

Observations on the History of Anthropology at the U.S. National Academy of Sciences

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Introduction

In recent years the National Academy of Sciences has vigorously endorsed efforts to broaden its recruitment of distinguished scientists, focusing on wider representation by gender¹, racial/ethnic groups, younger persons, newly emerging subfields of science, and less prominent institutions of teaching and research. Section 51 (Anthropology) has an additional goal in maintaining a broad spectrum of approaches to anthropological understanding, including social, cultural, biological, archaeological, and linguistic and cognitive analyses. I undertook to examine how the section had performed over its history in the Academy with respect to these interests. I also explored some of the deeper changes underlying that performance.

This report is somewhat discursive and ventures into areas underlying its initial concerns. The deeper I dug, the more issues I discovered. Some of them seemed to me quite important, in an arena broader than Section 51. I apologize to those who might find my excursions uninteresting, but I came to appreciate the plight of a hound dog detecting different scents on different winds. Some of them I think were worth following, and I did that. At a few points I describe the data in ways that might be unfamiliar to some colleagues, and I get a little pedantic in an effort to explain what I am doing. Please excuse those passages.

I first describe the data pertinent, to these efforts, that I was able to find in presumably easily recoverable form. I use “presumably” advisedly and have a number of suggestions on how data recovery could have been made simpler by the sources.

Data on Members of NAS, from NAS

Note that *Members* are distinguished from *Foreign Associates*. Data on the characteristics of elected members are most readily retrievable in two datasets posted on the NAS website², the first on *living* members:

<http://www.nasonline.org/site/Dir?sid=1011&view=basic&pg=srch>

the second on *deceased* members:

<http://www.nasonline.org/site/Dir?sid=1021&view=basic&pg=srch>

The two data sets differ in their content. Both indicate date of election. The dataset on living members includes the section affiliation of each member but does not contain information on age

at election (or on year of birth, which can be employed to obtain age at election)³. Age at election is an important variable in evaluating how well the section is dealing with a presumably growing population of scientists eligible for election to a body that has practical limits on the number of persons that can be admitted.

The dataset on deceased members does not contain information on the NAS section of those members. Perhaps that is because at some historical date there were no sections. That lack makes it impossible to identify members of a discipline except by recognizing their names. Even in a small discipline like Anthropology, the risk of overlooking someone is not zero, especially for members from the distant past.⁴ The online dataset on living members also does not provide information on *secondary* section affiliation, which might permit inclusion of such members into a data set consisting of all living members of Section 51.⁵ For example, some members originally in Section 51 appear to have moved to a kindred section. (I do not know when secondary affiliation was instituted, so that the degree to which this observation is also pertinent to deceased members is moot.) The online NAS dataset on living members does provide information on fields of expertise, which might help to identify them by discipline, but not all members provide such information.

In addition, neither gender nor race/ethnicity are specified in the online or published data, so that patterns of election with respect to those important variables cannot easily be understood.⁶ I guessed at gender from evidence of first names or from personal pronouns in biographical materials found online.

An important omission in the Academy's datasets, both online and published, is information on the institution with which a member was affiliated *at the time of election*. If a member is elected while affiliated with one institution and after election moves to a different one, essential information is lost. Having that information would help us to evaluate one of the goals the Academy has expressed – whether it is reaching out beyond the traditional centers of science.

The system of data recovery necessarily employed, i.e., picking through long lists by hand, is acceptable in searching for small numbers of individuals, but it is extremely tedious (and error-prone) when one wishes to assemble a dataset for analysis. It would be helpful if the Academy could create a flat file that contained at least all the information in the online and published Directories, in machine-readable form for downloading as a table or spreadsheet. (NSF does this, for example, allowing .xls and .pdf alternatives.)⁷

Note that members who have resigned or persons who lost their membership status by virtue of changing their US citizenship are listed in the published but not the online database.⁸

Some of these data problems were ameliorated by sending appeals to the members of the section via the Chair, Conrad Kottak, asking for dates of birth and focus of interest. Many members responded helpfully to the appeal. A good deal of information was also found by trolling the Internet, revealing occasional biographical details. Occasionally, in the absence of specific information, I estimated year of birth when year of baccalaureate was known, assuming a four-year curriculum and freshman entry at age 18. I did not attempt estimation when only date of PhD was known, because age at the doctorate is more variable than age at the baccalaureate. (When testable against firm data, the estimation from baccalaureate date proved to be within a year of the actual

birth date. Note also that when dates of birth, election, and other events are reported in whole years; calculating the difference between two such dates can be in error by a year, e.g. a person can be born on January 1 of year t and die on December 31 of year $t+n$. The difference between whole years is n , but the time span is $n+1$.)

Coverage on focus of interest was completed with the assistance of several members who graciously consented to classify both living and deceased members.⁹ There are analytical problems in specifying data on subdiscipline. First of all, the subdisciplines are parts of a taxonomy, and it is not sensible to think of Archaeology and Primate Studies as at the same level of specification, the latter being a subunit of Biological Anthropology.¹⁰ Second, the subcategories are often sparsely populated, so that for statistical purposes the more specific designations are not useful. Third, the taxonomy has changed over time as specialization has grown, so that a categorization useful at one time period may not be possible in another. In the end, although knowledge of the more specific categories is useful for some purposes, I employed only Archaeology, Biological, Cultural, and Cognitive/Linguistic.

Data on Potential Members

Since the intent of Academy policy is to evaluate fairness in the nomination and election of members, some attention must be given to the population of scientists that are plausibly eligible for nomination. Presumably that population consists largely of scientists holding the doctorate who are citizens of the United States. (Only U. S. citizens are eligible to become members; non-citizens may be elected as Foreign Associates.) I assume that most of the doctorate-holding U. S. citizens earned their doctoral degree at a United States university. While they are not identifiable by name in publicly available datasets, their numbers are reported, classified by categories of persons, in the *Survey of Earned Doctorates* and other files maintained by the National Science Foundation. The American Anthropological Association has also compiled some information, but it does not have the scope and classificatory detail of the NSF data. On the other hand, the NSF data do not always provide information on degrees in Anthropology, per se, but sometimes merge information on Anthropology into a residual category “Other Social Sciences.” That category contains information on degrees in social science and related fields, but *excludes* Economics, Sociology, Political Science, and Psychology.¹¹ Characteristics and trends in this general category may or may not be typical of those in Anthropology, especially since a substantial amount of doctoral and professional research in Anthropology is biological, rather than social (e.g., human paleontology, primate studies), some might be classified as economic, or linguistic or cognitive, and some is manifestly historical (in intent if not in technique). Some data from the NSF are of this more general kind; other sources are more detailed.¹² The NSF also provides two tabulation programs that permit users to construct their own tables from their annual *Survey of Earned Doctorates*. The older of these, webCASPAR (<https://webcaspar.nsf.gov/>), allows more flexibility than the newer one. The newer one, the SED Tabulation Engine, (<https://nces.norc.org/NSFTabEngine/#WELCOME>) does not permit extensive cross-classification within numerically small categories.¹³ The system of detailed classification of disciplines was also changed, making comparison over time difficult. For example, Archaeology was at a recent point no longer included within Anthropology but in Humanities.¹⁴

Initial Results

General Statistical Characteristics

The sample for analysis has the following characteristics. The section has had 129 domestic members, 28 foreign associates, plus 16 other members who currently list Section 51 as their secondary section or who (in my estimation) work with anthropological data. This analysis, however, concentrates largely on the 62 current living domestic members (including *emeriti*), unless otherwise indicated. I have no record of secondary members now deceased. These data constitute the core sample. This analysis does, however, examine historical trends where appropriate and then utilizes data on 173 persons known to have been associated with anthropological interests at the NAS.

Table 1

Statistical Characteristics of the Core Sample

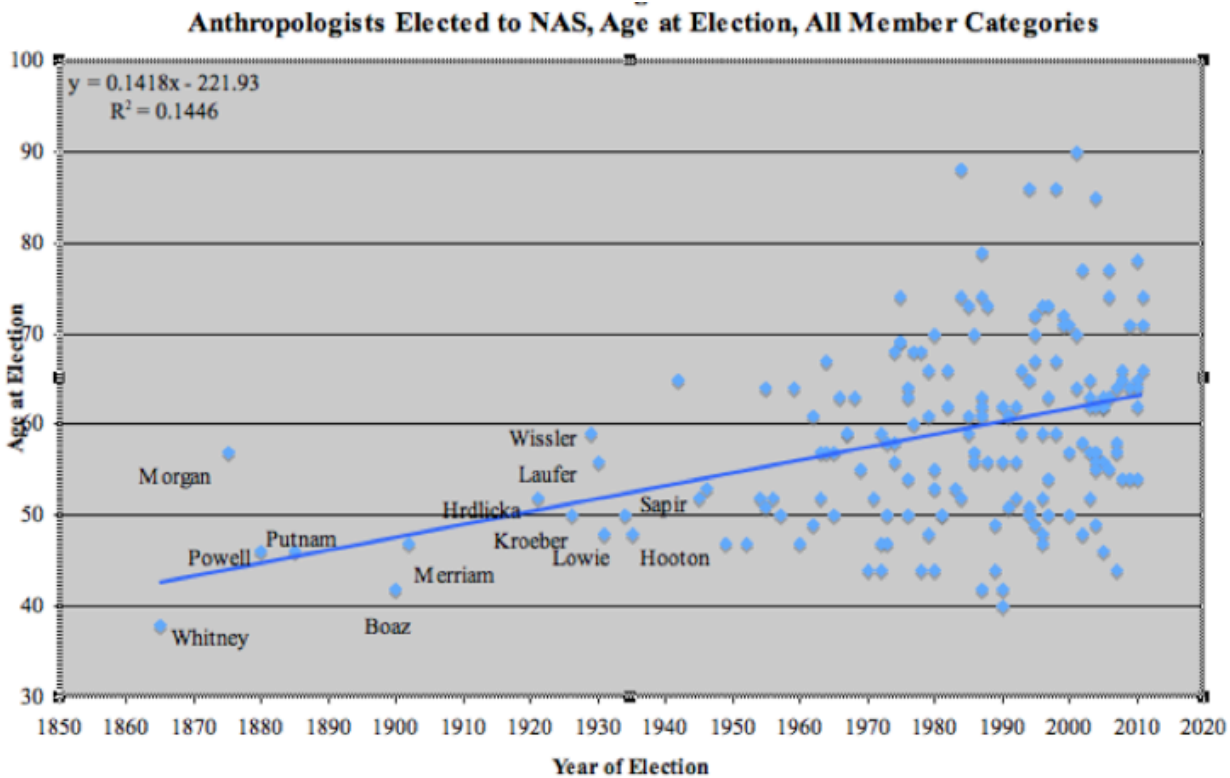
Living Members	N	Mean Age
Affiliation		
Domestic	62	73
Foreign	18	73
Secondary	16	72
All	96	73
Gender (Domestic)		
Male	47	74
Female	15	69
Gender (Foreign)		
Male	15	74
Female	3	68
Gender (Secondary)		
Male	11	73
Female	5	70
Discipline (Domestic)		
Archaeologists	26	71
Biological	14	65
Social/Cultural	15	78
Cognitive/Linguistic	7	81
All	62	65
Discipline (Foreign)		
Archaeologists	6	74

Biological	5	66
Social/Cultural	5	79
Cognitive/Linguistic	0	
All	18	73
Discipline(Secondary)		
Archaeologists	2	82
Biological	4	69
Social/Cultural	5	66
Cognitive/Linguistic	5	77
All	16	72

Age at Election

Age at election for both living and deceased members is shown in Figure 1.

