

Diversity through Homophily? The Paradox of How Increasing Similarities between Recruiters and Recruits Can Make an Organization More Diverse

MAHESH H. SOMASHEKHAR*

Princeton University

Abstract: The link between interpersonal recruitment dynamics, organizational membership composition, and competition between organizations in social space remains elusive to social scientists. The ecological theory of affiliation represents perhaps the most sophisticated attempt at synthesizing these levels of organizational analysis, but it has only been tested on a limited set of data. Using a unique data set of sponsors from and applicants to a Freemason Lodge in Washington D.C. during the World War II period, this study tests a crucial claim of the theory that previous data has been unable to fully elaborate: the translation of dyadic homophily in recruitment into the homogeneity of membership. Contrary to the elegant narrative provided by ecological theory, this study shows how an increased homophily rate may promote diversity—not homogeneity—within the organization. The association between recruitment and membership in this case was historically contingent, suggesting a potential limit on the application of ecological theory to organizations as well as a scope condition that should help clarify future studies of organizations and their environment: In order for increased homophily to yield increased diversity, minorities must already exist in the organization, and they must recruit homophilously. The paper also urges scholars to collect more archival data from fraternal organizations, an invaluable but largely unused data source that can demonstrate how micro-level, personal relationships become meso-level, organizational realities.

Key Words: Organizations ; Diversity ; Homophily ; Recruitment ; Social Networks

Résumé: La relation entre les dynamiques de recrutement interpersonnelles, la composition de l'effectif organisationnel et la compétition entre les organisations dans l'espace social demeure évasive pour les chercheurs en sciences sociales. La théorie écologique de l'affiliation représente probablement la tentative la plus sophistiquée de synthétiser ces niveaux d'analyse organisationnelle, mais cette théorie a seulement été testée sur un ensemble de données limité. En utilisant un ensemble de données provenant de parrains et de candidats d'une société franc-maçonne à Washington D.C. pendant la période de la Deuxième Guerre mondiale, la présente étude teste la thèse principale de la théorie écologique de l'affiliation que les données précédentes n'avait pas permis d'élaborer totalement, soit la traduction de l'homogénéité dyadique du recrutement en un effectif hétérogène. Contrairement à l'explication élégante fournie par la théorie écologique, cette étude montre comment un degré d'homogénéité élevé pourrait promouvoir la diversité – pas l'homogénéité – à l'intérieur de l'organisation. L'association entre le recrutement et la composition de l'effectif, dans le cas étudié, était historiquement contingent, ce qui suggère une limite potentielle à l'application de la théorie écologique aux organisations. Cela suggère aussi une prémisse qui devrait aider à clarifier de futures études des organisations et de leur environnement : dans le but d'augmenter une homogénéité qui cédera la place à une augmentation de la diversité, les minorités doivent déjà être présentes au sein de l'organisation et elles doivent recruter de façon homogène. Cet article invite aussi les chercheurs à collecter d'avantage de données provenant d'archives de confréries, une source de données précieuse, mais largement inutilisée, qui peut démontrer comment les relations personnelles, au niveau microsocial, deviennent des réalités organisationnelles au niveau méso-social.

Mots-clés: Organisations ; Diversité ; Homogénéité ; Recrutement ; Réseaux sociaux

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Introduction

How do micro-level, personal relationships become meso-level, organizational realities? Interpersonal recruitment is one of the primary ways in which organizations can sustain themselves and grow into the future. Recruitment can either be homophilous or heterophilous. Homophily is “the tendency of people in friendship pairs to be similar” (McPherson and Smith-Lovin 1987:370). Heterophily is the tendency of people in friendship pairs to be different. Homophily is one of the most powerful tendencies in society and can be due to anything from similarity in age to education to values (McPherson et al. 2001).

