

Asking Why:

Reflections on the Twenty-fifth Anniversary of the Center for Research on Vermont

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Have you ever blundered into a spider's web? To do so is to instantly get in touch with your inner fly. We frantically pull and tear, seeking to escape the spider's bite. In our struggles the web is transferred from face to hand to other hand to clothes.

Flexible and sticky, webs are not easy to escape. This begs the question: Why don't spiders stick to their own webs?

Well, it actually begs numerous questions since not all spiders use webs, not all web construction conforms to our Halloween-induced images, and web stickiness may be achieved in different ways. So we don't become ensnared in too many variables, let's stick to spiders that coat their threads with glue.

Such spiders avoid becoming their own victims through a combination of methods. They anoint their legs with a special oil that prevents sticking. And they leave the spokes of the web uncoated. The spider sits at the center of the web, where the uncoated spokes converge. From there she can quickly follow any spoke to whatever opportunities the web provides.¹

Some of you may see the beginning of an analogy: a powerful female, ensconced at the center, attuned to all movement of the web, lines of communication crossing all points of her network. I, for one, eschew any such analogy; upbringing, admiration, and a finely tuned sense of self-preservation prohibit me from comparing our distinguished and able coordinator with an arachnid (even if, at times, it seems as if she must have eight limbs to accomplish all she does).

So let us not speak of analogies, but of anchovies. Who among us has not contemplated the great anchovy shortage of 1972–73? Anchovies thrive in the cold waters of the Pacific off Peru. During the 1960s, the Peruvian economy boomed because of the anchovy; a third of Peru's foreign earnings came from exporting anchovy-based fishmeal. The trade was so lucrative that anchovies became overfished.

Meanwhile there were global droughts throughout 1972–73. Consequently, agricultural production declined in several regions around the world. For the first time in decades world food production per capita declined. The ability of some nations to feed their citizens was severely tested.

The Soviet Union was particularly hard hit, forcing it to import large quantities of wheat and corn from the United States. Soviet purchases exacerbated the scarcity of grain on world markets.

All of which, of course, leads us back to the anchovy. For reasons I will get to, the already depleted anchovy fisheries off Peru collapsed. That collapse threatened the American poultry industry, which was dependent on Peruvian fishmeal. Poultry farmers consequently substituted soymeal for fishmeal.

Okay, still with me? Increased demand for soymeal raised the price of soybeans above that of wheat. North American farmers responded by planting thousands of acres of soybeans instead of wheat. They did so as world wheat supplies were depleted through the regional droughts. Climbing demand for wheat just as wheat production reached its lowest levels in decades raised the very real threat of global famine.²

World famine, of course, meant mass death. And death, as we know it, is inextricably linked to sex.

Sex, unlike anchovies, spiders, or death, appeals to most of us. At the risk of turning this bully pulpit into a confessional, I admit that sex, in all its infinite varieties, fascinates me.

Take spiders. For the males of some species of spiders, mating involves being killed. I used to assume this was the result of the inability of male spiders to distinguish between metaphor and reality. Tell a young male spider that “Gladys is a real looker and spins a mean web, but she’ll eat you alive,” and your warning will go unheeded. I have since learned that there are genetic advantages, at the species level, to being consumed by passion, at least for some spiders and insects.

And don’t get me going on bedbugs. Some female bedbugs appear, from our perspective, to lack essential reproductive equipment. Consequently, mating involves the male drilling a hole into the female’s body in order to deposit his seed. As if this wasn’t enough, certain male bedbugs look for couples in the throes of passion and then drill a hole into the male. Their seed passes through the first male and into the female. One can only speculate on how such bedbugs would debate civil unions.³

But this is not what I had in mind when I said sex and death are inextricably linked. In the beginning there was no sex; organisms replicated rather than reproduced. An organism, through asexual fission, simply split in two; the original organism no longer existed, but instead of a body, it left behind two exact replicas of itself. This was a good strategy for organisms that had specialized to occupy a particular niche. If the niche’s environment changed, however, it was harder to adapt, increasing the risk of extinction.

About three billion years after life emerged, sexual reproduction appeared. Reproduction, by combining genetic material from two different individuals, allowed faster adaptive change.

