DOCUMENT RESUME

ED 109 008 SO 008 431

AUTHOR Hart, John Fraser
TITLE Geographic Manpower: A Report on Manpower in American Geography, Publication No. 3.
INSTITUTION Association of American Geographers, Washington, D.C. Commission on College Geography.
SPONS AGENCY National Science Foundation, Washington, D.C.
PUB DATE 66
NOTE 33p.

EDRS PRICE MF-$0.76 HC-$1.95 PLUS POSTAGE
DESCRIPTORS Doctoral Programs; *Educational Demand; *Educational Supply; *Educational Trends; Employment Opportunities; Enrollment Influences; *Geography; *Geography Instruction; Graduate Study; Higher Education; National Surveys; Productivity; Trend Analysis; Undergraduate Study

ABSTRACT

A shortage of qualified personnel in the field of geography in 1966 led to this national survey which assessed the current number of geographers in American colleges and universities. The principle source of information came from a set of questionnaires sent to the chairmen of 267 geography departments across the country. The results indicated abundant new opportunities for geographers in college teaching, curriculum reform, secondary education, and environmental research. Although production of doctoral, master's, and baccalaureate degrees in geography would double between 1963 and 1975, the number of people who would receive doctoral degrees between 1963 and 1972 would fail to satisfy the estimated demand. Four university departments granted nearly one-third of all doctorates earned in geography between 1960 and 1965, and more than two-thirds were granted by the 12 largest departments. Economic geography was the most popular professional specialty indicated by resident graduate students. Finances and family obligations were the principle factors which induced students to leave graduate school before completing their dissertations. (Author/DE)

GEOGRAPHIC MANPOWER

A Report on Manpower in American Geography

J. W. Nystrom

ASSOCIATION OF AMERICAN GEOGRAPHERS
Commission on College Geography Publications

No. 1--Geography in Undergraduate Liberal Education, 1965

No. 2—A Basic Geographical Library—A Selected and Annotated Book List for American Colleges, 1966

No. 3-- Geographic Manpower—A Report on Manpower in American Geography, 1966

GEOGRAPHIC MANPOWER

A Report on Manpower in American Geography

Prepared by

JOHN FRASER HART
Indiana University
Bloomington, Indiana 47401

PUBLICATION-No. 3

Library of Congress Catalog Card Number 66-30774

Supported by a grant from the National Science Foundation

FOREWORD

Much of the data on which this report is based are the result of a survey conducted during the spring of 1966, when I was in the Central Office of the Association of American Geographers. In addition to the specific statements of gratitude which appear in various footnotes, I must express my appreciation to the Association, which facilitated the conduct of the survey; to the chairmen, departmental secretaries, and graduate students who so patiently and carefully completed and returned the questionnaires they received; to Elizabeth Beetschen, who provided such valuable assistance in processing the returned questionnaires; to Allen Schmieder and Alfreda Liebermann, of the U.S. Office of Education, for their aid and assistance; and to the members of the Commission on College Geography, who have reviewed the document and are making the results of this survey available to a wide audience.

John Fraser Hart

Bloomington, Indiana
20 November 1966

GEOGRAPHIC MANPOWER POTENTIALS, 1966

Highlights

Each of the following highlights is developed in greater detail in the text which follows:

1. Abundant new opportunities for geographers have recently opened, or are opening, in college teaching, in curricular reform, in geographic education, and in remote sensing.

2. Production of people with doctoral, master's, and baccalaureate degrees in geography will double between 1963-64 and 1974-75 if existing relationships continue.

3. The number of people who will receive doctoral degrees in geography between 1963-64 and 1972-73 will fail to satisfy the estimated demand for people with the doctorate, and presumably this will also be true at other degree levels as well.

4. Four departments granted nearly a third of all doctorates earned in geography between 1960 and 1965, and more than two thirds were granted by the twelve largest departments.

5. Graduate and undergraduate programs in geography do not appear to be mutually exclusive, because the 32 departments which granted the doctorate also granted a quarter of all baccalaureate degrees in geography, and the 88 departments which granted the master's also granted three fifths of all baccalaureates.

6. More than half of the baccalaureate degrees in geography earned between 1960 and 1965 were granted in only seven states.

7. More than half of all advanced degrees in geography earned between 1960 and 1965 were granted within 500 miles of the Chicago Loop.

8. Approximately a third of the people who received baccalaureate degrees in geography in 1966 will become school teachers, a quarter will enter graduate school, ten percent each will take jobs in private industry and in Federal agencies, seven percent will work for state or local government agencies, and eleven percent were still undecided in late spring.

9. The first career choice of all resident graduate students in the spring of 1966 was college teaching (76 percent), followed by the Federal government (8 percent), private industry (8 percent), school teaching (6 percent), and state and local government (4 percent).

10. Economic geography was the most popular professional specialty indicated by resident graduate students, followed by human/cultural geography, urban geography, and geomorphology/landforms geography.

11. Less than a quarter of the resident graduate students selected a regional specialty as first choice, and half listed no regional specialty among their first three choices.

12. It is estimated that geography departments in the United States added approximately 170 new staff members and replaced 120 retired or departed staff members for the fall of 1966.

13. It is estimated that geography departments in the United States had approximately 145 vacancies which they had been unable to fill as of late April 1966, but nonetheless expected to appoint around 390 new staff members in 1967 or 1968.

14. Comparison of departmental job specifications and the professional specialties of graduate students expecting to enter the job market in 1967 or

1968 indicates that the greatest shortages will be in people trained in quantitative techniques, cartography, South and East Asia, climatology/meteorology, and Africa, with lesser shortages of people trained in the USSR, biogeography and soils, educational geography, and remote sensing.

15. Although the doctorate is desirable for initial appointment to most college faculties, and is virtually essential to promotions, salary increases, and tenure, it is estimated that more than 250 American geographers have not received their doctorates although they have satisfied all requirements except completion of the dissertation.

16. Finances and family obligations are the principal factors which induce students to leave graduate school before completing their dissertations.

17. Lack of time, and especially the lack of time caused by the heavy requirements of teaching duties, is the principal obstacle to rapid completion of the dissertation after taking a job.

18. Two thirds of the people without the doctorate felt that they have been penalized in one way or another for not having it, and over half of the rest feel that they soon will be penalized unless they quickly obtain it.

Introduction

Everybody seems to be aware that there is a serious manpower problem in American geography, but nobody seems to have done very much about it except to talk about the fact that it exists. This may be due, in considerable measure, to the dramatic suddenness with which geography in this country has moved from rags to riches. Less than a decade ago, in fact, the manpower problem in geography was oversupply, rather than undersupply, and people were chasing jobs, rather than jobs chasing people, as at present. The change has been so rapid that many American geographers have not yet learned to live with prosperity. Many members of the profession still have a tendency to snatch any opportunity which presents itself, without stopping to ask how (or even whether) it fits into any carefully considered long range program.

The Situation

A shortage of trained professional manpower plagues all levels of American geography. The startling increase in college enrollments in recent years has created new positions for beginning geographers more rapidly than young people have been trained to fill them. College enrollments more than doubled between the Fall of 1955 and the fall of 1965, and the number of new college instructors needed each year bears a fairly constant relationship to total enrollments. Approximately 150 positions for college geography instructors which had been funded for the fall of 1966 could not be filled because of the lack of available manpower. And certain Federal agencies have felt the pinch even more severely, because college teaching, which is the preferred career for the vast majority of contemporary graduate students in geography, absorbed so many of the new geographers who were coming into the job market.

Even more critical, perhaps, than the demand for new geographers has been the rapidly increasing pressure which has been placed upon the time and talents of active professionals. In recent years geographers have witnessed the development of many exciting new opportunities, any one of which would have seemed a real bonanza only a few years ago. The profession has been caught up in the current national wave of curricular reform, as is demonstrated by the activities of our High School Geography Project and our Commission on College Geography. These two activities alone occupy the full

time of more than half a dozen professional geographers, and they have received varying amounts of time and energy from as many as two hundred others, perhaps even more.

Furthermore, curricular reform is rather like a pebble dropped into a quiet pool, with ripples spreading in all directions from each new development. The work of the High School Geography Project has already demonstrated the interdependence of geography in the elementary and secondary schools, and has emphasized the desirability of having professional geographers take a new look at elementary school curricula in geography. Although it is probable that funds would be readily available for a skillfully devised project of curricular reform in geography for the elementary grades, thus far no group of professional geographers has been able to make time to prepare a proposal for such a project.