Interpersonal recruitment has consequences for dynamics inside organizations as well as outside of them. Inside organizations, homophilous recruitment has been criticized for promoting a lack of diversity because members recruit people just like themselves into organizations (Acker 2006, Royster 2003, Etzkowitz et al. 2000, Popielarz 1999, Ibarra 1992, Kanter 1977). In other words, homophily can reproduce membership homogeneity. Homogeneity is the degree to which all people in an organization are similar to each other. Heterogeneity is its opposite. Outside of organizations, interpersonal recruitment affects organizations’ relationships with their environment. Through the social ties among those who recruit and those who are recruited, the organization can occupy a particular part of social space, which can enhance or inhibit the organization’s chances of survival. For instance, if a new megachurch moves into a town that initially had only one small church, then to stay viable, the small church may need to focus its recruitment of parishioners on groups they traditionally did not accept.

Starting with Simmel’s social geometry (1955) and going through structuralism (Blau 1977, 1994), population ecology (Hannan and Freeman 1977), and the ecological theory of affiliation (McPherson 1983), social scientists have long tried to synthesize micro-level recruitment dynamics, organizational change, and the larger social context in which organizations operate. Analyses have relied on surveys (e.g. McPherson and Rotolo 1996), agent-based models (e.g. Rubineau and Fernandez 2009), and ethnographies (e.g. Kanter 1977), but all of these analyses lack hard data on recruitment chains between recruiters, recruits, and the recruitment of recruits. Data on recruitment chains are necessary to understand how individuals and organizations mutually affect one another. These data can also be used to put scope conditions on any theory that attempts a synthetic explanation of the link between micro-level and meso-level social change.

Using a unique data set on the sponsors from and applicants to an American Freemason Lodge during World War II, this paper identifies an unacknowledged pathway from recruitment to organizational change, a pathway that puts scope conditions on ecological theory’s explanation of the micro-meso link (McPherson 1983, Popielarz and Neal 2007). In this case study, homophilous recruitment led to increased diversity among the organization’s members, complicating ecological theory’s assertion that homophily in recruitment leads to membership homogeneity (McPherson and Smith-Lovin 1987). Prior to World War II, a smaller concentration of members recruited prospective members, and they did so without regard to homophily. After the war, however, a combination of previously inactive and new members, who together sponsored more infrequently and more homophilously, recruited the majority of prospective members. This simultaneously increased both the homophily rate between recruiters and recruits as well as the diversity of the lodge’s membership. The pathway from homophily to diversity just described highlights how contingent the micro-meso link can be despite any theories about how the link operates. Moreover, the pathway identified may

suggest a way in which an increased homophily rate can promote diversity inside of organizations, a lesson for scholars of organizational science, network analysts, and organizational leaders alike.

Background and Research Questions

Georg Simmel was the first to propose that social ties tend to occur among those who share group affiliations (1955). This proposition was later systematized and tested by Paul Lazarsfeld and Robert Merton (1954), Peter Blau (1977, 1994) and Miller McPherson (1983). McPherson, in fact, developed his work on the tendency toward homophily in social tie formation into a larger, meso-level theory about organizational ecology and population niches. A population niche is the segment of the community from which an organization recruits its members, and the niche's members cluster in terms of basic sociodemographic variables such as age and sex (McPherson 1983:520). The concept of the population niche has been extremely fruitful in organization science. Organizational ecology shows that the social environment selects organizational forms into niches, just as the physical environment selects species into particular habitats (Hannan and Freeman 1977). The niche has been fruitfully used to study the meso-level dynamics of voluntary organizations (McPherson and Rotolo 1996, Popielarz 1999), firms (Dobrev et al. 2001, 2002), and even musical styles (Mark 1998).

Ecological theory explicitly states the association between interpersonal recruitment, organizational change, and population niches. For individuals in organizations with voluntary membership, it states,

Voluntary groups often recruit through friendship networks [...] Dyadic homogeneity in friendships across the organizational boundary is translated directly into organizational homogeneity when a friend is brought into the organization. Some recent results in the social network literature suggest that cliques and informal groups create and maintain their homogeneity primarily through recruitment (McPherson and Smith-Lovin 1987:370-371).

