

## FUNDAMENTAL LAWS

A homily by Galen Guengerich  
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The mid-20<sup>th</sup> century Cambridge physicist C. P. Snow wrote more than two dozen novels and other books, among them *Time of Hope* and *Corridors of Power*. In 1959, Snow delivered a lecture at Cambridge titled “The Two Cultures.” The intellectual life of Western society, he said, had split into two cultures: the sciences and humanities. Snow viewed this split as a major obstacle to solving the world’s problems.

In describing the divide, Snow said he had often been present at gatherings of people highly educated in the humanities who were appalled at how little scientists knew about the humanities. On a couple of occasions, Snow found himself provoked enough to ask how many of these humanities scholars could describe the Second Law of Thermodynamics. They initially responded with indifference, he reports, as though knowledge of thermodynamics was irrelevant to their work. When pressed, they were not able to explain the Second Law. “Yet,” Snow says, “I was asking something which is the scientific equivalent of: have you read a work of Shakespeare’s?”

Snow goes on to say that if he had asked an even simpler question about the meaning of mass or acceleration, the answer would have been more or less the same. Snow concludes, “So the great edifice of modern physics goes up, and the majority of the cleverest people in the Western world have about as much insight into it as their Neolithic ancestors would’ve had.”

In an effort to bridge the two cultures, Snow later attempted to describe thermodynamics, which explains how energy works within a given system, whether that system is an engine, a body, or a universe. According to Snow, the three fundamental laws of thermodynamics can be summarized as follows: you can’t win, you can’t break even, and you can’t quit the game.

Because energy can’t ultimately be lost within a closed system, Snow says, you can’t win in one area without losing in another. Because energy concentrated in one area will inevitably diffuse into areas of lower energy, you can’t break even. Because energy in the universe never falls to absolute zero, you can’t quit the game.

Snow’s overall point is that well-educated people need to know how the physical sciences describe the structure of our experience, and they also need to know how the human sciences interpret the meaning of our experience. For my part, I agree with Snow on the importance of scientific literacy. As I say to newcomers to All Souls, the hallmark of Unitarian Universalism when compared to the legacy religious traditions of the West — Judaism, Christianity, and Islam — is our insistence that science takes precedence

over scripture, and reason takes precedence over revelation, when it comes to what we most truly know.

That said, as Snow suggests by setting Shakespeare alongside thermodynamics, we need more than science to chart meaningful and purposeful lives. One of Snow's Cambridge colleagues from an earlier era, the early-20<sup>th</sup> century mathematician and philosopher Alfred North Whitehead, distinguishes the work of science and the work of the humanities in the following way. Scientists, Whitehead says, attempt to identify everything there is in the universe and explain how it all fits together. Philosophers and theologians, he says, interpret what our experience of the world means to us. This is the move from fact to value, from knowledge to faith, from science to religion, from what is to what ought to be. Like Snow, Whitehead believed that you can't do either of these tasks well without understanding both of them.

On these terms, our task as a religious community is to take account of everything we know about ourselves and our world, and then to decide how we should live in light of everything we know. Our understanding of the fundamental laws of the physical world informs our articulation of the fundamental laws of the spiritual world.

The essential feature of the physical world, according to Whitehead, is that everything becomes whatever it becomes by virtue of how it relates to everything else. Whether you are a photon, or a person, or planet, your identity over time develops through a process of relating to everything else. "Each moment of life," Whitehead says, "arises as an effect facing its past and ends as a cause facing its future."

We are time-bound creatures. We live in a time-bound universe. Time moves forward, human life proceeds, and history unfolds as the present becomes a consequence of the past and a cause of the future. We stand at the point of fulcrum between all that is past and all that is possible.

If time-bound relationality underlies the fundamental laws of the physical world, what are the corresponding fundamental laws of the spiritual world? In my view, they are three: we can't evade the past, we can't avoid the future, and we can't go it alone.

As human beings, we have a complicated relationship with our past. We tend to take credit for good things in the present that had nothing to do with us in the past (see Donald Trump's State of the Union Address, for example), and we tend not to take responsibility for bad things in the present that we caused in the past (see almost everything said by Harvey Weinstein over the past few months). In these ways and others, we tend to create a divide between the past and present.

But we can't. Truth be told, no matter how the past has come to us, from whatever source and for whatever reason, the challenges of the past are now our challenges. Whether the issue is our inequality as a nation, our addiction as an individual, or our slowly-disintegrating roof as a congregation, it's now our issue to address. We can't evade the past.

But it's also true that we can't avoid the future. No matter what troubles confront us, we can't move the starting line. There's no such thing as doing nothing about

inequality, or addiction, or a roof that's disintegrating. There is either active complicity in continuing the troubles of the past or an active effort to create a different future. There is no such thing as doing nothing. We can't avoid the future.

But we don't face the future alone, because our identity develops over time through a process of relating to everyone and everything else. We can't go it alone. From a spiritual point of view, this is good news for us as individuals and as a religious community. It means that our efforts to transform our own lives and the world around us are necessarily bound up with the efforts of others to do the same. It also means that our gathering as a religious community doesn't defy the way the world works, but rather mirrors it.

People have been gathering at All Souls for 199 years to remind each other of the fundamental realities and responsibilities of life. We are time-bound creatures made up of our relationships to everyone and everything else. For this reason, we can't evade the past, we can't avoid the future, and we can't go it alone.

Today as always, we stand at the point of fulcrum between all that is past and all that is possible. What happens next depends on us.