New programs being developed by the U.S. Office of Education offer a second area of vast new opportunities for geography, but these programs have also placed a severe strain on the time and energies of the geographers who have participated in them. For example, during the summers of 1965 and 1966 the NDEA Title XI summer institute program occupied the full time of between 150 and 200 professional geographers each summer, not to mention the amounts of time spent in drafting proposals and making plans, nor the lesser amounts of time which have been contributed by visiting lecturers and evaluators. Professional geographers have also been involved in the development and implementation of new Office of Education fellowship programs for the professional training and in-service upgrading of geography teachers.

A third major area where opportunities are rapidly developing for geographers is the field of remote sensing of the environment and space-related research. The National Aeronautics and Space Administration (NASA) has funded a Geographical Applications Program for space-related research in geography. The success and effectiveness of this program will depend, in large measure, upon the ability of active professional geographers to find the time to train themselves in the potential uses of new instruments and equipment, so that they may make efficient use of multi-band, multi-sensor imagery from spacecraft and aircraft.

Finally, there are a number of "job development areas," such as certain aspects of planning and market research, where new job opportunities could be opened up to use the skills and talents of professional geographers. At the present time, however, it would appear foolish to try to develop new jobs for geographers when there are already too few to fill existing positions. In fact, without questioning in any way the importance and validity of the new activities in which geographers have been engaged in recent years, one is forced to wonder how much these attractive new opportunities have diverted the time and energies of geographers from scholarly pursuits, which certainly ought to be the primary activity of a significant segment of the profession.

The Procedure

All of these considerations have pointed to the desirability of taking an inventory of geographic talent, present and prospective, in the United States.[1]

[1]Although many people contributed significantly to this inventory, especial appreciation must be expressed to Meredith F. Burrill, former President of the Association of American Geographers, who had the wisdom and foresight to urge that it be made, and to Charles C. Morrison, Jr., former chairman of the Association's Placement Committee, who made many useful suggestions as to how it might best be conducted.

It is imperative, at the very outset, to emphasize the fact that such an inventory can only be quantitative, that it cannot be qualitative. It is possible, for example, to determine the number of geographers who have attained certain academic degree levels, or the number who profess interest or competence in some given aspect of the field, but the attainment of such a degree, or such an expression of interest, no more confers competence than the lack of a degree, or an expression of lack of interest, demonstrates that competence is lacking. A head count of geographers can be useful, but any qualitative evaluations will still have to be made by individual members of the profession.

The principal source of information on past production of geographers is a series of volumes on Earned Degrees Conferred, which have been published each year since 1948-49, for the period from 1 July until 30 June the next year, by the U.S. Office of Education.[2] Each volume contains data on the number of earned degrees conferred by each institution of higher education, and by fields within each institution. Fortunately for our purposes, geography is classified as a separate field in these volumes, so we have information on the number of doctor's, master's, and baccalaureate degrees in geography granted by every institution of higher education in the United States for each year since 1948-49.

The principal source of information on current production of geographers, and their aspirations, was the returns from a set of questionnaires which were mailed in April 1966 from the Central Office of the Association of American Geographers to the chairmen of 267 geography departments which were believed to satisfy at least one of three qualifications: (1) an undergraduate major program in geography; (2) a staff of three geographers; or (3) a total undergraduate course enrollment of 500 or more students. Four questionnaire forms were used. The first, which was sent to all departments, requested information on the career intentions of students who received their baccalaureate degrees in geography in 1966. A second, which also went to all departments, requested information on staff additions in 1966, staff vacancies as of April 1966, and plans for staff additions in 1967 and 1968.

The third questionnaire was sent only to those departments which were believed to have a graduate program in geography. The chairman was asked to have each graduate student in residence complete this form, which inquired about his preference for type of employment upon completion of his degree, and his principal areas of competence in teaching and research. The fourth form went only to those departments which offer the doctorate, and requested the names and addresses of doctoral candidates no longer in residence who had completed all degree requirements except the dissertation, the so-called A.B.D. (All But Dissertation) group.

The responses to this last questionnaire were not received until rather late in the spring, so the circulation of a questionnaire to all ABDs was postponed until the early fall. The responses to each of these questionnaires are tabulated and discussed in detail below.

The future production of degrees in geography may be estimated by using techniques devised by Abbott L. Ferriss of the Division of Scientific Personnel and Education of the National Science Foundation.[3] The number of future

[2]U. S. Department of Health, Education, and Welfare, Office of Education, Earned Degrees Conferred, each year since 1948-49, Washington: Government Printing Office. Mrs. Hazel C. Poole of the National Center for Educational Statistics in the Office of Education was kind enough to make available unpublished data for 1964-65.

[3]Abbott L. Ferriss, "Sociological Manpower," American Sociological Review, Vol. 29, No. 1, February 1964, pp. 103-114.

baccalaureate degrees is projected on the assumption that they will continue to be awarded at a rate of 0.03688 percent of the national total opening fall enrollment four years earlier.[4] Master's degrees are projected on the assumption that they will continue to be produced at the rate of 3.018 percent of all master's degrees in the social sciences, and doctorates are projected on the assumption that they will continue to be produced at the rate of 3.835 percent of all doctoral degrees in the social sciences.[5] In each instance a ratio has been used which gives a lower estimate than would have been obtained by the use of other ratios or other techniques, these projections, therefore, may be considered conservative.

At this point it is appropriate to express a word of appreciation and a word of apology. This report could not have been prepared without the warm cooperation of almost two hundred department chairmen and departmental secretaries, and more than a thousand graduate students; their efforts are sincerely appreciated. An apology, in advance, is tendered to those whose institutions are listed herein with an incorrect title. Although every effort has been made to keep this report up to date, the names of institutions of higher education have been changing at such a staggering rate during the last five years that quite possibly some institutions may be listed here under the old name.

Production of and Needs for Geographers

The number of baccalaureate degrees granted in geography fluctuated between 600 and 700 per year during the early 1950's (Table 1). The take-off point came in 1957-58, and by 1964-65 the production of first degrees in geography had almost doubled. The production of baccalaureate degrees in geography probably will double once again within the next decade.

The production of master's degrees in geography is also increasing at a spectacular rate. After hovering just under 200 for almost a decade, the total broke through in 1959-60, slipped back in 1960-61, and then increased more than eighty percent within half a decade. By 1973-74 the production of master's degrees in geography will also probably be at double the rate of 1963-64, and triple the rate of 1959-60.

The annual production of doctorates in geography remained just under 50 during the 1950's, and appears to have inched slowly upward since then, although no clear trend is apparent.[6] It appears likely, however, that the production of doctorates will increase rather steadily over the next decade, and that the 1964-65 rate of production will have been doubled by 1973-74.

---

[4] Actual and projected data on national total opening fall enrollments each year are published in U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, Projections of Educational Statistics to 1974-75, 1965 Edition, Circular 790, OE-10030-65, Washington: Government Printing Office, 1965.

[5] Actual and projected data on earned degrees, by fields, are also published in Projections of Educational Statistics to 1974-75; cf. footnote 4, above.

[6] The data published by the Office of Education on number of doctorates conferred in geography do not differ significantly from an independent series which has been collected by the National Academy of Sciences-National Research Council since 1936. The NAS-NRC data indicate that 10 to 15 doctorates a year were granted in the years just before the Second World War, production dropped during the war, and then rose to the level of the 1950's by 1951.

Table I

Geography Degrees Awarded, 1948-49 to 1964-65, and Projected to 1974-75

Year	Baccalaureate	Master's	Doctor's
1948-49	511	138	28
1949-50	757	203	40
1950-51	704	226	48
1951-52	669	194	37
1952-53	647	185	39
1953-54	708	177	51
1954-55	626	141	48
1955-56	651	161	46
1956-57	699	182	47
1957-58	849	184	56
1958-59	903	181	51
1959-60	973	206	68
1960-61	939	193	50
1961-62	1,067	242	58
1962-63	1,122	274	61
1963-64	1,296	306	67
1964-65	1,557	355	70
Projected:			
1965-66	1,544	373	75
1966-67	1,670	395	79
1967-68	1,798	398	85
1968-69	1,980	427	94
1969-70	2,228	507	97
1970-71	2,370	599	96
1971-72	2,564	594	102
1972-73	2,728	599	120
1973-74	2,786	612	140
1974-75	2,890	634	136

Estimates of the number of doctorates in geography which will be needed in the next decade are based upon the assumption that the three following relationships, which currently exist, will continue to prevail: (1) the need for new full-time college teachers of geography will remain approximately 0.0022 percent of the total national opening fall enrollment;[7] (2) approximately 23 percent of new full-time geography teachers will have their doctorates; and (3) approximately 35 percent of those who receive the doctorate will start teaching for the first time (Table II). To illustrate with a specific example, it is estimated that 6,410,000 students will be enrolled in institutions of higher education in the fall of 1967. The number of new full-time geography teachers

[7]Biennial estimates of the number of new college teachers needed in each field are published by the National Education Association, the most recent report is "Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1963-64 and 1964-65," Higher Education Series, Research Report 1965-R4, Washington: National Education Association, 1965.