Figure 1



The fitted line is a linear fit and explains only about 14% of the variance in age as correlated with year of election. (See formula for fitted line, embedded in chart.) More complex fits (e.g., polynomials, etc.) do not alter the result much. A noteworthy feature of the plot is the increase in

variance of age at election over time. I show this plot to give some detail on the earliest members, for historical interest.

The plot shows a strong upward trend in age at election over time. Electing older members is *not* the Academy's goal. Caution suggests that this simple plot may be misleading. Almost all of the information in the plot is after about 1950. Indeed, half of the data are after 1987. Does the plot give a false impression, is it driven by the later data?

Figure 2 shows a selection of the data on age at election from 1975 onward. It distinguishes between males and females to show whether there is any difference in their age at election over time. I use 1975 as the initial year because it is the first year in which women were elected to Section 51 – Margaret Mead and Frederica de Laguna. The slope in Figure 1 (over the entire timespan) was about seven weeks per year. The slope both for men and for women in Figure 2 is about six weeks per year. I draw three conclusions. The first is that Figure 1 is not seriously misleading. The second is that over these last 37 years the change in mean age at election amounted to an increase of about four and a quarter years. That shift is not what we would like to see, but it is not very large.¹⁵ The third is that the shift in age at election over calendar time is not very different for men and women, and the age gap between them has stayed about the same – two or three years, women being elected at a younger age. Note that the R^2 values (the proportion of variance in age at election explained by year of election) are very small. The reason for that is that there is much more randomness in the subsample from 1975 to the present than there was in the total sample dating from the beginnings of the NAS.

Figure 2

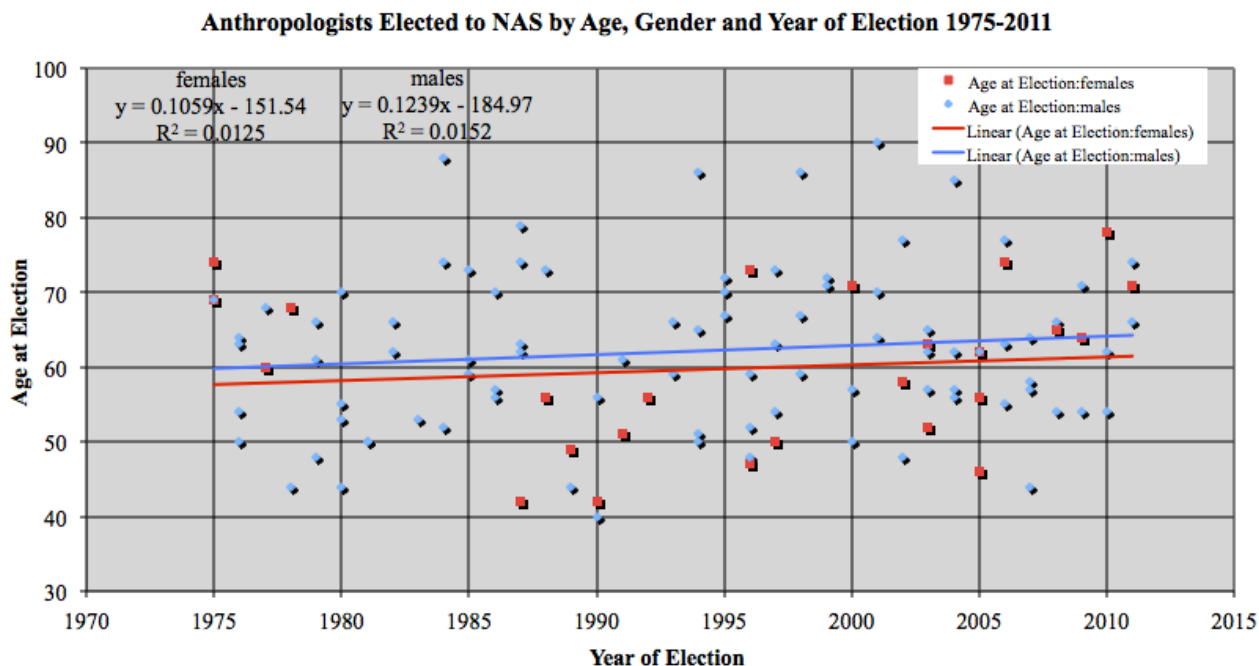
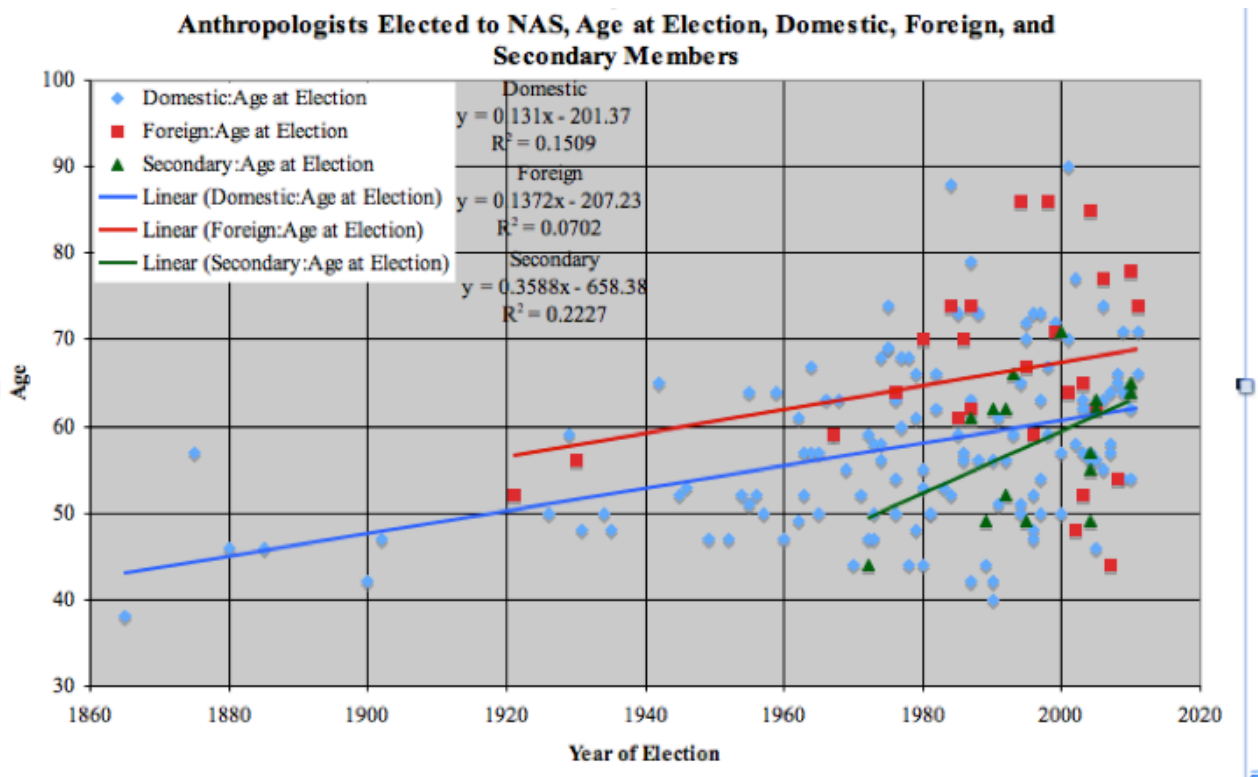


Figure 3 shows a plot of the data separated by membership category: domestic members, foreign associates, and affiliates who have a primary section other than Section 51. The increase in age at election over calendar time is about 7 weeks per year for domestic members and foreign associates, but 19 weeks per year for secondary affiliates. Why should the age at election to the Academy have increased more over time for those members who ultimately elect Section 51 as a secondary section, compared to those who have it as a primary section? Do scholars broaden rather than narrow their interests over time? Is this “trend” an artifact of when secondary sections were introduced?

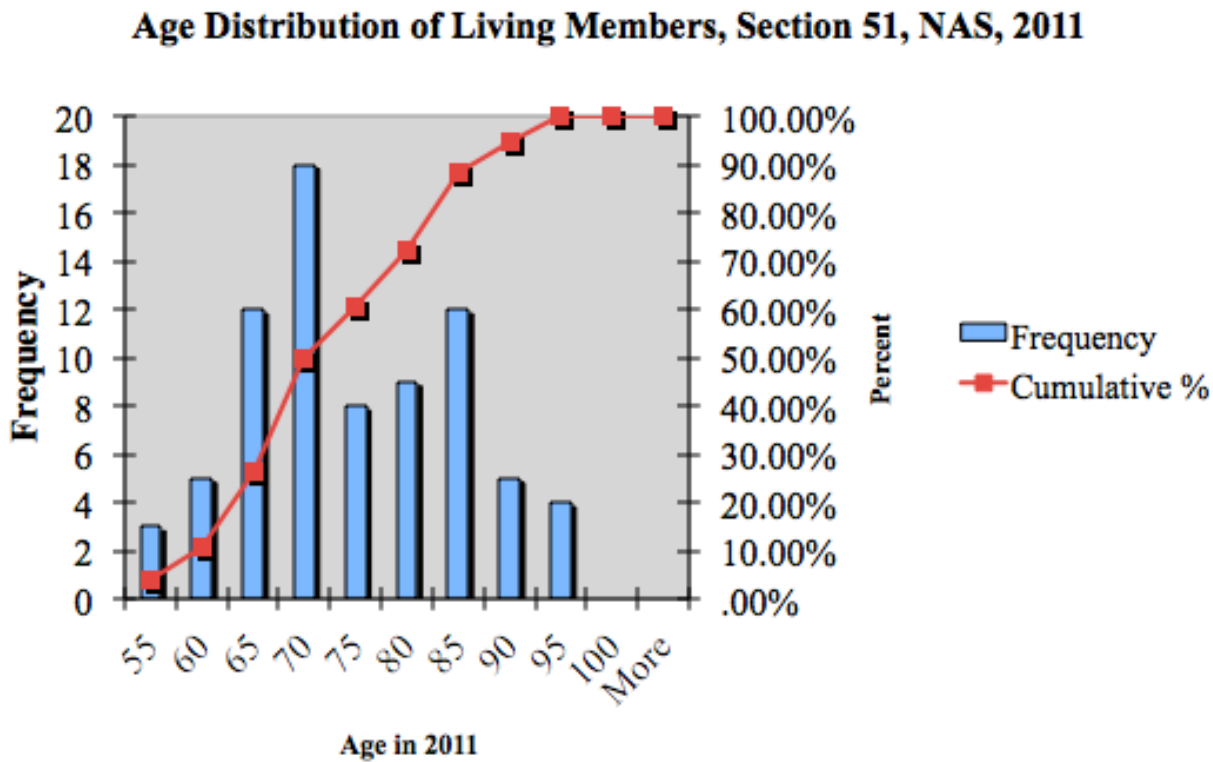
Figure 3



The mean age at election for domestic members and foreign associates, not including persons who have a secondary affiliation in Section 51, is 59, with a standard deviation of 10 years. Figure 4 shows the age distribution.

