Humanists on the Move: Employment Patterns for Humanities Ph.D.s (1985)

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HUMANISTS ON THE MOVE

Employment Patterns for Humanities Ph.D.s

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Survey of Doctorate Recipients
Office of Scientific and Engineering Personnel
National Research Council

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This report has been reviewed by a group other than the authors according to procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

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Panel on Data Concerning the Education and Employment of Humanities Doctorate Recipients in the United States

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Mary Belisle, research assistant for the SDR project, was primarily responsible for developing the report outline, compiling the summary statistics, editing chapters submitted by panel members, and drafting the final version of the report. Betty Maxfield, project director, provided assistance in determining the scope of the report and in providing analytical and editorial assistance. Special recognition is given to members of the Panel on Data Concerning the Education and Employment of Humanities Doctorate Recipients for their thoughtful insights into the status of humanities professionals that were essential for interpreting the data, for their guidance in further identifying issues relevant to the phenomenon of field mobility, and for their overall commitment in seeing this report to its conclusion.

Appreciation also goes to Jeffrey Thomas of the National Endowment for the Humanities and Alan Fechter, OSEP's executive director, for their helpful input during the developmental stages; to Linda Dix, OSEP's reports editor; and to Patricia King, Cynthia Srisuwan, and Dale Hill, the SDR project secretaries, for their diligence in making final emendations.

The report was reviewed by Cora Marrett, Michael McPherson, Stanley Turesky, Clarence VerSteeg, and Lyle Jones, a group designated by the Report Review Committee of the Research Council. Their suggested revisions were incorporated into the final document.

Finally, the doctorate recipients in the humanities who responded to the survey deserve much gratitude for their cooperation and assistance in making this report possible.

PREFACE

The present and growing level of field mobility among humanities Ph.D.s provided the impetus for this report. Although its main objective is to probe both the circumstances surrounding this phenomenon and the effects that mobility may have had on an individual's current career status, much of the data goes beyond this single issue. It is hoped, therefore, that this report will be useful not only to those concerned with the topic of field mobility, but also to those interested in more general issues related to the employment of humanities Ph.D.s.

In line with the report's focus on field mobility, the following groups of variables were selected and analyzed: (1) demographic characteristics of the "field-mobile" versus the "field-stable" population that help to describe those individuals likely to be employed in a field other than their field of degree; (2) employment variables that help to assess both how and what the field-mobile Ph.D.s are doing in their out-of-field positions; and (3) additional investments made by those working out of field as an index of their effort to increase their employment success. These three issues are examined after an in-depth review of the current rate of field mobility, with each adding greater insight into what the mobility figures indicate.

While interpretations of the data are made and hypotheses are offered to explain them, the authors make no claim to predicting the future. Rather, the intent is that the data presented herein be of assistance to those who must plan for the future.

The data presented in this report were drawn from the Survey of Doctorate Recipients (SDR), a self-report survey instrument designed to provide information related to the supply of doctoral personnel in the sciences, engineering, and the humanities and to provide both

demographic and employment information about these populations. This survey has been conducted on a biennial basis since 1973, although humanities doctorates were first included in 1977. The longitudinal nature of the survey--i.e., individual members of the SDR sample are resurveyed every two years--provides a unique source for tracking the career progression of survey participants. As the discussion that ensues is dependent on the format of and responses to the survey instrument, the reader is invited to carefully review the questionnaire (see Appendix A) and become familiar with the kinds of information its responses can and cannot provide.

The numbers and percentages reported in this document are estimates of the humanities doctoral population employed in the United States in 1983 (N=76,500). These estimates are based on the 7,733 responses received from a stratified, random sample of humanities doctorates. In addition, the analyses include "no report" data, which is nonresponse to a given item on the questionnaire rather than nonresponse to the survey itself.

Finally, please note that throughout the report a set of collective terms is used to refer to groups of fields that are not otherwise subsumed under a broad field category. For example, the term "other humanities" is used to collectively refer to the following fields: archeology, linguistics, American studies, religious studies, fine and applied arts, language and literature (i.e., those not included in the modern, classical, or English and American language and literature categories), letters, general humanities (code 878), and other humanities (code 879). The latter two fields in this string are provided as options on the specialities list (see Appendix A) for those individuals whose employment fields correspond with no other humanities field provided. With this in mind, the reader is further invited to review the terms defined on page v, together with the specialties list in Appendix A. This exercise should help prevent any confusion that could arise from the use of such terms.

DEFINITION OF TERMS

EMP fields: Engineering, Mathematics (including computer sciences), and Physical sciences (including physics/astronomy, chemistry, and earth/environmental sciences).

field mobility: the movement of an individual into an employment field other than that in which the doctoral degree was obtained (see nonhumanities employment).

fungible: transferable; interchangeable.

humanities fields: history, art history, music, speech and theater, philosophy, English and American languages and literature, classical languages and literature, modern languages and literature, and "other humanities" (for a list of the fine fields included in this category, see below).

nonhumanities employment: the employment of humanities Ph.D.s in fields outside the humanities field classification (see below); the rate of nonhumanities employment, together with the rate of humanities employment outside one's field of degree, constitutes the total rate of field mobility.

nonhumanities fields: any and all fields not subsumed under the "humanities" category (with the exception of history and philosophy of science, linguistics, and archeology) as defined on the Survey of Doctorate Recipients specialties list (see Appendix A).

"other humanities": archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

"other nonhumanities": applied art, theology, home economics, journalism, law/jurisprudence, social work, architecture and environmental design, library and archival sciences, general professional fields, other professional fields, and other fields (see specialties list, Appendix A).

CONTENTS

1
OVERVIEW

The data presented in this report offer a mosaic of insights into the present status of humanities professionals. While the evidence presented confirms the widespread assumption that many humanities Ph.D.s are moving into employment fields that differ from their doctoral fields and, indeed, into fields outside the humanities altogether, it also shows that in many respects they are making the transfer with relative success. In view of the frequently publicized belief that humanities Ph.D.s are having severe job difficulties, this report provides considerable basis for reassurance regarding their relative success in the job market. In fact, this may be its most striking contribution.

Among the positive findings of the report are the following:

- The unemployment rate for humanities doctorates was very low, 1.7%. In addition, over 90% of those employed held full-time jobs. Moreover, at least half of those Ph.D.s working part-time were doing so by choice (this was true for both the field-stable and the field-mobile doctorates). These findings contradict the myth of widespread unemployment and underemployment among humanities Ph.D.s.

- About 80% of those who were employed reported jobs in the humanities, although only about 72% were working in their doctoral field.

- With respect to both gender and minority group status, no group was, in effect, more likely than any other to be working out of field.

- Traditional work in the humanities includes administration, research, and writing/editing as well as teaching. If these work activities are the key to job satisfaction for humanities

Ph.D.s, most of the Ph.D.s were appropriately employed. Roughly 97% of those employed in field and 74% of those employed out of field were engaged in these or other related work activities. The findings outlined above suggest that the problem arising out of the loss of Ph.D.s from the humanities may not be as significant as it is sometimes thought to be.

- Roughly 82% of humanities Ph.D.s working in their doctoral field list teaching as their primary work. Surprisingly, however, 33% of Ph.D.s working out of field also list teaching as their principal work activity.

- There is a relatively small outflow of humanities doctorates from academia; the majority (97%) of humanities professionals employed in the educational sector in 1981 remained in that sector in 1983.

- Ph.D.s working out of field earn about the same salary as those working in field. This finding contradicts another myth that humanities Ph.D.s leaving their field are forced to work in lower-paying jobs.

- These relatively encouraging findings about employment and salary status suggest that humanities Ph.D.s have transferable ("fungible") skills. In other words, training in the humanities helps these Ph.D.s develop skills that are marketable outside academe as well as outside the Ph.D. field <u>in</u> academe.

Along with the brighter spots in the report there are, however, some less encouraging findings:

- The number of humanities Ph.D.s employed in nonhumanities fields is substantial (about 20%) and growing. Some members of this group undoubtedly moved by choice, and it is probable that many are performing work that taps the skills developed during their humanities education (for example, a philosopher trained in symbolic logic working on computer logic circuits). Many, however, are likely to be working in jobs that do not completely draw upon the knowledge acquired while studying for the Ph.D. These individuals have invested time, money, and creative energies in the pursuit of an academic career that did not work out as originally planned.

- The overall growth in the size of the humanities doctoral population--coupled with the higher incidence of out-of-field employment for young Ph.D.s (aged 44 or under), those most likely to be affected by this growth--suggests at least a temporary oversupply of humanities personnel.

- As many as 8% of those employed out of field obtained one or more additional degrees after the humanities doctorate, and 21.3% reported that they needed additional job-related training to obtain their current positions. Should the humanities employment market improve, it is unknown whether these individuals, or indeed any of those moving into positions outside their Ph.D. field, would return to their doctoral field for employment or would remain where they are because of long-term commitments to their current employment field.

2

FIELD MOBILITY

It is estimated that 77,900 (or 91.4%) of the total number (85,200) of humanities Ph.D.s in the U.S. were in the labor force in 1983. Of those, 76,500 were employed (98.3%) and 1,300 were unemployed (1.7%).[1] However, while the employment rate for humanities Ph.D.s was very high, a relatively large percentage were working outside their fields of degree. Of the total employed (76,500), 27.8% (or 21,300) were working outside their doctoral fields, and about one of every five of these employed Ph.D.s was working outside the humanities fields altogether (Table 2-1).[2] Indeed, the level of nonhumanities employment[3] was substantial when compared to the 6.5% of science/engineering Ph.D.s working in nonscience/nonengineering fields in February 1983.

Moreover, with the exception of art history and music, a relatively high level of out-of-humanities employment (exceeding 15%) pervaded all Ph.D. fields. The proportions ranged from 15.3% (for Ph.D.s in modern languages and literature) to 25.9% (for Ph.D.s in philosophy) and accounted for over two-thirds of the total outflow from each of these fields. By comparison, the rate of nonhumanities employment for

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[1]Maxfield, B. D., and M. Belisle, Science, Engineering, and Humanities Doctorates in the United States: 1983 Profile, Washington, D.C.: National Academy Press, 1985.

[2]A detailed distribution by fine field of employment is included in Appendix B.

[3]The employment of humanities Ph.D.s in fields outside the humanities field classification; the rate of nonhumanities employment is part of the total rate of field mobility.

TABLE 2-1 Field Mobility of Employed Humanities Ph.D.s (1940-1982 Graduates), 1983 (in percent)

Field of Employment	All Fields	Field of Doctorate: History	Art History	Music	Speech/ Theater	Philos-ophy	English/ American Lang&Lit	Classics	Modern Lang&Lit	Other Humn*
All Fields (N)	76,500	18,500	2,100	5,400	3,300	6,100	20,300	1,700	13,300	5,900
History	16.0	64.4	0.6		0.6	0.1		0.5	0.5	3.8
Art History	2.5	0.3	79.8	0.3		0.1	0.1	0.5	0.1	1.6
Music	6.0			83.4			0.3		0.1	0.1
Speech/Theater	2.8	0.1	0.1		60.9	0.3	0.5		0.1	0.4
Philosophy	4.9	0.3				60.0		1.6	0.1	0.8
Engl/Amer Lang & Lit	19.0	0.3		0.1	4.0	0.9	84.7	1.6	3.8	10.1
Classics	1.4						0.1	58.9	0.5	0.5
Modern Lang & Lit	12.4	0.3			0.6	0.1	0.5	4.9	86.6	5.3
Other Humanities*	7.5	2.9	2.7	1.3	3.0	4.8	6.6	6.0	4.8	64.2
Nonhumanities	19.8	24.1	9.3	8.1	24.7	25.9	18.9	17.6	15.3	25.3
Computer Sciences	1.6	1.5	0.1	1.4	1.1	4.1	1.4	1.6	0.8	2.7
Engineering	0.3	0.1	0.4	0.4		0.5	0.3	0.2	0.1	1.1
Other EMP Fields**	0.4	0.2				3.0		0.4	0.2	0.3
Life Sciences	0.6	0.5	0.2	0.2	2.3	0.5	0.7	0.4	0.4	0.5
Behav/Soc Sci	3.3	6.6	0.7		12.3	2.4	1.1	1.0	1.8	4.6
Education	4.6	5.9	0.9	2.2	2.3	4.5	6.1	4.3	3.2	4.2
Business & Mgmt	2.4	2.3	2.3	2.5	2.2	2.9	2.6	3.4	2.7	1.1
Other Fields***	6.6	7.0	4.7	1.3	4.6	7.9	6.8	6.2	6.1	10.8
No Report	7.7	7.3	7.4	6.7	6.3	7.8	8.2	8.4	8.2	8.0

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s. Subtotals do not add up to the total because of rounding.

*Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

**Other EMP Fields: Mathematics, physics/astronomy, chemistry, and earth/environmental sciences.

***Other Fields: Applied art, theology, home economics, journalism, law/jurisprudence, social work, architecture and environmental design, library and archival sciences, general professional fields, other professional fields, and other fields.

Ph.D.s in art history and music was quite low, only 9.3% and 8.1%, respectively.

Two questions arise regarding the seriousness of these findings as an indication of employment difficulties within the humanities. The first is whether the nonhumanities fields[4] into which these specialists are moving are, in fact, areas unrelated to their humanities training. The second--which, in part, stems from the first--is whether these rates have been stable over time, suggesting that the phenomenon may be typical, or whether there has been a growing or diminishing trend, suggesting either improvement or attenuation.

An examination of the employment rates among the various nonhumanities fields (Table 2-1) provides some evidence with respect to the first question. For all fields combined, there was a notably high rate of employment in education and in the behavioral/social sciences; 7.9% of the Ph.D.s (or roughly 4 in 10 of those employed in the nonhumanities fields) had secured jobs in these fields. The majority of humanities Ph.D.s have prepared for careers in an educational setting and already may have had experience in education; thus, many of their skills are directly applicable to employment in the field of education, and a certain degree of movement into this field could be anticipated. In the same vein, the conceptual overlap between subfields of the behavioral/social sciences and those within the humanities classification may make the employment rate in the behavioral/social sciences (3.3%) seem less surprising. Roughly two-thirds of the Ph.D.s employed in these fields have their doctorates in history or in speech and theater. A number of the social science fields, political science among them, overlap with areas of history and may account, at least in part, for the 6.6% of history Ph.D.s employed there. The social sciences category also includes the subfield of communications, which may explain the percentage of speech and theater Ph.D.s found working in these fields (12.3%).

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[4]Includes any and all fields not subsumed under the "humanities" category (with the exception of history and philosophy of science, linguistics, and archeology) as defined on the Survey of Doctorate Recipients specialties list (see Appendix A).

