



Published by:
American Geological Institute
2201 M St. NW
Washington, D.C. 20037

Minorities in the geosciences

Are there barriers to the entry of racial minority members into the geosciences? Some members of our profession have become acutely aware of a significant lack of minority participation.

The 1970 census shows that 11 per cent of the population of the United States is black, 5 per cent Spanish-surnamed, 0.4 per cent American Indian, 1 per cent other racial minorities. ('Spanish-surnamed' refers to U.S. citizens of Mexican or Puerto Rican origin, most of them poor and characterized mainly by the use of Spanish as the first language.)

At present there is only a handful of black American and Spanish-surnamed geoscientists (4 black PhDs) and even fewer American Indians. If these minority groups were represented in our profession in proportion to their numbers in the population, there would be approximately 5,000 minority group geoscientists in a total of about 30,000, based upon the American Geological Institute's manpower study of 1970. Of these, 3,300 would be black, 1,500 Spanish-surnamed, and 120 American Indians.

The almost total lack of geoscientists belonging to these minority groups could have serious consequences for our profession. The geoscience profession substantially depends, directly or indirectly, on public funds. More than 11 per cent of geoscientists are directly employed by the federal government or by state agencies; about 18 per cent are engaged in teaching, a large fraction in publicly supported schools; and the 70 per cent remaining depends heavily on regional and local mapping, stratigraphic syntheses and compilations by such agencies as the U.S. Geological Survey and the state surveys. Therefore it is imperative, for the health of our science and profession, that the flow of public funds into the pursuit of geological knowledge be maintained.

As racial minorities become politically more sophisticated and barriers to their participation in political life are removed, the proportion of legisla-

tors from minority groups will continue to grow. On many issues, minority groups may hold the balance of power. A minority-group representative in Congress or a state legislature, looking at the minuscule representation of his constituency in our profession, may come to this conclusion: 'Either your profession has been deliberately discriminating against my constituency, or else my constituents fail to see that what you are doing is relevant enough to their needs to justify making your profession their career.' In either case, he is likely to question the disbursement of public funds for the acquisition of geologic knowledge. Also the future role of the United States in the world scientific community dictates the necessity of greater minority representation, especially in view of the increased economic importance of Africa, Latin America, and Southeast Asia.

Combined moral and practical considerations clearly indicate an urgent need for the profession to pursue the systematic recruitment of minority-group members. Even if many of the potential candidates we approach (and assist in their careers by the mechanism outlined below, ultimately choose some other calling) we will have succeeded in establishing within the minority groups a body of people conversant with the importance of what we are doing.

Professional response. The American Geological Institute has been concerned about the number of minority-group people in the geosciences since 1967, when its Earth Science Curriculum Project recognized the need to reach the disadvantaged youth in the inner-city area. Based on this concern the Institute has sponsored Environmental Studies for Urban Youth, a project funded by the National Science Foundation.

In the fall of 1970, a group of geoscientists in the San Francisco Bay Area circulated petitions calling upon the Geological Society of America and the Society of Exploration Geophysicists to initiate vigorous programs to

increase minority participation in the geosciences. These petitions, supported by colleagues across the country, were endorsed by those societies' Councils in November 1970, and committees were assigned to investigate the problems and formulate a program to cope with it. Supporting positions have since been adopted by the Seismological Society of America, National Association of Geology Teachers, Geochemical Society, and Association of Engineering Geologists.

In September 1971, the acting director of the U.S. Geological Survey wrote to Survey employees calling on each of them to join in an energetic program to improve the Survey's record in professional employment for minorities. This program is now being vigorously prosecuted in all Survey offices.

In the spring of 1971, the AGI Education Committee discussed ways of increasing the number of minority geoscientists. Its members believe that students in predominantly minority-group colleges are simply never exposed to the earth sciences. The committee proposed a program in which interested professors from related fields might undertake studies in earth science and introduce at least one course in the field upon return to their home campus. Institutions that have expressed interest in contributing to this program include the state universities of Oklahoma, Texas, Massachusetts and Minnesota, St Lawrence University, and Amherst College and Virginia State College. The Committee also recommended that AGI hire a coordinator for minority participation in the earth sciences to develop this and other programs and to seek funding to implement them.

The program. The Geological Society of America and the American Geological Institute have agreed to establish a Minority Program Advisory Committee, under the aegis of AGI, to promote and coordinate a profession-wide effort to encourage increased participation in the geosciences by members of minority groups. This

Committee will be composed at first of one representative from each AGI member society that provides support to this effort. An Office of Minority Participation in the Geological Sciences, headed by a coordinator, will be established at AGI. This office will be responsible, under the guidance of the Advisory Committee, for development and administration of program, fund solicitation for program support, and coordination with similar programs of other organizations. The office will prepare proposals for support of specific programs and will accept and disburse funds received from AGI member societies, and federal, state, and private sources. Depending upon the amount of financial support, it might do such things as these:

- a. Assist in career guidance for minority community and college groups.
- b. Identify job opportunities in earth science for minority youth.
- c. Consult with schools that have a large minority population and are planning earth-science programs.
- d. Enlarge the expertise in earth sciences of faculty members in predominantly black colleges.
- e. Provide scholarships for needy stu-

An annual dinner held by our profession. The photo depicts, incidentally, the extent of minority participation in the geosciences. (Capitol & Glogau)

dents in predominantly black colleges and colleges with large enrollments of Spanish-surnamed or American Indian youths (or both).

f. Provide financial aid to colleges with large minority populations so that minority students at these schools can study earth science at a 'paired' white college.

g. Offer undergraduate and graduate scholarships for minority members in predominately white universities.

h. Support the pre-college participation of minority youth at summer geology field camps.

i. Seek endowment for chairs of geology and geophysics at minority colleges.

j. Provide career counseling in the geosciences for minority veterans.

It would not be realistic, or even desirable, to attempt to achieve parity of racial makeup in our profession by a crash recruitment program. A more realistic approach is to consider how many minority persons would have to enter the profession each year to maintain a parity pool of minority-group geoscientists if that pool already existed. For example, assuming an average professional career-span of 30 years and a pool of 3,300 black geoscientists, at least 110 blacks would have to enter the profession every year.

That means parity of the profession with the total population will not be achieved until 30 or 40 years after that rate of flow is achieved, or sometime well into the 21st century.

Increased minority participation is a challenge that can only be met by the combined effort of the geoscience profession, the mining and petroleum industries, federal and state agencies, and colleges and universities. When fully operational, the proposed programs, even at a moderate level, will require well over \$1 million a year. Clearly, all that money cannot be raised from individual contributions—a major part of the required financial support will have to come from government, industry, and foundations—but to start the program, member societies of AGI will ask their members for funds. The level of response to these solicitations will clearly indicate our profession's commitment to meet this challenge.

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