Table II

New Full-Time Geography Teachers Required, and Production of Doctorates, 1953-54 to 1964-65, and Estimates to 1974-75

Year	New Full-Time Geography Teachers Needed	Doctorates Needed as New Teachers	Doctorate Production Required	Production of Doctorates	Surplus or Deficit
1953-54	36	15	47	39	-8
1954-55	31	7	22	51	+29
1955-56	48	12	38	48	+10
1956-57	58	16	50	46	-4
1957-58	56	13	41	47	+6
1958-59	54	16	40	56	+16
1959-60	73	24	60	51	-9
1960-61	82	14	35	68	+33
1961-62	67	17	43	50	+7
1962-63	111	17	54	58	+4
1963-64	96	23	71	61	-10
1964-65	112	26	74	67	-7
Projected:					
1965-66	122	28	78	70	-8
1966-67	130	30	84	75	-9
1967-68	141	32	90	79	-11
1968-69	150	35	98	85	-13
1969-70	153	35	98	94	-4
1970-71	159	37	104	97	-7
1971-72	167	38	107	96	-11
1972-73	175	40	112	102	-10
1973-74	184	42	118	120	+2
1974-75	191	44	123	140	+17

required will be 141, or 0.0022 percent of 6,410,000. Thirty-two (23 percent) of these 141 new teachers will have their doctorates. Ninety new doctorates will be needed to provide 32 new teachers with doctorates, because 48 percent of the new doctorates in geography have already entered teaching careers, 17 percent enter occupations other than teaching, and only 35 percent enter college teaching for the first time.

Projected data derived by the use of this method indicate that the real "manpower crisis" in American geography is just beginning. It appears that American graduate schools were producing rather more doctorates in geography than were needed to fill new openings for college teachers during the early 1950's, and to a certain extent this was true, as anyone can testify who was looking for a job at that time. The estimates of new teachers needed, however, appear to be extremely low. Data collected from 216 of 267 geography departments in the late spring of 1966 indicated that these departments had appointed 138 new instructors and 97 replacement instructors for the fall of 1966. If these departments were statistically representative, it appears that 171 new geography instructors were appointed in 1966, and this is 41 more than the estimated 130. In other words, the shortage of trained geographers probably will be considerably greater than has been estimated here.

Degrees Awarded, by Institution

Between 1 July 1960 and 30 June 1965 at least 233 colleges and universities in the United States awarded at least one degree in geography.[8] Doctorates were granted in 32 departments during this period, but 216 (71 percent) of the 306 doctorates were granted by the twelve largest departments, and 95, almost a third of the total number, were granted by only four departments. Wisconsin, Clark, Northwestern, and Washington (Table III).

The largest doctoral departments were also important producers of master's degrees (Table IV). Only one of the ten largest departments in production of master's degrees, St. Louis University, does not have a doctoral program. Conversely, the twelve largest doctoral departments, which produced more than 70 percent of all doctorates, also produced almost one third of all master's degrees granted; the 32 departments which granted doctorates also granted almost 60 percent of all master's degrees. The largest departments in production of master's degrees, in addition to [illegible] versity, are Eastern Michigan, Oklahoma, Colorado, Marshall [illegible]n Illinois.

The largest doctoral departments also ranked high in production of first degrees in geography (Table V), although the single largest undergraduate department in the country is at Indiana, Pa. The largest undergraduate department which is not associated with a graduate program is at Dartmouth. Contrary to widespread opinion, however, a large doctoral program and a large undergraduate program do not appear to be mutually exclusive. The twelve largest doctoral departments produced one seventh of all first degrees in geography, and four of the five largest undergraduate departments, Minnesota, Wisconsin, UCLA, and Washington, have large across-the-board programs in geography. The 32 departments which granted the doctorate also granted 25 percent of all first degrees; the 88 departments which granted at least one master's degree also granted 60 percent of all first degrees.

On the other hand, one should not ignore the fact that a few departments appear to concentrate on their graduate programs, for they awarded more second and third than first degrees in geography. Such departments, perforce, must depend upon geography departments in other institutions for their intake of graduate students, but are unable to reciprocate by sending their own first degree graduates to other departments.

The geography of the production of geographers has two striking features (Figs. 1-3). First, more than half of the baccalaureate degrees in geography conferred between 1960 and 1965 were granted in only seven states: Pennsylvania, California, Michigan, Wisconsin, Illinois, New York, and Washington. In most, if not all, of these states it appears that a curricular requirement for geography in the secondary schools has created a sizeable market for teachers with a first degree in geography.

Secondly, the production of geographers, and particularly geographers with advanced degrees, is concentrated to a remarkable degree in the American manufacturing belt, and especially in its western portion. More than half of all advanced degrees, both master's and doctorates, earned in geography between 1960 and 1965 were conferred within a 500 mile radius of the Chicago

[8] A five year time period is long enough to smooth out year-to-year fluctuations, yet short enough to encompass the rapid growth which many geography departments have made in recent years. Some of the data published by the Office of Education were rejected for the purposes of this report, because some institutions which offer only degrees in education, with varying amounts of course work in geography, report these as degrees in geography.

Table III

Earned Geography Degrees Conferred by all Doctorate-Granting Institutions between 1 July 1960 and 30 June 1965

Institution	Doctorate	Master s	Baccalaureate
University of Wisconsin Madison	25	76	147
Clark University	24	42	49
Northwestern University	24	30	74
University of Washington	22	33	121
U. C. L. A.	19	51	131
University of Chicago	19	42	8
University of Michigan	17	47	59
Columbia University	16	45	20
University of Illinois	15	29	45
Syracuse University	14	17	64
University of Iowa	11	10	35
University of Minnesota	10	27	180
University of Florida	8	10	16
Michigan State University	7	38	43
Ohio State University	7	23	42
University of California Berkeley	7	20	61
University of Nebraska	7	15	13
Indiana University	6	41	26
University of Maryland	6	14	37
Louisiana State University	5	39	40
Pennsylvania State University	5	25	52
Boston University	5	18	40
University of North Carolina	5	5	17
University of Kansas	4	8	18
John. Hopkins University	4	5	3
University of Pittsburgh	3	12	45
University of Tennessee	3	8	13
Stanford University	2	9	30
University of Texas	2	6	28
University of Georgia	1	29	74
University of Oregon	1	15	39
Yale University	1	-	8
Total, Doctorol Institutions	306	789	1,511
Total, All Institutions	306	1,370	5,983

Table IV

Earned Geography Master's Degrees Canferred, by Institution,
Between 1 July 1960 and 30 June 1965

Number of Degrees	Institution
76	U. of Wisconsin Madison
51	U. of California Los Angeles
47	U. of Michigan
45	Calumbia U.
42	U. of Chicago, Clark U.
41	Indiana U., St. Louis U.
39	Louisiana St. U.
38	Michigan St. U.
33	Eastern Michigan U., U. of Washington
31	U. of Oklahoma
30	Northwestern U.
29	U. of Colarado, U. of Georgia, U. of Illinois
28	Marshall U.
27	U. of Minnesota
25	Pennsylvania St. U., Southern Illinois U.
23	Ohio St. U.
22	Rutgers
21	Kent St. U.
20	U. of California Berkeley
19	U. of Missouri
18	Boston U., U. of Hawaii, Wayne St. U.
17	Memphis St. U., Syracuse U.
16	George Washington U.
15	Florida St. U., U. of Nebraska, U. of Oregon
14	Arizona St. U., U. of Cincinnati, Illinois St. U., U. of Maryland, Miomi (Ohio) U., U. of North Dakota
13	Indiana (Pa.) St. U.
12	Northern Illinois U., U. of Pittsburgh, West Texas St. C.
11	Ball St. U.
10	U. of Florida, U. of Iowa, West Chester St. C.
9	Catholic U., Son Diego St. C., Stanford U.
8	U. of Kansas, Southern Methodist U., U. of Tennessee
7	Kansas St. U., Mankato St. C., U. of Utah
6	Montana St. U., George Peabody C., U. of Texas
5	Brigham Young U., Johns Hopkins U., U. of North Carolina
4	U. of Arkonsas, U. of Pennsylvania, San Fernando Volley St. C., Western Michigan U.
3	DePaul U., U. of Kentucky, Northern Michigan U., SUNY Buffalo
2	U. of Arizona, U. of California Riverside, D.C. Teachers C., Los Angeles St. C., Indiana St. U., Oklahoma St. U., Stephen F. Austin St. C.
1	Fresno St. C., U. of Denver, Eastern Washington St. C., Mississippi St. U., Northwest Louisiana St. C., St. Cloud St. C., San Francisco St. C., Western Reserve U.