Nonhumanities employment in the "other fields" category (which primarily includes professional fields)[5] was also relatively high, 6.6%. This rate accounted for roughly three-tenths of the total employed in nonhumanities fields. Here again, similar cases of overlap could be made (e.g., religious studies included in the "other humanities"[6] category and theology included in the "other nonhumanities" category).

Thus, it appears that a portion (maybe as much as 70%) of the individuals moving into nonhumanities fields are moving into areas related to their specific humanities background. Indeed, their employment in nonhumanities fields may be more an artifact of field classification than of true outflow from the humanities. However, the question still remains as to whether the present level of nonhumanities employment describes a proportionately constant outflow from the humanities--one that may be expected--or whether it is a continuation of a growing or diminishing trend, signifying something quite different.

Figure 2-1 summarizes time-series data on mobility from 1977 to 1983.[7] Generally speaking, the percentage of total field mobility has grown between these years for most of the humanities fields.[8] The only exception to this finding was speech and theater.

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[5]"Other nonhumanities fields" refers to applied art, theology, home economics, journalism, law/jurisprudence, social work, architecture and environmental design, library and archival sciences, general professional fields, other professional fields, and other fields.

[6]This category includes the following fields: archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

[7]Ideally, one would trace the history of mobility several decades back to gain a better understanding of and more accurately describe this phenomenon. However, data are available only since 1977.

[8]As the focus of this discussion is absolute change in mobility and retention over time and not differences in nonresponse rates, individuals not reporting their employment field were excluded from the time-series analysis. The reader should note that unlike the figures in Table 2-1, which were based on the total employed humanities population, those represented in Figure 2-1 were based on employed individuals who reported their field of employment. The elimination of the "no reports" in each year proportionately inflates the employment rates for each field.

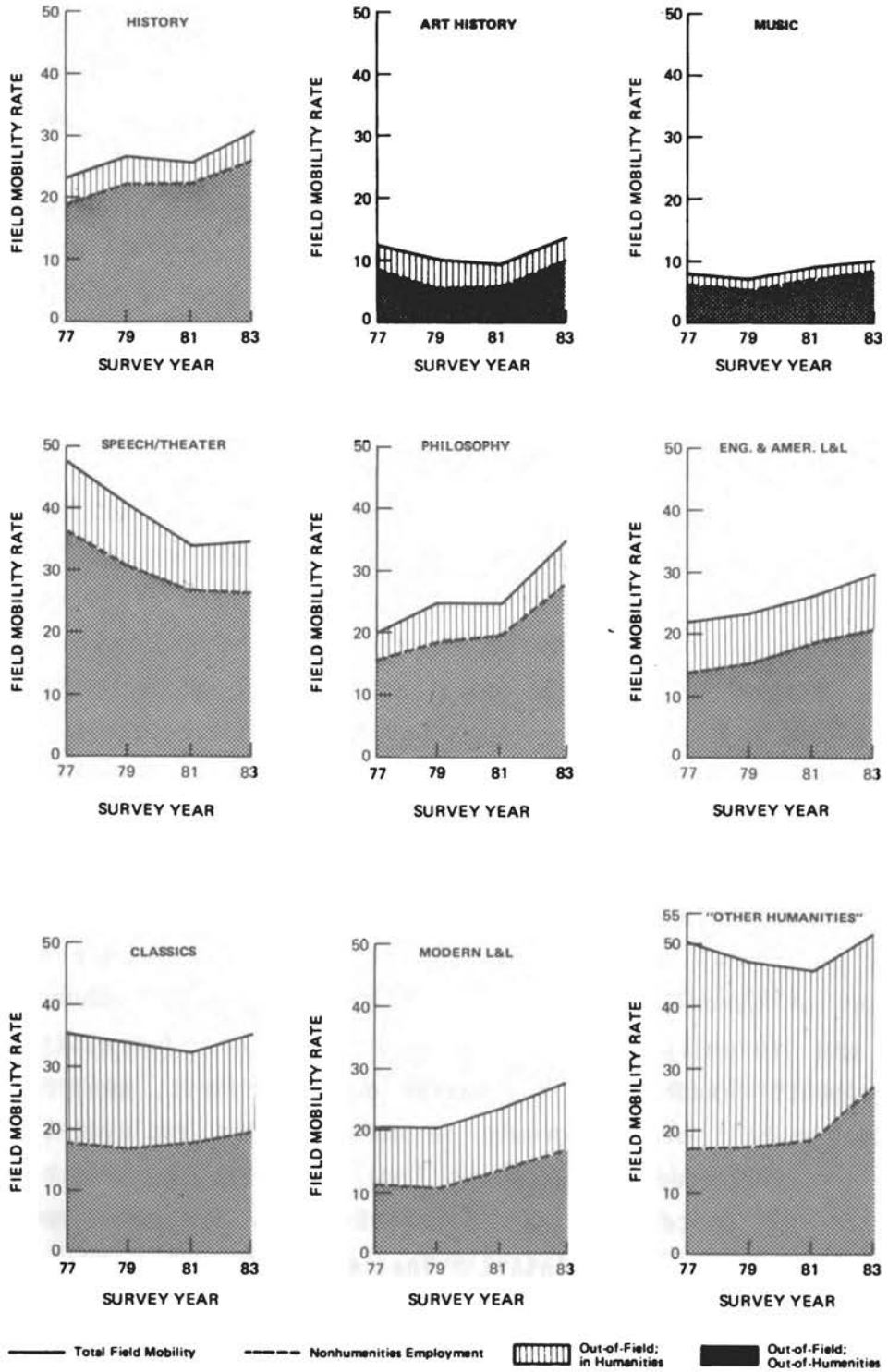

FIGURE 2-1 Trends in Field Mobility: Percentage by Field of Doctorate, 1977-1983.

SOURCE: National Research Council, Office of Scientific and Engineering Personnel, Survey of Doctorate Recipients (see Appendix C).

The greatest increase in field mobility was noted for philosophy, with a growth of 14.6 percentage points from 20.3% in 1977 to 34.9% in 1983.[9] Sizable increases were also noted for history (7.1 percentage points), English and American languages and literature (7.6 percentage points), and modern languages and literature (7.1 percentage points)--the largest fields in terms of overall Ph.D. production.

The most striking factor explaining the increase in mobility in each of the fields is the corresponding increase in nonhumanities employment. For example, the mobility rate for Ph.D.s in English and American languages and literature increased 7.6 percentage points while their nonhumanities employment rate increased 6.8 percentage points. Similarly, although outflow from speech and theater declined over the years, the decline was matched by similar decreases in nonhumanities employment. In general, the percentage who moved from their original doctoral field to another humanities field for employment remained relatively stable in terms of magnitude.[10] All of this suggests that while some exchange of personnel between humanities fields may be expected, the same does not completely apply to outflow into nonhumanities fields.

With an upward trend in the rate of nonhumanities employment clearly determined (and evident for all Ph.D. fields but speech and theater), additional questions arise; specifically, "Why are greater proportions of humanities doctorates being employed in nonhumanities fields?" and "In which nonhumanities fields are these humanists finding employment?" Addressing the latter question first, we find that more than one-half of the growth in nonhumanities employment since 1977 may be attributed to increased flow into computer sciences (an increase of 1.5 percentage points) and business and management (an increase of 1.8 percentage points). The remaining differential may be

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[9]Detailed field mobility tables for 1977, 1979, 1981, and 1983 are presented in Appendix C.

[10]There was a notable decline in switching to another humanities field for Ph.D.s in the "other humanities" category. The decrease, however, was met by a larger flow into nonhumanities fields.

explained by growth in the eleven fields aggregated in "other nonhumanities fields" (see Figure 2-2).[11] Interestingly, all of the other nonhumanities fields, including education and the behavioral/social sciences discussed earlier, maintained fairly stable rates of employment of humanities Ph.D.s.

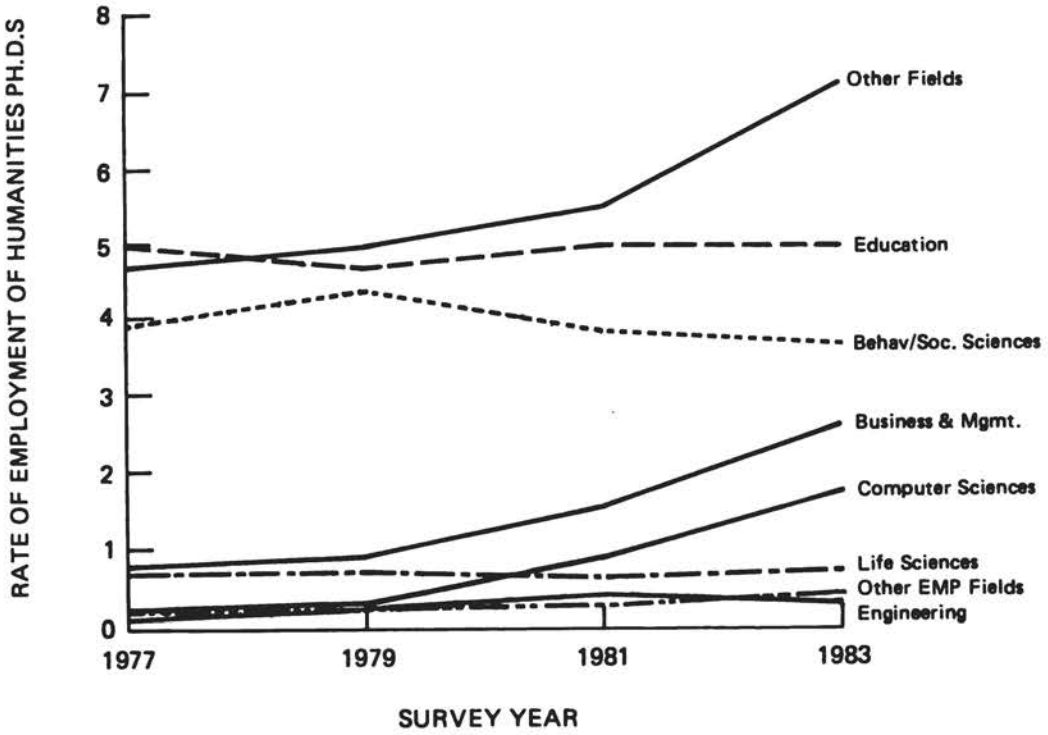

FIGURE 2-2 Trends in Nonhumanities Employment, 1977-1983.

SOURCE: National Research Council, Office of Scientific and Engineering Personnel, Survey of Doctorate Recipients (see Appendix C).

Among the possible explanations for the rising trend in nonhumanities employment is that the job market within the humanities fields may be, at least temporarily, oversupplied. The number of humanities Ph.D.s in the work force has increased nearly 30% from 1977 (59,000) to 1983 (76,500). Quite possibly, job opportunities in the humanities

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[11]The detailed employment rates for each of these fields are presented in Appendix C.

labor market have been unable to increase fast enough to meet this growth. Indeed, the widely acknowledged decline in academic positions has most likely had a significant impact on the kinds of jobs these Ph.D.s accept since most humanists have, in the past, relied heavily on this market for employment.

It is also possible that with the renewed public emphasis on the need for quality education and a liberal arts background, the observed upward trend may reflect changes in attitude of non-academic employers, whereby the humanities Ph.D. is perceived as a desirable employee. As such, employment opportunities, which previously did not exist for these individuals, may now be drawing them away from humanities fields and allowing them to use skills acquired through humanities graduate education--such as writing, editing, and research skills--in different areas of the market.

In addition, particularly where employment in computer sciences and business/management is concerned, it is possible that humanists alerted to the difficulty of obtaining traditional jobs within their fields have acquired additional training beyond the doctorate to increase their competitiveness in other markets.

Thus far, the discussion has been focused on establishing the issue of field mobility as one that is real and one that deserves some attention. The following sections concentrate on demographic and employment variables that characterize the population of field switchers and discuss (1) how these field-mobile Ph.D.s are faring in the job market as compared with their field-stable counterparts; (2) how fungible their skills are; and (3) what observable, additional investments they may have made to increase their employment success.

3

DEMOGRAPHICS AND FIELD MOBILITY

To determine which, if any, groups may account for the field mobility observed in 1983, the following demographic variables were analyzed: age, gender, and race/ethnic group. Through these analyses, one can either pinpoint or eliminate possible areas of concern.

Age

Table 3-1 presents the age distribution of employed humanities Ph.D.s by their field mobility status in 1983.[12] Given their respective representation in the employed population, Ph.D.s aged 44 or younger were more likely than their older counterparts to work outside their doctoral field. While they represented 49.4% of the working population, they formed 55.7% of the total employed out of field and 58.3% of the total working in nonhumanities fields. The 35-39 age group showed the highest out-of-field employment (22.5%), given their share (18.4%) of the total number employed, and even a larger representation (23.9%) in nonhumanities fields.

According to the Survey of Earned Doctorates,[13] the early to mid-1970s were peak years in terms of humanities Ph.D. production, with a fairly steady decline (of over one-third) occurring since the apex in

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[12]Appendix Table D-1, which provides the distribution among employment fields, lists their employment rates in nonhumanities fields.

[13]The Survey of Earned Doctorates, conducted by the National Research Council, is an annual survey of the total population of new Ph.D. recipients from U.S. institutions.

1973. As the median age at humanities Ph.D. receipt was 34 in 1983 and has varied little during the past 10 years, it is likely that most of the Ph.D.s aged 44 or younger received their degree during or just after those peak years.

It follows, then, that this high production of recent Ph.D.s would increase competition in the job market and would explain the higher representation of the "44 and younger" Ph.D.s in both out-of-field and out-of-humanities employment. An examination of nonhumanities fields that they transferred into lends some support to this claim. Compared to older age groups, those in the younger cohort showed higher representation in computer sciences, business and management, and "other fields"--the three areas accounting for the growth from 1977 to 1983 in nonhumanities employment.

