

**RELIGION & PHILOSOPHY**

ble diseases such as breast cancer. During the early 1860s, Silas Weir Mitchell experimented with neurosurgery to relieve chronic pain.

The growth of sentimentalism in Victorian America's literature, art, and religion was partly behind the change. The *Philadelphia Bulletin* echoed popular opinion when it editorialized in 1860 that the man most fit "to officiate at the couch of sickness . . . is kind and gentle."

And as time went on, physicians like Oliver Wendell Holmes, Sr., who prided themselves on their sternly "rational" approach to medicine, were eager to end squabbles within the profession's ranks. Beginning in the 1850s, they looked to medical statistics to compare the risks and benefits of competing remedies. A technical "calculus of safety," they believed, would enable physicians to sidestep touchy ethical questions when prescribing treatment.

But, as contemporary physicians can testify, the question of whether relieving pain can justify steps that may deprive a patient of life has not yet been answered in a way that is acceptable to society. As today's practitioners try to do what is "best" for their incurable patients, asks Pernick, will they again be tempted to search for an illusory technical "fix"?

### *The Quiet Success Of the Hutterites*

"The Certainty of Salvation: Ritualization of Religion and Economic Rationality among Hutterites" by Karl A. Peter, in *Comparative Studies in Society and History* (April 1983), Cambridge Univ. Press, 32 East 57th St., New York, N.Y. 10022.

Few Christian sects are more obscure than the Hutterites, whose 250 tiny but flourishing farm communities dot the plains of South Dakota and western Canada.

Like the Pennsylvania Amish, the Hutterites adhere to centuries-old traditions and religious practices—both sexes are darkly garbed, but women wear distinctive polka-dot kerchiefs. Unlike their Pennsylvania counterparts, the Hutterites fully exploit modern technology. Today's Hutterite farmer is likely to be found chattering on his CB radio from the air-conditioned cab of his power combine.

Ironically, the sect was founded around 1527 by Swiss and German peasants and craftsmen who looked backwards, to prefeudal society, for a communal economic alternative to the crumbling medieval order. Led by Jacob Hutter, explains Peter, a Simon Fraser University sociologist, they embraced pacifism and communal ownership of property and refused to acknowledge the authority of any state.

Unlike other Protestant dissenters of the day, the Hutterites held that individuals could achieve salvation only if the entire *group* were also saved. At first, community life was exemplary. But by the 1590s, Hutterite preachers were chiding some parishioners for sexual promiscuity and for coming to church drunk. Church leaders tightened the rules and redoubled their emphasis on group conformity.

As a result, Peter writes, the Hutterites' social life and religious doc-

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trine became fixed. The *lehrens* (sermons) read in their South Dakota churches today, for example, are virtually identical to those of 1660.

But such rigidity does not extend to the Hutterites' economic activity. They are quick to capitalize on technological change. Hutterite groups fleeing religious and political persecution in 16th- and 17th-century Europe found they could sell their skills as craftsmen of glass, pottery, and iron to local nobles in return for protection. To gain continued sanctuary, they had to offer superior products. Innovation and improvement became the rule.

Nevertheless, the Hutterites' fortunes waxed and waned several times; by 1874, when they emigrated to the United States, they numbered only 440.

Today, the Hutterite population is nearing 24,000. Their large families—the 4.12 percent annual rate of natural increase is one of the world's highest—are the driving force behind the quest for productivity in their collective farming ventures. Constant modernization is required just to produce a surplus. The Hutterites' unique brand of socialism is a success—but it is not a model many will be able to follow.

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**SCIENCE & TECHNOLOGY**


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### *Unzipping the Past*

"The Slide Fastener" by Lewis Weiner, in *Scientific American* (June 1983), P.O. Box 5969, New York, N.Y. 10017.

Millions, perhaps billions, of zippers are opened and closed around the world every day, and nobody gives them a second thought. Yet zippers did not become everyday items until 60 years ago.

America's Whitcomb L. Judson (1846–1909) is often credited with patenting the "slide fastener" in 1893. But according to Weiner, a consulting engineer to the zipper industry, Elias Howe, best known for his development of the sewing machine, received the first patent in 1851. Judson was the first to *market* the new devices; he had his troubles.

Early zippers were attached *across* the opening to be closed, like the buckles on a pair of galoshes, and they were actually no more than two parallel rows of "hook and eye" clasps opened and closed by a slide. They tended to pop open under stress, and the hooks had sharp edges that cut fabrics. Wary American consumers refused to buy.

Judson's company (now called Talon, Inc.) came up with a hookless zipper in 1917, which, Weiner says, "took hold, so to speak." More than 24,000 were sold as America entered World War I, mostly for money-belts popular among U.S. Navy sailors. Another 10,000 were used in Navy flying suits the next year. But the big breakthrough came in 1923, when the B. F. Goodrich Company put the first "slide fasteners" on galoshes and registered the name "zipper" as a trademark. By 1934, U.S. zipper output reached 60 million annually. (It peaked at 2.3 billion dur-