Table V

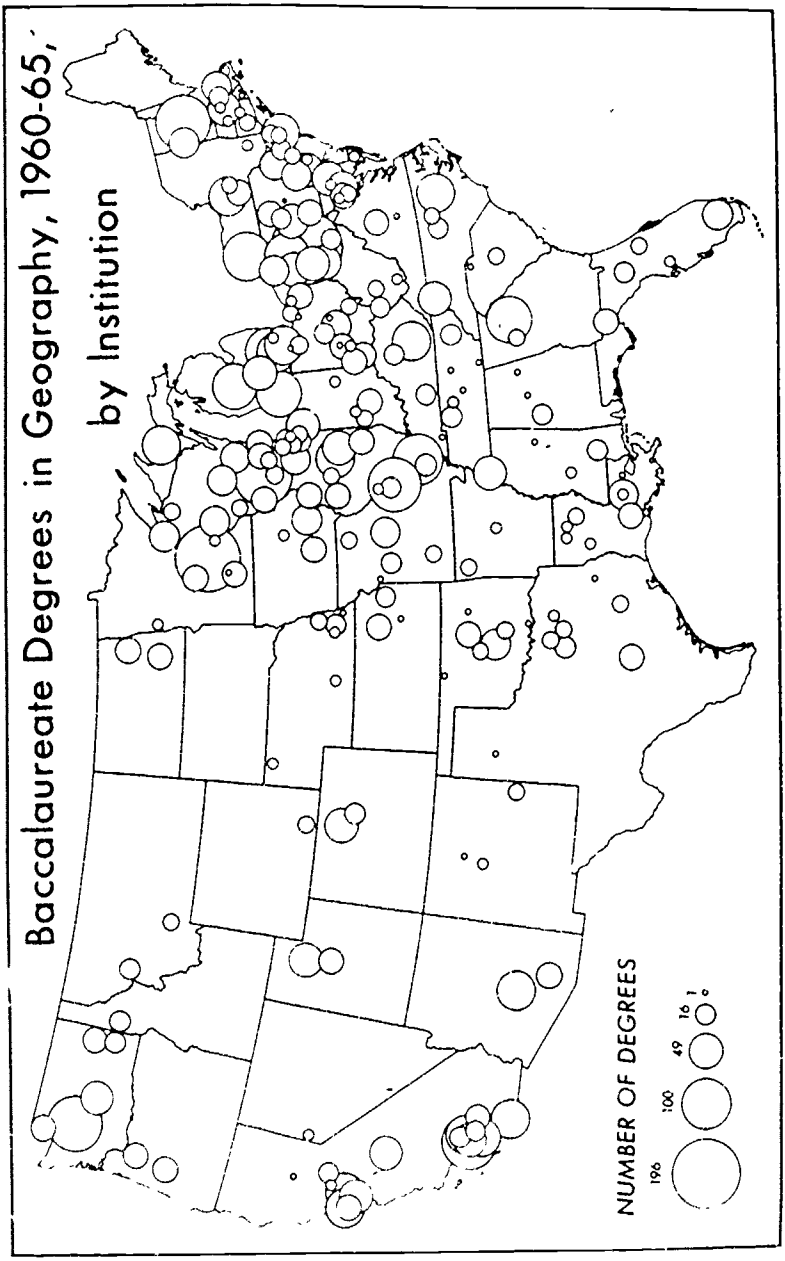
Fifty Largest Undergraduate Geography Departments in Terms of Baccalaureate Degrees Granted Between 1 July 1960 and 30 June 1965

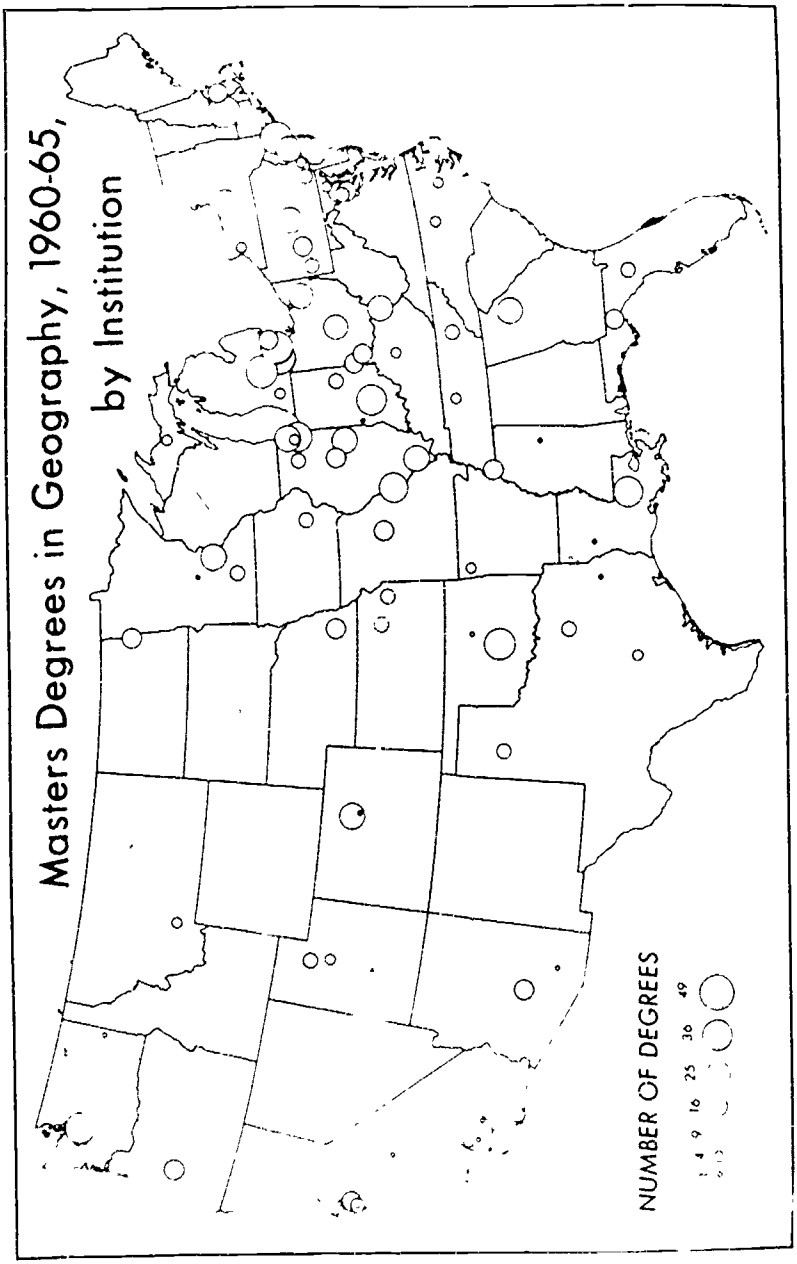
Number of Degrees	Institution
196	Indiana (Pa.) St. C.
180	U. of Minnesota
147	U. of Wisconsin Madison
131	U. of California Los Angeles
121	U. of Washington
109	Dartmouth College
108	St. Louis U.
99	SUNY Buffalo
95	Southern Illinois U.
90	Eastern Michigan U.
76	Western Michigan U.
75	Central Michigan U.
74	Clarion (Pa.) St. C., U. of Georgia
67	East Carolina C.
65	San Francisco St. C.
64	Eastern Kentucky St. C., Syracuse U.
61	U. of California Berkeley, Illinois St. U.
59	U. of Michigan, Northern Michigan U., San Fernando Valley St. C.
58	Arizona St. U., Long Beach St. C., San Diego St. C.
57	Hunter C., Wayne St. U.
55	U. of Utah
54	East Tennessee St. C.
53	U. of Colorado
52	Pennsylvania St. U.
51	California (Pa.) St. C., Fresno St. C., San Jose St. C.
49	Clark U.
47	Morehead (Ky.) St. C.
45	Central Washington St. C., U. of Illinois, U. of Pittsburgh
44	Slippery Rock St. C., Valparaiso U.
43	Los Angeles St. C., Memphis St. U., Michigan St. U., Morgan (Md.) St. C., West Chester St. C.
42	Ohio St. U., Western Washington St. C.
40	Boston U., Brigham Young U., Louisiana St. U.

