did science annihilate most of the theological explanations of the world? How does the work to re-establish theology from the inside of the academic system through, for example, philosophy tread a thin line of intellectual legitimacy and illegitimacy? We see, as well, charlatans, cranks, and grifters in pseudointellectual movements attempting to garner legitimacy through, often, discounted or non-scientific untenable stances cooked up with some margins of truth to become palatable to a desirous few. It creates problems for the general population listening to and respecting science, and scientists, and creating minor to medium openings for the forced insertion of supernatural notions of God back into the academic system. I suspect this will be taken advantage of — for political and social reasons for fear of increasing irrelevance of theology and its associated worldview and comprehensive life practices seen in much of the world and history.

Dr. Herb Silverman: It has been said, with some justification, that philosophy is questions that may never be answered, and religion is answers that may never be questioned. But some questions in philosophy have been answered — by science. Branches of science sprang out of philosophical questions, many of which were once thought to be empirically impossible to test, such as the idea of an atom propounded by Greek philosopher Democritus. Ancient Greek philosophers concerned themselves with deducing what matter is made of, what the nature of the stars is, and considered concepts like taxonomy, chemistry, and physics. These were regarded as philosophical issues, but such questions have been explored and answered by scientists.

Philosophy, religion, and science form the basis of humanity’s search for truth. Science describes the way the world is. Philosophy describes the way the world should be, can be, and is thought

about. Philosophy and religion attempt to answer questions about what ought to be and why. But religion, unlike philosophy and science, is usually based on divine revelation and authority.

The word “theology” comes from two Greek words, *theos* meaning God and *logos* meaning the word about (or the study of) God. Theology assumes that the divine exists in some form and that evidence for and about it may be found through personal spiritual experiences or historical records of such experiences as documented by others. In short, theology is the study of God and of God’s relationship to the world.

I consider myself to be an expert on theology. Why? Because I think the number of experts on any topic is inversely proportional to the evidence available on that topic. And by that criterion, we are all experts on God because there is absolutely no evidence for her/his existence. Many theologians make up stuff about God or quote stuff from books made up by others. In fact, my acknowledgement that I know nothing about God makes me more of an expert than those who claim to know God or to know about him.

Nobody can produce evidence even as large as a mustard seed that God is more than a thought. Scientists can see stars that have been dead for billions of years and can document microscopic bacteria that lived on earth eons ago. But of God we have no trace, except reports that neither the writers nor those around them ever witnessed, and the faith of millions who convinced themselves that God lives and reigns somewhere in the sky. If told people I had an unverifiable, invisible friend that I spoke with, they would think I had an overactive imagination, if not outright insanity, unless I named this friend “God.”

Most theists recognize how intellectually feeble faith is when they see it applied to anything other than their personal god belief. Competing and contradictory claims for thousands of gods by billions of people throughout history says only that humans are capable of believing just about anything. Religious belief is not a logical conclusion arrived at after researching all the world’s faiths and deciding on the most sensible one. It usually comes from childhood indoctrination and wrapped up with many values and loyalties developed at the time. A believer who does not make a rational choice to believe is unlikely to make a rational choice to stop believing.

In debates I’ve had with Christian theologians, my opponents use what is called “apologetics,” a branch of Christian theology that defends Christianity against objections. Scientists don’t need apologetics, because nobody has to believe in science for it to exist. When I would provide debate opponents with biblical contradictions or questions they couldn’t answer because no answer would match reality, I would sometimes hear the unfalsifiable response, “God works in mysterious ways.”

I think confirmation bias also plays a large role when interpreting passages in “holy” books. For example, some theologians claim that the Bible has it right in ways that prominent scientists had it wrong, scientists who once believed in an eternal universe. Genesis opens with “In the beginning,” which some allege to be scientific evidence that the Bible describes the Big Bang. I point out that Genesis goes on to say that God then created two lights, the greater to rule the day, and the lesser the night. Almost as an afterthought, God then made stars (which biblical writers

did not know were actually other suns, many larger than our sun). The Bible contains so much anti-scientific nonsense because it's a product of an Iron Age culture, and has no more knowledge in it than people of Mesopotamia had at that time.