In terms of the organization's relationship to its environment, this means that organizations grow by exploiting a particular population niche for recruits. "Recruitment through homophilous ties guarantees that the new recruits to a group are never a random sample of people. Instead, each organization recruits from a characteristic region of social space, the organization's niche" (Popielarz and McPherson 1995). These statements have been confirmed across a wide array of organizations, including churches (Emerson and Smith 2000:135-152), the academy (Dressel et al. 1994), criminal networks (Steffensmeier 1983:1012), and the workplace (Ibarra 1992, Kanter 1977:63).

Organizations can switch their recruitment base from one population niche to another, however. An example of this is the hypothetical church mentioned earlier, recruiting new parishioners to stay viable in the face of a new megachurch's move into town. Nonetheless, the shift from one niche to another is often unsustainable, leading to increased organizational mortality (Dobrev et al. 2001). The organization can also take in "mutants", or anomalous members very different than the traditional member, but these people often leave the group quickly (McPherson et al. 1992:158). In addition, an organization may expand the width of the niche from which they recruit, which occurs when there is no competition from other organizations for recruits nearby in social space. Finally, an organization's niche inherently shifts if particular types of members leave (Popielarz and McPherson 1995). All of these paths yield fascinating insights into the meso-level consequences of micro-level dynamics.

Unfortunately, existing data are scant to demonstrate how niche change is possible at the micro-level. Existing data also rarely reveal the consequences of niche change for organizations and their members. Many studies in the organizational ecology tradition do not bother to explain micro-level dynamics, arguing instead that interpersonal dynamics are irrelevant because the environment selects the types of organizations that survive (Hannan and Freeman 1984). At the same time, ethnographies have shown the effects of interpersonal recruitment on the organization but are unable to show the larger effects on the organization's environment (Kanter 1977, Royster 2003).

Studies using data from the Ten Towns Project, a survey of a sample of individuals who participated in voluntary organizations across ten different towns in a fifteen year period, come closest to a complete set of analyses on the micro-dynamics of niche change (McPherson and Smith-Lovin 1987, Popielarz 1999, Rotolo 2000). Nevertheless, because Ten Towns Project data were collected from a post-hoc survey, the data cannot reveal if dyadic ties occurred before or after joining the organization (McPherson et al. 1992:161). As scholars who use the Ten Towns data set put it, "We have a data set that links respondents, organizations, and network ties. The reader should keep in mind that we only have network information at the end of the study; we cannot rule out the possibility that the network ties we observed were created by the organization themselves" (McPherson et al. 1992:162). In other words, with Ten Towns data, scholars cannot be sure if pre-existing social ties affected long-term organizational composition or if organizational composition facilitated social ties after members joined the group.

Even more problematic, agent-based models, which are liberated from data constraints, challenge the supposed association between homophily in recruitment, homogeneity in organizational membership, and the exploitation of population niches. Rubineau and Fernandez (2007, 2009) explain that a minority group who recruits homophilously and on pace with a majority group will eventually force the two groups to be equally represented in an organization, provided that total recruitment to the organization is not purely homophilous. Their model represents a circumstance in which the homophily rate between recruiters and recruits went up, membership homogeneity went down, and the organization expanded its recruiting base from the part of social space containing majority members to the part containing minority members. Homophily, in other words, did not simply reproduce the homogeneity of existing membership, and in fact led the organization to move to a different population niche, challenging the conventional associations laid out by niche theory.

Niche dynamics, in sum, may not always operate as smoothly as ecological theory may predict. A change in an organization's niche may be highly contingent on historical circumstances and lead to conditions that appear incongruous with ecological theory itself. This paper consequently asks two questions. Inside organizations, are homophilous recruitment and membership homogeneity associated, as ecological theory suggests? If not, what does this say about the dynamics of niches and the overall scope of ecological theory? In order to answer the first question, this paper uses a unique data set on recruitment chains in one organization to test the hypothesized association between homophilous recruitment and membership homogeneity. Data like these have rarely if ever been amassed to test the micro-conditions under which the principles of ecological theory work. The implications of the analysis will be used in the conclusion to answer the second question and reveal a scope condition that can guide future research on the micro-meso link.