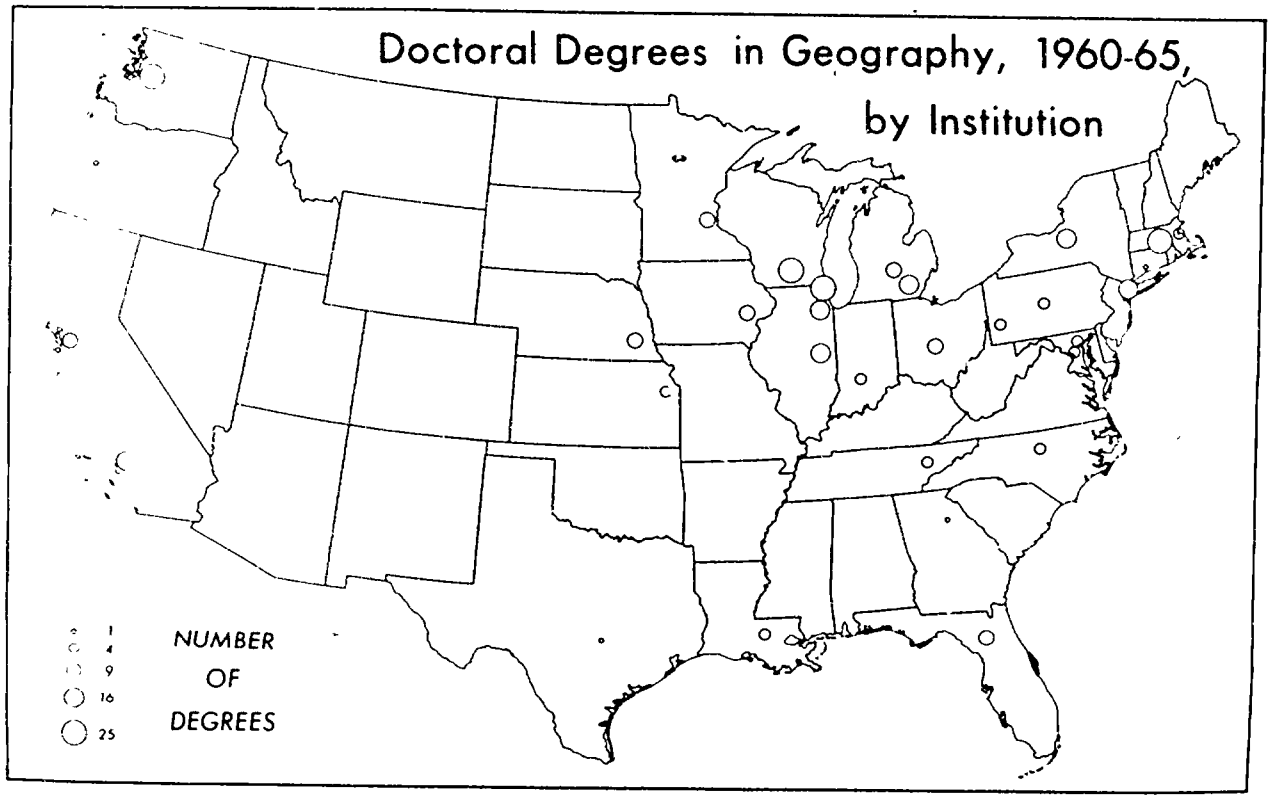
Loop. In fact, the Big Ten (plus Chicago) universities alone conferred more than a quarter (27 percent) of the master's degrees in geography, and almost half (46 percent) of the doctorates during this period.

Career Plans of 1966 Baccalaureate Recipients

Sixty-three of the 267 departments to which questionnaires were sent reported that they have no major program in geography, and hence had no first degree graduates in 1966. Responses were received from 153 (75 percent) of the remaining 204 departments, which had granted 4,504 (76 percent)


Baccalaureate Degrees in Geography, 1960-65, by Institution
NUMBER OF DEGREES
196
100
49
16
1




Doctoral Degrees in Geography, 1960-65,
by Institution
NUMBER
OF
DEGREES
1
4
9
16
25

of 5,963 first degrees in geography, 1,016 (74 percent) of 1,370 second degrees, and 233 (76 percent) of 306 doctorates during the period 1960-65.

The departments which responded reported that they would award a total of 1,632 baccalaureate degrees in 1966. It was anticipated that 585 (36 percent) of the degree recipients would teach in elementary or secondary schools, 435 (26 percent) would enter graduate school, 168 (10 percent) would take jobs in private industry, 157 (10 percent) would work for agencies of the Federal government, 112 (7 percent) would work for state or local governmental agencies, and 175 (11 percent) were undecided as to their career plans (Table VI).

Table VI

Career Expectations of Persons Receiving Baccalaureate Degrees in Geography in 1966, by Type of Department

	Type of Department*				
	D	M	L	O	Total
Number of institutions reporting	23	16	51	63	153
Number of baccalaureate degrees granted	262	192	915	263	1632
Type of Career Expected					
Teach in elementary/secondary schools	41	33	424	87	585
Enter graduate school	68	63	219	85	435
Work in private industry	30	18	83	37	168
Work for Federal agencies**	35	27	69	26	157
Work for state/local government agencies	13	18	67	14	112
Other, undecided, or unknown	75	33	53	14	175

*Type of Department: D=grants the doctorate; M=grants the master's; L=has large undergraduate program; O=other.

**Some respondents included the Peace Corps and military service in this category.

When the responses are broken down by the nature of the department in which the degree was received, five features stand out: (1) only a small proportion (17 percent) of the graduates of departments which have graduate programs expect to become elementary or secondary teachers; (2) a high proportion (29 percent) of the graduates of departments which have doctoral programs are undecided as to their careers (are the faculty too preoccupied with graduate students to pay enough attention to undergraduate majors?); (3) a large proportion (34 percent) of the graduates of departments with terminal master's programs expect to go to graduate school; (4) a large share (46 percent) of the graduates of departments with large undergraduate programs expect to become elementary or secondary teachers; and (5) a high proportion (33 percent) of the graduates of small undergraduate departments expect to enter graduate school.

Career Plans and Professional Interests of Resident Graduate Students

Each graduate student in residence in April 1966 was asked to complete a questionnaire concerning the highest degree to which he aspired, the year in which he expected to receive it, his preference as to future employment, and his areas of greatest professional competence. Responses were received

from 949 graduate students. Although this return is admittedly incomplete, it probably represents a fair sample of geography graduate students in residence during the spring of 1966.

One of the most interesting facts which emerged from the responses to this questionnaire was the very large proportion of contemporary graduate students in geography who aspire to a career in college and university teaching (Table VII). A total of 705 students (74 percent) listed college teaching as their first choice of career, and 803 (84 percent) listed it as one of their first three choices. The second most popular career was employment in an agency of the Federal government, which was ranked first by 78 (8 percent) of the graduate students and among the first three choices by 541 (57 percent). Private industry was ranked first by 71 (8 percent) and among the first three by 354 (37 percent), and employment by state or local government agencies was ranked first by 38 (4 percent) and among the first three by 281 (30 percent). The career least desired was teaching in elementary or secondary schools, which was put first by 57 (6 percent) but among the first three by only 195 (21 percent).