I should note that there is disagreement whether reproduction enhances adaptive change better than replication. My point is that with sexual reproduction came death. Rather than dividing by fission, cells aged and died; bodies were left behind. Humans are composed of some 100 trillion individual cells. Our deaths are a consequence of the death of our component cells.

There are those who hold that we are unique, among all living creatures, in knowing that someday we will die. Certainly humans have a consciousness of self and thus of aging and death.

That terrible knowledge contributes to our sense of time. We are aware of a past and a future, not just a present. At the societal level that awareness extends beyond our own life spans.

Having conscious experience as individuals, and as societies, is what makes us ask *why* and *how* and *what*.

Those questions can be as introspective as contemplating the gulf between the self’s desire to live and the cell’s need to die; it can be as profound as wondering why spiders don’t stick to their own webs.

Pursuing answers to our questions, we research. And so, at last, I come to the Center on the occasion of its twenty-fifth anniversary.

Every five years or thereabouts, starting with the fifteenth anniversary, someone has stood before you to reflect upon the Center. This begs its own *why*: Why did we celebrate the fifteenth anniversary in 1989, the twentieth anniversary six years later in 1995, and the twenty-fifth six years after that in 2001? This suggests a need to either broaden our membership among mathematicians, or give more thought to sex and death in order to reset our sense of time.

But I am not here to quibble about such matters. I am simply honored to join Paul Gillies, Sam Hand and George Bryan in being invited to mark the elapse of . . . well, a bunch of years, of Center activities. I urge all of you to read the published commentaries of my distinguished predecessors.⁴

In the five or six years that have elapsed since our twentieth anniversary, the Center has continued to offer conferences, programs, research-in-progress seminars, occasional papers, and other opportunities for sharing research on Vermont. As a result, the Center has created a group of Vermonters unique in the depth of their familiarity with current research. I am, of course, referring to the RETN camera crew. I believe the RETN crew has attended every Center event since September 1996. The partnership between the Center and RETN—and before that, with Channel 17—is a wonderful example of how we continue to make research accessible to Vermonters in creative ways.

Rather than recount the triumphs of the past five or six years, I draw my text from a fact and from a process. I will then turn the discussion over to you.

The fact is that on our twentieth anniversary the Center had an operating budget of almost \$8,900. Today, on our twenty-fifth anniversary, that budget is over \$300 less. Operating costs have not similarly declined.

Budgets are a measure of an organization's success. Without a sufficient budget it is difficult to provide programs or pursue opportunities. To simply bemoan the lack of support is not adequate; rather it slights what support the University has given over the past quarter century.

Let me be frank. What support can we passively assume from the University, which is confronting fiscal problems, faculty disquiet, and a public image that vacillates between *Bleak House* and *Animal House*? It is up to us, through your participation, to make an effective case for support.

Which leads to process. Throughout our twenty-five years we have debated who we are and what we mean when we say we are a center for research on Vermont. I am not sure we are always clear on what we mean; certainly it is not always clear to non-members.

The issue has been raised within the executive committee whether the word *research* is itself a barrier. Is it too distancing a word, appealing to a narrow group of researchers rather than to the general public, or to potential partners outside academic research communities?

It has been proposed, not for the first time, that we rename ourselves the Center for Vermont Studies, or the Center for the Study of Vermont. Is *study* a more embracing, less exclusive, term than *research* and what, if anything, would its adoption require in terms of redefining our mission and redirecting our efforts?

If it helps, *study* derives from Greek and Latin words meaning “zeal,” “eagerness,” “application,” or “striving,” with a hint of “haste” or “speed.” *Research*, on the other hand, derives from the Greek word *kirkos* referring to “a hawk flying in circles.” By extension, research was originally associated with “surrounding” or “encircling.”

I confess I love research. I not only conduct my own, but also, as state archivist, I assist a vast range of researchers—most of whom are not from the academic world.

I will not, however, attempt to impose my perspective upon our discussion. I can perhaps suggest some issues for our consideration by revisiting spiders, anchovies, sex, and death.