The Case

I test the traditionally accepted relationship between increased homophily and increased organizational homogeneity using the World War II-era membership applications and lodge history of an American Freemason Lodge. The official name of the lodge—the Anacostia Lodge No. 21, Free and Accepted Masons—comes from the southeastern Washington D.C. neighborhood in which it is located. As is true of many other chapter-based voluntary associations in American history, one must first apply to join the Anacostia Lodge. The applicant is initially recruited by two current members, after which the lodge leader assigns other members to interview the applicant and check on the applicant's character references. Once those members prepare a favorable report on the applicant, the lodge's members hold a blind vote on the applicant. As long as each member approves, the applicant is accepted, conditional on the applicant's ability to later on study Masonic knowledge and attain a degree that proclaims their full status as a member of the fraternity. It must be mentioned that recruitment is technically forbidden by the rules of Freemasonry (Demott 1986:53). The sponsorship of new applicants, however, seems impossible without the option of at least informal recruitment. Membership in Freemasonry is often kept secret, and several studies attest to recruitment patterns among members despite the prohibitions against it (Wilson 1980:134, Beito 2000:9, Monroe Jr. and Comer 2002).

The Anacostia Lodge was founded in 1868 as part of the Washington D.C. Masonic jurisdiction. Although there are national organizing bodies for higher levels of Freemasonry such as the Scottish Rite or Royal Arch Masonry, the type of Freemasonry to which the Anacostia Lodge belonged, sometimes informally referred to as Blue Lodge Masonry, is decentralized. The D.C. jurisdiction, therefore, like other jurisdictions in the United States, is free to set its own rules and rituals, provided that the jurisdiction adheres to basic Masonic tenets. An example of a basic Masonic tenet is the requirement that each member believe in God (Demott 1986:31). The Washington D.C. jurisdiction allowed any nonblack male twenty-one years of age or older to join the Freemasons during the World War II era. Nevertheless, membership in Blue Lodge Freemasonry was almost always comprised of white adult males in early 20th Century America (Clawson 1989), and the Anacostia Lodge was likely no different.

In a discussion of organizational diversity, Freemasonry might not appear to be the most ideal organization to study. Nonetheless, there are many forms of diversity—not just racial or gender diversity—that can be used to test a hypothesis on the relationship between homophily and the membership composition of the organization. Diversity can exist in terms of ascribed characteristics such as age or place of birth or in terms of achieved characteristics such as religion or aspirations. Lessons from this Freemason Lodge, despite its likely all white male composition, can still apply to other contexts in which different forms of diversity matter.

The Order of the Free and Accepted Masons (FAAM) of Washington D.C. is particularly interesting because, unlike in some other jurisdictions, a resident of D.C. is free to apply to any lodge in the District. Many jurisdictions require an individual to apply only to the lodge in their neighborhood or town. As a result of D.C. FAAM's uncommon rule, sponsors from and applicants to a given D.C. lodge can find one another without geographical limitations. The growth of D.C. FAAM around World War II, in other words, was not due to a mechanism binding sponsors to applicants from the lodge's neighborhood. The fact that prospective members could apply anywhere

in Washington shines a unique light on a member-driven (and not rule-driven) organizational growth process.

The Anacostia Lodge is an effective research site for a research question about the relationship between homophilous recruitment and membership homogeneity. Membership in the lodge followed clear procedures, and prospective members were free to come from any part of Washington D.C. Because ecological theory specifies that homophilous recruitment tends to reproduce the homogeneity of an organization's membership, this paper will derive its hypothesis from ecological theory.

Hypothesis: For the Freemason Lodge in this study, as the recruiter-recruit homophily rate increased, organizational homogeneity increased. In other words, organizational diversity decreased.