Table VII

First, Second, and Third Choice of Employment
by All Graduate Students Responding

Type of Employment	First	Second	Third	Total of First Three Choices
College teaching	705	68	30	803
Federal government	78	287	176	541
Private industry	71	113	170	354
State/local government	38	53	190	281
Teaching school	57	96	42	195
TOTAL	949	617	608	2,174

The areas of greatest professional competence of contemporary graduate students range fairly widely across the spectrum of specialties which interest geographers (Table VIII). The most popular specialty was economic geography, which was ranked first by a sixth of the students, and in the first three by almost half. Human/cultural geography, urban geography, and geomorphology/landforms geography each was ranked first by more than ten percent of the students, and among the first three choices by more than a quarter. Only one quarter of the students indicated a regional rather than a systematic specialty as their first choice, and only about half listed any regional specialty among their first three choices. Latin America and Anglo-America were the most popular regions, but those interested in the former tended to place it first, whereas those interested in Anglo-America were more apt to list a systematic specialty as their primary interest.

The College Job Market

Each departmental chairman was requested to provide information concerning staff additions during the current year, staff vacancies, and anticipated staff additions over the next two years. Responses from 188 departments indicated that 97 staff members had been replaced and 138 new staff members

Table VIII

Areas of Greatest Professional Competence of all Graduate Students Responding

Professional Specialties	First Choice	Second Choice	Third Choice	Total of First Three Choices
Landforms/Geomorphology	108	74	80	262
Climatology/Meteorology	50	71	62	183
Biogeography/Soils	14	8	4	26
Conservation/Resource management	37	30	61	128
Economic	159	154	109	422
Urban	111	93	68	272
Human/Cultural	132	119	103	354
Historical	13	5	11	29
Political	40	41	44	125
Other Systematic	15	4	7	26
Cartography	35	40	43	118
Other Techniques	6	2	9	17
World Regional	56	64	79	199
Anglo-America	35	91	104	230
Latin America	61	49	43	153
Europe	13	38	47	98
USSR	13	8	7	28
South and East Asia	25	16	11	52
Africa	15	24	10	49
Other regions	11	7	3	21
Total	949	938	905	2,792

had been added for the fall of 1966. Although some double counting is involved, because many of the new staff members have more than one teaching/research specialty, the systematic specialties in greatest demand were general physical geography, economic geography, human/cultural geography, cartography, and urban geography (Table IX). Regionally, the heaviest demand was for specialists in Latin America, South and East Asia, and Anglo-America.

These same departments had 116 staff vacancies which they had been unable to fill as of late April 1966. Sixteen of the smaller departments would have settled for anyone with a doctorate, and in six even a person with a master's degree would have been satisfactory (Table X). Ten or more vacancies existed in eight specialty areas: climatology/meteorology, economic geography, cartography, urban geography, general physical geography, geomorphology/landforms geography, quantitative techniques, and the geography of South and East Asia.

Despite this backlog of unfilled jobs, the department heads who responded reported that they hope to hire an additional 314 geographers in 1967 and 1968 (Table XI). In 42 cases the department would be satisfied to have anyone with a doctorate, and ten departments would settle for a person who had been awarded his master's degree. The greatest demand appears to be for geographers who are qualified in climatology/meteorology, economic geography, urban geography, cartography, general physical geography, quantitative techniques, the geography of South and East Asia, and the geography of Africa.

In general, it appears that the primarily undergraduate departments are looking for new people in the more traditional branches of geography, whereas

Table IX

Staff Additions and Replacements in Geography Departments, 1966, By Professional Specialty and Type of Department

	Type of Department				
	Doctorate granting	Terminal Master's	Large Undergraduate	Other	Total
Total number of jobs	45	23	75	92	235
Professional specialty					
Near doctorate	0	0	0	4	4
Master's degree	0	0	0	6	6
General/Introductory	1	0	1	14	16
Physical	5	3	18	25	51
Landforms/Geomorphology	1	0	2	4	7
Climatology/Meteorology	1	3	5	4	13
Biogeography/Soils	2	0	2	1	5
Conservation/Resource management	2	1	4	3	10
Economic	10	7	12	13	42
Urban	6	3	8	5	22
Human/Cultural	8	2	11	8	29
Historical	2	2	2	5	11
Political	5	1	2	7	15
Other Systematic	4	2	1	4	11
Cartography	1	3	13	6	23
Quantitative Techniques	8	0	5	1	14
Other Techniques	0	2	4	1	7
World Regional	1	1	9	5	16
Anglo-America	1	1	8	11	21
Latin America	3	3	9	11	26
Europe	0	1	3	4	8
USSR	3	0	4	4	11
South and East Asia	4	5	8	5	22
Africa	2	2	4	5	13
Other regions	2	1	7	2	12

the graduate departments are moving into non-traditional areas. Where regional specialties are concerned, for example, the undergraduate departments are most interested in people with competence in Anglo-America, Latin America, and Europe, while the graduate departments are more interested in finding people with competence in Africa and South and East Asia. The doctoral departments are trying to recruit new people in the areas of climatology/meteorology, biogeography and soils geography, and quantitative techniques, but the undergraduate departments are more interested in people who can handle general physical geography, world regional geography, and economic geography.

The inevitable comparison between the staffing needs of geography departments and the professional specialties of graduate students who will be entering the job market is a fascinating exercise, but it is also both pre-

Table X

Job Openings Which Could Not Be Filled, Fall 1966,
By Professional Specialty and Type of Department

	Type of Department				
	Doctorate granting	Terminal Master's	Large Undergraduate	Other	Total
Total number of jobs	25	14	33	44	116
Professional Specialty					
Near doctorate	0	0	3	13	16
Master's degree	0	0	2	4	6
General/Introductory	0	1	2	4	7
Physical	0	2	3	5	10
Landforms/Geomorphology	3	2	0	5	10
Climatology/Meteorology	4	2	6	2	14
Biogeography/Soils	4	1	1	0	6
Conservation/Resource management	0	0	2	0	2
Economic	2	1	4	6	13
Urban	1	2	3	6	12
Human/Cultural	1	0	2	2	5
Historical	0	0	0	1	1
Political	2	0	2	2	6
Other Systematic	1	0	1	0	2
Cartography	2	2	1	8	13
Quantitative Techniques	4	1	4	1	10
Other Techniques	0	0	0	1	1
World Regional	0	0	5	0	5
Anglo-America	0	0	2	1	3
Latin America	1	0	1	2	4
Europe	0	1	1	2	4
USSR	1	1	3	1	6
South and East Asia	2	3	4	1	10
Africa	2	1	1	2	6
Other regions	1	0	0	0	1

sumptuous and hazardous, despite the fact that it has been confined to the next two years (Table XII). Although this comparison does serve to indicate the probable dimensions of the manpower situation in geography over the next two years, one must constantly bear in mind the fact that it is based upon responses from only about three quarters of the geography departments and geography graduate students in the United States. Furthermore, the plans and intentions of departments and individuals can change with startling suddenness, for a variety of reasons.

With this disclaimer constantly in mind, the professional specifications for 440 jobs (116 unfilled in 1966, 314 expected to open in 1967 or 1968) expected to be available in college geography departments in the next two years were compared with the self-proclaimed professional specialties of 415 graduate students who expect to enter the job market by the fall of 1968 (Table XII).

Table XI

Anticipated Geography Job Openings in 1967 and 1968,
By Professional Specialty and Type of Department

	Type of Department				
	Doctorate granting	Terminal Master's	Large Undergraduate	Other	Total
Total number of jobs	55	46	85	128	314
Professional Specialties					
Near doctorate	0	3	6	33	42
Master's degree	0	0	1	9	10
General/Introductory	0	0	0	7	7
Physical	2	5	4	17	28
Landforms/Geomorphology	4	4	4	5	17
Climatology/Meteorology	9	7	12	17	45
Biogeography/Soils	4	2	5	2	13
Conservation/Resource management	3	2	3	2	10
Economic	6	7	13	15	41
Urban	2	6	8	18	34
Human/Cultural	3	2	7	6	18
Historical	0	1	2	2	5
Political	2	0	2	6	10
Other Systematic	3	3	4	0	10
Cartography	5	7	4	15	31
Quantitative Techniques	5	5	7	9	26
Other Techniques	2	3	0	4	9
World Regional	0	0	3	4	7
Anglo-America	2	0	3	1	6
Latin America	3	0	6	10	19
Europe	1	0	3	8	12
USSR	2	3	5	6	16
South and East Asia	6	5	4	9	24
Africa	3	3	7	10	23
Other regions	1	0	2	1	4

The graduate students were divided into two groups: the 230 who expect to receive their doctorates before 1970, and the 185 who expect their doctorates in 1970 or later, or who expect their master's degree to be terminal. Presumably the terminal master's candidate, or the doctoral candidate who does not expect his degree before 1970, will not be as well trained as the pre-1970 doctoral candidate when they enter the job market in 1967 or 1968.