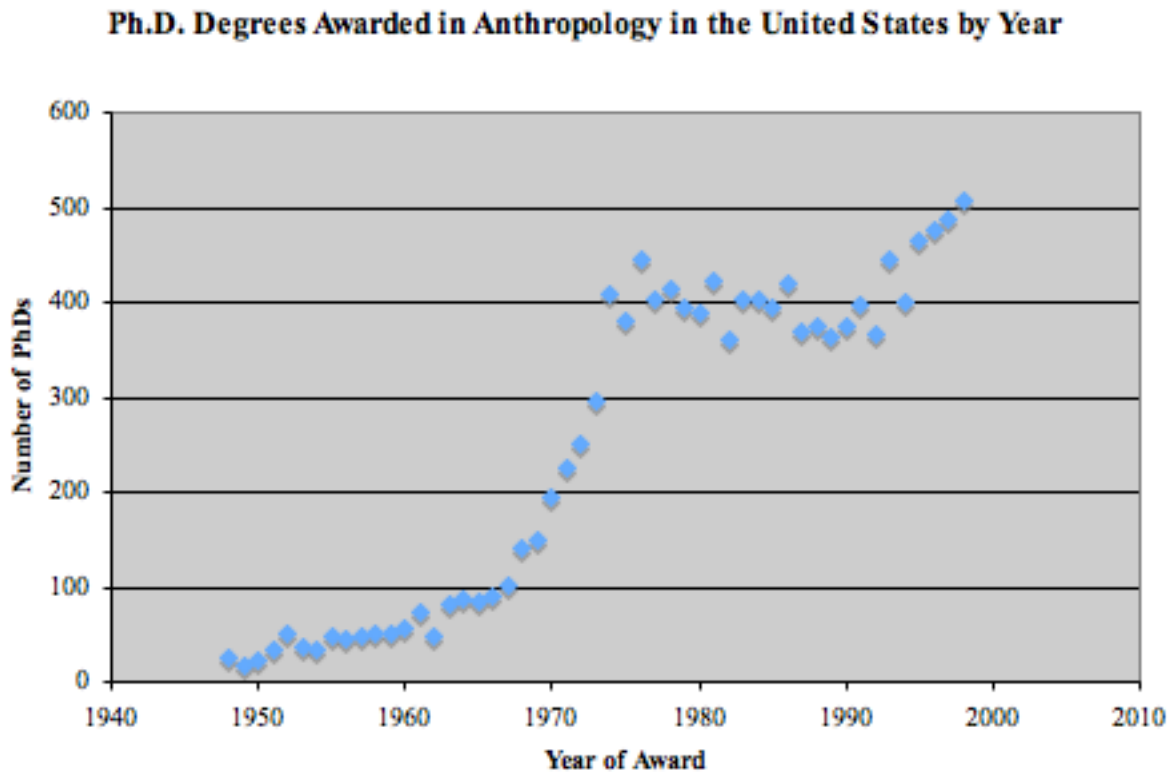
Figure 4

Age in 2011 of Members and Foreign Associates Having Section 51 as Primary Section



I assume that the source for election of domestic members of Section 51 is largely the recipients of doctoral degrees in Anthropology from U.S. universities. Figure 5 shows the number of annual awards of those degrees from 1948 to 1998.¹⁶ Appropriately lagged, these data should bear some relationship to the number of anthropologists later elected. All else equal, larger numbers of doctorates should lead to larger numbers of persons qualified to be elected, and thus possibly a lengthening of queue and a delay in election, thus an increasing age at election. The number of doctorates awarded increased rapidly over the period, but there is a noticeable lag between the mid 1970s and the mid 1990s. One wonders at the cause of this Babylonian exile.

Figure 5



Source: 1998 Biennial Survey of Anthropology Departments in the United States. American Anthropological Association. March 1999.

The lag between the mid-1970's and the early 1990's is intriguing. I will pursue it further, but first I would like to explain a problem in analysis that frequently confronts demographers. The problem is how to reconstruct a *longitudinal* analysis out of *cross-sectional* data.¹⁷ What we would like to do is reconstruct the history of a group (*cohort*) of persons out of a series of successive censuses. A cohort is a group of persons that share an event at a particular date. For example, the birth cohort of 1978 consists of all the people born in that year. The college graduation cohort of 2000 consists of all the people who graduated from college in that year. Most of them were probably born in 1978, since most people graduate from high school at age 18, and most people spend four years in college before graduation. Those assumptions are not necessarily correct. The number of persons graduating from college in 2000, divided by the number graduating from high school in 1996 is obviously not a good estimate of the graduation rate from college. But if we lack information on how many people *enrolled* in college in 1997 the census of persons at the prior stage in cohort history is the best estimate we have.¹⁸

The best way to approach such problems is to link individuals across sequential cross-sectional datasets. Genealogists have done that kind of linkage for many years, connecting the records of individuals from baptismal, marriage, and burial records. That method, called *nominal data linkage*, has also been adopted by historical demographers. The process is far from error-free, for many reasons, including the illegibility of the cleric's handwriting, changes in name, underreporting of deaths (if, for example, stillbirths or early infant deaths do not receive formal burial, if soldiers' or emigrants' deaths are not recorded in their home parish, and so on). In modern record systems, especially bureaucratic ones, the task might be easier, especially if individuals had unique identifiers, assigned at birth by their governments.

You have perhaps already spotted the worm in this apple. It is the privacy issue. Access to information that would permit linking individuals across datasets, for example from high school graduation to college enrollment to college graduation to graduate school enrollment to award of degree, and perhaps even to post-award employment, are now commonly subject to strong constraints. The road to acquisition and use of such data for this modest enterprise about Section 51 would have been very long and full of dead ends. The alternative, which I follow below, is to look at census-type data and engage in some speculation about longitudinal processes.

To resume: Figure 7 will examine the award of doctorates more closely, but with NSF data, which have less information for the earlier years but more for the later ones. The NSF data are divided by gender and allow comparison between several social science and other fields. Note that the information on degrees awarded in Figure 7 and later is not the *number* of degrees awarded, but the *proportion*, in each year, for each discipline, of all the doctorates awarded in that discipline over the full span of years depicted. For each discipline, across all years of observation, these proportions sum to one. Using proportions neutralizes the *visual* differences in level between large disciplines like economics and sociology, and smaller ones like anthropology and linguistics. Using proportions instead of counts also means that visual comparison of slopes is more meaningful. Figure 6 shows the calculations and graph for a simple example.

Let me take a moment to explain Figure 6, if the rationale for using proportions is not clear. I want to make sure I have been clear about the construction of the graphs. If the rationale is clear, please just skip this next section (marked off by ***).

Figure 6

Explanatory Example of Later Figures

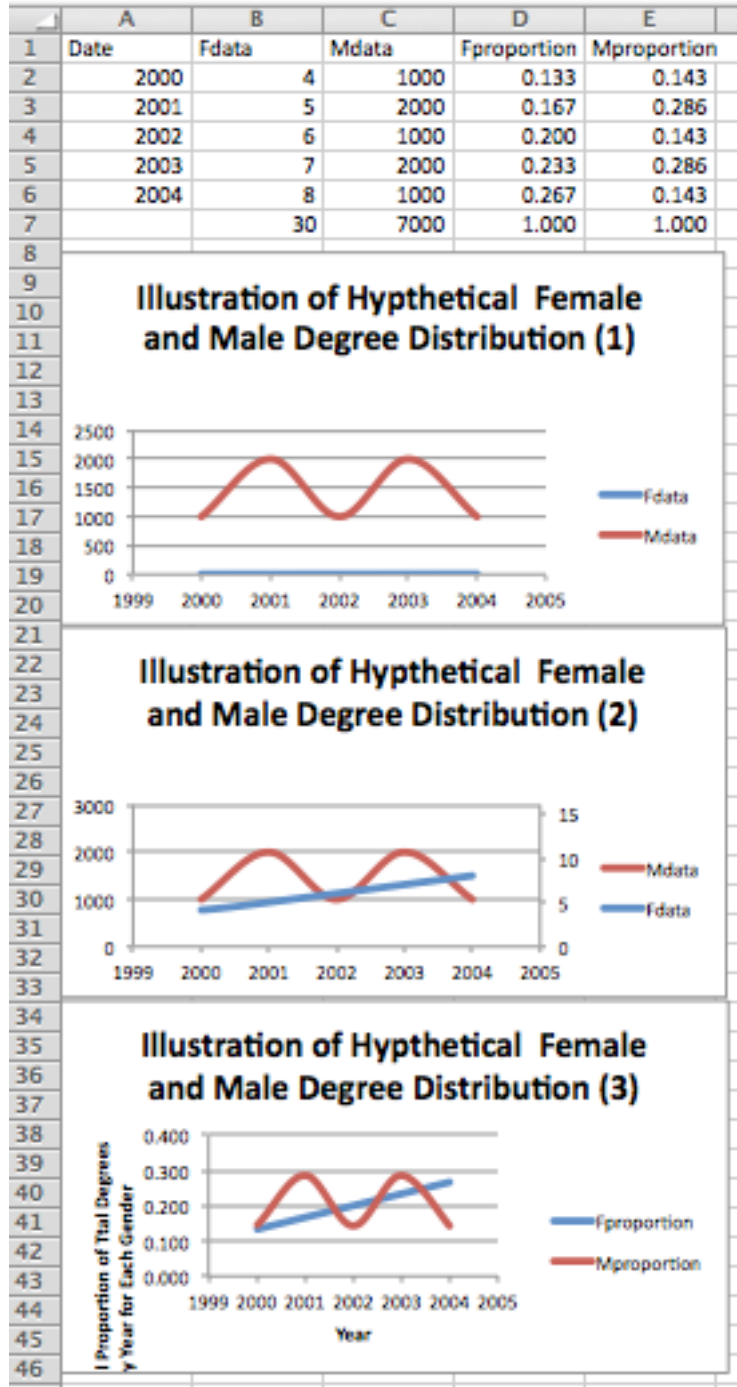


Figure 6 shows a spreadsheet layout for five years of data, labeled fData and mData. We imagine the numbers in those columns to represent the number of degrees granted to females and males, respectively, in each year. Notice that the number of degrees granted annually to women is less than ten in any year, while the number granted to men is in the thousands. The degrees granted in all years to women sum to 30. The degrees granted in all years to men sum to 7,000. If we were to graph fData and mData over the five years as in the first figure shown in the spreadsheet, we would see a fluctuation in the number of awards to men, while the number of awards to women would be flat and unvarying. We know that there is something wrong with the flatness of the display of fData, because we can look at the numbers in that vector and see that they are not all the same.

We could graph the data on a \log_{10} scale so that the distance between 0 and 10 was visually the same as that between 10 and 100, and so on by decimal orders of magnitude. That turns out not to be very helpful, either, and it is somewhat unnatural for many of us.

In the second picture we put the data for women on a scale at the **right** of the graph, leaving the data for men on the original scale at the **left** of the graph. We immediately see that while the numbers for men fluctuate, those for women show a steady increase, but at a much lower point on the overall scale. We have in a way magnified the picture of what happens to women. It is tedious to have to establish the secondary axis on the right, and the picture that is obtained is determined by how the upper and lower limits of the scale are set up.

The third picture avoids these problems and gives a more helpful solution. Instead of plotting the raw numbers in the fData and mData columns, it uses the proportions that have been calculated in the fProportion and mProportion columns. The individual cells in the fData and mData columns were each divided by their respective sums, yielding the entries in the cells of fProportion and mProportion, each of which columns of course then sums to one. In the third picture, based on the proportions, both distributions can be seen on the **same** vertical scale so that their relative similarity or dissimilarity becomes clear. Now back to the later figures....

Note in Figure 7 and later, prefacing the name of a discipline in the chart legend with “f” or “m” means doctorates to females or doctorates to males in that discipline. Figure 7 also contains information on military conscription during the Vietnam War, for reasons to be advanced later.