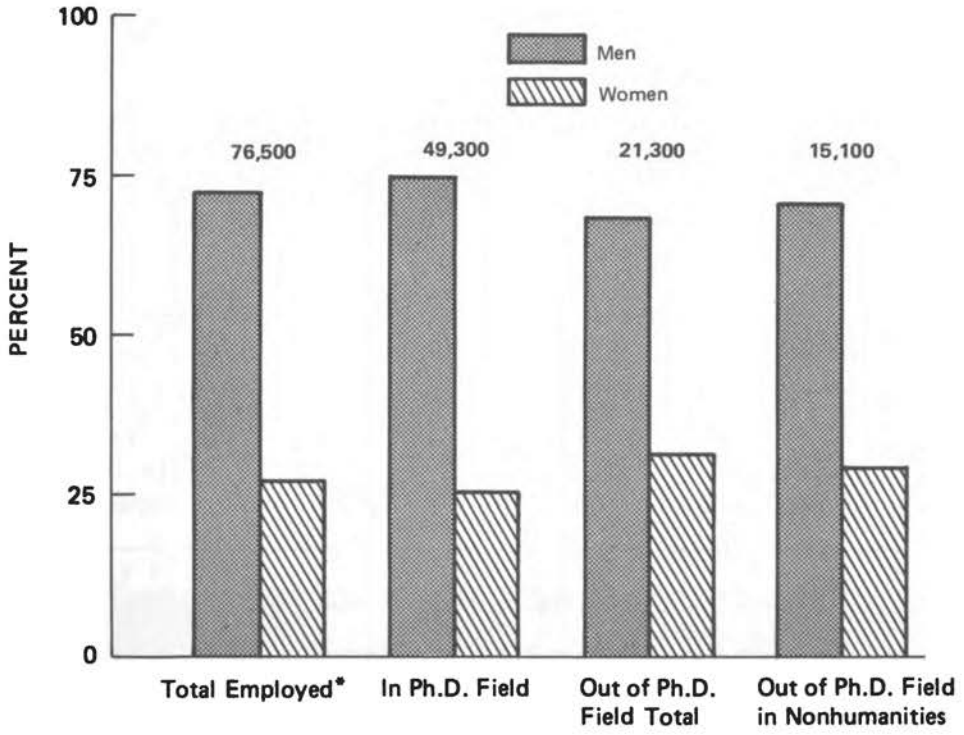
TABLE 3-1 Field Mobility Status of Humanities Ph.D.s (1940-1982 Graduates) by Age, 1983 (in percent)

Age in 1983	Total Employed	In Ph.D. Field	Out of Ph.D. Field	
			Total	In Non-humanities
Total	76,500*	49,300	21,300	15,100
Under 34	7.9	8.0	8.6	9.8
35-39	18.4	16.9	22.5	23.9
40-44	23.1	22.7	24.6	24.6
45-49	16.7	17.4	14.7	13.4
50-54	12.9	13.2	11.9	11.8
55-59	9.4	10.1	8.0	7.3
60-64	6.9	7.4	5.8	5.3
Over 64	4.4	4.3	3.6	3.2
No Report	0.2	0.1	0.5	0.6

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s.
*The in-field and out-of-field totals do not add to the total employed, as the 5,900 Ph.D.s who did not report their field of employment in 1983 are omitted from this table.

Gender

Given their percentage share of the employed population, 27.1%, women had a higher representation than men in both out-of-field and nonhumanities employment; 31.4% of those working out of field and 29.3% of those employed outside the humanities were women (see Figure 3-1).[14]



NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s.
*Excluded from this figure are 5,900 Ph.D.s who did not report their field of employment in 1983.

FIGURE 3-1 Field Mobility Rates for Men and Women, 1983.

SOURCE: National Research Council, Office of Scientific and Engineering Personnel, Survey of Doctorate Recipients.

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[14]Table D-2 provides the gender distribution among the various employment fields (see page 65).

However, it should be noted that the number of men graduating with Ph.D.s in the humanities has significantly declined during the past 10 years (while the number of women has remained fairly constant).[15] This means that smaller proportions of the total number of employed males are in the younger cohorts, where outflow is more pronounced. The observed gender differences are actually an effect of differences in the age distribution of each group (Table 3-2). A larger proportion of employed women than employed men were in the 44 or younger cohort, 55.4% of women compared to 47.2% of men. Moreover, given these percentages, both men and women in this age group were more likely than their older counterparts to work outside their Ph.D. field. In fact, this tendency was slightly more evident for men than it was for women.

TABLE 3-2 Field Mobility Status of Employed Humanities Ph.D.s (1940-1982 Graduates) by Gender and Age, 1983 (in percent)

Gender and Age in 1983	Total Employed	In Ph.D. Field	Out of Ph.D. Field	
			Total	In Non-humanities
Male, Total	55,800*	37,000	14,600	10,700
44 and under	47.2	45.4	53.8	56.9
45 and over	52.6	54.6	45.6	42.3
No Report	0.2	0.0	0.6	0.8
Female, Total	20,800	12,400	6,700	4,400
44 and under	55.4	54.4	59.7	61.4
45 and over	44.4	45.3	40.1	38.5
No Report	0.3	0.3	0.2	0.2

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s.
*The in-field and out-of-field totals do not add to the total employed, as the 5,900 Ph.D.s who did not report their field of employment in 1983 are omitted from this table.

[15]Survey of Earned Doctorates, National Research Council.

Race/Ethnic Group

The employment breakdown of humanities Ph.D.s by race/ethnic group indicates the following: 91.3% were whites, 3.0% were Hispanics, 1.6% were blacks, 1.7% were Asians or Pacific Islanders, and 0.2% were American Indians or Alaskan natives (Table 3-3). Given their relative representation among the total working population, minority group members were not overrepresented in either out-of-field or nonhumanities employment. For example, blacks were 1.6% of the employed population, 1.5% of those working out-of-field, and 1.5% of those employed outside the humanities.

TABLE 3-3 Field Mobility Status of Humanities Ph.D.s (1940-1982 Graduates) by Race/Ethnic Group, 1983 (in percent)

Race/Ethnic Group	Total Employed	In Ph.D. Field	Out of Ph.D. Field	
			Total	In Non-humanities
Total	76,500*	49,300	21,300	15,100
Minority Group	6.5	6.4	6.0	5.3
Hispanic	3.0	3.0	2.5	2.3
Black	1.6	1.5	1.5	1.5
Asian/Pacific Islander	1.7	1.7	1.9	1.4
Amer Indian/Alaskan Native	0.2	0.2	0.1	0.1
White	91.3	92.2	92.1	92.5
No Report	2.2	1.3	1.9	2.2

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s.
*The in-field and out-of-field totals do not add to the total employed, as the 5,900 Ph.D.s who did not report their field of employment in 1983 are omitted from this table.

While no minority group was overrepresented in nonhumanities employment, there were proportional variations among the groups. Blacks

had a higher nonhumanities employment rate (18.3%) than Asians (16.6%), who experienced greater nonhumanities employment than Hispanics (15.0%).[16] It should be noted, however, that the percentage for total minorities employed in nonhumanities fields (16.2%) was lower than that of whites similarly employed (20.1%).

Of the demographic variables analyzed, only age effects were noted. Although Ph.D.s aged 44 and under did not account for all of the field mobility between and out of humanities fields, their higher rate of employment in computer sciences, business and management, and the aggregated "other fields"--employment fields that grew between 1977 and 1983--suggests that they did account for a large part of the growth observed. Again, their higher placement in nonhumanities fields appears to relate to trends in Ph.D. production and implies at least a temporary imbalance between the number of humanities doctorates and the number of job opportunities in the humanities.

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[16]The employment rates in the various nonhumanities fields are provided in Table D-3, page 66.

4

EMPLOYMENT FACTORS AND FIELD MOBILITY

No discussion of field mobility would be complete without some description of how and what the field-mobile doctorates are doing in their out-of-field positions. Are they using the skills developed during their humanities graduate education? Are they underemployed--working in part-time jobs involuntarily or earning salaries below the norm for their skill level? Or, more positively, have they adapted to the ever-changing employment market, applying their skills and knowledge to different sectors of the workplace? Although it is unlikely that one can ever fully answer these questions, the analyses that follow, comparing field-stable (i.e., those who are employed in their field of doctorate) and field-mobile Ph.D.s on a variety of employment variables, provide not only insight into these issues, but also some basis for conclusions about them.

Employment Status

Although the rate of full-time employment was slightly higher for Ph.D.s working in their doctoral field than it was for those employed out of field (Table 4-1), almost all members of each group held full-time jobs (92.7% and 89.5%, respectively). In addition, while the part-time rate for those out of field was higher than that for those employed in field (9.4% and 5.8%, respectively), roughly equal proportions of each group were seeking full-time work (3.5% of those employed out of field compared to 2.4% of those employed in field). On the basis of this finding, one could conclude that underemployment arising from involuntary part-time employment is no more evident for the

TABLE 4-1 Employment Status of Humanities Ph.D.s (1940-1982 Graduates) by Field Mobility Status, 1983 (in percent)

Employment Status	Total Employed	Field Mobility Status: In Ph.D. Field	Field Mobility Status: Out of Ph.D. Field
Total Employed	76,500*	49,400	21,300
Full-Time Employed	91.2	92.7	89.5
Part-Time Employed	7.4	5.8	9.4
Seeking Full-Time	2.8	2.4	3.5
Not Seeking Full-Time	3.7	2.7	5.1
Seeking Status Unknown	1.0	0.7	0.8
Postdoctoral Appointment	1.4	1.5	1.0

*The in-field and out-of-field totals do not add to the total employed, as the 5,900 Ph.D.s who did not report their field of employment in 1983 are omitted from this table.

field-mobile Ph.D.s than it is for their field-stable counterparts. In fact, when mobility status is disregarded and the total working population is observed, only 2.8% of the 76,500 employed humanities doctorates held part-time jobs while seeking full-time positions. This evidence contradicts the frequently held assumption of widespread underemployment through involuntary part-time work among humanities Ph.D.s.

Primary Work Activity

The primary work activities reported by both the Ph.D.s working in their doctoral field and those employed outside their field are provided in Table 4-2. For both groups, teaching was most often reported as the primary work activity, although those working in field were far more likely to be so engaged (82.2% compared to 33.6% of those employed out of field).

TABLE 4-2 Primary Work Activity of Humanities Ph.D.s (1940-1982 Graduates) by Field Mobility Status, 1983 (in percent)

Primary Work Activity	Total Employed	Field Mobility Status: In Ph.D. Field	Field Mobility Status: Out of Ph.D. Field
Total Employed	76,500*	49,300	21,300
Teaching	66.1	82.2	33.6
Research & Development	4.6	4.0	6.9
Consulting/Prof Services	3.6	0.5	10.4
Management/Administration	11.3	6.2	22.8
Writing/Editing	5.3	3.2	9.3
Archival Work	0.4	0.1	1.1
Curatorial Work	0.4	0.4	0.4
Performing Arts	0.8	1.0	0.3
Mktg/Oper/Inspection	2.1	0.3	6.5
Other	2.2	0.5	5.9
No Report	3.3	1.6	2.9

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s.
*The in-field and out-of-field totals do not add to the total employed, as the 5,900 Ph.D.s who did not report their field of employment in 1983 are omitted from this table.

While those who had switched fields were more likely to be involved in activities other than teaching, the work they were doing, for the most part, was not atypical for humanities professionals: 22.8% held management/administrative positions, 9.3% were involved in writing/editing, and 6.9% were engaged in research and development, while still others either provided curatorial or archival services or were engaged in the performing arts.

Perhaps the most notable difference between the two groups was the higher percentage of out-of-field Ph.D.s engaged in consulting/professional services (10.4%), marketing/operations/inspection (6.5%), and "other" work activities (5.9%). Although it is difficult to know whether the individuals who reported these as their primary work

activities are using skills developed during their humanities education or during previous work experience, their activities, with the possible exception of consulting, are not generally considered to be characteristic of the humanities doctorate.

From these data, it becomes increasingly apparent that, although there is a great deal of out-of-field employment among humanities Ph.D.s, many of the field switchers are working in jobs either related to their specific background or requiring the use of similar skills. The relatively high percentage of out-of-field Ph.D.s engaged in teaching is evidence of this. It is quite unlikely that all of these individuals were hired to teach in areas for which they had not been trained. Moreover, if the out-of-field administrators/managers are primarily employed in educational institutions (and, indeed, many may have reported their employment field to be "education," a nonhumanities field), then they too are probably engaged in work that is typically performed by humanities professionals.

Still, some 22% of those working outside their doctoral field (i.e., those engaged in consulting/professional services, marketing/operations/inspection, or "other" activities) are not so easily classified. While some may be commended for applying their skills to tasks considered unusual for individuals with Ph.D.s in the humanities, others may have obtained additional degrees or training related to these activities in an attempt to increase their employment potential.

Salary

Table 4-3 lists the average annual salaries across Ph.D. fields for both those working in and those working outside their field in 1983. The salary range for in-field Ph.D.s extended from a low of $29,300 for music Ph.D.s to a high of $34,200 for history Ph.D.s. The median salary for all fields was approximately $30,900, with only history and speech/theater substantially exceeding this figure.

Perhaps the most striking figures in Table 4-3 are the average annual salaries for Ph.D.s working out of field. With few exceptions, these salaries were similar to those reported by Ph.D.s employed in

TABLE 4-3 Median Annual Salary of Humanities Ph.D.s by Ph.D. Field and Field Mobility Status, 1983

Field of Doctorate	Total Employed	Field Mobility Status: In Ph.D. Field	Field Mobility Status: Out of Ph.D. Field
All Fields	$30,700	$30,900	$30,000
History	33,500	34,200	31,200
Art History	30,300	30,100	32,700
Music	28,900	29,300	24,800
Speech/Theater	34,000	33,500	35,300
Philosophy	30,900	30,900	30,800
Engl/Amer Lang & Lit	30,000	30,300	29,200
Classics	30,000	30,100	27,200
Modern Lang & Lit	29,700	29,800	29,400
Other Humanities*	29,200	30,000	27,900

NOTE: Includes only nonmilitary, full-time employed.
*Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

field. The largest salary difference was noted for Ph.D.s in music, where those employed in their field earned more than those employed out of their field. This may account for the higher retention rate of music Ph.D.s (see Table 2-1, page 6) or may suggest that mobility for music Ph.D.s is more difficult.

Since more than 55% of those Ph.D.s working out of field are in the "44 years or younger" age category, the similarity in the salaries of in-field and out-of-field Ph.D.s becomes even more noteworthy. In fact, it suggests that as income generally increases with age, salaries out of field (when adjusted for age differences) might be notably higher than those in field despite the apparent equivalence. In any event, these salary figures suggest that humanities doctorates have fungible skills and can work in fields other than their doctoral field without financial penalty.

Type of Employer

While the majority of humanities doctorates continue to work in educational institutions (82.8% of the total employed), the percentages that do so have continued to decrease since 1977. This decline in academic employment has been met by consistently increased employment in business/industry and is reflected in the increased percentages of humanities doctorates employed in computer sciences and business and management. It is further evidenced by the substantial rate (25.0%) of business/industry employment among Ph.D.s working outside their field (Table 4-4).

While one would expect the high rate of academic employment for those Ph.D.s working in field (95.2%), the relatively high rate for Ph.D.s employed out of field (57.3%) might not have been anticipated. This finding suggests that most humanities doctorates have aspirations for academic careers (be they teaching or administrative positions, in-field or out-of-field positions). As such, it is not surprising that growth in the doctoral population would increase competition for academic jobs and would, thereby, force some of the Ph.D.s, particularly the noted younger cohort, to look to other sectors for employment. It would appear that employment in business and industry has become an increasingly viable option.

