

discomfort, but it is different" from what a vertebrate experiences, he says. Stein is open to some oversight, but he is wary of having to go through the same sort of review required of vertebrate experiments. "The species we work with is considered food," he says. "From what I can see, they have a better life in our tanks than in the supermarket."

Emily McIvor, policy director for the Dr Hadwen Trust in Hitchin, U.K., which lobbies for alternatives to animal research, says the proposal is a step in the right direction, although she says that she would have preferred to see a

complete ban on the use of primates. The commission's attention to research into alternatives to primate use is "very inadequate," she says.

Scientific organizations, however, have expressed concern that the new levels of regulation will add bureaucratic headaches for researchers without reducing animal suffering. "We are in favor of good regulations," says Festing. "But if you're spending all your time filling out paperwork, that doesn't help the animals." Still, he says, the draft is better than some expected based on early rumors that had emerged from Brussels.

The fight is far from over. The commission's proposal still has to receive approval from the European Parliament and the European Council of Ministers before becoming official E.U. policy. "We have more concerns about the Parliament" adding burdensome amendments, Festing says, noting that a number of European politicians opposed to animal research have refused to meet with scientific organizations. "We have seen little evidence that [members of Parliament] are ensuring that they are informed on the science."

—GRETCHEN VOGEL

EVOLUTION

Vatican Science Conference Offers an Ambiguous Message

Scientists who gathered at the Vatican last week for a closed-door conference* on evolutionary origins are giving the event mixed reviews. Those who hoped for a clear statement of support for evolution from the Catholic Church went home empty-handed. Others, expecting little, were happy with a détente between science and faith. But a few criticize what they heard from the Vatican's controversial point man on evolution, Austrian Cardinal Christoph Schönborn. "He believes there are gaps in evolution and [that] God acts in those gaps," says John Abelson, a molecular biologist at the University of California, Davis, who gave a talk at the meeting. This is a "nearly 19th century" view, Abelson says, amounting to support for the intelligent design movement. Pope Benedict XVI did not clarify his own ambiguous statements on evolution.

The meeting was organized by the Pontifical Academy of Sciences, an international group of scientists who advise the pope. Astrophysicist Stephen Hawking of the University of Cambridge in the U.K., Nobel Prize-winning biochemist Marshall Nirenberg, and others gave lectures on the origins of everything from galaxies in the early universe to cellular life on Earth. It was like many scientific conferences except that the pope showed up to bless the proceedings, and the first talk, titled "The Reflections of Joseph Ratzinger Pope Benedict XVI on Evolution," was given by Schönborn, a theologian.

Schönborn first came to scientists' attention 3 years ago when he penned an editorial in *The New York Times* shortly after the new pope's election that openly supported intelligent design (*Science*, 12 August 2005, p. 996). "Evolution in the sense of common ancestry might be true," the Vienna archbishop wrote, "but evolution in the neo-Darwinian sense—an unguided, unplanned process of random variation and natural selection—is not."



Hands on. Pope Benedict with astrophysicist Stephen Hawking, one of several famous scientists who spoke at the Pontifical Academy of Sciences.

Schönborn's prepared talk at the conference was not the source of controversy. "It was so very abstract," says Gereon Wolters, a philosopher of science at the University of Konstanz, Germany. "It offered the standard view that evolution is okay" but that "evolutionism"—a term used by religious conservatives for the promotion of atheism through evolutionary biology—"is not." Some scientists even saw signs of progress in the talk. "I was relieved to hear the cardinal clearly distancing himself from intelligent design,"

says Francis Collins, former director of the U.S. National Human Genome Research Institute in Bethesda, Maryland, "referring to that 'school' as having made mistakes."

The sparks flew when the cardinal fielded questions. "He still expressed reservations about whether evolution can account for all aspects of biology," says Collins, including whether Darwinian evolution can account for the generation of species. "It was preposterous," says Abelson, who says that the meeting took "a step backwards" in the church's relationship with science. Wolters was disappointed, too: "Schönborn has the same intention as the pope has—to fight evolutionism," he says, but "he is just repeating this creationist gibberish" used by U.S. proponents of intelligent design. Wolters adds: "Fighting science in this way is a losing game."

Other scientists at the meeting disagree. The cardinal's doubts about evolution do not represent a conflict between the church and science, says Werner Arber, a geneticist at the University of Basel, Switzerland, who

co-organized the meeting. "Relations continue to be good." Schönborn gave "a confused lecture," says Peter Raven, director of the Missouri Botanical Garden in St. Louis and a member of the academy, but "the church's position on evolution, insofar as it can be said to have one, is unchanged. ... There is a belief in a creator who existed before the big bang and set the universe in motion, which is something that cannot be proved or disproved by science."

—JOHN BOHANNON

*Scientific Insights into the Evolution of the Universe and of Life, Vatican City, 31 October–4 November 2008.