Figure 7

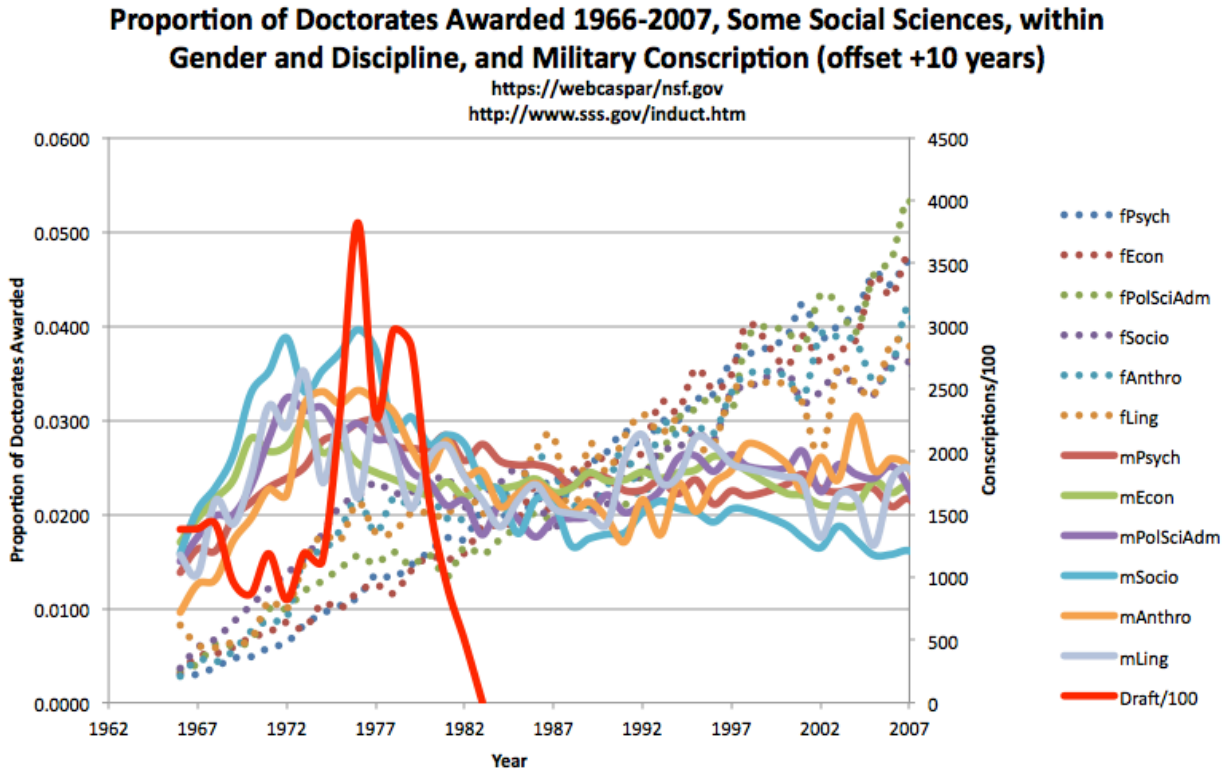


Figure 7 shows that the decline in award of doctorates in Anthropology between about 1976 and 1990 to both genders merged, as seen in Figure 5, is attributable *exclusively* to men. Figure 7 shows that awards to women in the social sciences, not just in Anthropology, increased steadily.¹⁹ Awards to men declined in all of the social sciences, beginning in the early 1970's, and did not recover until the early 1990's. Note in Figure 7 that before 1976 the number of degrees awarded to men was higher than the number awarded to women, but the rate of increase was only modestly higher for men. After about 1976 women continued on the same upward slope, whereas the number of degrees earned by men fell and then leveled out. By 2007 the proportion of all degrees awarded over the whole time span (1966-2007) that were awarded at its end was about twice as large for women as for men. Women had accelerated. Men had decelerated. How can we explain this difference?²⁰

After 1976 we can appeal to the now frequent observation that the differences between male and female performance are pervasive, from high school through the doctorate. Behavioral differences (determination, a new sense of possibility, etc.) may underlie the gender difference in performance, but they cannot explain why male and female attainments had approximately the same upward slope *before* 1976. What led to the difference between male and female attainment of the doctorate *after* 1976? For about a decade after 1976, female attainment was increasing, but male attainment was decreasing. Can one posit an influence that affected men but not women in the late 1970s?

A plausible reason for the decline in earned doctorates among men is the U.S. military expansion in the Vietnam War. I have no data on enlistments in the military by gender, but some information is available on military conscription, which was exclusively of males. Undergraduate students in good standing were deferred. Graduate students were not deferred.²¹ Men were thus more exposed to risk of death, incapacitation, and simply uncertainty about future goals during this military expansion than were women. The level of conscription is indicated on the same figure (on the right vertical axis); these are data on actual inductions.²² The date for the observations of conscription in the chart is advanced by ten years, the approximate span of study from college graduation to receipt of the doctorate. Shifting information forward in time in this way allows us to ask whether anything important happened at some time, t , that had a delayed influence on some outcome at a later time, $t+10$. These speculations on the suggested negative effect of the draft on men who actually served may be countered by the observation that surviving veterans received financial assistance under the GI Bill if they pursued university studies, but that assistance would have benefitted only the men who survived, physically and emotionally. The chart may also reflect the experience of those who did not serve but whose career intentions were disrupted by changing employment or leaving the country. The explanation must go deeper, but the chart is provocative.²³ It also suggests that studying other events and processes, such as economic fluctuations, would lead to better understanding of the production of the scientific and intellectual labor force.

It is of course possible that men in the social sciences were different from men in other disciplines, and Figure 8 examines similar data for doctorates awarded in other fields, in the same way.

Figure 8

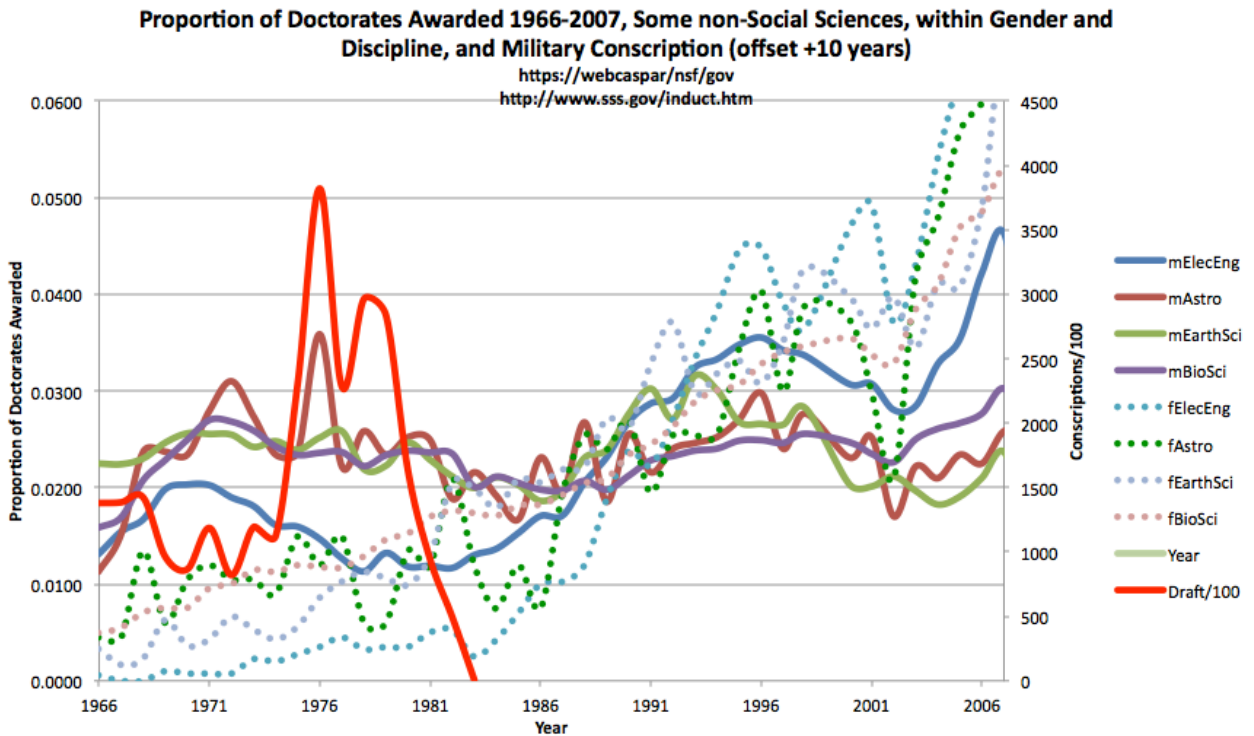


Figure 8, like Figure 7, shows the proportion of doctoral awards to men and to women, within each discipline or discipline group, over time. The information on military conscription is as in Figure 7. The women in Figure 8, across a broad range of science fields and also Electrical Engineering (selected as an outlier because women rarely embarked on those studies), give the same impression as those in Figure 7 – overall steady increase. The proportion of awards to men across the span of years is fairly level for most groups. There is a substantial decline in Astronomy and in Electrical Engineering, a recovery and leveling out in the former, and a subsequent increase over time in the latter. Few of the effects on men are as marked as they were in the social sciences. The number of degrees awarded annually in Sociology fell by 54 percent between 1976 and 1985. In Anthropology the loss was 37 percent between 1976 and 1984. The largest decrease in the comparison group of other sciences was in Astronomy, 28 percent between 1972 and 1987. What could account for these inter-disciplinary differences?

It is possible that men with good mathematical skills from previous high school and/or undergraduate college work were channeled into military occupations that were less lethal than those that would accept men who did not have skills useful to sophisticated military operations. It is also possible that they were more likely to find technical employment that exempted them from military service and that such employment ultimately served their long term interests in obtaining a degree. The occasional anthropologist or linguist inductee who had useful language skills might also benefit, but the demand for them was doubtless less than for men with skills in electronics and

