surveys of homeschoolers show that a majority of such families (by some estimates, up to 90 percent) are driven by conservative Christian beliefs, and seek to remove their children from mainstream culture. Bartholet notes that some of these parents are “extreme religious ideologues” who question science and promote female subservience and white supremacy.

She views the absence of regulations ensuring that homeschooled children receive a meaningful education equivalent to that required in public schools as a threat to U.S. democracy. “From the beginning of compulsory education in this country, we have thought of the government as having some right to educate children so that they become active, productive participants in the larger society,” she says. This involves in part giving children the knowledge to eventually get jobs and support themselves. “But it’s also important that children grow up exposed to community values, social values, democratic values, ideas about nondiscrimination and tolerance of other people’s viewpoints,” she says, noting that European countries such as Germany ban homeschooling entirely and that countries such as France require home visits and annual tests.

Children should “grow up exposed to…democratic values, ideas about nondiscrimination and tolerance of other people’s viewpoints.”

In the United States, Bartholet says, state legislators have been hesitant to restrict the practice because of the Home Schooling Legal Defense Association, a conservative Christian homeschool advocacy group, which she describes as small, well-organized, and “overwhelmingly powerful politically.” During the last 30 years, activists have worked to dismantle many states’ homeschooling restrictions and have opposed new regulatory efforts. “There’s really no organized political opposition, so they basically get their way,” Bartholet says. A central tenet of this lobby is that parents have absolute rights that prevent the state from intervening to try to safeguard the child’s right to education and protection.

Bartholet maintains that parents should have “very significant rights to raise their children with the beliefs and religious convictions that the parents hold.” But requiring children to attend schools outside the home for six or seven hours a day, she argues, does not unduly limit parents’ influence on a child’s views and ideas. “The issue is, do we think that parents should have 24/7, essentially authoritarian control over their children from ages zero to 18? I think that’s dangerous,” Bartholet says. “I think it’s always dangerous to put powerful people in charge of the powerless, and to give the powerful ones total authority.”

She concedes that in some situations, homeschooling may be justified and effective. “No doubt there are some parents who are motivated and capable of giving an education that’s of a higher quality and broad in scope as what’s happening in the public school,” she says. But Bartholet believes that if parents want permission to opt out of schools, the burden of proving that their case is justified should fall on parents.

“I think an overwhelming majority of legislators and American people, if they looked at the situation,” Bartholet says, “would conclude that something ought to be done.” ~ERIN O’DONNELL

FRONTIERS...

Fractal Physiology

Wearable technologies that track physical activity are ubiquitous. But using them to generate medically useful information, such as predicting an elderly person’s risk of falling, is not straightforward: daily changes in schedules and weather alter activity. Associate professor of medicine Kun Hu, instructor in medicine Peng Li, and their colleagues, writing in Science, overcome this limitation using fractals: patterns that repeat themselves at different scales. They followed 1,275 patients, 56 to 100 years old, for as long as 13 years, and found that such patterns (with similar temporal, structural, and statistical properties) are “stable within individuals, and sensitive to pathological conditions” despite variations in average levels of physical activity. Specifically, they found that increased random fluctuations in activity, at timescales from about a minute to more than two hours, were associated with a higher risk of frailty, disability, and death for study participants, and might help spot people who could benefit from earlier intervention. The team previously showed that fractal fluctuations in activity could help predict a likely risk of Alzheimer’s years in advance.

Powering Coastal China

Electricity derived from land-based wind power instead of fossil fuels is often cheaper. Now, offshore wind farms are becoming cost-effective sources, too. In a recent Science Advances paper, researchers with the Harvard-China Project on Energy, Economy, and Environment note that much of China’s wind-power capacity is 1,000 miles from the coastal provinces that use 80 percent of the nation’s electricity—while meteorological data from 1980 to 2018 indicate that its offshore wind potential exceeds those provinces’ current demand more than fivefold. Senior author Michael McElroy, Butler professor of environmental studies, says much of that power can be developed “at costs competitive with existing coal-fired power plants.”