When it comes to academia, I think there is definitely a place for teaching the philosophy of religion, including in religious studies departments at public universities, and perhaps theology departments, depending on how the topics are taught. Philosophy of religion is a branch of philosophy concerned with questions regarding religion, including the nature and existence of God, the examination of religious experience, analysis of religious vocabulary and texts, and the relationship of religion to science. A good religious studies program should expose students to all kind of religious beliefs, and some students might realize that the one in which they were raised makes no more sense than do a lot of other religions. A fine book for philosophy of religion or religious studies is Karen Armstrong's, *A History of God*, though more accurately it should be called "A History of God Belief." Within legitimate academia, in the absence of proof of the existence of something, that *something* must be deemed not to exist until verifiable proof is found. So "God" should be held not to exist pending some sort of verifiable evidence.

When it comes to college theology departments that mainly promote apologetics in religion-affiliated schools, I doubt that they undertake a legitimate search for truth. At such schools, I also like to see what science courses, if any, are in the curriculum. Some religion-affiliated schools "teach" why evolution is wrong. I don't so much mind theological viewpoints that incorporate legitimate science, but too many don't. It is difficult, even for apologists, to show how their "holy" book is consistent with modern scientific findings.

Jacobsen: Thank you for the opportunity and your time, Dr. Silverman.

Ask Dr. Silverman 15 — Scribble Me This, Mathman!

2019-08-19

Herb Silverman is the Founder of the Secular Coalition of America, the Founder of the Secular Humanists of the Lowcountry, and the Founder of the Atheist/Humanist Alliance student group at the College of Charleston. Here we talk about the highly probable human interventionism mistaken for divine interventionism and human literary productions mistaken for divine texts, and a whole lot more.

Scott Douglas Jacobsen: At the end of the day, ancient peoples, human beings, probably men — males, wrote books in a illiterate period, in an illiterate part of the world, before the understandings of the modern scientific revolutions, where mystical beings did magical things and the ancient peoples believed supernatural things and in personalized amorphous forces and entities fighting for them and against them, above and below them, even through them. Those personal beings who could be petitioned with, who one could argue with, and who held the fortunes and fates of one's life in their hands in some way; all the way up to the self-existent penultimate. To this day, these books have a professional protectorate class, scribes and priests and religious authorities and institutions of males — men, who provide the proper interpretations of the texts. Human books by natural-world-ignorant people. They could have known better if they had the information and the tools. They just didn't. Some make logical rather than emotional or authority-based arguments for gods. Even if in some future context such gods were shown provable or, in some sense, modestly empirically reasonable, these would be reinterpretations unintended by the original authors. What does this mean for the North American favourite religions? How would this reasoning extend to the world's religions? What makes this an unpalatable drink to swallow for the world's faithful? How can secular and freethought people be polite and respectful in appropriate contexts and steadfast in equality in other proper moments? When our knowledge of things hits a wall, whether by talent or ability or interest, when can the religious and secular show proportionate humility to the evidence of the day on hand or, more properly, in hands? What might future religions become with reinterpretations or the crushing non-viability of some paths of argumentation and reasoning given recent discoveries and correlates between previously vastly different fields or disciplines of human endeavour — artificially separated mind us?

Dr. Herb Silverman: I think I speak for many atheists who, while browsing the religion section in bookstores and noticing a portion of books set aside for religious fiction, say to themselves, "Isn't that redundant?" Apparently, authors can usually choose whether to call their books fiction or nonfiction. But we don't always know the author's true identity, as with most of the books contained in the Bible. We recognize that some of the biblical writers made up stories, some composed nice poetry, some described events that likely occurred, and some wrote "just so" stories to explain what they didn't understand. I would classify nearly the entire Bible as fiction, especially the God stories. However, since many believe the Bible to be factual, bookstores won't risk community outrage by filing it under "religious fiction."