That there is a large body of research on spiders and their webs suggests our propensity to ask questions about the world around us. But is the broader interest in the research process, or in the answers that research provides? Are we, as the Center, interested in that broader audience, or are our constituents the communities conducting research?

Research on spiders is, of course, part of the larger field of natural science. It is interesting how natural science research is being applied to a wide range of topics. For example, it is being used by E. O. Wilson and others to find consilience, a unifying model of knowledge. Natural science is also being applied to corporate management. William Fulmer's *The Adaptive Organization* applies evolutionary theory to modern corporate structures. From my world, Tom Davenport, in *Information Ecology*, uses natural science to model use of information and communication technologies. As an aside, spiders certainly have a place in those new technologies; don't we all use the Web?

My point is that there is an ongoing melding of interests and practice among various research disciplines. Is there a role for the Center in bringing together seemingly disparate research to create new dialogues and perhaps foster new conceptual models for viewing Vermont?

Center members Kevin Dann and Nancy Gallagher have ably demonstrated, through their work on the Vermont Eugenics Survey, the risks of misapplying research disciplines. But their studies suggest caution, not avoidance. As part of the Center's twentieth anniversary, we polled members on the character of Vermont and then compared responses to a 1937–38 survey on the same question. I often wondered whether recent research on island ecologies and extinctions might have provided additional insights into our infinite fascination with what, or even whether, there is a unique Vermont character and whether it is being lost?

I know this might sound fishy to some of you, and you are right. There is an anchovy lurking in here. Certainly anchovies illustrate the value in encouraging collaboration among researchers.

Remember how I asked, "Who among us has not contemplated the great anchovy shortage of 1972–73?" Most of us have, whether we know it or not. The anchovy crisis of 1972, as well as the global droughts of that year, created the first widespread awareness of El Niño and its worldwide impacts.

The anchovy population had been stressed by overfishing; it collapsed, however, because the cold waters off Peru were warmed by El Niño. I do not have the time or knowledge to adequately explain all the research consequences of the 1972 El Niño. But the threat of world famine certainly focused research on trying to understand—and predict—El Niño. Research embraced exotic—at least exotic to me—events such as Coriolis Force, the El Niño-Southern Oscillation, the Walker circulation, eastern moving Kelvin waves and western moving Rossby waves. The research touched on physics, thermodynamics, meteorology, climatology, and oceanography. As research worked its way back, trying to identify El Niño's historic patterns, it embraced history, archeology, dendrochronology, ethnobiology, and a host of other disciplines. The social, economic, agricultural, and political consequences of El Niño brought those research communities into the fold.

This, to me, suggests that even as research specializes, there is a need to develop forums for regular communication across research communities. This further suggests not only a possible role for the Center, but

also the need to look beyond our borders in order to understand Vermont. After all, the Peruvian anchovy shortage and the El Niño of 1972 had Vermont consequences that weren't just chicken feed.

And now, briefly, back to sex and death. If the Center hosts events in ways that emphasize the discreteness of research disciplines, and, equally important, if we as Center members only attend events directly related to our particular research interests, then we are practicing asexual fission. We will have specialized within a niche and simply replicated our existing interests. As the Center's budget demonstrates, that is a perilous niche to occupy.

Indeed, a quick look at the UVM directory suggests how narrowly we continue to slice research into niches, how we continue to see borders in what should be a continuum. There is the Center for Research on Vermont, the Center for Rural Studies, the Humanities Center, the Center for Holocaust Studies, the Center for Teaching and Learning, the Language Resource Center, the Center for Sustainable Agriculture, the Center for Food Science, etc., etc.

Let me boldly suggest that we consider sexual reproduction as a better model. By mixing, if not our genes, at least our research interests, we can adapt to a wider range of niches.

And finally, if sex and death, combined with self-awareness, foster conscious experience, how can the Center best present research on those experiences? Can we present research data and information in ways that move toward knowledge? What is it we need to know, as Vermonters, to make informed decisions about the increasingly complex social, economic, and political realities we confront? In terms of the Center, this goes back to who is our audience, what are their knowledge needs, and how can we best present the knowledge of our members to meet those needs?