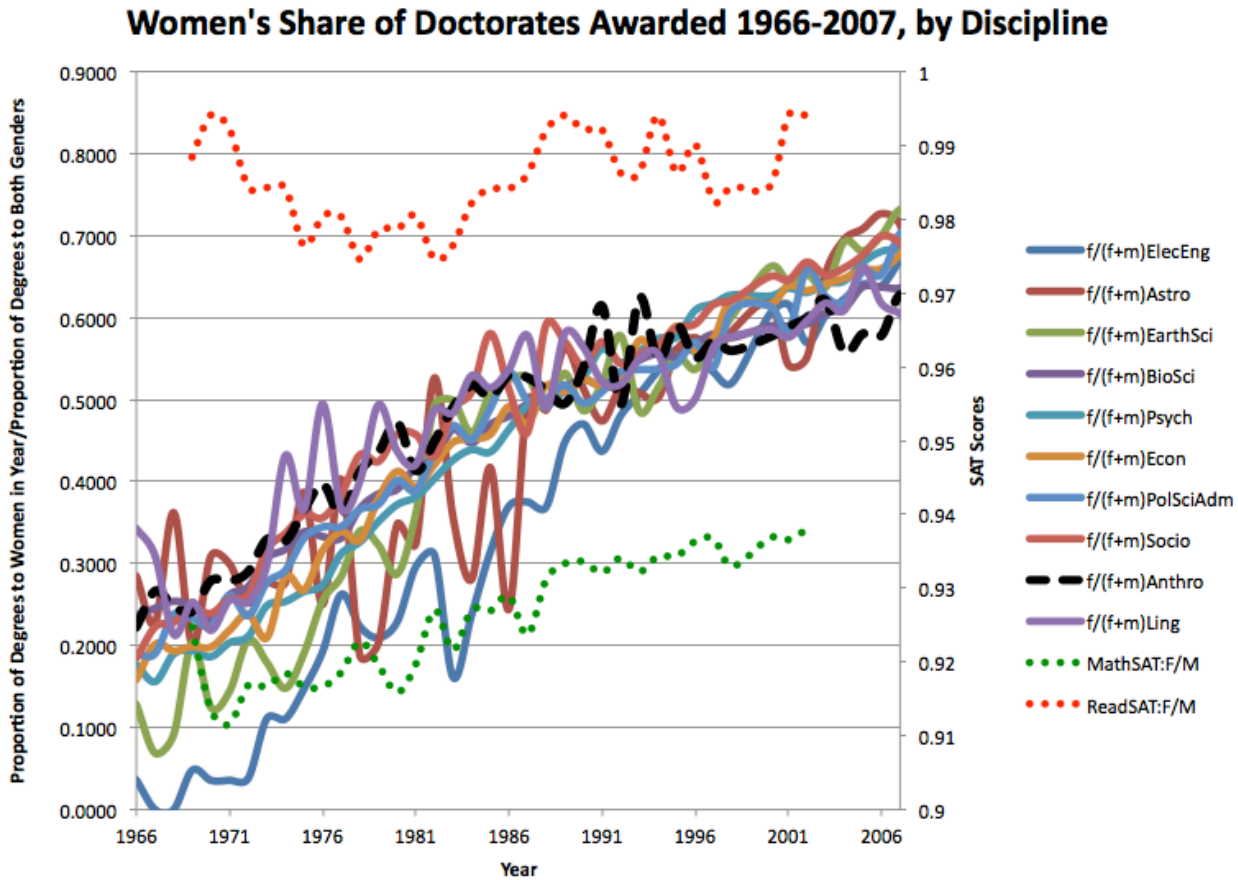
similar technical fields. It is also possible that men in the social sciences were, for ideological reasons, more likely to avoid the draft.

Are there alternative explanations? Suppose this scenario: Women gradually overcame deficiencies in early training, especially in mathematics, that would impede their progress as college undergraduates and would make it more difficult to pursue an advanced degree. Figure 9 summarizes the data of Figures 7 and 8 and shows the share of women's doctorates out of those granted to both genders. It explores an alternative possibility by showing the ratio of women's to men's scores on the SAT tests for mathematics and critical reading, lagged ten years (since the SAT tests are taken as high school seniors, about ten years before doctorates are awarded). Do changes in relative standing in SAT scores at high school graduation tell us anything about later success?

Figure 9 shows a steady increase in women's SAT scores with respect to men's in mathematics from 1977 onward. It shows random fluctuation in women's scores with respect to men's in critical reading, but no trend. It would be easy to argue that increased proficiency in mathematics facilitated the increasing success of women in sciences outside of the social sciences, but more difficult to claim such facilitation in the social sciences. In particular, it would be difficult to make that claim for Anthropology, which, unlike Psychology, Sociology, Political Science, and especially Economics, makes little use of mathematics or formal logical reasoning. It is precisely in much of the social-cultural anthropology dominant in the time period shown that skill in critical reading of text would have facilitated success in the kind of academic discourse then dominant. But it is exactly in skill in critical reading that we see no long-term trend, for women, relative to men, that would explain the acceleration in the award of doctorates to women in Anthropology. There is some improvement in women's reading scores after about 1983, but they only regain the level of the data from the 1960s. In Figure 9, the steady advance of women evens out the fluctuations in the male rates that were, more plausibly, an echo of military disruption in career paths. Degrees to women came to dominate degrees to men, leading to larger numerators in $f/(f+m)$ and dominating the denominators ($f+m$), as the share of degrees to men declined relative to the share to women. Should we believe that more involvement with mathematics in high school just made women better competitors?

All of this leaves us with a puzzle. The advance of women is quite clear. The reasons for advance cannot simply be attributed to better prior training in subjects in which men in earlier years performed better. It might be attributed to women's realization that they could win.

Figure 9



Let me state some caveats. The fit between the peak of military conscription and the decline in doctorates in general, as well as in Anthropology, is a simple matter of estimating the lag in award of the doctorate. It is of course possible to slide any two distributions back and forth until their modes are close on the temporal axis. Nevertheless, a ten-year lag after college graduation seems a good guess.²⁴ Men became liable to conscription after college graduation. I looked at conscription *to find a factor that would affect men but not women*. I make no claim that the fit described is convincing. It is just intriguing. It is entirely possible that changes in funding patterns for doctoral students might have changed after 1976, but it is not clear why they would have declined more for men than for women. I should also state, although I do not provide all the evidence here, that the age-sex distributions in the U.S. Censuses from 1930 through 1970 do not manifest the same differences as the graph of doctorates awarded. The age distributions of men and women are very similar, showing only the slight shift in sex-related mortality over the life span, so that before maturity, males predominate (decreasingly) at every age, but later, women predominate (increasingly at every age).

To recapitulate: We saw from other data previously that the representation of women in Section 51 (and presumably more broadly in NAS) has been increasing. There are two kinds of explanation that might be invoked. One is a demand-side explanation: there is an important need for equal

recognition regardless of gender, and increased effort toward gender equality in recognizing intellectual quality will increase the representation of women. The other is a supply-side explanation: if the flow of men into the pool for consideration is restricted, or if the men decide to do something else for a living, the proportion of women recognized will increase, just as cultural restrictions on the education and professional aspirations of women had restricted the flow of women earlier. Both explanations may be concurrently persuasive. *Similarly*, if women elect to compete with men for entrance to doctoral programs and succeed, their relative proportion will increase. Personal choice may play a reciprocal role in selection of field of study. Just as some women may have been reluctant to compete in fields that were predominantly occupied by men, some men may be reluctant to compete in fields in which women are increasingly represented.

Is a cultural explanation in order? How would we measure a cultural shift other than by looking at the outcomes we think might be generated by it? My hunch is that the explanation lies in a reassessment of women's capabilities by women and a (sometimes grudging) acceptance of those capabilities by men. If I have to pull a rabbit out of the hat to explain the statistics, that's the rabbit.

Isolating Particular Factors in Understanding Age at Election

Table 3 shows the results of multiple regression of age at election on intuitively plausible independent variables:

Dom. A dummy variable scored 1 for domestic members, 0 for foreign associates.

Election Year. A scale of calendar years, serving as a simple proxy for anything that might have been happening over time.

Gendercode. A dummy variable scored 1 for female, 0 for male.

A A dummy variable scored 1 for Archaeology, else 0.

B A dummy variable scored 1 for Biological Anthropology, else 0.

C A dummy variable scored 1 for Cultural/Social Anthropology, else 0.

Note that cognitive/linguistic anthropology (K) is the omitted dummy, indicated in the data by three zeroes for A, B, and C.²⁵

The overall result is a multiple R of 0.56 and an R^2 of 0.31, suggesting that almost a third of the variance in age at election may be attributable to the independent variables described. The probability of this outcome by chance alone is about seven in ten billion. Key figures in the table are in red.

Table 3

Regression of Age at Election on a Vector of Variables, Domestic Members Only (Alive and Deceased)

<i>Regression Statistics</i>								
Multiple R	0.5588							
R Square	0.3123							
Adjusted R Square	0.2799							
Standard Error	8.7936							
Observations	157							
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	7.0000	5231.174	747.3106	9.6643	6.92602E-10			
Residual	149.0000	11521.74	77.3271					
Total	156.0000	16752.91						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-279.3907	90.6310	-3.0827	0.0024	-458.4787	-100.3026	458.4787	100.3026
Domestic	-6.9999	1.9695	-3.5541	0.0005	-10.8916	-3.1081	-10.8916	-3.1081
Election Year #	0.1772	0.0510	3.4761	0.0007	0.0765	0.2780	0.0765	0.2780
E ₃₀	-0.2756	0.7209	-0.3822	0.7028	-1.7002	1.1490	-1.7002	1.1490
Gender	-1.1777	2.0904	-0.5634	0.5740	-5.3084	2.9530	-5.3084	2.9530
A	-2.1239	2.7592	-0.7698	0.4427	-7.5761	3.3283	-7.5761	3.3283
C	2.5550	2.8170	0.9070	0.3659	-3.0115	8.1215	-3.0115	8.1215
B	-6.5583	2.9269	-2.2407	0.0265	-12.3419	-0.7748	12.3419	-0.7748

Three variables have statistically significant effects and are flagged in the table in red: Domestic vs. foreign status, year of election (or expectation of life at age 30, see below), and being a biological anthropologist. (The intercept is statistically significant but not flagged since it is of no particular interest.)

Domestic electees are about seven years younger than foreign associates at election. For every advance in calendar year beyond the first member recorded, electees are on average about two months older. It is possible that positive changes in expectation of life for adults may be a causal factor in this association. Such changes lengthen the queue of those who might be elected. Change in expectation of life for adults does not add much to calendar year of election, with which it is positively correlated. If e_{30} (expectation of life at age 30 for white males) is employed but calendar year is not, the coefficient of e_{30} is about 1.8; that is, every additional year of expectation of life adds about two years to age at election. The age at which women are elected is not significantly different from the age of men. Differences in age at election in the subdisciplines are not

significantly different from their mean, except that members in biological anthropology are elected almost seven years earlier than the mean.

Are there plausible explanations for the increasing age at election? Suppose that the recruitment pool for Section 51 increased in size because of an expansion in university faculty posts and other professional positions, but that the election quota for the Academy as a whole did not increase or increased more slowly, and the distribution of electees across Classes and Sections remained about the same over time. The recruitment pool for Section 51 would grow larger, the queue would grow longer, and unless the rate of election increased to match, people would stay on the list longer before being elected. The slowdown would be ameliorated by death while standing in line, but that effect might not offset the slowdown completely. Because of increases in longevity over historical time, people in the queue would remain in it longer and thus might be elected at a later age.

Indeed, as suggested above, we can run a slightly different regression, using expectation of life at various points in time instead of calendar year. The multiple R for this regression is 0.506 instead of 0.558 if calendar year was used alone. If both variables (calendar year and expectation of life) are used in the same regression, the multiple R is 0.559, as reported above. Because expectation of life increased over the time period, although not perfectly smoothly, the two variables are computationally almost identical. One can easily attribute the performance of calendar year to increases in life expectancy, but other, as yet untested variables also highly correlated with calendar year, could also be responsible, alone or in combination. Note that available data on historical expectation of life were rather crude, and decadal rather than annual. More precise data on expectation of life might well increase the predictive power of that variable.

We should also note that no women were elected in the section until 1975. Since there had been distinguished women in Anthropology for years, their most senior members joined the queue of nominees sooner than more junior members would have, and their election thus added people of relatively advanced age.