The total number of job openings in each professional specialty was first compared with the number of pre-1970 doctoral candidates who listed that specialty as their first choice. Deficits appeared in all specialties except human/cultural geography, geomorphology/landforms geography, and other regions. Eight of these deficits were removed, however, when the number of job openings was compared with the first three specialties of the pre-1970 doctoral candidates. It appears that the tightest "manpower pinch" will

Table XII

Comparison of Staffing Needs of Geography Departments and Professional Specialties of Graduate Students Who Expect to Start Work, Falls of 1967 and 1968

Professional Specialties	Need	Pre-1970 Doctorates				1970 or later Doctorates and all Master's Candidates			
		First Choice	Surplus Deficit	2 or 3 Choice	Surplus Deficit	First Choice	Surplus Deficit	2 or 3 Choice	Surplus Deficit
Landforms/Geomorphology	27	32	+5	29	+34	22	+56	32	+88
Climatology/Meteorology	59	12	-47	30	-17	9	-8	25	+17
Biogeography/Soils	19	3	-16	9	-7	2	-5	1	-4
Conservation/Resource management	12	8	-4	18	+14	6	+20	19	+39
Economic	54	44	-10	63	+53	26	+79	46	+125
Urban	46	19	-27	35	+8	24	+32	34	+66
Human/Cultural	23	30	+7	55	+62	29	+91	38	+129
Historical	6	5	-1	6	+5	3	+8	3	+11
Political	16	12	-4	16	+12	4	+16	23	+39
Other Systematic	12	2	-10	5	-5	1	-4	1	-3
Cartography	44	7	-37	17	-20	6	-14	15	+1
Quantitative Techniques	36	2	-34	5	-29	0	-29	2	-27
Other Techniques	10	3	-7	2	-5	0	-5	0	-5
World Regional	12	4	-8	23	+15	16	+31	39	+70
Anglo-America	9	9	0	53	+53	11	+64	40	+104
Latin America	23	15	-8	23	+15	8	+23	16	+39
Europe	16	0	-16	22	+6	7	+13	15	+28
USSR	22	6	-16	7	-9	1	-8	0	-8
South and East Asia	34	8	-26	7	-19	6	-13	4	-9
Africa	29	3	26	10	-16	3	-13	7	-6
Other regions	5	6	+1	3	+4	1	+5	4	+9

exist for those departments which are seeking a doctorate or near-doctorate who has specialized in quantitative techniques, cartography, South and East Asia, climatology/meteorology, and Africa. Lesser deficits appear in the specialties of the USSR, biogeography and soils, other systematic specialties (primarily educational geography), and other techniques (primarily remote sensing). Although eight of these nine deficits are slightly reduced when one adds in the first specialty of master's and post-1969 doctoral candidates, seven still persist when every prospective job seeker in geography is included.

While bearing in mind the reservations emphasized above, that these data result from only a partial survey of American geography, and that they are completely quantitative, it would appear that some branches of the field are underdeveloped, and others are overdeveloped, insofar as the immediate future requirements for college teachers are concerned. For example, we appear to be producing quite an adequate supply of people who are interested in human/cultural geography, in economic geography, in the geography of Anglo-America, and in landforms geography and geomorphology. On the other hand, there seem to be critical shortages of geographers trained in quantitative techniques, cartography, climatology and meteorology, and such nontraditional regions as Africa and South and East Asia. Furthermore, although the absolute size of the deficit is smaller, there appear to be critical shortages of geographers trained in biogeography, educational geography, remote sensing, and the geography of the USSR.

Finally, it is important to remember that this comparison has been restricted solely to job opportunities in college teaching. Even on this restricted basis it appears that there will be a critical shortage of geographers with certain specialties, but one must also remember that not every graduate student who takes a job in the next few years will take a job as a college teacher. Non-academic opportunities will be competing for the services of the new geographer, yet there will not even be enough new geographers to fill the openings that will exist on college campuses. This, in effect, is the manpower crisis which confronts American geography in 1966.

Ph.D. and A.B.D.

Critical shortages in the supply of geographers for college teaching positions have helped to intensify the "ABD Problem." The departmental chairman, who desperately needs "warm bodies" to fill the various slots in his teaching program, is often willing (or forced) to hire anyone who will accept a position. The graduate student, tired of beer and hamburgers after four years of undergraduate study and two or three years of graduate work, is dazzled by innumerable job offers after (or even before) he has passed his prelims. And so he takes a job, with the happy anticipation that he will quickly polish off his dissertation and receive his degree. Unfortunately, things seldom work out that way, and many people who leave graduate school after passing their prelims never manage to complete their dissertations.

Just how important is the doctorate to an academic career in geography? In an attempt to find a quantitative answer to this question, each department chairman was asked to indicate the importance which his institution attaches to the possession of a doctorate when it makes decisions concerning initial appointments, salary increases, promotions, and tenure. The answers were remarkably consistent; the larger and more prestigious the department and the institution, the more likely it is to demand the doctorate (Table XIII). Departments which have graduate programs normally require the doctorate for appointment to their regular faculty, although a temporary position may be

Table XIII

The Importance of the Doctorate for Initial Appointment, Salary Increases, Promotions, and Tenure, by Type of Department

	Initial Appointment	Salary Increases	Promotion	Tenure
Departments which offer the doctorate				
Mandatory	9	10	18	18
Mandatory in most cases	8	6	0	0
Desirable but not mandatory	1	2	0	0
No response	5	5	5	5
Departments which offer a terminal master's				
Mandatory	4	2	12	11
Mandatory in most cases	6	3	1	1
Desirable but not mandatory	4	8	1	2
No response	4	5	4	4
Large undergraduate departments				
Mandatory	2	9	21	21
Mandatory in most cases	12	9	12	4
Desirable but not mandatory	26	18	7	11
Not relevant	0	4	2	5
No response	8	8	6	7
Other departments				
Mandatory	5	9	32	25
Mandatory in most cases	17	22	29	16
Desirable but not mandatory	54	37	14	28
Not relevant	2	8	4	9
No response	21	23	20	21

offered to an especially promising person who is working on his dissertation. Such a person will be expected to complete his dissertation expeditiously, and will then be appointed to the regular faculty, but he also faces the prospect of abrupt dismissal if his progress is not rapid enough.

Departments which do not have graduate programs, and especially the smaller ones, would also like to have people with the doctorate, but most of them are realistic enough to know that this is an unrealistic aspiration. Despite the fact that they often are unable to recruit new staff members with doctorates, however, these departments normally penalize a person without a doctorate, in varying degrees of severity, by smaller salary increases and slower promotion, and many of them completely deny him tenure (Table XIII).

How many geographers are caught in this vicious circle? In an attempt to determine the national dimensions of the ABD problem in geography, the chairman of each doctorate-granting department was asked to provide an address list of all graduate students no longer in residence who had completed all requirements for the doctorate except the dissertation. Responses from departments which awarded three quarters of the nation's doctorates in geography between 1960 and 1965 provided a total of 209 names (Table XIV). If

Table XIV

Number of ABD's Reported by Responding Departments

University of California Berkeley	28
Indiana University	20
Michigan State University	17
Syracuse University	15
Louisiana State University	13
University of Nebraska	13
Northwestern University	13
University of Washington	12
Pennsylvania State University	11
University of Iowa	10
University of Illinois	8
University of Kansas	8
Ohio State University	6
University of California Los Angeles	4
University of Chicago	4
University of Florida	4
University of Texas	4
Columbia University Teachers College	3
University of Georgia	3
University of Maryland	3
University of North Carolina	3
University of Tennessee	3
University of Oregon	2
University of Cincinnati	1
Southern Illinois University	1
Total	209

this sample is representative, it means that approximately 280 American geographers, almost one of every ten, is an ABD.

Questionnaires were sent to each of the 209 people, but only 100 of them responded within a month, and eight of these, for one reason or another, were not in the ABD category. At first blush a response of less than fifty percent might seem discouraging, but on second thought this is really about all that one could hope for, because an unfinished dissertation is such a psychological sword of Damocles that the afflicted person is often reluctant to talk or even to think about it.

