be the living human races. In his introduction, Coon described his intellectual debt to Franz Weidenreich; in the bibliography 12 of Weidenreich's publications were cited, and the index listed 20 references to Weidenreich in the text or notes. Weidenreich is not referred to in the introduction, bibliography, or index of *The Living Races of Man*.

However, the references made by Cavalli-Sforza *et al.* to the work of Weidenreich are no more accurate as corrected. The concept of multiregional evolution (2) follows from, although it is not identical to, that which Weidenreich referred to as his polycentric theory of human origins. However, the Weidenreich paper cited by Cavalli-Sforza *et al.* (as corrected) did not deal with this subject. Of Weidenreich's publications that did treat the matter, the most readily available is his popular book *Apes, Giants, and Man* (3), which includes (figure 30, p. 30) Weidenreich's schematic diagram of hominid evolution that still is misrepresented by most later writers on the subject (4). However, the term "polycentric theory" was used as early as 1938 (6), and the concept of regional continuity in lineages reconstructed from fossil material occurred even earlier (5).

The corrected references also do nothing to dispel the substantively erroneous impression left by Cavalli-Sforza *et al.* that we, like Weidenreich, advocate a hypothesis of "parallel local evolution in many continents. . . ." Coon did, but Weidenreich did not and we do not. The multiregional model, like Weidenreich's polycentric theory that preceded it, is designed to fit a substantial body of empirical evidence documenting continuity as well as differentiation among human populations distributed across wide reaches of time and space. Our working hypothesis is that these complex morphological patterns reflect underlying genetic phenomena that also were complex, involving amounts and patterns not only of gene flow (or migration in the terminology of Cavalli-Sforza *et al.*) but also of mutation, drift, and selection operating over hundreds of thousands of years. We are aware of prodigious amounts of data that are consistent with the multiregional hypothesis and none that require its rejection.

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"Collaboratory" Principles

William A. Wulf's Perspective on computer-based interpersonal communication systems (Computing in Science, 13 Aug., p. 854) omits important history preceding the "collaboratory" concept. In 1980, the National Aeronautics and Space Administration (NASA) demonstrated the ability of investigators to remotely operate a major scientific satellite (the International Ultraviolet Explorer) and to communicate with each other by electronic means. In 1985, NASA's Task Force on Scientific Uses of Space Station strongly supported the concept of "telescience" to enable ground-based investigators to collaborate with each other by electronic means in the use of space-station instruments and communications to space-based astronauts. NASA later studied telescience concepts with a group of universities, creating a network of individuals who developed software and modalities for collaboration groups. The Massachusett Institute of Technology's "Investigator in a Box" was a product of this NASA telescience activity, as was the original concept of operating the National Science Foundation's Sondrestrom radar remotely with collaboration technologies. Thus, from a historical perspective, the principles of the "collaboratory" have been appreciated in practical form for more than a decade. Labels aside, such types of electronic group interactions are growing rapidly and offer a more profitable means of interaction for scientific research than is afforded by such electronic means as bulletin boards and electronic mail.

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