Data

Data for this study come from membership applications to the Anacostia Lodge from 1936 to 1955. This captures the periods before, during, and after America's participation in World War II. The World War II and post-World War II periods represent the peak times for participation in civic organizations (Putnam 2001:54), so the time period of study provides a rich data set on recruitment dynamics. The application process stayed the same during these 20 years. The application asked for one's name, address, length of residence in Washington D.C., occupation, current and former employers and their addresses, date of birth, father's and mother's names, marital status, names and ages of one's children, and three character references. In addition to the above variables, the application asked for the signatures of two existing members in the lodge to which the prospective member was applying. Given that sponsors were once applicants themselves, one is able to construct network measures linking sponsors to applicants, establishing the associations outside the Freemasons to which they both belonged. For instance, if the sponsor and applicant listed the same employer on their respective applications, then this suggests that they were colleagues at the same workplace. This, of course, does not guarantee that the sponsor and applicant were colleagues. They both may have worked at the White House but may not have known each other through that context. Nonetheless, at most this means that the number of recruiter-recruit pairs who shared a relationship is an upper bound and is unlikely to bias the results to a large extent.

There were a total of 1,198 new members in these twenty years (a combination of 1,072 new Freemasons and 126 affiliates from other lodges), of whom I have application data on 1,124 (i.e. 94 percent), and their sponsors. In addition to the 1,198 new members, there were 20 rejected applicants, an insignificant number compared to accepted applicants, so they are left out of the analysis. The applications of the 20 rejections look qualitatively similar to those of accepted applicants, suggesting that no types of men were systematically screened out when they applied. Nine were machinists, an occupation common in the lodge, and many of the sponsors of these rejections went on to sponsor other applicants successfully.

Although homogeneity can increase due to the exit of certain members from the lodge, archival records indicate that only 94 people withdrew between 1936 and 1955, some of whom joined prior to 1936. Freemasons have been documented to have a "staunchly loyal" membership, even among inactive members (Wilson 1980:125-126), and the Anacostia Lodge appears to have been no different. I do not have information on which of the particular 1,198 new members later withdrew, so I treat all accepted applicants as members throughout the entire study period. Because the number of

withdrawals is so small compared to the number of accepted applicants on whom I have full data, and because some of those 94 withdrawals joined before the study period, keeping withdrawals in the data set is unlikely to have a large impact on the results of the analysis.

Methods

To simplify the analysis, data are broken into four five-year blocks: 1936-1940, the five years prior to America's participation in World War II, which characterizes membership growth patterns before the war occurred; 1941-1945, the World War II period; 1946-1950, the immediate post-war period, during which civic participation was at its highest point in American history (Putnam 2001:54); and 1951-1955, the distant post-war period, included to see if changes after the war were durable.

The core analyses of this paper concern the measurement of two quantities: the recruiter-recruit homophily rate and the diversity of the lodge's membership. To my knowledge, no prior studies have analyzed the homophily rate between recruiters and recruits in organizations similar to the Anacostia Lodge, so there is no precedent to determine if the homophily rate between recruiters and recruits is high or low. In order to produce a yardstick against which to measure the empirical data, I run a bootstrap model on recruiter-recruit pairs (for other examples of bootstrap models used in social science, see Bearman et al. 2004, Baldassarri and Diani 2007, and Fernandez et al. 2000). First, I randomly assign applicants to sponsors, modeling a world in which recruiter-recruit dyads were characterized by neither homophily nor heterophily. I maintain the degree distribution of recruiters during this step. Second, for this simulated world, I calculate the proportion of recruits who shared the same characteristic as their recruiter. For instance, if one recruiter-recruit dyad out of five in total shared the same occupation, then 20 percent of recruits would have held the same job as their recruiters. Third, I repeat this procedure one thousand times. These 1,000 simulated proportions aggregate into a distribution of potential homophily rates had sponsors not preferred particular applicants. If the actual homophily rate is larger than this simulated distribution, then homophily was likely occurring among recruiters and recruits; if the actual homophily rate is comparable to this distribution, then homophily was unlikely to be occurring.

Organizational diversity is operationalized using the Gibbs-Martin Diversity Index (GM). The GM is calculated as $1 - \sum_i^R p_i$, where R is the total number of categories to which members can belong, and p is the fraction of members who belong to each category i . For ease of reading, the GM is multiplied by 100. As the GM approaches 100, the organization becomes more diverse; as it approaches 0, the organization becomes more homogeneous.

