The practicability of a provision in the new National Institutes of Health Guidelines for Stem Cell Research that requires institutional assurance of stem cell derivation is discussed. Regarding the origin of AIDS, "a thorough study of [simian immunodeficiency virus] variation in wild chimpanzee populations will be the best way to resolve this debate." The abnormal morphology of Albert Einstein's brain, it is suggested, is more likely an explanation for his delayed speech development than his genius. A 1933 study of the average brain size of members from the U.S. House of Representatives and Senate is offered as snack food for thought this election year. And the difficulties of deciphering the health risks of persistent organic pollutants to both humans and wildlife are examined.

The NIH Guidelines on Stem Cell Research

Donald Kennedy is appropriately cautionary in his Editorial "Two cheers for new stem cell rules" (*Science*'s Compass, 1 Sept., p. 1469) in calling attention to both the political shoals that lie in the path of the newly issued National Institutes of Health (NIH) guidelines on human embryonic stem cell research, and the unsatisfactory balance beam on which the guidelines rest in distinguishing ethically between derivation and use of these cells. Patient advocacy groups and the scientific community have welcomed the new guidelines, yet the document contains one requirement that is problematic and could impede the intent to broaden scientific participation in this promising technology.

The troublesome provision requires that applications for federal funding be accompanied by a signed assurance by "the responsible institutional official" that the stem cells were derived in accordance with the NIH guidelines, as well as an abstract of the protocol used to derive the cells. The assurance requirement might be appropriate in those infrequent circumstances in which stem cell preparations will be freshly derived in temporal and spatial proximity to their actual use. But as dissemination of these cells and cell lines becomes widespread, how will "responsible institutional officials" be able to assure the details of their distant derivation? Moreover, because private funds, which will often be corporate, must be used to derive the cells and may be used to establish cell lines, details of preparation may be considered proprietary and not made fully accessible.

Institutional assurances are legally binding commitments that the behaviors of investigators who conduct federally sponsored research within an institution comply with applicable law and regulation. Such assurances are not intended to deal with nor be effective in addressing behaviors that take place beyond the institution's reach. Scrupulous compliance with assurances is always expected, but especially so in an area of research that is certain to remain contentious and intensely scrutinized. Therefore, the new assurance requirement needs to be modified.

Granted that knowledge about the derivation of embryonic stem cells will continue to be necessary for biological and political reasons, would it not be sensible to recognize that investigators and institutions share responsibility for establishing a realistic chain of custody over stem cells that must ultimately rest on accepting the assertions of the originating providers? And that the institutional assurance itself can be no more than an attestation that due diligence has been exercised? A relatively simple way to exercise this shared responsibility would be to require investigators to obtain from embryonic stem cell providers certification that the cells were derived in compliance with the NIH guidelines. The certification ("package insert") would follow the stem cells as they are propagated, shared, and disseminated. The NIH could develop a model form to ensure that content is standardized and all relevant concerns addressed. For their part, the institutions would establish the requirement as policy and assure the government that it was enforced.

Although these changes would not shield institutions from their ultimate accountability in overseeing this research, they would provide clarification and credibility to the mandated institutional assurance, as well as a practicable way to meet it. They would also help to ensure that institutions do not shy away from participation in this research from fear of assuming damaging liability for distant behaviors beyond their control.

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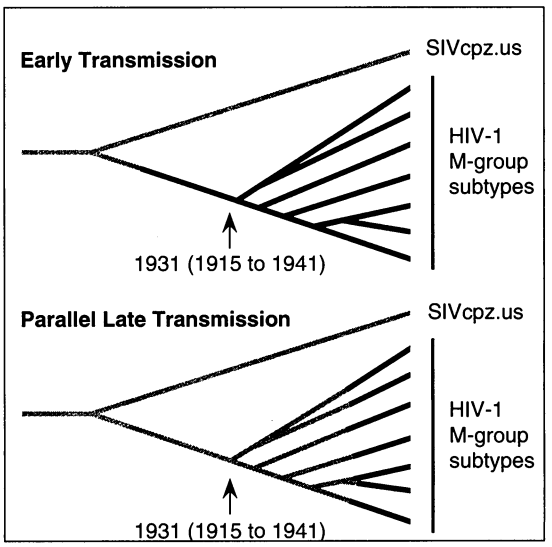
How to Resolve the Debate on the Origin of AIDS

Although I agree with Edward Hooper (Letters, 18 Aug., p. 1140) that the analysis by Korber *et al.* (Research Article, "Timing the ancestor of the HIV-1 pandemic strains," 9 June, p. 1789) is technically consistent with either an early or a late transmission of simian immunodeficiency virus (SIV) from chimps to humans (the principal origin of AIDS), we disagree on which of the two hypotheses is more likely in light of the presented data. In both cases, there are as-yet-uncollected data that could provide support for the respective hypotheses.



More data are needed to resolve which hypothesis on the origin of AIDS, early or late transmission of SIV to humans, is correct. Beige, SIV in chimpanzee populations; red, HIV-1 M-group viruses in humans.

If Hooper is correct that chimp SIVs were transmitted to humans from contaminated oral polio vaccines (OPVs) in the 1950s, then we should expect to see a large diversity of M-group viruses in present-day chimpanzee populations. Sampling to date has not revealed any such viruses, although more detailed sampling obviously should be undertaken. Finding diverse chimp SIVs that are phylogenetically embedded in the M group would support late, parallel transmission of the viruses into humans, consistent with Hooper's OPV hypothesis.

In the case of the early transmission hy-

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