It is difficult to identify some portions of the Bible with a loving deity, considering events like killing witches, slaying all women and children in a city, the blood of Jesus being on all Jews and their children, and killing homosexuals. The God of the Bible is no role model. That God can be a tyrant who orders the enslaving or killing of innocent people (including children) because they worship the wrong gods or live in lands that God wants his chosen people to occupy. God commands the Israelites to kill everything that breathes in Canaan. I agree with Richard Dawkins in *The God Delusion*: “The God of the Old Testament is arguably the most unpleasant character in all fiction: jealous and proud of it; a petty, unjust, unforgiving control-freak; a vindictive, bloodthirsty ethnic cleanser; a misogynistic, homophobic, racist, infanticidal, genocidal, filicidal, pestilential, megalomaniacal, sadomasochistic, capriciously malevolent bully.”

So what about modern-day people who believe that the entire Bible is the inspired word of God? Even many of those biblical literalists now try to interpret some of these passages in more enlightened ways.

I identify more with progressive Christians who see countless biblical contradictions, as well as historical and scientific falsities. Such Christians do not attempt to make sense out of nonsense. I also like what the Dalai Lama said about his religion, “If science proves facts that conflict with Buddhist understanding, Buddhism must change accordingly.”

A number of my liberal Christian friends not only ignore uncomfortable passages, but also agree with me on most progressive issues. One friend who favors gay marriage pointed out that the Bible has countless passages about social justice and only five that condemn homosexuality. He didn’t have a good answer when I asked how many condemnations of homosexuality it would take to reverse his position. In comparison, the Bible has many passages in support of slavery, with nary a verse that condemns it.

Either the Bible is the inspired word of God, or it’s not. If it is, then it should only take one passage to condemn an action or an entire class of people. If it isn’t, then a reader should choose only what make sense from the Bible or any other book. Fortunately, liberal Christians often focus on passages where God acts like a mensch, and ignore the rest. Perhaps these Christians are on a slippery slope that will lead them to secular humanism, which sounds to me like the real “Good News” — but that’s probably what literalists fear is happening to thoughtful and questioning non-literalists.

How should we treat the Bible? I like what Thomas Jefferson did. He amended the Christian Bible by writing a version that left out miracle stories and included only what made sense to him. Jefferson referred to what remained as “Diamonds in a dunghill.” Here’s another possibility — an amended bible devoid of passages that many God believers ignore, are embarrassed by, or interpret as the opposite of what the words say. This would not be a bible where poet William Blake could say, “Both read the Bible day and night, but thou read black where I read white.”

Who should write this new bible? Perhaps a committee of God believers who view the traditional Bible as inspired, but not inerrant, along with scientists and ethicists as advisors. After discussion, they could vote on what to include and exclude.

Is this heresy? No, it's tradition! Roman Emperor Constantine in the 4th century brought church leaders together at the Council of Nicaea, and they voted the "word of God" into existence. And so it could be with my proposed second-chance bible for progressive religious believers, who have been informally amending the Bible with their thoughts and behavior. I'm just suggesting that such amendments be written on paper, not tablets.

Here's how I might start a bible from the perspective of a scientifically literate God believer. Delete "In the beginning, God created the heavens and the earth," and replace it with "In the beginning of time, about 13.7 billion years ago, God created our universe with a big bang."

I don't believe the "God" part, but at least this bible can begin more accurately and move on to God's "creating" the earth some 9 billion years after the Big Bang. The traditional Bible fits comfortably with the views of those who wrote it in a pre-scientific and misogynistic era. Scientists and humanists have since filled in many "God of the gaps" and moral gaps by biblical writers some 2000 to 3000 years ago.

Any second-chance bible would be far from perfect. Future generations would look back and laugh about some of our current misconceptions and prejudices, which would inspire them to write a more perfect third bible. And so on. Maybe a day will eventually come when people will accept a godless bible.

As a child, I enjoyed reading Aesop's fables and biblical stories. Both have talking animals, along with moral lessons and universal truths. Leaving aside the question of which imparts better advice (though no Bible story was as consequential for me as Aesop's "The boy who cried wolf"), at least Aesop's stories are recognized as fables. One of the most productive ways to read the Bible is by identifying and discussing its fables. So I would like to propose a biblical fables book, which could stimulate conversation between atheists and theists.

Here are just three examples from well-known stories in Genesis, followed by my moral lessons.

1. Snake fable

God tells Adam he may eat anything in a garden but the fruit from one tree, saying he will die on the day he eats it. A snake convinces Eve that she will gain knowledge after eating the forbidden fruit. Eve eats, likes what she learns, and encourages Adam to partake. They discover many things, including sex, and God banishes Adam and Eve from the garden and tells them they need to work for a living.