This interplay between data, information, and knowledge is certainly part of my world of archival management. And it is interesting how we allow those terms to be co-opted by others. For example, the state has a chief information officer, an information resource management advisory committee, and a division of communication and information technology. And yet I would argue none of those entities sees information as a primary mission; rather, they each focus on computer and telecommunication technologies. That their focus is on hardware and software; not on the information created, transmitted, and stored on those devices, has profound research implications.

Is there a role for the Center in keeping attention focused on information and knowledge?

But perhaps celebrating knowledge would be even more isolating than using research as an appellation. Perhaps the niche for the Center *should* be that state, that process, which precedes knowledge, what we now call research. So before I turn the discussion over to you, let me suggest two other possibilities for renaming the Center.

The first would be the Center for Doubting Vermont. Doubt is neither weakness nor ignorance. As James Gleick described the physicist Richard Feynman, "[He] believed in the primacy of doubt, not as a blemish upon our ability to know but as the essence of knowing."⁵

Given our self-absorption with being Vermonters, however, a Center for Doubting Vermont might not attract the positive recognition we seek. So let me propose as an alternative the Center for Wondering About Vermont. I suspect what binds all of us here tonight is a shared sense of wonder. Without a sense of wonder we wouldn't research, we wouldn't ask why. I use the eighteenth-century meaning of wonder, described by one writer "as

a form of learning—an intermediate, highly particular state akin to a sort of suspension of the mind between ignorance and enlightenment that marks the end of unknowing and the beginning of knowing.”⁶

Pooh understood the creative tension existing within that state of suspension. Piglet once asked, “What do you like doing best in the world, Pooh?”

“Well,” said Pooh, “what I like best . . .” and then he had to stop and think. Because although Eating Honey *was* a very good thing to do, there was a moment just before you began to eat it which was better than when you were, but he didn’t know what it was called.

I think it is called wonder. That Pooh had to stop and think, that he recognized an unknown space between anticipation and realization, is what wonder is all about. And wonder is the elemental force behind research.

Like Pooh, Albert Einstein valued the process of wondering. He wrote, “The most beautiful experience we can have is the mysterious. It is the fundamental emotion which stands at the cradle of true art and true science. Whoever does not know it can no longer wonder, no longer marvel, is as good as dead, and his eyes are dimmed.”⁷

And that is a role I would like to see the Center continue during its next quarter century. I think if we can not only sustain, together, our own senses of wonder, but instill wonder in others we will have accomplished something special.

1. Information on spiders was largely drawn from Richard Dawkins, *Climbing Mount Improbable* (New York: W.W. Norton & Co., 1996).
2. Information on the anchovy shortage is from Brian Fagan, *Floods, Famines and Emperors, El Niño and the Fate of Civilizations* (New York: Basic Books, 1999).
3. Information on bedbugs is from David Quammen, “Nasty Habits, An African Bedbug Buggers the Proof-by-Design,” in David Quammen, *The Flight of the Iguana, A Sidelong View of Science and Nature* (New York: Touchstone, 1998). Olivia Judson in her delightful *Dr. Tatiana’s Sex Advice to All Creation* (New York: Metropolitan Books, 2002) says this sexual practice is “possible but unlikely” (see p. 69).
4. See Paul S. Gillies, “Fifteen and Counting: Vermont Research 1974–1989 (and Beyond),” paper presented at the annual meeting of the Center for Research on Vermont, University of Vermont, May 1989; Samuel B. Hand, “Present at the Creation: Establishing a Center for Research on Vermont,” in Michael Sherman et al., “The Character of Vermont: Twentieth-Anniversary Reflections,” Center for Research on Vermont Occasional Paper no. 19 (Burlington: University of Vermont, 1996), 47–54; George B. Bryan, “The Light of Other Days: The First Twenty Years of the Center for Research on Vermont,” Center for Research on Vermont Occasional Paper no. 18 (Burlington: University of Vermont, 1995).
5. Gleick’s remarks are quoted in Lawrence Weschler, *Mr. Wilson’s Cabinet of Wonder* (New York: Pantheon Books, 1995), 90.
6. Adalgisa Lugli, quoted in Weschler, *Mr. Wilson’s Cabinet*, 89–90.
7. Weschler, *ibid.*, 125.