An analogy would be waiting for a bus. If busses did not change their frequency of arrival or their capacity, and if more people wished to ride the bus, people waiting for busses would on average wait longer to board. Some people might abandon the effort and the queue, just as those in the Academy queue who died while waiting.²⁶

Conrad Kottak has supplemented this argument by observing that many, indeed most, of the cultural anthropologists receiving doctorates today are not doing science and would not be nominated by the section or elected by the membership in any case. If cultural anthropologists can't even get in the queue, the lines at the bus stop shorten, and more biological and archaeological anthropologists can board sooner. Cultural anthropologists in the section are about a decade older, on average, than their colleagues in other subdisciplines. That suggests that few viable candidates in cultural anthropology are making it onto the ballot, much less being elected, confirming Conrad's observation. However, given the younger mean age of other anthropological candidates who are electable, the increase in age at election should be at least slowing down. Any remaining differences between men and women in their choice of specialty would affect their chance of election; thus, if women specialized in cultural anthropology more than in the other subdisciplines, and cultural anthropologists didn't do science, women would be less likely to be

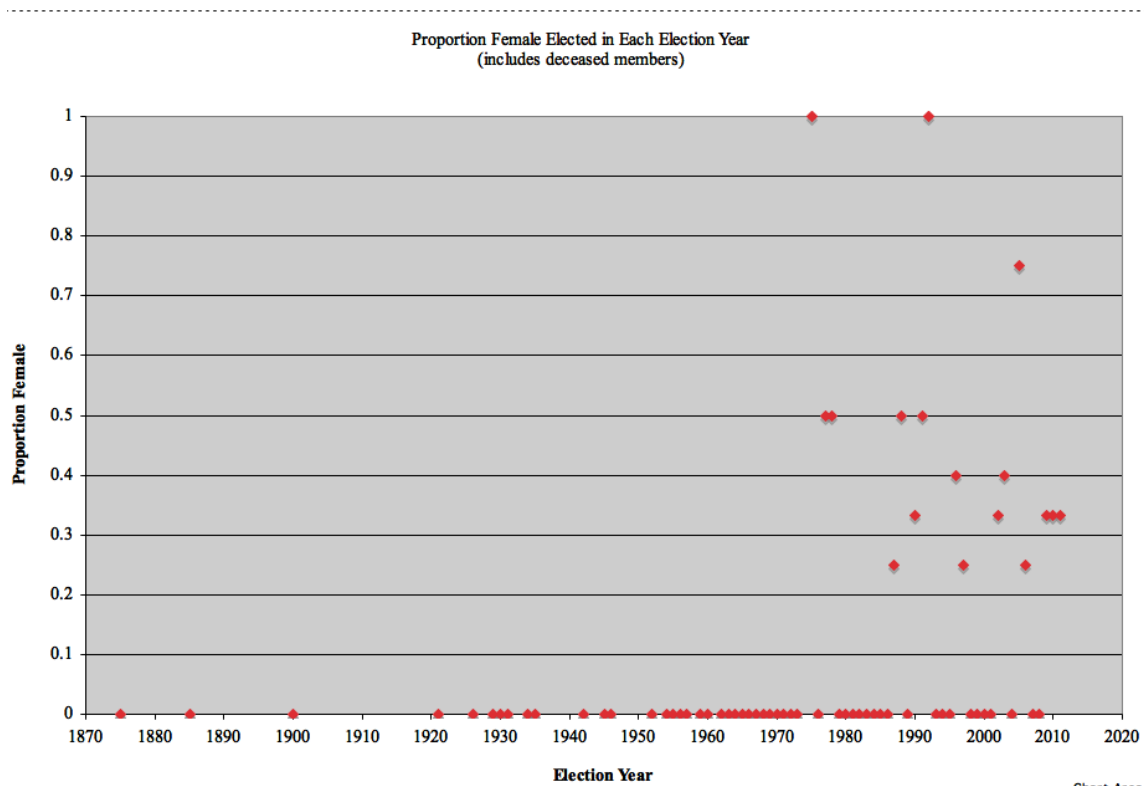
elected than men, but not because they were women. Under this scenario, the chances of election for men and women in cultural anthropology would be zero. That's a different kind of equality

Proportion of Women Elected

Figure 10 shows the proportion of women elected. Explicit gender identification is not part of the Academy files. It is possible to guess the gender of persons with reasonable accuracy from first names in many languages, and that is what I did. Where those names were unfamiliar to me, and where I could not find those persons on the internet, where personal pronouns in the text often gave a clue, I guessed male.

Figure 10

Proportion of Women among Anthropologists Elected



Source: NAS online data, gender known or estimated.

In any year, the number of anthropologists elected usually varied between zero and two. In Figure 10, if no anthropologist was elected, there is no marker. If only men were elected there is a marker at zero. In the earlier years, there were many fewer women than men in Anthropology, and what one wants to do is estimate the probability that women would be elected by random selection, out of a pool of contenders with a particular gender ratio. I have not done that yet, because I have not been able to construct the appropriate recruitment pools. The issue is made even more complex because in the past there was a tendency for women to specialize in some branches of

anthropology more or less than in others, and the chance of election might be driven by the electability of any person in a particular subdiscipline (see above). For example, early on there were fewer female than male archaeologists, whereas the gender ratio was less biased in cultural anthropology. Recently, women have surged ahead in archaeology. Like some other questions, this one can be answered only by knowing more about the recruitment pool. How many women archaeologists were there, for example, when de Laguna was elected?

Representation by Subdiscipline

Another interesting question is the relative representation of the subdisciplines of Anthropology in the Academy. Is the breadth of Anthropology reasonably represented? Figures 11 and 12 show a breakdown of numbers and proportions, respectively, of the members in the subdisciplines.

Deciding on the subdisciplinary affiliation of members, living and dead, was not an easy task, for four reasons. The first is that many members have more than one interest. The second is that it is not always easy to tell whether the work of a member, or a representative piece of that work, falls in one subdiscipline or another. The third is that opinions differ on how finely to differentiate fields of interest. The fourth is that knowledgeable observers are often uncertain on how to classify their colleagues (or even themselves).

As it turns out, if one's interest is in statistical summary rather than in butterfly collecting, it is fruitless to classify members in more than the major categories of Archaeological (A), Biological (B) and Cultural (C), except to add a fourth, Cognitive and Linguistic (K), which has a distinct intellectual history. Further, proportional representation across these categories is more meaningful than mere numeric representation, because the source populations of these fields changed over time. Tables 4 and 5 show the differences in numbers and proportions, respectively, of members elected over time. Time is divided into three periods: before 1960, 1960-1985, and after 1985.

Table 4

Number of Persons Elected, by Subdiscipline by Time Period

Source: NAS online data

	<1960	1960-85	>1985	Sum
A	5	16	25	46
B	3	9	14	26
C	14	15	15	44
K	0	7	5	12
sum	22	47	59	128

Table 5

Proportions of Persons Elected, by Subdiscipline by Time Period

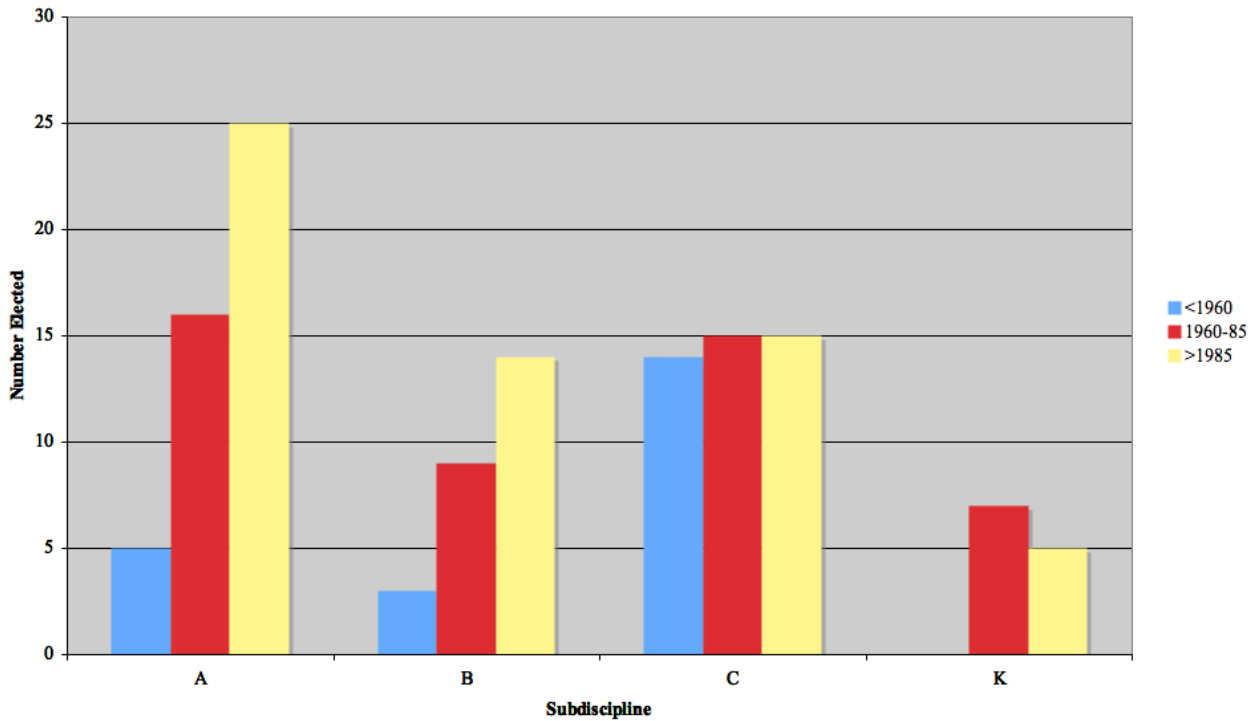
Source: NAS online data

	<1960	1960-85	>1985	1853-2011
A	0.23	0.34	0.42	0.36
B	0.14	0.19	0.24	0.20
C	0.64	0.32	0.25	0.34
K	0.00	0.15	0.08	0.09
Sum	1.01	1	0.99	0.99

Figures 11 and 12 show the distribution of electees according to sub-discipline and time period of election.

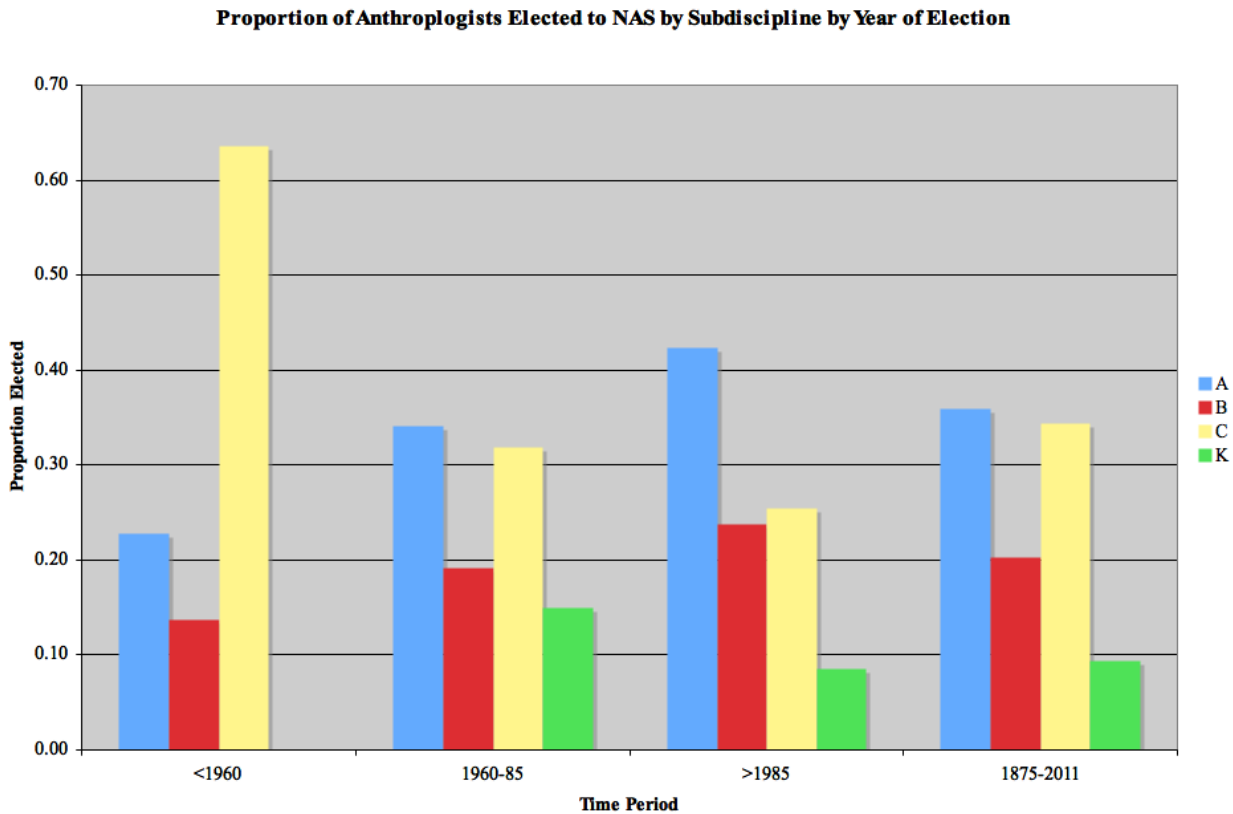
Figure 11

Number of Anthropologists Elected to NAS by Subdiscipline by Period of Election



The number of anthropologists elected over the three periods increased in all subfields, except in K, which had a reasonably robust start in the middle period, when it came into its ascendancy, and then declined slightly.