In addition to the use of the Gibbs-Martin Diversity Index, I use Fisher's Exact Test to examine the significance of changes in diversity from one time period to another. Fisher's Exact Test statistically determines whether or not two frequency distributions are independent, much as a chi-square test of independence would, except the Fisher's Exact Test can handle distributions with a small sample size. The reported p-values are computed by Monte Carlo simulation because each frequency distribution has more than two cells. During the analysis, I again use the Gibbs-Martin Diversity Index in a different context to measure how dispersed recruitment was across the members who recruited in each time period. In this case, a GM approaching zero means that only one member was responsible for all sponsorships in a given time period. As the GM approaches 100, sponsorships were shared equally among those members who did any sponsoring at all.

Results

The first part of this section identifies the possible bases of homophily on which to test the hypothesis, which stated that organizational diversity should have decreased as the homophily rate increased. The second part shows how occupational and employer homophily increased among recruiters and recruits in the lodge. The third part demonstrates that the increased homophily rate led to increased membership diversity. This finding rejects the hypothesis, the consequences of which for ecological theory will be discussed in the conclusion.

What types of membership diversity can be examined? The Freemasons, after all, were an organization of adult white males. Based on the information available on each member's application, the associations that recruiters and recruits potentially had in common were kinship, shared marital status, age, status as neighbors, shared occupation, shared employer, and shared military history. Recruiters and recruits may have known each other for reasons not captured on the applications, but the types of association mentioned provide a satisfactory starting point from which to analyze the relationship between homophilous recruitment and membership diversity. At minimum, homophily commonly exists across several of these sociodemographic variables, including age, spatial proximity, and occupation (McPherson et al. 2001).

Table 1 summarizes how many recruiters and recruits shared associations outside of the lodge. Analysis of the table rules out certain bases of homophily as meaningful or informative. In any time period, a maximum of only 2.8 percent of recruiter-recruit pairs shared kinship ties. Moreover, the proportion of recruiters and recruits who were neighbors dropped from 10 percent before the war to 5.3 percent after the war, hardly an indication that neighbors were driving growth in the lodge. At the other extreme, three out of every four recruiter-recruit dyads involved married men. The high percentage of dyads in which both people were married—and its stability across time—is unsurprising. Freemasonry has always emphasized marriage as a virtue, creating auxiliary associations for the wives of members and encouraging the participation of wives in various events (Clawson 1986). The stability of age differences among recruiters and recruits, furthermore, suggests that age homophily, as with marital status, likely made little contribution to lodge membership changes between 1936 and 1955. Lastly, recruiters and recruits were not meeting each other in the military. No recruiter and their recruit shared a military history in 1936-40, and in 1951-55, which had the highest percentage of recruiter-recruit pairs in which both men were potentially tied through the military, the percentage was a mere 10.6 percent. The military seems to be a less important association out of which recruiters brought in recruits after World War II.

This leaves two potentially meaningful and informative ways in which recruitment might have occurred: shared occupation or employer. Both of these are essential to membership composition in fraternal societies. Fraternities have historically been segregated by race and gender but integrated in part by occupation and employer (Clawson 1989).

Occupational and Employer Homophily

Between 1936 and 1955, I expect any increase in the recruiter-recruit homophily rate to accompany a decrease in the occupational and employer diversity of overall membership. I break down the occupational composition of applicants into the nine occupational categories used by the Census Bureau in 1950—Professional/Technical, Executive/Managerial, Sales, Clerical, Precision

Table 1: Sponsor-Applicant Summary Statistics, by Time Period

Variable	1936-40	1941-45	1946-50	1951-55
Number of Recruiter-Recruit Pairs	178	506	730	531
% of Recruiter-Recruit Pairs in Which Both Were Kin ¹	1.3	2.4	2.6	2.8
% of Recruiter-Recruit Pairs in Which Both Were Married	75.2	79.3	75.1	72.7
Mean (Standard Deviation) Age Difference Between Recruiters and Recruits, in Years	11 (8)	10 (8)	12 (9)	12 (10)
% of Recruiter-Recruit Pairs in Which Both Were Neighbors ²	10.0	4.4	5.3	6.5
% of Recruiter-Recruit Pairs in Which Both Shared An Occupation ³	20.8	44.4	32.0	33.0
% of Recruiter-Recruit Pairs in Which Both Shared An Employer	36.6	55.1	29.5	30.3
% of Recruiter-Recruit Pairs in Which Both Had Ever Served in the Military ⁴	0.0	2.0	5.3	10.6

¹“Kinship” means recruiter-recruit relationships involving fathers and sons or brothers.