Table 4-5, which tracks changes in employment sector from 1981 to 1983, points to the remarkably high retention rate (97.0%) of Ph.D.s working in academe and the consistent flow into this sector when individuals changed employers (an influx ranging from 6.9% for those working in business/industry in 1981 to 12.7% for those employed by nonprofit/other organizations in 1981). Also noteworthy is a fairly stable movement into business and industry (ranging from 1.4% for those working in educational institutions in 1981 to 6.6% for both those working in government and in nonprofit/other organizations in 1981). This reaffirms the earlier statement that business/industry is becoming more and more a viable employment option for the humanities doctorate.

TABLE 4-4 Type of Employer of Humanities Ph.D.s (1940-1982 Graduates) by Field Mobility Status, 1983 (in percent)

Type of Employer	Total Employed	Field Mobility Status: In Ph.D. Field	Field Mobility Status: Out of Ph.D. Field
Total Employed	76,500*	49,300	21,300
Educational Institution	82.8	95.2	57.3
Business/Industry	8.7	1.4	25.0
Private Foundation	0.5	0.4	0.7
U.S. Government	2.1	0.9	4.2
State or Local Government	1.6	0.5	4.6
Nonprofit Organization	3.6	1.3	7.4
Other	0.3		0.8
No Report	0.5	0.2	0.1

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s.
*The in-field and out-of-field totals do not add to the total employed, as the 5,900 Ph.D.s who did not report their field of employment in 1983 are omitted from this table.

TABLE 4-5 Type of Employer in 1983 by 1981 Employer (in percent)

Type of Employer in 1983	Total Employed	Type of Employer in 1981: Educ Inst	Bus/ Ind	Govt	Non-Prof/ Other+
Total Employed	55,800*	48,400	3,200	2,000	1,900
Educational Institution	85.6	97.0	6.9	7.6	12.7
Business/Industry	6.8	1.4	87.7	6.6	6.6
Government	3.6	0.3	2.4	83.8	8.4
Nonprofit/Other+	3.5	0.9	2.9	2.0	71.9
No Report	0.4	0.4	0.2		0.4

NOTE: Estimates are based only on those Ph.D.s who indicated on both the 1981 and 1983 SDR surveys that they were employed.
*The total numbers employed in each employer category do not add up to the total employed, as the 300 Ph.D.s who did not report their employer type in 1981 were omitted from this table.
+Aside from non-profit organizations, this category includes private foundations and other unspecified employer types.

Salary and Type of Employer

Table 4-6 lists the median annual salaries of the in-field and out-of-field groups by type of employer. For the total employed, salaries ranged from a low of $24,400 for Ph.D.s working for nonprofit organizations to a high of $32,800 for those in U.S. government. While one might expect a comparatively low salary for nonprofit organizations, the low salary for business/industry, $27,800, would not have been anticipated, since business/industry routinely pays higher salaries.[17]

TABLE 4-6 Median Annual Salary of Humanities Ph.D.s by Type of Employer and Field Mobility Status, 1983

Type of Employer	Total Employed	Field Mobility Status: In Ph.D. Field	Field Mobility Status: Out of Ph.D.Field
Total	$30,700	$30,900	$30,000
Educational Institution	$31,000	$31,000	$31,200
4-Year Coll/University	$31,200	$31,100	$31,100
2-Year College	$30,500	$30,300	$31,500
Elem/Sec School	$27,200	$24,300	$30,700
Business/Industry	$27,800	$22,700	$27,900
Private Foundation	$29,500	*	*
U.S. Government	$32,800	$35,300	$30,600
State/Local Government	$25,200	*	$27,100
Nonprofit Organization	$24,400	$24,400	$24,800

NOTE: Includes nonmilitary, full-time employed only.
*Median salaries were not reported for cells with fewer than 20 individuals reporting salaries.

[17]Maxfield, B. D., and M. Belisle, Science, Engineering, and Humanities Doctorates in the United States: 1983 Profile, Washington, D.C.: National Academy Press, 1985.

While the salary breakdown by doctoral field (see Table 4-3, page 23) indicated little difference between those working in field and those working out of field, the breakdown by employment sector yielded some notable differences between the two groups. These differences are difficult to interpret, however, as extraneous variables (e.g., age, specific work activity, or cost of living by geographic location) have not been controlled. For example, out-of-field Ph.D.s employed either in business and industry or in elementary/secondary schools earned more on average than their in-field counterparts (out-of-field Ph.D.s employed by business/industry earned $5,200 more; out-of-field Ph.Ds. employed by elementary/secondary schools earned $6,400 more), while the reverse was true for those employed by the federal government (those in field earned $4,700 more on average than those out of field). While these salary differences may be related to the specific activities of each group, no definitive conclusion can be drawn.

Much of the evidence put forth in this section points to the relative success with which humanities Ph.D.s have moved from their doctoral field to a different field of employment. Most are employed full-time, appear to be performing activities for which they were trained, and are earning salaries commensurate with those of Ph.D.s who had secured in-field positions. With respect to employment, then, these individuals seem to have adjusted quite well to changes in market conditions.

5

FIELD MOBILITY AND PUBLICATIONS, ADDITIONAL TRAINING, AND ADDITIONAL DEGREES

To further our understanding of the impact of being employed in one's doctoral field as compared to being employed in another humanities field or in a position totally outside the humanities, it is valuable to see how these employment decisions may have affected the likelihood that one will (1) be active in publishing, (2) be required to obtain additional job-related training, or (3) obtain one or more degrees after receiving the Ph.D. However, while these relationships can be examined by type of employment sector, these data cannot completely determine whether one's rate of publication and completion of additional studies are effects of the type of job in which one is employed or causes for choosing that job.

Publishing and Employment Out of Field

Table 5-1 presents the publication status of employed humanities Ph.D.s by their field of doctorate and field mobility status and indicates the percentage who had authored or co-authored publications between 1981 and 1983 in any of the following categories: books, chapters in books, monographs or reports, journal or magazine articles, or book reviews. For each doctoral field, those employed in their field of degree were more likely to have published than those employed outside their field. Table 5-2 indicates that humanities Ph.D.s who were employed in educational institutions were more likely to have published than those employed in other areas (64.1% compared to between 39.1% for the business/industry employed, and 50.2% for those working in gov-

TABLE 5-1 Publication Status by Field of Doctorate and Field Mobility Status, 1983 (in percent)

Field Mobility and Publication Status*	All Fields	Field of Doctorate: Art History	History	Music	Speech/ Theater	Philos-ophy	English/ American Lang&Lit	Classics	Modern Lang&Lit	Other Humn+
Total Employed	76,500	18,500	2,100	5,400	3,300	6,100	20,300	1,700	13,300	5,900
Total Rptg. Publications	60.8	70.1	73.0	35.7	44.1	60.5	59.6	55.8	59.7	67.4
No Publications	28.0	21.6	17.4	47.7	40.1	29.3	29.3	31.9	27.6	20.8
No Report	11.3	8.3	9.5	16.5	15.8	10.2	11.2	12.3	12.8	11.8
Total in Ph.D. Field	49,300	11,900	1,700	4,500	2,000	3,600	13,100	1,000	8,900	2,600
Total Rptg. Publications	68.3	80.4	79.2	37.7	47.1	69.5	68.2	66.3	67.5	78.2
No Publications	24.3	14.7	15.3	48.3	39.9	26.3	25.5	25.9	24.6	9.9
No Report	7.4	4.9	5.5	14.1	13.1	4.3	6.3	7.8	7.9	11.9
Total out of Ph.D. Field	21,300	5,200	300	500	1,100	2,000	5,500	500	3,400	2,800
Total Rptg. Publications	52.0	54.6	54.3	30.6	45.0	50.2	49.1	44.9	49.3	65.3
No Publications	39.5	37.4	36.4	58.1	42.3	40.0	42.8	45.9	39.6	30.9
No Report	8.5	7.9	9.3	11.3	12.7	9.8	8.1	9.2	11.0	3.9
Total - No Report	5,900	1,300	200	400	200	500	1,700	100	1,100	500
Total Rptg. Publications	29.0	39.5	38.9	19.2	10.7	34.4	25.9	25.0	27.9	20.7
No Publications	17.2	21.4	8.3	25.6	30.2	8.3	14.5	19.3	14.4	20.3
No Report	53.8	39.1	52.9	55.2	59.0	57.3	59.6	55.7	57.7	59.0

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s. Subtotals do not add up to the total because of rounding.

*This questionnaire item asked the respondent to indicate the number of publications he had authored or co-authored (in any of six categories provided) during the past two years.

+Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

TABLE 5-2 Field Mobility by Type of Employer and Publication Status, 1983 (in percent)

Type of Employer and Publication Status	Total Employed	Field Mobility Status: In Ph.D. Field	Field Mobility Status: Out of Ph.D. Field
Total Employed	76,500*	49,300	21,300
Total Reporting Publications	60.8	68.3	52.0
No Publications	28.0	24.3	39.5
No Report	11.3	7.4	8.5
Educational Institution	63,400	47,000	12,200
Total Reporting Publications	64.1	68.6	58.6
No Publications	25.0	24.2	33.7
No Report	10.9	7.2	7.7
4-Yr Coll/Univ/Med Sch	57,300	43,400	10,300
Total Reporting Publications	66.4	70.4	61.8
No Publications	22.9	22.4	30.5
No Report	10.7	7.2	7.7
2-Yr College	3,900	2,400	1,100
Total Reporting Publications	45.7	50.2	42.0
No Publications	43.5	45.5	51.4
No Report	10.8	4.3	6.7
Elem/Sec School	2,300	1,200	800
Total Reporting Publications	35.5	37.9	41.0
No Publications	46.8	48.1	50.4
No Report	17.6	14.0	8.7
Business/Industry	6,600	700	5,300
Total Reporting Publications	39.1	47.1	38.9
No Publications	47.0	34.1	50.7
No Report	13.9	18.8	10.4
Government	2,800	700	1,900
Total Reporting Publications	50.2	78.4	44.6
No Publications	37.9	11.7	46.5
No Report	11.9	9.9	8.9
Non-Profit Organization	2,800	700	1,600
Total Reporting Publications	49.0	54.9	53.9
No Publications	39.0	35.5	38.4
No Report	12.0	9.6	7.7
Other/No Report+	900	300	300
Total Reporting Publications	58.6	89.2	53.9
No Publications	28.9	9.0	36.8
No Report	12.6	1.8	9.3

*The in-field and out-of-field totals do not add to the total employed, as the 5,900 Ph.D.s who did not report their field of employment in 1983 are omitted from this table.
+"Other" includes other employers as well as private foundations.

ernment) and that those in four-year colleges, universities, and medical schools were more likely to have published than those employed in other educational institutions (66.4% compared to 45.7% for those employed in two-year colleges and 35.5% for those working in elementary/secondary schools). These results are not surprising. What may be surprising to some is that individuals outside the four-year academic setting, not to mention the ones working out of field, publish in substantial numbers. For example, for the group with the smallest percentage of publications (those employed in elementary and secondary schools), more than one-third published during the two years covered by the questionnaire with the percentage for those employed out of field (41.0%) exceeding that for those employed in field (37.9%).[18]

In general, one would expect that those employed within their Ph.D. field would--because of their knowledge of the field including its literature, methodologies, and techniques of research--be more likely to publish than those outside their field. It also is plausible to assume that those working in four-year educational institutions would publish more than those employed by other types of employers. Undoubtedly, a variety of factors would make this so: (1) the reward system in higher education is in large part based upon an individual's publication record (i.e., the "publish or perish" phenomenon); (2) college and university faculty have access to research facilities and to colleagues with similar interests; (3) the work schedule of faculty contains time for research and writing; and (4) those employed in other occupations, while often engaged in writing (e.g., preparation of evaluations, budgets, memos, letters), do not write for publication as often as those employed by academe.

While the data presented in Tables 5-1 and 5-2 are, on the whole, in line with one's expectations, it is worth noting that those with

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[18]It should be noted that no value assessment could be made in terms of the professional quality of the publications (i.e., there was no way to distinguish between a referred article in an established journal and a brief report in a newsletter).

Ph.D.s in music and speech/theater who work in their Ph.D. field were much less likely to publish than their counterparts in other disciplines (35.7% and 44.1%, respectively, for music and speech/theater Ph.D.s compared to an average of about 63% for those in other fields).

Additional Training and Employment Out of Field

Table 5-3 illustrates the extent to which both those Ph.D.s employed in field and those working out of field had to acquire additional training (i.e., formal training beyond the doctorate) to secure their current positions. For the 76,500 employed doctorates, only 8.1% indicated that they had received such training. As expected, however, the rate for those Ph.D.s working outside their field was much higher (21.3% for all doctoral fields combined) than that for the in-field group (2.5%). The types of training most often reported by those out of field were in management/administration (7.2%), computer sciences (4.9%), and the nonspecified training category referred to as "other" (9.7%).

The interpretation of these data is fairly evident. As the doctoral program in higher education is designed to produce professionals who can function effectively in their area of expertise, it is unlikely that Ph.D.s working in their field of doctoral study would need to receive additional training to perform in-field jobs and, indeed, extremely few did so. However, it is not improbable that an individual moving into a new field, particularly one unrelated to his or her doctoral discipline, may require some additional job-related skills (or knowledge). Such an individual may have been willing to undergo the training process either to ensure employment or to improve the likelihood of upward mobility in his or her career, as the incidence of training in management/administration might suggest (roughly one-third of those receiving training indicated this type).