Figure 12



The proportional representation of newly elected members in cultural anthropology decreased over the first three periods, then recovered modestly in the last. By contrast, the contribution of archaeology grew steadily over the first three periods, and then fell slightly. The contribution of biological anthropology fluctuated around a level of about 20 percent. Cognitive anthropology began with a strong contribution for a new field, and then tapered off. Since there are no good data on the size of the sub-disciplinary recruitment pools, it is impossible to judge the “fairness” of their representation in Section 51.

Epilogue

To reiterate an important point: no matter how easy it might be to access data, whether from the NAS on its members and associates, or from NSF or similar sources for comparative data, a crucial difficulty with analysis is the lack of denominators. We do not have denominators because we cannot easily follow cohorts across census-like datasets. While we may know the number of women elected to Section 51 who are archaeologists, we do not know how many women archaeologists there are who might be elected. In the technical phrase, we do not know how many persons in one or another category are “at risk” of a particular event, like being elected. We could estimate that quantity by keeping historical records on individuals put forward for nomination. There are, I am told, no such records. We could estimate the probability of selection of persons by

the Class Membership Committee, or of election by the NAS, if we had lists of persons on whom votes were taken, for example blank ballots. If there are such lists, I do not know of them, and the Membership Office of NAS says that such materials are not retained. To conduct such research responsibly requires nominal data linkage, so that individuals can be traced across institutional boundaries. Staff at NSF have done their best to assist in providing detailed data over long time spans, with special attention to identifying recruitment pools. It will be some time before data at that level can be assembled and analyzed, primarily because access to potentially sensitive information is strictly limited. At this point I feel rather like an archaeologist on a new site with only a bulldozer, when the task calls for a trowel and a brush. Or like that hound dog.²⁷

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Appendix

Anonymous Data as of 10/4/11

Domestic/Foreign/Secondary	Primary Section	Living/Deceased	Year of Birth	Election Year	e ³⁰	Year of Death	Age at Election	Age at Death	Tenure (H-D)	Age in 2011	Gender	Subdisc
D	51	L	1926	1970	17		44			85	m	A
D	51	L	1929	1986	18		57			82	m	A
D	51	L	1947	2004	21		57			64	m	A
D	51	L	1934	1978	17		44			77	m	A
D	51	L	1924	1997	19		73			87	m	A
D	51	L	1945	2011	21		66			66	m	A
D	51	L	1931	1981	18		50			80	m	A
D	51	L	1950	1990	19		40			61	m	A
D	51	L	1955	2009	21		54			56	m	A
D	51	L	1921	2001	20		90			90	m	A
D	51	L	1943	2000	20		57			68	m	A
D	51	L	1949	2007	21		58			62	m	A
D	51	L	1944	1994	19		50			67	m	A
D	51	L	1946	2003	21		57			65	m	A
D	51	L	1950	2007	21		57			61	m	A
D	51	L	1956	2010	21		54			55	m	A
D	51	L	1945	1989	18		44			66	m	A
D	51	L	1924	1987	18		63			87	m	A
D	51	L	1943	1994	19		51			68	m	A
D	51	L	1943	2005	21		62			68	f	A
D	51	L	1936	1992	19		56			75	f	A
D	51	L	1947	1997	19		50			64	f	A
D	51	L	1949	2005	21		56			62	f	A
D	51	L	1932	1988	18		56			79	f	A
D	51	L	1932	2006	21		74			79	f	A
D	51	L	1943	2006	21		63			68	m	A
D	51	L	1948	2004	21		56			63	m	B
D	51	L	1951	2006	21		55			60	m	B
D	51	L	1943	1997	19		54			68	m	B
D	51	L	1944	1996	19		52			67	m	B
D	51	L	1931	1981	18		50			80	m	B
D	51	L	1948	1996	19		48			63	m	B
D	51	L	1949	1996	19		47			62	f	B
D	51	L	1944	2002	20		58			67	f	B
D	51	L	1941	2003	21		62			70	m	B
D	51	L	1945	1987	18		42			66	f	B
D	51	L	1940	2003	21		63			71	f	B
D	51	L	1959	2005	21		46			52	f	B
D	51	L	1948	2010	21		62			63	m	C

D	51	L	1927	1999	20		72			84	m	C
D	51	L	1938	2009	21		71			73	m	C
D	51	L	1919	1971	17		52			92	m	C
D	51	L	1942	2004	21		62			69	m	C
D	51	L	1942	2008	21		66			69	m	C
D	51	L	1923	1984	18		88			88	m	C
D	51	L	1930	1991	19		61			81	m	C
D	51	L	1920	1982	18		62			91	m	C
D	51	L	1929	1994	19		65			82	m	C
D	51	L	1923	1973	17		50			88	m	C
D	51	L	1940	2011	21		71			71	f	C
D	51	L	1943	2008	21		65			68	f	C
D	51	L	1926	1976	17		50			85	m	K
D	51	L	1930	1986	18		56			81	m	K
D	51	L	1934	1997	19		63			77	m	K
D	51	L	1940	1991	19		51			71	f	C
D	51	L	1925	1995	19		70			86	m	K
D	51	L	1931	1998	20		67			80	m	K
D	51	L	1936	1980	18		44			75	m	K
D	51	L	1930	1983	18		53			81	m	K
D	51	L	1948	1990	19		42			63	f	B
D	51	L	1943	2007	21		64			68	m	B
D	51	L	1950	2000	20		50			61	m	B
D	51	L	1917	1977	17		60			94	f	C
D	51	D	1891	1955	16	1971	64	80	16		m	A
D	51	D	1931	2001	20	2011	70	80	10		m	A
D	51	D	1907	1964	16	2003	57	96	39		m	A
D	51	D	1931	1979	17	2011	48	80	32		m	A
D	51	D	1932	1984	18	2009	52				m	A
D	51	D	1905	1968	16	1997	63	92	29		m	A
D	51	D	1904	1956	16	1992	52	88	36		m	A
D	51	D	1915	1973	17	1979	58	64	6		m	A
D	51	D	1909	1977	17	1997	68	88	20		m	A
D	51	D	1918	1974	17	2001	56				m	A
D	51	D	1939	1998	20	2006	59				m	A
D	51	D	1907	1957	16	1987	50	80	30		m	A
D	51	D	1839	1885	14.7	1915	46	76	30		m	A
D	51	D	1913	1962	16	2006	49	93	44		m	A
D	51	D	1926	1985	18	2008	59	82	23		m	A
D	51	D	1913	1972	17	1992	59	79	20		m	A
D	51	D	1877	1942	16	1954	65	77	12		m	A
D	51	D	1908	1965	16	1996	57	88	31		m	A
D	51	D	1913	1960	16	2002	47	89	42		m	A
D	51	D	1906	1975	17	2004	69	98	29		f	A
D	51	D	1927	1980	18	2007	53	80	27		m	B
D	51	D	1904	1955	16	1981	51	77	26		m	B
D	51	D	1922	1976	17	2007	54	85	31		m	B
D	51	D	1925	2002	20	2010	77	85	8		m	B
D	51	D	1887	1935	15	1954	48	67	19		m	B
D	51	D	1908	1967	16	2005	59	97	38		m	B
D	51	D	1906	1974	17	1990	68	84	16		m	B

D	51	D	1903	1966	16	1987	63	84	21		m	B
D	51	D	1902	1949	16	1990	47	88	41		m	B
D	51	D	1901	1962	16	1997	61	96	35		m	B
D	51	D	1911	1963	16	2000	52	89	37		m	B
D	51	D	1858	1900	14.4	1942	42	84	42		m	C
D	51	D	1906	1963	16	1991	57	85	28		m	C
D	51	D	1913	1976	17	2006	63	93	30		m	C
D	51	D	1926	1973	17	2006	47	80	33		m	C
D	51	D	1895	1959	16	1963	64	68	4		m	C
D	51	D	1905	1952	16	1960	47	55	8		m	C
D	51	D	1876	1926	15	1960	50	84	34		m	C
D	51	D	1893	1945	16	1953	52	60	8		m	C
D	51	D	1883	1931	15	1957	48	74	26		m	C
D	51	D	1855	1902	14.4	1942	47	87	40		m	C
D	51	D	1818	1875	15.6	1881	57	63	6		m	C
D	51	D	1897	1964	16	1985	67	88	21			C
D	51	D	1934	1993	19	1995	59	61	2		m	C
D	51	D	1913	1979	17	2009	66	96	30		m	C
D	51	D	1834	1880	15.6	1902	46	68	22		m	C
D	51	D	1916	1982	18	1990	66	74	8		m	C
D	51	D	1925	1980	18	2008	55	83	28		m	C
D	51	D	1906	1975	17	1983	69	77	8		m	C
D	51	D	1893	1946	16	1961	53	68	15		m	C
D	51	D	1902	1954	16	1972	52	70	18		m	C
D	51	D	1918	1979	17	2004	61	86	25		m	C
D	51	D	1908	1987	18	1999	79	91	12		m	C
D	51	D	1870	1929	15	1947	59	77	18		m	C
D	51	D	1923	1995	19	1999	72	76	4		m	C
D	51	D	1901	1975	17	1978	74	77	3		f	C
D	51	D	1884	1934	15	1939	50	55	5		m	C
D	51	D	1827	1865	15.6	1894	38	67	29		m	C
D	51	D	1916	1974	17	2000	58	84	26		m	K
D	51	D	1914	1969	16	1998	55	84	29		m	K
D	51	D	1934	1990	19	2001	56	67	11		m	C
D	51	D	1915	1965	16	2001	50	86	36		m	K
D	51	D	1915	1988	18	2003	73	88	15		m	K
D	51	D	1912	1985	18	2000	73	88	15		m	K
D	51	D	1923	1996	19	2000	73	77	4		f	C
D	51	D	1910	1978	17	1996	68	86	18		f	K
D	51	D	1925	1972	17	2007	47	82	35		m	B
F	51	L	1943	2005	21		62			68	m	A
F	51	L	1937	1996	19		59			74	m	A
F	51	L	1928	1999	20		71			83	m	A
F	51	L	1936	1998	20		86			75	m	A
F	51	L	1924	1985	18		61			87	m	A
F	51	L	1951	2003	21		52			60	f	A
F	51	L	1954	2008	21		54			57	m	B
F	51	L	1925	1987	18		62			86	m	B
F	51	L	1938	2003	21		65			73	m	B
F	51	L	1954	2002	20		48			57	m	B
F	51	L	1937	2001	20		64			74	m	B