²A recruiter and a recruit were neighbors if they lived within a three city block radius of one another. A typical city block is 0.03 mi (50 m) (Ribarsky et al. 2002:15).

³Occupation is based on the nine major occupational categories used by the Census Bureau in 1950—Professional/Technical, Executive/Managerial, Sales, Clerical, Precision Craft/Repair, Machine Operatives, Transportation/Materials Moving, Laborers, and Service—and includes the self-employed, the retired, the unemployed, and military occupations. The occupational coding scheme is discussed at length later on.

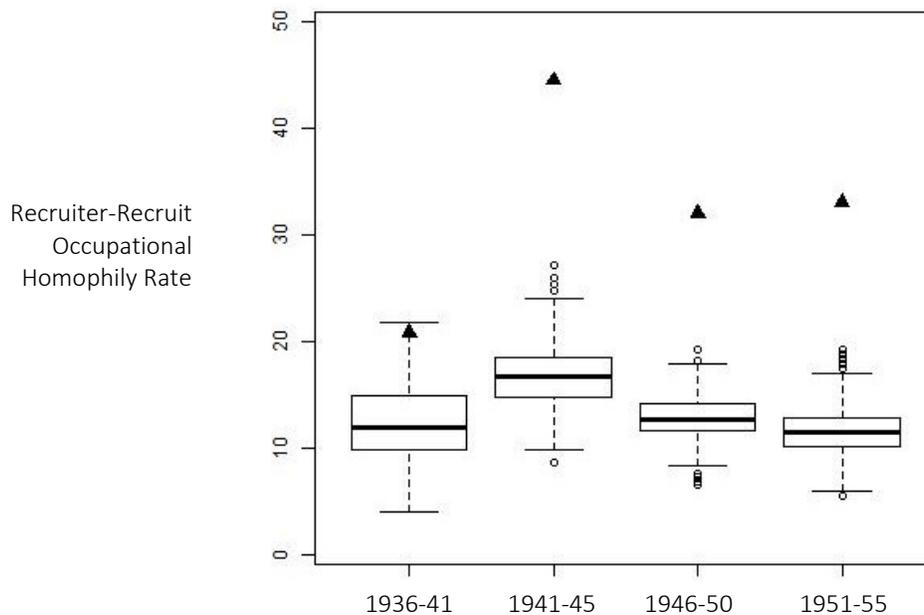
⁴Pairs in which both recruiter and recruit listed their current or previous employer as a branch of the military. If both recruiter and recruit listed ‘Navy’ as their employer, the pair is treated as sharing an employer. This provides an upper bound on the occurrence of shared military history.

Craft/Repair, Machine Operatives, Transportation/Materials Moving, Laborers, and Service—plus two additional categories: Military, and Other (which includes the self-employed, the retired, and the unemployed). Very few members belonged to the Other category. Occupational homophily means that a recruiter and a recruit shared the same occupational category. In this case, employer homophily is intertwined with occupational homophily, so employer homophily is discussed within the context of occupational homophily.

Using occupation as the categorical association through which recruiters and recruits may have shared a homophilous relationship, Figure 1 shows how the actual recruiter-recruit homophily rate

compared to the rate of recruiters and recruits who were randomly assigned to one another. Each box plot is the distribution of homophily rates in 1,000 simulated worlds where recruiters had no systematic preferences for recruits. The pool of applicants and sponsors is distinct in each time period; the simulations randomly assigned recruits only to those recruiters who were active in that particular time period. A dark triangle indicates the observed homophily rate in a given time period, and a dot above or below each box plot indicates an outlier to each distribution.