Table 5-4 gives information about additional training by type of employer. These data indicate that, regardless of employer type, those working outside their doctoral fields were more likely to have received additional training than those employed within their fields. The out-

TABLE 5-3 Field Mobility by Additional Training Status, 1983 (in percent)

Field Mobility and Additional Training*	All Fields	Field of Doctorate: History	Art History	Music	Speech/ Theater	Philos-ophy	English/ American Lang&Lit	Classics	Modern Lang&Lit	Other Humn**
Total Employed	76,500	18,500	2,100	5,400	3,300	6,100	20,300	1,700	13,300	5,900
Yes***	8.1	8.2	5.3	6.0	4.2	8.6	9.1	5.5	8.8	7.8
Foreign Languages	1.0	1.3	0.2	0.7	0.3	0.4	0.7	0.7	1.9	1.2
Computer Sciences	1.6	1.5	1.3	1.7	0.6	2.6	1.4	1.3	1.5	1.9
Mgmt/Admin	2.6	2.6	2.8	1.5	0.7	2.6	3.0	2.4	2.5	3.4
Survey Res/Stat	0.6	0.6	1.4	0.3	1.0	0.3	0.7		0.5	0.4
Other	3.4	3.0	1.7	2.2	2.0	3.9	4.2	1.3	4.2	2.2
Type Unknown	0.2	0.6	0.2	0.2	0.1			0.2		
No	80.5	81.6	84.2	80.1	83.2	79.7	80.3	83.2	78.3	79.7
No Report	11.5	10.2	10.5	13.8	12.7	11.8	10.6	11.4	12.9	12.5
Total in Ph.D. Field	49,300	11,900	1,700	4,500	2,000	3,600	13,100	1,000	8,900	2,600
Yes	2.5	2.1	1.7	3.7	1.6	1.5	2.3	1.6	4.1	1.3
Foreign Languages	0.7	0.4	0.2	0.8	0.2	0.4	0.6	0.2	1.9	
Computer Sciences	0.2		0.2	0.2		0.4	0.1	0.8	0.2	0.2
Mgmt/Admin	0.7	1.0	0.6	0.9		0.4	0.8	0.4	0.4	0.9
Survey Res/Stat	0.1			0.4		0.4	0.2			
Other	0.9	0.4	0.3	1.3	1.4	1.0	0.8	0.2	1.7	0.2
Type Unknown	0.1	0.3	0.3	0.2						
No	89.6	89.2	91.4	84.8	89.6	92.1	92.2	91.0	87.9	86.9
No Report	7.9	8.7	6.9	11.5	8.8	6.4	5.5	7.4	8.0	11.8

Total Out of Ph.D. Field	**21,300**	**5,200**	**300**	**500**	**1,100**	**2,000**	**5,500**	**500**	**3,400**	**2,800**
Yes	21.3	22.5	25.3	24.8	8.8	22.6	25.1	13.1	22.8	14.2
Foreign Languages	1.3	2.2		1.1		0.4	0.3	1.5	1.4	2.4
Computer Sciences	4.9	4.9	7.4	14.3	1.8	6.7	4.7	2.4	5.3	3.4
Mgmt/Admin	7.2	6.9	12.6	7.1	2.0	7.1	8.0	6.3	8.9	5.7
Survey Res/Stat	1.4	0.6	8.6		3.1	0.2	2.2		2.1	0.8
Other	9.7	9.7	8.9	8.6	3.6	10.0	12.9	3.7	12.0	4.3
Type Unknown	0.5	1.4				0.1	0.8			
No	70.9	72.0	66.2	68.2	80.1	67.5	66.9	78.5	66.2	80.7
No Report	**7.8**	**5.5**	**8.6**	**7.0**	**11.0**	**9.9**	**8.0**	**8.5**	**11.0**	**5.0**
Total - No Report	**5,900**	**1,300**	**200**	**400**	**200**	**500**	**1,700**	**100**	**1,100**	**500**
Yes	6.6	6.0	9.6	7.5	4.9	5.3	8.9	2.9	4.7	5.7
Foreign Languages	3.0	5.7			3.4	0.8	2.5	1.4	3.9	0.8
Computer Sciences	1.1	2.0	1.9	2.2		2.1			0.4	2.3
Mgmt/Admin	2.1	0.1	9.6	0.8	1.0	1.5	4.2	1.4	0.7	3.6
Survey Res/Statistics	1.4	5.7	3.8							
Other	1.4	0.1	3.8	4.5		0.8	3.0			0.8
Type Unknown	0.1				1.5					
No	38.8	52.5	37.6	39.3	36.1	34.0	31.3	46.4	37.0	33.6
No Report	**54.7**	**41.5**	**52.9**	**53.2**	**59.0**	**60.7**	**59.8**	**50.7**	**58.3**	**60.7**

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.S. Subtotals do not add up to the total because of rounding.

*The questionnaire item asked the respondent if he or she had to acquire formal training after receiving the doctorate in order to obtain his or her present position.

**Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

***Respondents to this item were able to select more than one type of training. As such, figures listed by type of training may not agree with the total for those who responded affirmatively (i.e., indicated "Yes").

TABLE 5-4 Field Mobility by Type of Employer and Additional Training Status, 1983 (in percent)

Type of Employer and Additional Training*	Total Employed	Field Mobility Status In Ph.D. Field	Out of Ph.D. Field
Total Employed	76,500**	49,300	21,300
Yes	8.1	2.5	21.3
No	80.5	89.6	70.9
No Report	11.5	7.9	7.8
Educational Institution	63,300	47,000	12,200
Yes	4.8	2.4	14.0
No	83.7	89.9	77.7
No Report	11.5	7.7	8.3
4-Yr Coll/Univ/Med Sch	57,300	43,400	10,300
Yes	4.5	2.2	13.5
No	84.3	90.0	77.9
No Report	11.2	7.7	8.5
2-Yr College	3,800	2,400	1,100
Yes	2.8	0.8	8.1
No	86.3	95.1	86.4
No Report	10.9	4.1	5.4
Elem/Sec School	2,300	1,200	800
Yes	15.5	10.2	27.5
No	66.6	76.3	63.2
No Report	18.0	13.5	9.3
Business/Industry	6,600	700	5,300
Yes	31.9	3.0	37.5
No	55.8	74.6	54.7
No Report	12.3	22.4	7.8
Government	2,800	700	1,900
Yes	20.1	6.6	27.5
No	69.6	83.7	66.1
No Report	10.3	9.7	6.4
Non-Profit Organization	2,800	700	1,600
Yes	15.0	8.3	19.8
No	75.0	84.5	75.5
No Report	10.1	7.1	4.7
Other/No Report***	900	300	300
Yes	2.5	3.6	2.7
No	82.6	92.8	87.1
No Report	14.9	3.6	10.2

NOTE: Includes full-time and part-time emloyed Ph.D.s as well as postdoctoral appointees.
*This questionnaire item asked the respondent if he or she had to acquire formal training in order to obtain his or her present position.
**The in-field and out-of-field totals do not add to the total employed, as the 5,900 Ph.D.s who did not report their field of employment in 1983 are omitted from this table.
***"Other" includes other employers as well as private foundations.

of-field high was found for those working in business and industry (37.5%) while the low was found for those in two-year colleges (8.1%). Once again, with the exception of the non-specified category (called "other"), training in management/administration was most often received by the Ph.D.s who were employed out of field.[19] Of the field switchers working in government, 9.7% received training in management/administration and 7.3% received computer science training. Of those employed in business or industry, 12.5% received training in management/administration and 11.4% received computer science training.

Although most of the Ph.D.s employed in the academic sector had secured jobs in their field, those employed in elementary and secondary schools more closely resembled the non-academically employed Ph.D.s, with over one-third working in out-of-field jobs. Indeed, 10.2% of those employed in their field required additional training, the highest in-field training rate of any employment sector. This may be due to state and local school district requirements concerning workshops, institutes, and similar training activities for continuing certification.

Table 5-5 provides the salary breakdown by additional training status. Although little difference was found between the median salaries of Ph.D.s who indicated the need for additional training ($30,000) and those who did not ($30,700), some rather sizable differences were noted when type of training was considered. Those who had obtained post-Ph.D. training in survey research/statistics earned the highest average salary, $38,500, and exceeded the "no additional training" group by nearly $8,000. Also high by comparison was the salary of those trained in management/administration, the type most often reported, with an average yearly income of $35,300 (or $4,600 higher than the "no additional training" group). As work in computer sciences is typically lucrative, it is somewhat surprising that those receiving training in this area received the lowest average salary, $27,400. One possible reason for the low salaries may be related to the average age

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[19]For data on type of training by type of employer, see Appendix E.

TABLE 5-5 Median Annual Salary of Humanities Ph.D.s by Post-Ph.D. Training Status, 1983

Post-Ph.D. Training Status	Median Salary
Total	$30,700
Yes	30,000
Foreign Languages	32,200
Computer Sciences	27,400
Management/Administration	35,300
Survey Research/Statistics	38,500
Other	28,200
Type Unknown	
No	30,700
No Report	30,500

NOTE: Includes nonmilitary, full-time employed only.

of the individuals included in this training category. Those employed in the nonhumanities employment field of computer sciences tended to be young Ph.D.s, and presumably individuals accepting jobs in that field would be more apt to need computer science training than those securing jobs in other fields.

Post-Ph.D. Degrees and Employment Out of Field

While only 3.0% of employed humanities Ph.D.s received one or more degrees after the initial doctorate, Table 5-6 indicates that those who worked outside their doctoral field, with the exception of Ph.D.s in music, were more likely to have received at least one additional degree than those employed within their field. For combined doctoral fields, only 1.1% of those working in field earned one or more additional degrees while 8.0% of those employed out of field had done so.

Without exception, a similar result is obtained when one examines additional degree status by type of employer (Table 5-7). Perhaps the most striking example of the distinction between the two groups is that

TABLE 5-6 Field Mobility by Additional Degree Status, 1983 (in percent)

Field Mobility and Post-Ph.D. Degrees*	Field of Doctorate: All Fields	History	Art History	Music	Speech/ Theater	Philos-ophy	English/ American Lang&Lit	Classics	Modern Lang&Lit	Other Humn+
Total Employed	76,500	18,500	2,100	5,400	3,300	6,100	20,300	1,700	13,300	5,900
Received Degree(s)	3.0	2.8	1.8	1.3	1.3	5.3	3.3	5.1	3.5	1.0
Total in Ph.D. Field	49,300	11,900	1,700	4,500	2,000	3,600	13,100	1,000	8,900	2,600
Received Degree(s)	1.1	1.0	0.1	1.4	0.5	2.0	0.7	2.5	1.8	
Total out of Ph.D. Field	21,300	5,200	300	500	1,100	2,000	5,500	500	3,400	2,800
Received Degree(s)	8.0	7.8	11.2	0.6	3.2	12.7	10.2	11.0	9.1	1.8
Total - No Report	5,900	1,300	200	400	200	500	1,700	100	1,100	500
Received Degree(s)	0.5		3.2			0.8	0.7		0.6	1.1

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s. Subtotals do not add up to the total because of rounding.
*This questionnaire item asked the respondent to specify the type and field of any degrees received after the initial doctorate.
+Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

TABLE 5-7 Field Mobility by Type of Employer and Additional Degree Status, 1983 (in percent)

Type of Employer and Post Ph.D. Degrees*	Total Employed	Field Mobility Status: In Ph.D. Field	Field Mobility Status: Out of Ph.D. Field
Total Employed	76,500**	49,300	21,300
Received Degree(s)	3.0	1.1	8.0
Educational Institution	63,400	47,000	12,200
Received Degree(s)	1.8	1.1	5.1
4-Yr Coll/Univ/Med Sch	57,300	43,400	10,300
Received Degree(s)	1.8	1.1	5.1
2-Yr College	3,800	2,400	1,100
Received Degree(s)	1.3	1.2	2.1
Elem/Sec School	2,300	1,200	800
Received Degree(s)	4.2	2.1	8.4
Business/Industry	6,600	700	5,300
Received Degree(s)	12.3	0.4	15.1
Government	2,800	700	1,900
Received Degree(s)	5.4		8.2
Non-Profit Organization	2,800	700	1,600
Received Degree(s)	5.1	2.7	7.4
Other/No Report***	900	300	300
Received Degree(s)	1.1		3.0

NOTE: Includes full-time and part-time employed Ph.D.s as well as postdoctoral appointees.
*This questionnaire item asked the respondent to specify the type and field of any degrees received after the initial doctorate.
**The in-field and out-of-field totals do not add to the total employed, as the 5,900 Ph.D.s who did not report their field of employment in 1983 are omitted from this table.
***"Other" includes other employers as well as private foundations.

of humanities Ph.D.s employed in business/industry. A total of 15.1% of those working outside their field had received an additional degree compared to only 0.4% of those working within their field.

Given the fairly high rate of field mobility (especially into non-humanities fields) and the low incidence of additional degree attainment among humanities doctorates, one could conclude that the skills and knowledge developed during the humanities doctoral program were adequate preparation for employment, not only in their field of doctoral study but in many other fields as well. This again points to the fungibility of skills possessed by humanities Ph.D.s. Indeed, the pursuit of an additional degree begins to appear more as a career shift than an attempt just to secure future employment. Those obtaining additional degrees may have decided to pursue new fields where long-term career opportunities were perceived to be more favorable. Some may have even become dissatisfied or complacent with their present careers and decided it was time for change or, in an attempt to build a more satisfying or flexible career, decided to creatively merge two areas of expertise.

When salaries were analyzed by degree status, results indicated that Ph.D.s who had obtained no degrees beyond the initial doctorate earned a higher median annual salary than those who had furthered their formal education ($30,700 compared with $29,000, respectively).[20] This difference was slight, however ($1,700).

As income level is often related to the number of degrees one has earned, one might have expected the opposite result; and if tracked over time, that expectation may, in fact, be realized. Many of those who acquired additional degrees probably interrupted their careers to do so, causing them to have fewer years of professional work experience with which to negotiate higher salaries. Moreover, individuals who shifted careers and obtained additional degrees in a field unrelated to their initial doctorate may be entering a new employment field

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[20]As relatively few individuals had obtained additional degrees, the number of responses was too small to provide reliable data in a finer breakdown. As such, no table is presented for this variable.

on the bottom rung of the salary ladder. After these doctorates have gained a few years of work experience in their new fields, their salaries may climb at a faster rate than those of doctorates who received no added degrees. Again, more data are needed to investigate this hypothesis. In conducting such an analysis, one would need to control for several extraneous factors (e.g., field of additional degree and the typical salary range associated with the various fields, geographical location of both those who had additional degrees and those who did not, and the number of additional degrees obtained) to isolate the effect of additional degree attainment on earning potential.

6
CONCLUSIONS AND IMPLICATIONS

While the nearly one-in-five mobility rate of humanities Ph.D.s initially appeared to indicate a dire employment situation, further analysis indicated that some degree of outflow is probably normal and that many of the fields into which the Ph.D.s had moved are similar in either content, skills required, or both. To elaborate, it was discovered that a certain level of mobility, both between humanities fields and from the humanities to certain nonhumanities fields (i.e., education and behavioral/social sciences), was fairly constant over time. It was further noted that the outflow from the humanities to these nonhumanities fields was, at least in part, an artifact of field classification.