Perhaps the best news to emerge from an examination of the returned questionnaire is the fact that fifteen percent of those who responded had completed their dissertations during the summer of 1966 (Table XV). If this percentage could be extrapolated to the entire ABD group, it would reduce their numbers from the estimated 280 to around 240. Unfortunately, such an extrapolation probably is not justified, because those who had completed their dissertations during the summer of 1966 would have been most likely to respond to a questionnaire which permitted them to proclaim their achievement, whereas those who were making little progress would have been most likely to ignore a questionnaire which reminded them of this fact. In short, it would appear that somewhat more than 250 American geographers were ABD's in early October 1966.

Table XV

Year in Which Prelims Were Passed
By Year in Which Dissertation Completion is Expected

Year Prelims Were Passed	Year in Which Dissertation Completion is Expected										No Response
	1966				1967			Later			
	C*	D*	F*	T*	D*	F*	T*	D*	F*	T*	
1955											1
1958			1			1					
1959						2					
1960						1					
1961	1			1	1	2					
1962	4				1	1	1				
1963	4	3	2		1	4	4				2
1964	3	1	1		5	5	3	2	1		
1965	1	3	1		3	7	1			2	
1966					1	2	1	1	1	2	
Total	13	7	5	1	12	25	10	3	2	4	3

*C = Completed; D = Definitely will be completed; F = Fairly definitely will be completed; T = Tentatively will be completed.

Eight percent of the respondents definitely expect to complete their dissertations before the end of the year, however, and another fourteen percent definitely expect to be finished by the end of 1967. Six percent were fairly sure that they will (which probably means that they will not) be able to complete their dissertations in 1966, and 29 percent were fairly sure for 1967. Twelve percent were quite tentative about their ability to finish in 1967, and eleve . percent estimate that completion will occur in 1968 or later. The time between passing prelims and completing the dissertation appears to average three to three and a half years for ABD's.

A fairly wide variety of reasons were given for leaving graduate school before the dissertation had been completed. The actual number adds up to a larger figure than the total number of respondents, because many of them gave more than one reason (Table XVI). The principal factor, however, was finances and family obligations, which was cited by more than two thirds (64 of 92) of the respondents. Fourteen percent accepted offers of jobs which were financially or geographically attractive, and twelve percent returned to their previous jobs after a leave of absence. Almost ten percent assumed, erroneously, that their dissertations had been completed, or could be completed before they started teaching. Other reasons given by at least three respondents include a desire for a change of scene, a desire for more experience, or a desire to escape an unpleasant situation. And one married female variety of geographer, who was inclined to look with jaundiced eye at a Manpower Survey questionnaire which failed to make adequate provision for ladies, reported that she left graduate school because she became pregnant.

Table XVI

Number of Times Specified Responses Were Given by 92 ABD's as Reasons for Leaving Graduate School and Taking a Job

Finances and Family obligations	64
Job offer too good to turn down	13
Returned from leave of absence	11
Thought dissertation was (or could be) completed	8
Desired change of scene or activity	8
Desired broader experience	4
Needed to escape unpleasant situation	3
Felt time was being wasted	2
Desired to get back to teaching	2
Was being pushed to accept unwanted topic	2
Fear of draft	1
Became pregnant	1

Some advisors of graduate students have come to feel that it is the attitude of the graduate student's wife, rather than his own attitude, which plays a major role in influencing his decision to leave graduate school before he completes his dissertation. If this is indeed so, the ABD's are extremely gallant about it. Of the 75 who admitted that they were married, only 20 (27 percent) said that their wives had wanted them to take jobs, seven said that their wives had wanted them to remain in graduate school, and 48 (64 percent) said that their wives had been neutral. Cherchez la femme pas davantage?

What obstacles were encountered in completing the dissertation? Again, the total number of reasons given exceeds the total number of respondents, but two thirds (62 of 92) cited lack of time (Table XVII). Almost half of the respondents were even more specific, and said that their teaching duties had occupied more of their time than they had anticipated. The second most important reason, which was cited by 30 percent, was the difficulty of maintaining effective communications with the dissertation advisor and committee, whether because of distance, lack of interest on the part of the advisor, or changes in the advisor and committee. Other common obstacles cited were lack of funds

Table XVII

Number of Times Specified Obstacles to Dissertation Completion Were Cited by 92 ABD's

None	5
Teaching took most of my time	44
Lack of time	13
Inadequate contact with advisor	28
Lack of funds	16
Lack of material or equipment	15
Unsuitable topic	13
Marital and family problems	6
Loss of interest	5
Lack of pressure to finish	2
Inadequate background for topic	1
Personal inertia	1

Table XVIII

Number of Times Specific Handicaps Associated With the Lack of a Doctorate were Cited by 92 ABD's

None	13
None yet	17
Lower salary	38
Lower rank	36
Lack of time for other research interests	16
Lower job mobility	14
Psychological pressures	14
Less prestige	11
Lack of time to prepare for classes	4
No university travel money	2
Loss of job	1

(17 percent), lack of material and equipment (16 percent), and an unsuitable dissertation topic (14 percent).

Although lack of time appears to have been the greatest single obstacle to completion of the dissertation, one respondent commented that he was "so drained of energy and inspiration by demanding classes that energy rather than time is often the limiting factor," and several others felt that their teaching experience has given them a maturity and perspective which will enable them to write much better dissertations. A number of respondents suggested that there is a great need for financial assistance to support people who are writing their dissertations, because they felt that a single free semester, or even a summer free from having to teach, would enable them to complete their work.

How has the lack of a doctorate hurt the individual ABD? Almost a third (30 of 92) said that it has not hurt at all, although more than half of these added an ominous "Not yet, but..." (Table XVIII). Lower salary was cited by 38 (41 percent), and lower rank by 36 (39 percent). Sixteen (17 percent) felt that preoccupation with the dissertation has prevented them from developing other research ideas, fourteen (15 percent) felt that the lack of a doctorate has decreased their job mobility, fourteen (15 percent) specifically mentioned the psychological pressures under which they are laboring, and eleven (12 percent) were sensitive to the fact that they have less prestige without the doctorate.

Would they do it again? Although the question was not asked in this specific form, the comments of a number of respondents indicate that they have had second thoughts about their decision to leave graduate school and take a job before the dissertation was completed. They said such things as: "it set me back three years;" "I would advise my sons to finish before they take a job;" and "I would strongly urge any Ph.D. candidate who has reached the writing stage not to accept any other responsibilities for at least a year."

To what extent have ABD's despaired of ever completing their dissertations? Would they be content with an intermediate degree based upon course work plus the passage of prelims? This question is not completely hypothetical, because in May 1966, Yale University announced the establishment of a new Master of Philosophy degree for students who have completed all requirements for the doctorate except the dissertation, and the recent reform proposals at the University of California at Berkeley called for a Doctor of Arts degree which would have been quite similar.

Several respondents, in fact, seriously questioned the emphasis which is currently placed on the doctorate, especially for those prospective teachers who have little interest in research. Said one: "I seriously doubt that I will be a better teacher or researcher when and if I receive my 'union card'." The idea of an ABD degree, which was novel to some respondents, proved intriguing, and several suggested that it would be preferable to the Ed.D. which is often taken by geographers who aspire to careers in teaching.

There was a general feeling, however, that the ABD will be worth little until it has been generally accepted as a reputable degree by institutions whose primary function is undergraduate instruction. Only five of the 92 geography ABD's stated unequivocally that they would accept such a degree if it were terminal, but thirteen more said that they might be interested if it were generally recognized. In other words, about one of every five ABD's in geography would be happy to have a non-research degree (whether A.B.D., M.Ph., or D.A.) if it would represent no serious handicap to a teaching career.

A final consideration which is relevant to the ABD problem, and one which warrants considerable soul-searching in departments which grant the doctorate, is the question of whether the staff members of these departments have taken an adequately active interest in their students. For example, one would think that a properly devised departmental counselling program could have alleviated some of the problems (such as assuming that his dissertation had been completed, feeling that his time was being wasted, desiring to escape an unpleasant situation, feeling that he was being pushed into a topic which he did not wish, or conflicts with his advisor) which influenced one of every seven ABD's to leave graduate school.

Furthermore, a third of the ABD's reported difficulties in maintaining contact with their advisors after they departed, a sixth were working on topics for which material and equipment were either unavailable or inadequate or both, and an eighth were working on topics which had not been clearly defined or were otherwise unsuitable. Some of these problems, quite obviously, can be attributed to the student himself, yet one can only conclude that the advising staff is not completely blameless.