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The internationalization of physical cosmology

IT IS IRONIC THAT COSMOLOGY, which by its very nature should be elevated above national differences, for a very long time has exhibited national characteristics. In a talk delivered at the meeting of the International Astronomical Union in 1931, A. Eddington praised cosmology as a subject which “disperses the galaxies, but unites the Earth.” Yet this was wishful thinking, for ever since Einstein founded modern cosmology in 1917, the field was small, scattered and limited to a few nations. Observational cosmology was American-based, while cosmological model-building was dominated by British scientists. Still in the 1950s, cosmology was marked by national differences and to some extent coloured by different “national styles.” Big bang theory, as developed by G. Gamow and others, was exclusively an American theory, and the rival steady state theory (of F. Hoyle and others) was cultivated only in England. In the Soviet Union, research in cosmology was largely absent, more for political than scientific reasons. Only in the 1960s, with the emergence of the “hot big bang standard model,” did the differences reduce and cosmology became truly international. From that time onwards it was no longer possible to tell an author's nationality from the cosmological theory he or she advocated. During the last twenty years or so, cosmology has become “big science” (in more than one sense) with observations done by multinational collaborations, much in the CERN style. Although the United States is the leader of contemporary cosmology, the field is thoroughly international with important contributions made by European scientists and organizations (such as ESO, the European Southern Observatory).

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