Yet, it is difficult to deny the growing outflow from the humanities into seemingly unrelated nonhumanities fields and the relationship between this outflow and increases in the size of the humanities doctoral population. Some degree of oversupply is suggested by this relationship, but its exact magnitude and permanence are currently indeterminable. What is more, the current oversupply may, in fact, be transitory. In particular, the demand for humanities Ph.D.s (which depends heavily--and obviously--on the value placed on the humanities in higher education) may increase and bring the supply into balance. For example, the strongest trends in undergraduate education are currently a renewed emphasis on fundamental skills--with writing leading the list and foreign languages often receiving prominent mention--and a revival of interest in the idea of the core curriculum. If these developments become widespread, the undergraduate enrollment decline experienced in

the humanities since the early 1970s may be reversed, with a complementary increase in the demand for humanities Ph.D.s. If the oversupply is indeed transitory or, alternatively, if mobility into other fields remains a viable option, changes in operational procedures involved in the educational process may not be warranted.

On the other hand, if the oversupply continues or worsens because demand does not grow correspondingly, some change in policy may be indicated. For example, the survival of critical skills in the humanities could be promoted through predoctoral, postdoctoral, or young investigator programs to encourage key humanists to remain in their fields. At the same time, additional training programs designed to facilitate career changes could be developed for humanists who plan such changes.

However, before options are considered, the fact remains that additional information is needed first to preclude the possibility of increased demand rectifying the situation on its own or, barring that, to properly assess the problem and effect the wisest solutions. Obviously, the existence of a substantial rate of out-of-field employment among humanities Ph.D.s is probably not going to disappear in the near future. As this could be a sign of underutilization of their skills and knowledge, the issue of field mobility, particularly as it relates to nonhumanities employment, is worthy of continued investigation and close monitoring in the future.

APPENDIXES

Appendix A

1983
Questionnaire and Specialties List

1983 SURVEY OF DOCTORATE RECIPIENTS

OMB No. 3145-0020

CONDUCTED BY THE NATIONAL RESEARCH COUNCIL WITH THE SUPPORT OF THE NATIONAL SCIENCE FOUNDATION, THE NATIONAL ENDOWMENT FOR THE HUMANITIES, THE NATIONAL INSTITUTES OF HEALTH, AND THE DEPARTMENT OF ENERGY

If your name or address is incorrect, please enter correct information below.

_____

_____

_____ (10-11)

Listed below are responses that you provided to us in previous NRC doctoral surveys. Please check this information to determine if it accurately reports your status as of FEBRUARY 1983. If the data are correct, simply check the "no change" box. If the data are missing or no longer correct, please enter the correct information in the spaces provided.

Previous Survey Response	No Change	Changes as of February 1983
Date of Birth	☐	_____ (12-16)
Institution/Year of Doctorate	☐	_____ (17-24)
Citizenship	☐	_____ (25)
Marital Status	☐	_____ (26)
Academic Rank	☐	_____ (27)
Tenure Status	☐	_____ (28-31)

What is your racial background?

1 ☐ American Indian or Alaskan Native
2 ☐ Asian or Pacific Islander
3 ☐ Black
4 ☐ White
(32)

Is your ethnic heritage Hispanic?

A ☐ Yes
B ☐ No
(33)

If YES, is it:
1 ☐ Mexican-American
2 ☐ Puerto Rican
3 ☐ Other Hispanic (34)

1. What was your employment status (includes postdoctoral appointment*) during February 1983?

☐ Circle your selection and enter number from below (35)

1. Employed full-time (35 hours or more/week in one position) (Skip to Question #3)
2. Employed part-time
   If you were employed part-time, were you seeking full-time employment?
   A ☐ Yes
   B ☐ No (36)
3. Postdoctoral appointment*
   If you held a postdoctoral appointment, was it
   A ☐ Full-time (Skip to Question #3)
   B ☐ Part-time (37)
4. Unemployed and seeking employment
5. Not employed and not seeking employment
6. Retired and not employed

(Skip to Question #11)

7. Other, specify _____

*Temporary appointment in academia, industry or government, the primary purpose of which is to provide for continued education or experience in research.

2. If you were employed part-time during FEBRUARY 1983, what was the MOST important reason for being in part-time status?

☐ Enter number from below (38)

1. Part-time employment preferred
2. Full-time position not available
3. Constraints due to family or marital status
4. Other, specify _____

3. Please give the name of your principal employer (company, organization, postdoctoral institution, etc. or, if self employed, write "self") and actual place of employment during FEBRUARY 1983.

_____
Name of Employer (39-46)

_____
City State ZIP (47-55)

4. From the Employment Specialties List on page 4 select and enter both the number and title of the employment specialty most closely related to your principal employment or postdoctoral appointment during FEBRUARY 1983. Write in your specialty if it is not on the list.

Number _____ Title of Employment Specialty _____ (56-58)

5. Which category below best describes the type of your principal employment OR postdoctoral appointment during FEBRUARY 1983?

☐ Enter number from below (59-60)

1. Business or industry (including self-employed)
2. Junior college, 2-year college, technical institute
3. Medical school (including university affiliated hospital or medical center)
4. 4-year college
5. University, other than medical school
6. Elementary or secondary school system
7. Private foundation
8. Hospital or clinic
9. U.S. military service, active duty, or Commissioned Corps, e.g., USPHS, NOAA
10. U.S. government, civilian employee
11. State government
12. Local or other government, specify _____
13. Nonprofit organization, other than those listed above
14. Other, specify _____

6. What is your best estimate of the percentage of your professional work time that you devoted to each of the following activities during a typical week in your principal job? (Total should equal 100%)

	%		%
1.	____ Teaching (61)	11.	____ Operations—production, maintenance, construction, installation (10)
2.	____ Basic research (63)	12.	____ Quality control, testing, evaluation (12)
3.	____ Applied research (65)	13.	____ Sales, marketing, purchasing, estimating (14)
4.	____ Development of equipment, products, systems, data (67)	14.	____ Archival work (16)
5.	____ Design (69)	15.	____ Curatorial work (18)
6.	____ Writing, editing (71)	16.	____ Performing arts (20)
7.	____ Professional services to individuals (73)	17.	____ Other, specify _____ (22)
8.	____ Management of R&D (75)	TOTAL = 100%	
9.	____ Management of educational/other programs (77)		
10.	____ Consulting (79)		

a. **What were your primary and secondary work activities?** (Enter number 1-17 from question #6 above) ☐ Primary (24-25) ☐ Secondary (26-27)

7. What was the basic annual salary* associated with your principal professional employment during FEBRUARY 1983? If you were on a postdoctoral appointment (see question #1 for definition), what was your stipend plus allowances? $_____ per year (28-30)

Check whether salary was for ☐ 9-10 months or ☐ 11-12 months (31)

*Basic salary is your annual salary before deductions for income tax, social security, retirement, etc., but does not include bonuses, overtime, summer teaching, or other payment for professional work.

8. If you were employed during FEBRUARY 1983 in a specialty field other than your field of Ph.D., what was the MOST important reason for being in that position?

☐ Enter number from below (32)

1. Better pay
2. More attractive career options
3. Preferred specific geographic location
4. Constraints due to family or marital status
5. Position in Ph.D. field not available
6. Promoted into new field
7. Other, specify _____

9. If you were employed in a non-academic job in FEBRUARY 1983, what was the MOST important reason for your decision to enter this job?

☐ Enter number from below (33)

1. Better pay
2. More attractive career options
3. Preferred specific geographic location
4. Constraints due to family or marital status
5. Academic position not available
6. Other, specify _____

10. During 1982 was any of your work supported or sponsored by U.S. Government funds?

A ☐ Yes B ☐ No C ☐ Don't Know (34)

If YES, which Federal agencies or departments supported the work? Enter number(s) from the List of Federal Supporting Agencies on page 4.

_____ (35-46)

11. How many full-time equivalent years of professional work experience have you had? _____ Year(s) (47-48)

12. Following the receipt of your doctorate, did you leave the work force for any period of at least one year in duration?

A ☐ Yes
B ☐ No
(49)

If YES, indicate the beginning and ending years of career disruptions:

_____ to _____ (50-53)

_____ to _____ (54-57)

_____ to _____ (58-61)

13. Have you received any external research support (for at least three months) from any of the following non-government sources in the past two years?

A ☐ Yes B ☐ No If YES, specify below

1. _____ Industry
2. _____ Private Foundations
3. _____ Academe
4. _____ Other, specify _____ (63-66)

14. Please indicate the number of publications you have authored or co-authored in the following categories during the past two years.

1981-82

1. Books _____ (67-68)
2. Chapters in books _____ (69-70)
3. Monographs and Reports _____ (71-72)
4. Journal articles _____ (73-74)
5. Book reviews _____ (75-76)
6. If NONE, check box ☐ (77)

15. After receiving your doctorate, did you have to acquire formal training in any of the following areas in order to obtain your present position?

A ☐ Yes B ☐ No (10) If YES, specify below

1. _____ Foreign languages
2. _____ Computer science
3. _____ Management and administration
4. _____ Survey research and statistics
5. _____ Other, specify _____ (11-15)

16. Please specify the type and field of any degree(s) you have received after your initial doctorate.

_____ (16-27)

If you devoted a proportion of your professional time which you considered significant to energy or fuel activities during a typical work week, please answer questions #17-20, otherwise skip to item #21.

17. What percent of your professional time did you devote to energy and fuel during a typical week? _____ (28-29)
percent

18. From the list below, give the corresponding number of the ONE energy source that involved the LARGEST proportion of your energy-related work during a typical week.

☐ Enter number from below (30)

1. Coal and coal products
2. Petroleum (including oil shale and tar sands) or natural gas
3. Fission
4. Fusion
5. Hydroenergy
6. Direct solar (including space and water heating, thermal, electric)
7. Indirect solar (winds, tides, biomass, etc.)
8. Geothermal
9. Other, specify _____

19. Please read the following list of energy-related activities and give the corresponding number(s) from the list below of the activity(ies) in which you were engaged during a typical week. Enter number(s) from below _____ (31-50)

1. Exploration
2. Extraction (gas, oil, mining)
3. Manufacture of energy-related components or products
4. Fuel processing (including refining and enriching)
5. Electric power generation
6. Transportation, transmission, distribution of fuel or energy
7. Energy storage
8. Energy utilization, management
9. Fuel reprocessing or disposal
10. Energy conservation
11. Environmental impact (health, economic, etc.)
12. Education, training
13. Other, specify _____

20. Please enter the number 1-13 from question #19 that BEST describes the activity in which you spent MOST of your energy-related time. ☐ (51-52)

21. Thank you for completing this questionnaire. Please return the completed form in the enclosed envelope to the National Research Council, JH630, 2101 Constitution Avenue, Washington, D.C. 20418.

EMPLOYMENT SPECIALTIES LIST

MATHEMATICAL SCIENCES

000 - Algebra
010 - Analysis & Functional Analysis
020 - Geometry
030 - Logic (see also 834)
040 - Number Theory
052 - Probability
055 - Math. Statistics (see also 544, 670, 725, 727)
060 - Topology
082 - Operations Research (see also 478)
095 - Applied Mathematics
099 - Combinatorics & Finite Mathematics
098 - Mathematics, General
099 - Mathematics, Other*

COMPUTER AND INFORMATION SCIENCES

071 - Theory
072 - Software Systems
073 - Hardware Systems
074 - Intelligent Systems
079 - Computer Sciences, Other* (see also 437, 476)
081 - Information Sci. & Systems*

PHYSICS & ASTRONOMY

101 - Astronomy
102 - Astrophysics
110 - Atomic & Molecular
120 - Electromagnetism
132 - Acoustics
134 - Fluids
135 - Plasma
136 - Optics
140 - Elementary Particles
150 - Nuclear Structure
157 - Polymer
160 - Solid State
198 - Physics, General
199 - Physics, Other*

CHEMISTRY

200 - Analytical
210 - Inorganic
215 - Synthetic Inorganic & Organometallic
220 - Organic
225 - Synthetic Organic & Natural Products
230 - Nuclear
240 - Physical
250 - Theoretical
255 - Structural
260 - Agricultural & Food
270 - Pharmaceutical
275 - Polymer
280 - Biochemistry (see also 540)
298 - Chemistry, General
299 - Chemistry, Other*

EARTH, ENVIRONMENTAL, AND MARINE SCIENCES

301 - Mineralogy, Petrology
305 - Geochemistry
310 - Stratigraphy, Sedimentation
320 - Paleontology
330 - Structural Geology
341 - Geophysics (Solid Earth)
350 - Geomorph. & Glacial Geology
391 - Applied Geol., Geol. Engr. & Econ. Geol.
398 - Earth Sciences, General
399 - Earth Sciences, Other*
381 - Atmospheric Physics & Chemistry
382 - Atmospheric Dynamics
383 - Atmos. & Meteorol. Sci., Other*
388 - Environmental Sciences, General (see also 480, 528)
389 - Environmental Sciences, Other*
380 - Hydrology & Water Resources
370 - Oceanography
397 - Marine Sciences, Other*

ENGINEERING

400 - Aerospace, Aeronautical & Astronautical
410 - Agricultural
415 - Bioengineering & Biomedical
420 - Civil
430 - Chemical
435 - Ceramic
436 - Communications
437 - Computer
440 - Electrical
445 - Electronics
450 - Industrial & Manufacturing
455 - Nuclear
460 - Engineering Mechanics
465 - Engineering Physics
470 - Mechanical
475 - Metallurgical & Phys. Met. Engr.
476 - Systems Design & Systems Science (see also 072, 073, 074)
478 - Operations Research (see also 082)
479 - Fuel Technology & Petroleum
480 - Sanitary & Environmental Health
485 - Naval Arch. & Marine Engr.
486 - Mining & Mineral
487 - Ocean
490 - Polymer
497 - Materials Science & Engineering
498 - Engineering, General
498 - Engineering, Other*

AGRICULTURAL SCIENCES

501 - Agricultural Economics
508 - Animal Breeding & Genetics
508 - Animal Nutrition
512 - Animal Sciences, Other*
500 - Agronomy
511 - Plant Path. (see also 553)
513 - Plant Breeding & Genetics
514 - Plant Sciences, Other*
503 - Food Science and/or Technology (see also 573)
505 - Forestry
506 - Horticulture
507 - Soil Sciences
515 - Fisheries Sciences
516 - Wildlife Management
518 - Agriculture, General
519 - Agriculture, Other*

MEDICAL SCIENCES

520 - Medicine & Surgery
522 - Public Health & Epidemiology
523 - Veterinary Medicine
524 - Hospital Administration
526 - Nursing
527 - Parasitology
528 - Environmental Health
530 - Audiology & Speech Pathology
534 - Human and Animal Pathology
536 - Pharmacology
537 - Pharmacy
538 - Medical Sciences, General
539 - Medical Sciences, Other*