My moral: God makes blind obedience the supreme virtue, assuming ignorance is bliss. God either lied or was mistaken when he said humans would die on the day they received knowledge. So don't blindly believe, even if you pay a price for independent thought. It's better to have freedom without a guarantee of security than to have security without freedom.

2. Cain and Abel fable

Adam and Eve's two sons bring offerings to God, but God gives no reason for accepting Abel's and rejecting Cain's. Cain gets jealous and kills Abel. When God asks Cain where Abel is, Cain responds, "Am I my brother's keeper?" God curses Cain, who must then wander the earth, but God places a protective mark on Cain.

My moral: The first worship ceremony is followed immediately by the first murder, which shows we must not put our love and worship of a God above our love for human beings. Cain belatedly learns that humans should look out for one another, making each of us our brother's and sister's keeper. God recognizes his culpability in the first murder and puts a mark on Cain as a sign to those he meets that they must not do to Cain what Cain did to Abel.

3. Binding of Isaac fable

God commands Abraham to kill his son Isaac. Abraham acquiesces, but God stops Abraham as he lifts his knife, and provides a lamb to take Isaac's place.

My moral: God tests Abraham, who fails the test. Nobody should commit an atrocity, no matter who makes the request. It is better to do good than to have faith.

Atheists almost never put the character "God" in a good light, and God's behavior is particularly egregious in Genesis. But as the Bible proceeds, God learns from some of his early mistakes and improves, as pointed out in Robert Wright's, *The Evolution of God*. There are hundreds of biblical fables, and atheists might find some in which to "praise God." Such praise would show that atheists don't hate God any more than they hate Zeus.

An atheist's insights into the Bible would be different from those of either liberal or conservative religionists. But if we start with the assumption that the Bible is an important book, this common bond might help atheists articulate their differences more effectively with at least some theists. And I think such enhanced communication would be a worthwhile experience for all participants.

Jacobsen: Thank you for the opportunity and your time, Dr. Silverman.

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Author Biography



Scott Douglas Jacobsen is a Canadian author, interviewer, and publisher, and a board member and executive on numerous boards whose contributions to secularism, humanism, and human-rights discourse are distinguished by their rigour and accessibility. He established In-Sight Publishing in 2014 to produce freely available or low-cost e-books and periodicals under a Creative Commons license, thereby ensuring broad dissemination while safeguarding intellectual property.

As editor-in-chief of *In-Sight: Interviews* (ISSN 2369-6885), launched in 2012, Jacobsen curates and presents meticulously prepared, long-form dialogues with a wide range of interlocutors. These

interviews include scientists and philosophers, activists and public intellectuals, addressing themes such as secular ethics, freedom of expression, evidence-based policymaking, and the global defence of human rights. His work appears regularly in peer-recognized outlets, including *The Good Men Project*, *International Policy Digest* (ISSN: 2332-9416), *The Humanist* (Print: ISSN 0018-7399; Online: ISSN 2163-3576), Basic Income Earth Network (UK Registered Charity 1177066), *A Further Inquiry*, Canadian Humanist Publications (CA Registered Charity 118833284 RR 0001), *Uncommon Ground Media* (UK Registration 11836548), The New Enlightenment Project, *News Intervention*, *Canadian Atheist*, Trusted Clothes (CN: 9562184; BN: 791402928RC0001), among dozens of others.

Jacobsen engages globally and interdisciplinarily with issues of social justice, belief plurality, and economic equity. Jacobsen has held the Tobis Fellowship in Research at the University of California, Irvine, on multiple occasions, contributing to empirical and normative studies on ethics and public discourse. He maintains active membership in numerous professional media organizations, fostering adherence to editorial standards and facilitating ongoing intellectual exchange.

His editorial leadership and commitment to open-access formats have generated a substantial, publicly accessible archive—known as the Jacobsen Bank—that documents contemporary secular and humanist thought. Based in British Columbia, he continues to expand the reach of his platforms, amplifying diverse perspectives and promoting evidence-based dialogue across cultural and disciplinary boundaries.