F	51	L	1963	2007	21		44			48	m	B
F	51	L	1937	2011	21		74			74	m	C
F	51	L	1928	1995	19		67			83	m	C
F	51	L	1932	2010	21		78			79	f	C
F	51	L	1945	2009	21		64			66	f	C
F	51	L	1929	2006	21		77			82	m	C
F	51	L	1919	2004	21		85			92	m	C
F	51	D	1910	1980	18	1992	70	82	12		m	A
F	51	D	1916	1986	18	2002	70	86	16		m	A
F	51	D	1908	1994	19	2001	86	93	7		m	A
F	51	D	1910	1984	18	1985	74	75	1		m	A
F	51	D	1913	1987	18	1996	74	83	9		m	B
F	51	D	1869	1921	15	1943	52	74	22		m	B
F	51	D	1874	1930	15	1934	56	60	4		m	C
F	51	D	1908	1967	16	2009	59	101	42		m	C
F	51	D	1912	1976	17	1994	64	82	18		m	C
S	0	L	1928	1990	19		62			83	m	A
S	0	L	1930	1992	19		62			81	m	A
S	0	L	1926	1987	18		61			85	m	B
S	0	L	1946	1995	19		49			65	m	B
S	0	L	1940	1992	19		52			71	m	B
S	0	L	1943	2005	21		62			68	m	C
S	0	L	1946	2010	21		64			65	m	C
S	0	L	1942	2005	21		63			69	f	C
S	0	L	1945	2010	21		65			66	f	C
S	0	L	1928	1972	17		44			83	m	K
S	0	L	1927	1993	19		66			84	m	K
S	0	L	1929	2000	20		71			82	f	K
S	0	L	1947	2004	21		57			64	f	K
S	0	L	1940	1989	18		49			71	f	K
SF	0	L	1955	2004	21		49			56	m	B
SF	0	L	1949	2004	21		55			62	m	C

Notes

¹ See for example http://sites.nationalacademies.org/PGA/cwsem/PGA_049131.

² Information on living and deceased members, often in finer detail, is also published annually in the Academy's Membership Directory. It is not useful for statistical analysis, however, because it is not machine-readable.

³ It is possible that the Academy does not provide date of birth for living members because of privacy concerns.

⁴ Even though I am old enough to have memorized the names of those pioneers for my orals about sixty years ago, I missed a few.

⁵ I used the published Membership Directory for 2011 to search out members, foreign associates, and Public Welfare Medalists who had named Section 51 as their secondary section.

⁶ Presumably, disclosure of information on the gender or ethnicity of individuals, like that on age, is an invasion of privacy.

⁷ *National Science Foundation, National Center for Science and Engineering Statistics. 2011. Science and Engineering Degrees: 1966–2008. Detailed Statistical Tables NSF 11-316. Arlington, VA. Available at <http://www.nsf.gov/statistics/nsf11316/>.*

⁸ Hal Conklin has proposed William Dwight Whitney as the first anthropologist in the NAS. Conklin describes him as a Sanskrit scholar who regarded himself as an ethnologist. He was elected in 1865 and was thus the first person with clear anthropological interests to be elected to the Academy. Conklin notes that Whitney later resigned in protest over his brother's treatment within the Academy. Whitney is thus not in the database of deceased members but is listed in the annual Directory under the rubric of "Former Members". Apparently, death is not a sufficient condition for classification as a Deceased Member. Conklin also suggested including some linguists now in Section 52, some of whom may have been in Section 51 earlier, and I have done that. The second anthropologist electee was John Wesley Powell, the third was Lewis Henry Morgan; see Figure 1 for a graph with names of some of the early members.

⁹ Cynthia Beall, Russ Bernard, Bob Drennan, Peter Ellison, Don Grayson, Henry Harpending, Paul Kay, Romuald Schild. I hope I haven't forgotten anyone.

¹⁰ Russ Bernard sent useful comments on these matters.

¹¹ The NSF category, "Other Social Sciences" for the Survey of Earned Doctorates formerly included:

650 Anthropology

652 Area/ethnic/cultural/gender studies

657 Criminal justice and corrections

658 Criminology

662 Demography/population studies

670 Geography

676 Linguistics

690 Statistics

694 Urban affairs/studies

695 Urban/city, community, and regional planning

698 Social sciences, general

699 Social sciences, other

710 History, science and technology, and society

770 American/U.S. studies

773 Archaeology

http://www.nsf.gov/statistics/nsf11316/content.cfm?pub_id=4062&id=4

¹² <http://www.nsf.gov/statistics/nsf03312/append/appc.htm>

¹³ According to NSF restriction on cross-classification was instituted to prevent the mining of personal information. There was a substantial outcry from user groups, and NSF subsequently relaxed its restrictions in part.

¹⁴ Information on disciplinary orientation is determined by the responses degree awardees furnish when completing the Survey of Earned Doctorates. For example, a student of archaeology in a department of Anthropology might indicate that the doctorate was awarded in Anthropology or that it was awarded in Archaeology. In the first instance, the degree would be classified as in Anthropology. In the second instance it would have been classified as in Anthropology before recent years, but lately it would have been classified in Humanities. "Archaeology", so identified by the degree recipient, is interpreted in a way that includes classical archaeology, Egyptology, and similar fields, but excludes what most archaeologists do as anthropologists. See <https://nces.norc.org/NSFTabEngine/#WELCOME>.

¹⁵ Russ Bernard makes an interesting point that a gap of this size has different implications at different time points in the professional career. Any delay in election has a greater and more deleterious effect if it occurs late in the career than if it occurs earlier. The honor of recognition late in the career has little effect on the training of new professionals. If election occurs early, the enhanced stature may increase the awardee's influence on curricula, on the training of predocs and postdocs, and on the intellectual tone in the home department. I would summarize his view by saying that enabling an ancient to ride off into the sunset with an extra halo does no one else any good.

¹⁶ Totals through 1974 from D'Andrade, R. G., E. A. Hammel, D. L. Adkins, and C. K. McDaniel, *Academic Opportunity in Anthropology, 1974-90*, *American Anthropologist* 77: 753-73. 1975.
Source for this table:

<http://www.aaanet.org/resources/departments/Surveys.cfm#>

¹⁷ The problem is not unique to demographers. It is particularly salient, in anthropology, in studies of the household, family, or lineage, in which contemporary units of different structure are accepted as representatives of steps in a longitudinal process. Darwin and Wallace, of course, faced the same problem in transforming the scheme laid out by Linnaeus.

¹⁸ For some introductory discussion of this issue, explaining the Lexis diagram, see ocw.jhsph.edu/courses/demographicmethods/PDFs/idm-sec4.pdf

¹⁹ The shifting sex ratio throughout the educational system has frequently been noted. Russ Bernard provided these articles from the *New York Times*, from five and one years ago:

<http://www.nytimes.com/2006/07/09/education/09college.html?pagewanted=all>

<http://www.nytimes.com/2010/02/07/fashion/07campus.html>

and another suggesting that the shift in gender ratio is slowing:

<http://www.insidehighered.com/news/2010/01/26/gender>

and there have been many other comments made, as any search with Google will show.

²⁰ Data for this and similar charts in this paper exist to and including 2009. I do not show data beyond 2007 for two reasons. First, the source data from NSF after 2007 were not cross-tabulated by gender because of concern about data mining and violations of the confidentiality promised to respondents in the Survey of Earned Doctorates. Mark Fiegener, the NSF Project Officer for the Survey of Earned Doctorates very helpfully provided some substitute data. Unfortunately, the classification scheme for disciplines was changed in a way that omitted Archaeology from Anthropology. See note 12. I have not been able to solve that problem yet.

²¹ Thanks to Pat Kirch for reminding me of this critical point.

²² I assume that these counts of inducted men include only those who actually served but not those who were called to report for induction but failed to pass physical examinations or other screening, or men who volunteered for service in the Navy or Air Force or for special Army units. I also do not have annual data on men who left the country to avoid the draft.

From Wikipedia: "According to the Veteran's Administration, 9.2 million men served in the military between 1964 and 1975. Nearly 3.5 million men served in the Vietnam theater of operations. From a pool of approximately 27 million, the draft raised 2,215,000 men for military service during the Vietnam era. It has also been credited with "encouraging" many of the 8.7 million "volunteers" to join rather than risk being drafted."

"Of the nearly 16 million men not engaged in active military service, 96% were exempted (typically because of jobs including other military service), deferred (usually for educational reasons), or disqualified (usually for physical and mental deficiencies but also for criminal records to include draft violations). Draft offenders in the last category numbered nearly 500,000 but less than 10,000 who were convicted or imprisoned for draft violations. Finally, as many as 100,000 draft eligible males fled the country."

http://en.wikipedia.org/wiki/Conscription_in_the_United_States#Vietnam_War

²³National Science Foundation, National Center for Science and Engineering Statistics. 2011. Science and Engineering Degrees: 1966–2008. Detailed Statistical Tables NSF 11-316. Arlington, VA. Available at <http://www.nsf.gov/statistics/nsf11316/>. See also <http://www.selectiveservice.us/military-draft/8-induction.shtml>

²⁴ See also NSF data at <http://www.nsf.gov/statistics/infbrief/nsf06312/> (Table 3).

²⁵ For readers unfamiliar with dummy variables in analysis: if a set of dummy variables exhausts all the possibilities in a scheme of classification (e.g., A,B,C,D), the use of all but one (e.g. A,B,C) exhausts all the logical possibilities. If an observation cannot be classified in any of n-1 categories, it must be classifiable in the nth category, and that specification is superfluous (in this example if A, B, C are all zero then D must be 1).

²⁶ I am obliged to Ken Wachter (Section 53 – Political and Social Sciences) for his comments on some statistical issues.

²⁷ The hound dog is in even more trouble than this paper admits. Russ Bernard points out that all of the processes described in this account should be seen against a background of steadily increasing numbers of anthropology doctorates awarded, with the curious exception of the lag shown in Figure 5. He sees this trend as an indication of the increasing recognition of anthropology and perhaps of an increasing number of professional positions outside of elite academia. While that trend in doctorates may be welcome, it may also reflect a degree of inflation, of degradation of an

academic currency through an expansion of professional positions that will never have the pursuit of research as its primary goal. If the most respected institutions reached their ceilings in anthropology twenty years ago, of what value are newly created positions in institutions that do not emphasize research to the same degree? Almost surely they allow less time for advancement of research, for broadening of the field, and pay lower compensation to their occupants. As an example, consider departments of Economics and Wall Street. Even though professionals in the latter are more richly rewarded for their efforts than those in the former, they contribute little to the understanding of economic processes, a task difficult enough for university economists. What is our mission in this discipline of ours? Is it primarily to teach, or is it to find out what to teach? If the production of PhDs continues on its upward track, are we only creating a class of consumer professionals? If so, is that what we would wish? We might. But that is not the process this paper set out to explore. It is a much larger question, one of professional stratification. The issue that Russ raised needs to be examined, and I thank him for doing so. I have made some forays into the data on professional careers, and that investigation will not be easy, for some of the same reasons that burden the analysis in this paper.