BIOLOGICAL SCIENCES

540 - Biochemistry (see also 280)
542 - Biophysics
550 - Botany
551 - Bacteriology
552 - Plant Genetics
553 - Plant Path. (see also 511)
567 - Plant Physiology
563 - Human & Animal Genetics
566 - Human & Animal Physiology
569 - Zoology
544 - Biometrics & Biostatistics (see also 055, 670, 725, 727)
545 - Anatomy
546 - Cell Biology
547 - Embryology
548 - Immunology
549 - Endocrinology
560 - Ecology
571 - Entomology
572 - Molecular Biology
573 - Food Science and/or Technology (see also 503)
574 - Behavior/Ethnology
575 - Microbiology
576 - Nutrition & Dietetics
589 - Neurosciences
590 - Toxicology
598 - Biological Sciences, General
599 - Biological Sciences, Other*

PSYCHOLOGY

600 - Clinical
603 - Cognitive
610 - Counseling & Guidance
620 - Developmental & Gerontological
630 - Educational
635 - School
641 - Experimental
642 - Comparative
643 - Physiological
650 - Industrial/Organizational
660 - Personality
670 - Psychometrics (see also 055, 544, 725, 727)
675 - Quantitative
680 - Social
698 - Psychology, General
699 - Psychology, Other*

SOCIAL SCIENCES

700 - Anthropology
703 - Archeology
708 - Communications
709 - Linguistics
710 - Sociology
720 - Economics (see also 501)
725 - Econometrics (see also 055, 544, 670, 727)
727 - Social Statistics (see also 055, 544, 670, 725)
730 - Demography
740 - Geography
745 - Area Studies*
751 - Political Sci. & Government
752 - Public Administration
753 - Public Policy Studies
755 - International Relations
760 - Criminology & Criminal Justice
770 - Urban & Regional Planning
775 - History & Philosophy of Sci.
798 - Social Sciences, General
799 - Social Sciences, Other*

HUMANITIES

804 - History, American
805 - History, European
806 - History, Other*

811 - American Literature
813 - English Language
814 - English Literature
827 - Classics
831 - Speech & Debate
836 - Comparative Literature
839 - Letters, Other*

821 - German
822 - Russian
823 - French
824 - Spanish & Portuguese
826 - Italian
829 - Other Languages*

802 - Art History & Criticism
808 - American Studies
809 - Theatre & Theatre Criticism
830 - Music
833 - Religious Studies (see also 881)
834 - Philosophy (see also 030)
891 - Library & Archival Sciences
878 - Humanities, General
879 - Humanities, Other*

EDUCATION AND PROFESSIONAL FIELDS

801 - Applied Art
881 - Theology (see also 833)
882 - Business & Menagement
883 - Home Economics
884 - Journalism
886 - Law, Jurisprudence
887 - Social Work
888 - Architec. & Environ. Design
896 - Professional Fields, General
897 - Professional Fields, Other*
938 - Education (other than teaching in a field listed above)

999 - OTHER FIELDS*

*Identify the specific field in the space on the questionnaire.

LIST OF FEDERAL SUPPORTING AGENCIES (For use with # 10)

1. Agency for International Development
2. Environmental Protection Agency
3. National Aeronautics & Space Administration
4. National Endowment for the Arts
5. National Endowment for the Humanities
6. National Science Foundation
7. Nuclear Regulatory Commission
8. Smithsonian Institution
9. Department of Agriculture
10. Department of Commerce
11. Department of Defense
12. Department of Energy
13. National Institutes of Health (DHHS)
14. Alcohol, Drug Abuse & Mental Health Administration (NIAA, NIDA, NIMH)
15. Other DHHS, specify _____
16. Department of Education (NIE, OE, NCES)
17. Department of Housing and Urban Development
18. Department of the Interior
19. Department of Justice
20. Department of Labor
21. Department of State
22. Department of Transportation
23. Other agency or department, specify _____
24. Don't know source agency

Appendix B

Fine Fields of Employment for Humanities Ph.D.s

TABLE B-1 Fine Field of Employment for Humanities Ph.D. in the United States, 1983

1983 Fine Field of Employment	Est. N
Total Population	76,548
Mathematics Total	198
Algebra	7
Logic	150
Math Statistics	27
Mathematics, General	10
Mathematics, Other	4
Computer Sciences Total	1,212
Theory	43
Software Systems	564
Hardware Systems	10
Intelligent Systems	62
Computer Sciences, Other	322
Information Sci. & Systems	211
Physics/Astronomy Total	30
Physics, General	19
Physics, Other	11
Earth, Envir, & Mar Sci Total	56
Structural Geology	15
Geophysics (Solid Earth)	5
Atmos./Meteorol. Sci., Other	10
Environmental Sci., General	22
Environmental Sci., Other	4
Engineering Total	219
Aero- & Astronautical	11
Civil Engineering	15
Communications Engineering	19
Computer Engineering	93
Electronics Engineering	7
Industrial/Manufacturing	10
Nuclear Engineering	32
Systems Design & Sys. Sci.	20
Engineering, Other	12
Agricultural Sciences Total	114
Agricultural Economics	18
Animal Sciences, Other	10
Food Sciences	20
Horticulture	49
Agricultural Sci., General	17
Medical Sciences Total	323
Medicine & Surgery	101
Publ Hlth & Epidemiology	18
Hospital Administration	36
Nursing	30
Environmental Health	2
Speech Pathology & Audiology	54
Medical Sciences, General	4
Medical Sciences, Other	78
Biological Sciences Total	24
Ecology	7
Zoology	2
Neurosciences	15
Psychology Total	304
Clinical Psychology	108
Counseling & Guidance	81
Developmental & Gerontol.	29
Educational Psychology	5
School Psychology	18
Industrial & Personnel	15
Psychology, General	4
Psychology, Other	44
Social Sciences Total	2,240
Anthropology	73
Communications	503
Sociology	52
Economics	76
Social Statistics	5
Demography	23
Geography	42
Area Studies	258
Political Science	295
Public Administration	100
Public Policy Studies	145
International Relations	180
Criminology & Crim. Justice	87
Urban & Regional Plannning	58
Social Sciences, General	129
Social Sciences, Other	214

1983 Fine Field of Employment	Est. N
Arts & Humanities Total	31,041
American History	5,695
European History	3,343
History & Phil. of Sci.	201
History, Other	3,029
Comparative Literature	615
Linguistics	988
History & Crit. of Art	1,885
Archeology	423
American Studies	392
Music	4,579
Theatre & Theatre Criticism	1,585
Speech as a Dram. Art/Debate	580
Religious Studies	1,379
Philosophy	3,780
Letters, Other	765
Humanities, General	916
Humanities, Other	886
Languages & Literature Total	24,461
American	3,678
English Language	3,339
English Literature	7,492
Classical	1,104
German	1,654
Russian	685
French	2,392
Spanish & Portuguese	2,809
Italian	302
Other Languages	1,006

1983 Fine Field of Employment	Est. N
Educational, Professional, & Other Fields Total	10,427
Education	3,553
Applied Art	77
Theology	736
Business & Management	1,856
Home Economics	19
Journalism	444
Law, Jurisprudence	654
Social Work	146
Architec. & Environ. Design	49
Library & Archival Sciences	851
Prof. Fields, General	46
Prof. Fields, Other	596
Other Fields	1,400
No Report	5,899

Appendix C
Time Series Data on Field Mobility

TABLE C-1 Field Mobility of Employed Humanities Ph.D.s (1940-1982 Graduates) for Those Reporting Employment Field in 1983 (in percent)

		Field of Doctorate								
Field of Employment	All Fields	History	Art History	Music	Speech/ Theater	Philosophy	English/ American Lang&Lit	Classics	Modern Lang&Lit	Other Humn*
All Fields (N)	70,600	17,200	2,000	5,000	3,100	5,600	18,600	1,500	12,200	5,400
History	17.4	69.5	0.6		0.6	0.1	0.1	0.5	0.5	4.1
Art History	2.7	0.3	86.2	0.4		0.1	0.1	0.5	0.1	1.7
Music	6.5			89.4			0.4		0.1	0.1
Speech/Theater	3.1	0.1	0.1		64.9	0.3	0.5		0.1	0.4
Philosophy	5.4	0.3				65.1		1.8	0.1	0.8
Engl/Amer Lang & Lit	20.5	0.4		0.1	4.2	0.9	70.5	1.8	4.1	11.0
Classics	1.6						0.2	64.3	0.5	0.6
Modern Lang & Lit	13.4	0.3			0.6	0.1	0.5	5.3	72.5	5.8
Other Humanities*	8.1	3.1	3.0	1.4	3.2	5.2	7.2	6.6	5.2	48.0
Nonhumanities	21.4	26.0	10.1	8.7	26.4	28.1	20.6	19.2	16.7	27.5
Computer Sciences	1.7	1.6	0.1	1.5	1.2	4.5	1.5	1.8	0.8	3.0
Engineering	0.3	0.1	0.4	0.4		0.5	0.3	0.2	0.2	1.2
Other EMP Fields**	0.4	0.3				3.3		0.4	0.3	0.3
Life Sciences	0.7	0.5	0.3	0.2	2.5	0.5	0.8	0.5	0.5	0.6
Behav/Soc Sci	3.6	7.1	0.8		13.1	2.6	1.2	1.1	1.9	5.0
Education	5.0	6.3	1.0	2.4	2.4	4.9	6.6	4.7	3.5	4.6
Business & Mgmt	2.6	2.5	2.5	2.7	2.3	3.2	2.8	3.7	2.9	1.2
Other Fields***	7.1	7.5	5.1	1.4	4.9	8.5	7.4	6.8	6.6	11.7

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s. Excluded are the 7.7 percent who did not report their employment field. Also, the subtotals do not add up to the total because of rounding.

*Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

**Other EMP Fields: Mathematics, physics/astronomy, chemistry, and earth/environmental sciences.

***Other Fields: Applied art, theology, home economics, journalism, law/jurisprudence, social work, architecture and environmental design, library and archival sciences, general professional fields, other professional fields, and other fields.

TABLE C-2 Field Mobility of Employed Humanities Ph.D.s (1938-1980 Graduates) for Those Reporting Employment Field in 1981 (in percent)

Field of Employment	All Fields	Field of Doctorate: History	Art History	Music	Speech/ Theater	Philosophy	English/ American Lang&Lit	Classics	Modern Lang&Lit	Other Humn*
All Fields (N)	67,100	16,700	1,700	4,600	2,700	5,400	18,500	1,500	11,800	4,100
History	19.2	74.6	0.1	0.1		0.8	0.2	2.0	0.6	5.5
Art History	2.7	0.3	90.6	0.1		0.4	0.2	0.2	0.1	2.8
Music	6.2	0.1		90.8					0.2	0.1
Speech/Theater	2.8			0.1	65.6		0.5		0.3	0.2
Philosophy	6.1	0.1				74.2		0.7	0.3	
Engl/Amer Lang & Lit	22.0	0.1		0.1	1.9	0.9	73.8	2.2	4.5	10.7
Classics	1.6							68.0	0.4	0.3
Modern Lang & Lit	14.7				0.3	0.3	2.1	3.4	76.9	7.3
Other Humanities*	6.6	2.4	3.3	1.3	5.3	3.5	4.6	6.1	3.5	54.3
Nonhumanities	18.0	22.4	6.0	7.4	26.8	19.8	18.7	17.4	13.2	18.8
Computer Sciences	0.9	0.5		0.4	0.5	2.4	1.2	1.2	0.8	1.2
Engineering	0.4	0.4	0.3		0.3	0.4	0.3	1.0	0.3	0.9
Other EMP Fields**	0.2			0.5		1.4	0.1		0.2	0.2
Life Sciences	0.6	0.6	0.2	0.2	3.6	0.7	0.5	0.4	0.2	0.8
Behav/Soc Sci	3.8	6.5	0.5		14.6	2.4	2.7	2.0	1.6	4.9
Education	5.0	4.2	0.6	2.6	4.5	5.2	6.9	2.9	4.1	7.2
Business & Mgmt	1.5	2.3	1.1	1.4	2.0	1.3	1.4	2.5	1.2	0.1
Other Fields***	5.5	7.9	3.3	2.3	1.4	6.1	5.7	7.4	4.7	3.5

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s. Excluded are the 5.4 percent who did not report their employment field. Also, the subtotals do not add up to the total because of rounding.

*Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

**Other EMP Fields: Mathematics, physics/astronomy, chemistry, and earth/environmental sciences.

***Other Fields: Applied art, theology, home economics, journalism, law/jurisprudence, social work, architecture and environmental design, library and archival sciences, general professional fields, other professional fields, and other fields.

TABLE C-3 Field Mobility of Employed Humanities Ph.D.s (1936-1978 Graduates) for Those Reporting Employment Field in 1979 (in percent)

Field of Employment	All Fields	Field of Doctorate: History	Art History	Music	Speech/ Theater	Philosophy	English/ American Lang&Lit	Classics	Modern Lang&Lit	Other Humn*
All Fields (N)	60,600	15,000	1,500	3,900	2,500	5,000	16,900	1,500	10,700	3,700
History	18.6	73.5	0.5	0.1		0.2	0.1	2.2	0.5	4.7
Art History	2.6	0.5	90.0	0.2	0.2		0.1	0.4	0.1	2.7
Music	6.1		0.3	92.8					0.4	0.2
Speech/Theater	2.8		0.3		59.7	0.4	0.6		0.1	1.5
Philosophy	6.2	0.2				73.6		1.7	0.1	2.0
Engl/Amer Lang & Lit	22.8	0.1		0.1	1.6	1.0	76.8	1.7	3.2	9.1
Classics	1.8		0.1			0.3		66.3	0.6	0.4
Modern Lang & Lit	15.2	0.2	0.1	0.1	0.3	0.2	1.3	3.4	79.9	8.8
Other Humanities*	7.5	3.0	3.1	0.8	7.7	6.2	5.9	7.4	4.7	52.9
Nonhumanities	16.4	22.5	5.6	5.9	30.4	18.1	15.3	16.9	10.4	17.8
Computer Sciences	0.3			0.1		0.5	0.4	1.9	0.3	0.2
Engineering	0.2	0.7	0.5		0.3			0.1	0.1	
Other EMP Fields**	0.2			0.4		1.8	0.1	0.3		0.2
Life Sciences	0.7	0.2	0.2	0.4	4.1	0.8	0.8	0.3	0.1	1.8
Behav/Soc Sci	4.3	9.3	0.3	0.2	16.3	1.7	2.0	1.6	1.9	5.0
Education	4.7	4.9	1.3	2.5	4.9	6.3	5.2	5.4	3.5	6.6
Business & Mgmt	0.9	1.0		0.4	2.0	0.9	1.2	0.6	0.5	0.6
Other Fields***	5.0	6.5	3.3	1.9	2.9	6.1	5.5	6.8	4.0	3.5

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s. Excluded are the 5.5 percent who did not report their employment field. Also, the subtotals do not add up to the total because of rounding.

*Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

**Other EMP Fields: Mathematics, physics/astronomy, chemistry, and earth/environmental sciences.

***Other Fields: Applied art, theology, home economics, journalism, law/jurisprudence, social work, architecture and environmental design, library and archival sciences, general professional fields, other professional fields, and other fields.

TABLE C-4 Field Mobility of Employed Humanities Ph.D.s (1934-1976 Graduates) for Those Reporting Employment Field in 1977 (in percent)

Field of Employment	All Fields	Field of Doctorate: History	Art History	Music	Speech/ Theater	Philosophy	English/ American Lang&Lit	Classics	Modern Lang&Lit	Other Humn*
All Fields (N)	56,600	14,600	1,300	3,400	2,800	4,600	15,800	1,400	9,500	3,200
History	20.3	76.6	1.4		0.1	1.1		1.8	0.9	4.0
Art History	2.4	0.5	87.6	0.1	0.2	0.2		0.6	0.3	2.8
Music	5.5	0.1		91.8					0.3	0.4
Speech/Theater	2.8		0.7	0.3	52.7		0.6			
Philosophy	6.7	0.3				79.7		1.6	0.1	1.3
Engl/Amer Lang & Lit	23.4	0.5		0.1	3.9		78.1	2.4	3.4	11.8
Classics	1.8	0.1	0.5					64.0	0.5	0.7
Modern Lang & Lit	14.9	0.3		0.1	0.7	0.3	1.9	4.2	79.6	12.8
Other Humanities*	6.5	2.4	1.3	1.4	6.1	3.2	5.6	7.8	3.9	49.1
Nonhumanities	15.7	19.2	8.5	6.3	36.3	15.3	13.8	17.5	11.0	17.1
Computer Sciences	0.2					0.9	0.2	1.1	0.1	0.7
Engineering	0.1	0.1	0.5		0.4	0.2	0.1	0.4	0.1	
Other EMP Fields**	0.2			0.3		1.9			0.1	
Life Sciences	0.7	0.3	0.2		5.2	1.1	0.5	0.5	0.4	0.4
Behav/Soc Sci	3.9	6.5	2.3	0.1	20.4	2.3	1.7	0.9	1.3	4.5
Education	5.0	5.2	1.2	3.6	5.8	4.6	6.1	5.4	3.8	5.3
Business & Mgmt	0.8	1.0	0.6		0.5	0.6	0.9	2.4	0.7	1.0
Other Fields***	4.7	6.1	3.8	2.2	3.9	3.6	4.3	6.8	4.5	5.2

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s. Excluded are the 4.0 percent who did not report their employment field. Also, the subtotals do not add up to the total because of rounding.

*Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

**Other EMP Fields: Mathematics, physics/astronomy, chemistry, and earth/environmental sciences.

***Other Fields: Applied art, theology, home economics, journalism, law/jurisprudence, social work, architecture and environmental design, library and archival sciences, general professional fields, other professional fields, and other fields.

Appendix D

Employment Field by Age, Gender, and Race/Ethnic Group

TABLE D-1 Employment Field of Humanities Ph.D.s (1940-1982 Graduates) by Age, 1983 (in percent)

Field of Employment	Total	Age in 1983 Under 34	35-39	40-44	45-49	50-54	55-59	60-64	Over 64	No Report
All Fields (N)	76,500	6,100	14,100	17,700	12,800	9,900	7,200	5,300	3,400	100
History	16.0	12.0	10.9	17.5	19.1	19.5	15.8	17.4	14.4	6.8
Art History	2.5	2.3	3.2	2.6	1.9	2.2	2.2	2.5	2.2	
Music	6.0	8.7	6.4	5.8	5.0	6.2	5.8	5.1	5.3	1.4
Speech/Theater	2.8	1.8	2.0	1.9	3.4	2.2	5.9	4.3	4.3	
Philosophy	4.9	6.1	4.6	4.4	4.8	5.2	5.7	4.5	6.0	3.4
Engl/Amer Lang & Lit	19.0	18.7	17.7	18.6	20.6	16.3	20.5	21.0	21.8	14.2
Classics	1.4	2.1	1.6	1.5	1.5	1.0	0.9	1.5	1.1	1.4
Modern Lang & Lit	12.4	11.1	12.3	11.6	12.1	13.5	14.1	13.6	11.0	6.8
Other Humanities*	7.5	8.0	8.9	8.2	7.0	7.2	6.0	6.8	5.2	0.7
Nonhumanities	19.8	24.3	25.7	21.1	16.2	18.0	15.4	15.1	14.5	60.8
Computer Sciences	1.6	4.5	2.9	1.8	0.9	0.8	0.1			
Engineering	0.3	1.1	0.1	0.5	0.1	0.2	0.1	0.1		
Other EMP Fields**	0.4		0.2	0.6	0.4	0.3	0.2	0.3	0.7	
Life Sciences	0.6	0.1	0.6	1.0	0.4	0.3	0.6	0.5	0.8	3.4
Behav/Soc Sci	3.3	3.2	2.8	3.9	2.4	3.9	3.7	3.6	3.5	
Education	4.6	2.4	4.0	4.9	5.2	5.3	5.1	4.8	3.7	32.4
Business & Mgmt	2.4	3.9	5.0	2.0	1.2	2.0	0.9	2.1	0.2	23.6
Other Fields***	6.6	9.0	10.0	6.3	5.6	5.3	4.7	3.6	5.6	1.4
No Report	7.7	4.9	6.9	6.9	8.4	8.7	7.6	8.3	14.2	4.7

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s. Subtotals do not add up to the total because of rounding.
*Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).
**Other EMP Fields: Mathematics, physics/astronomy, chemistry, and earth/environmental sciences.
***Other Fields: Applied art, theology, home economics, journalism, law/jurisprudence, social work, architecture and environmental design, library and archival sciences, general professional fields, other professional fields, and other fields.

TABLE D-2 Employment Field of Humanities Ph.D.s (1940-1982 Graduates) by Gender, 1983 (in percent)

Field of Employment	Total	Gender	
		Men	Women
All Fields (N)	76,500	55,800	20,800
History	16.0	19.0	8.0
Art History	2.5	1.8	4.4
Music	6.0	6.5	4.5
Speech/Theater	2.8	3.1	2.1
Philosophy	4.9	5.9	2.3
Engl/Amer Lang & Lit	19.0	17.9	21.9
Classics	1.4	1.4	1.4
Modern Lang & Lit	12.4	10.5	17.2
Other Humanities*	7.5	7.2	8.4
Nonhumanities	19.8	19.2	21.4
Computer Sciences	1.6	1.6	1.4
Engineering	0.3	0.3	0.2
Other EMP Fields**	0.4	0.4	0.3
Life Sciences	0.6	0.5	0.9
Behav/Soc Sci	3.3	3.4	3.1
Education	4.6	4.4	5.3
Business & Mgmt	2.4	2.4	2.5
Other Fields***	6.6	6.1	7.8
No Report	7.7	7.5	8.3

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s. Subtotals do not add up to the total because of rounding.

*Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).

**Other EMP Fields: Mathematics, physics/astronomy, chemistry, and earth/environmental sciences.

***Other Fields: Applied art, theology, home economics, journalism, law/jurisprudence, social work, architecture and environmental design, library and archival sciences, general professional fields, other professional fields, and other fields.

TABLE D-3 Employment Field of Humanities Ph.D.s (1940-1982 Graduates) by Race/Ethnic Group, 1983 (in percent)

	Total	Minority Group					White	No Report
		Total	Hisp	Black	Asian[1]	Am Ind[2]		
All Fields	76,500	5,000	2,300	1,300	1,300	100	69,900	1,700
History	16.0	12.8	7.3	17.1	18.1	12.5	16.2	18.1
Art History	2.5	1.9	1.5	1.4	3.3		2.5	1.0
Music	6.0	4.4	1.5	8.3	4.9	12.5	6.2	3.7
Speech/Theater	2.8	1.2	0.1	2.7	0.5	13.3	2.9	3.2
Philosophy	4.9	4.2	2.3	2.1	8.4	16.7	5.1	1.5
Engl/Amer Lang & Lit	19.0	12.5	9.2	23.6	7.6	11.7	19.7	5.9
Classics	1.4	0.5	0.4	0.2	0.8		1.5	0.1
Modern Lang & Lit	12.4	28.5	46.1	7.3	19.2	19.2	11.4	4.5
Other Humanities*	7.5	7.2	5.1	5.2	13.1	0.8	7.6	6.3
Nonhumanities	19.8	16.2	15.0	18.3	16.6	10.8	20.1	19.3
Computer Sciences	1.6	2.0	2.1	0.3	3.6		1.5	3.8
Engineering	0.3	0.1			0.2		0.3	
Other EMP Fields**	0.4		0.1				0.4	0.2
Life Sciences	0.6	0.3	0.2	0.3	0.2	1.7	0.6	0.2
Behav/Soc Sci	3.3	3.2	2.8	3.7	3.4		3.3	5.4
Education	4.6	4.3	5.1	6.2	1.5		4.8	1.0
Business & Mgmt	2.4	1.4	1.0	1.0	2.2	5.0	2.5	4.2
Other Fields***	6.6	5.0	3.7	6.8	5.5	4.2	6.7	4.5
No Report	7.7	10.8	11.5	13.8	7.4	2.5	6.8	36.3

NOTE: Includes postdoctoral appointees as well as full-time and part-time employed Ph.D.s. Subtotals do not add up to the total because of rounding.
[1]Refers to Asian/Pacific Islander.
[2]Refers to American Indian/Alaskan Native.
*Other Humanities: Archeology, linguistics, American studies, religious studies, fine and applied arts, languages and literature, letters, general humanities, and other humanities (see specialties list, Appendix A).
**Other EMP Fields: Mathematics, physics/astronomy, chemtstry, and earth/environmental sciences.
***Other Fields: Applied art, theology, home economics, journalism, law/jurisprudence, social work, architecture and environmental design, library and archival sciences, general professional fields, other professional fields, and other fields.

Appendix E

Field of Employment by Type of Training and Type of Employer

TABLE E-1 Field of Employment by Type of Employer and Additional Training

Type of Employer and Additional Training**	Total Employed	Employment Field In Ph.D. Field	Employment Field Out of Ph.D. Field
Total Employed	76,500*	49,300	21,300
Yes	8.1	2.5	21.3
Foreign Languages	1.0	0.7	1.3
Computer Sciences	1.6	0.2	4.9
Mgmt/Admin	2.6	0.7	7.2
Survey Res/Statistics	0.6	0.1	1.4
Other	3.4	0.9	9.7
Type Unknown	0.2	0.1	0.5
No	80.5	89.6	70.9
No Report	**11.5**	**7.9**	**7.8**
Educational Institutions	63,300	47,000	12,200
Yes	4.8	2.4	14.0
Foreign Languages	0.9	0.7	1.1
Computer Sciences	0.6	0.2	2.1
Mgmt/Admin	1.6	0.6	5.4
Survey Res/Statistics	0.3	0.1	0.6
Other	1.9	0.8	6.6
Type Unknown	0.1	0.1	
No	83.7	89.9	77.7
No Report	**11.5**	**7.7**	**8.3**
4-Yr Coll/Univ/Med Sch	57,300	43,400	10,300
Yes	4.5	2.2	13.5
Foreign Languages	1.0	0.7	1.3
Computer Sciences	0.7	0.2	2.5
Mgmt/Admin	1.3	0.6	4.2
Survey Res/Statistics	0.4	0.1	0.7
Other	1.7	0.7	6.9
Type Unknown	0.1	0.1	
No	84.3	90.0	77.9
No Report	**11.2**	**7.7**	**8.5**
2-Yr College	3,800	2,400	1,100
Yes	2.8	0.8	8.1
Foreign Languages	0.1	0.1	
Computer Sciences	0.1	0.2	
Mgmt/Admin	2.6	0.5	7.9
Survey Res/Statistics			
Other	0.1		0.3
Type Unknown			
No	86.3	95.1	86.4
No Report	**10.9**	**4.1**	**5.4**
Elem/Sec School	2,300	1,200	800
Yes	15.5	10.2	27.5
Foreign Languages	0.8	1.5	
Computer Sciences			
Mgmt/Admin	6.7	0.8	17.1
Survey Res/Statistics			
Other	8.6	8.3	11.4
Type Unknown			
No	66.6	76.3	63.2
No Report	18.0	13.5	9.3

NOTE: Includes full-time and part-time employed Ph.D.s as well as postdoctoral
*The in-field and out-of-field totals do not add to the total employed as the
from this table.
**This questionnaire item asked the respondent if he had to acquire formal
select more than one type of training; therefore, percentages for type of
***Other includes "other" employers as well as private foundations.

Status, 1983

Type of Employer and Additional Training**	Total Employed	Employment Field In Ph.D. Field	Employment Field Out of Ph.D. Field
Business/Industry	6,600	700	5,300
Yes	31.9	3.0	37.5
Foreign Languages	1.0		0.6
Computer Sciences	9.4	0.3	11.4
Mgmt/Admin	10.8	0.7	12.5
Survey Res/Statistics	2.3		2.8
Other	13.9	2.0	16.5
Type Unknown	0.2		0.2
No	55.8	74.6	54.7
No Report	**12.3**	**22.4**	**7.8**
Government	2,800	700	1,900
Yes	20.1	6.6	27.5
Foreign Languages	4.0	3.4	4.8
Computer Sciences	4.9		7.3
Mgmt/Admin	7.1	1.1	9.7
Survey Res/Statistics	1.8		2.5
Other	8.7	1.3	12.6
Type Unknown	0.4	0.7	0.4
No	69.6	83.7	66.1
No Report	**10.3**	**9.7**	**6.4**
Non-Profit Organization	2,800	700	1,500
Yes	15.0	8.3	19.8
Foreign Languages	0.7	0.3	1.0
Computer Sciences	1.8	0.6	2.9
Mgmt/Admin	2.3	4.2	1.7
Survey Res/Statistics	1.2	0.3	1.8
Other	7.4	2.9	9.3
Type Unknown	3.4		5.9
No	75.0	84.5	75.5
No Report	**10.1**	**7.1**	**4.7**
Other/No Report***	900	300	300
Yes	2.5	3.6	2.7
Foreign Languages			
Computer Sciences	0.3		0.9
Mgmt/Admin	0.5	1.8	
Survey Res/Statistics			
Other	2.2	3.6	1.8
Type Unknown			
No	82.6	92.8	87.1
No Report	**14.9**	**3.6**	**10.2**

appointees.
5,900 Ph.D.s who did not report their field of employment in 1983 are omitted

training in order to obtain his present position. Respondents were able to
training may not agree with total for those who responded affirmatively.