Figure 1. Simulated versus Actual Recruiter-Recruit Occupational Homophily Rate, by Time Period



Triangles represent the actual recruiter-recruit occupational homophily rate in each time period. The box plots represent distributions of 1,000 simulated recruiter-recruit occupational homophily rates in each time period. The white dots represent outliers on the box plots.

Immediately, one can discern from Figure 1 that, excepting for the first time period in the study, 1936 to 1940, the observed homophily rates were much greater than what would have occurred by chance. Sponsors in the 1936-40 period appear to have recruited without regard to occupational homophily. In 1941-45, the opposite trend occurred. Sponsors in this time period appeared to recruit applicants in a manner characterized by strong occupational homophily. This trend continued in 1946-50 and 1951-55.

Over the course of the twenty years studied, recruitment moved from a style in which occupational homophily did not matter much to one in which occupational homophily likely mattered a great deal. Why? The lodge archives provide some possible reasons that recruitment became more homophilous with time. In 1936-40, the years prior to the United States entering World War II, no more than six percent of all sponsorships involved recruiters and recruits in the same occupational group. Sponsorships were relatively diffuse across occupational categories, and sponsors from many

categories frequently sponsored applicants across categorical boundaries. Members who were machinists composed less than ten percent of overall membership, moreover, while clerical workers represented over one out of every four members.

Something changed once America entered the Second World War. Almost one third of all sponsorships between 1941 and 1945 involved recruiters who were machinists. In fact, one out of every five recruiter-recruit dyads in this time period was comprised of machinists recruiting other machinists, helping inflate the recruiter-recruit homophily rate. This may be due to wartime mobilization that occurred at a nearby ordnance plant. Most machinist recruiters and recruits worked there, and according to a history of the ordnance plant, employment jumped from 7,600 in 1937 to almost 20,000 employees after 1945 (Peck 1949:252).

Once the war was won, and wartime mobilization subsided, machinists no longer recruited other machinists with such zeal. Instead of a homophily rate pushed upward by the recruitment pattern of machinists, the inclination toward homophily spread across almost all occupational groups. Among sponsors from each occupational group in 1946-50 and 1951-55, the modal choice was to recruit an applicant who belonged to the same occupational category. Starting in 1946, policemen in the lodge started to recruit other policemen from their own districts, just as electricians from the same local phone company started to sponsor their fellow electrician co-workers.

This change in recruitment patterns was possibly due to a spike in civic participation across America after World War II ended. Civic participation was at an all-time high in the mid-1950s (Putnam 2001:54). An era such as this one may have made it easy for recruiters at the Anacostia Lodge to recruit from their own occupational and employer groups. In a social climate where everyone was inclined to join civil society organizations, it may have been easy to recruit into the Anacostia Lodge any potential members who were nearby in social space.

Although this story is a plausible explanation of why recruitment shifted from being no different than chance before World War II to being strongly homophilous during and after the war's end, the lodge archives are ultimately inconclusive on any definitive answers. It is possible that the change in recruitment patterns was due to a need for greater funding, for instance, making a change in recruitment patterns the rational choice. Regardless of the specific reasons why, the occupational homophily rate did indeed shift upward in the lodge. The next section will build on this fact to show how an increase in the recruiter-recruit homophily rate can increase organizational diversity.

The Effect of Occupational and Employer Homophily on Organizational Diversity

The previous section demonstrated that the recruiter-recruit occupational homophily rate increased at the Anacostia Lodge, and this section shows that the occupational diversity of membership increased as well. This rejects the hypothesis, which stated that an increase in the homophily rate should lead to decreased membership diversity.

The Gibbs-Martin Diversity Index (GM) measures membership diversity with regard to the occupations of lodge members. The GM would be 0 if every lodge member belonged to one category and would approach 100 if membership was uniformly distributed across the eleven occupational categories. The GM was 86.9 in 1936-40, 83.8 in 1941-45, 87.2 in 1946-50, and 88.1 in 1951-55. The change in the GM appears minor; nevertheless, a Fisher's Exact Test between the occupational distributions in 1936-40 (the pre-war period) and 1941-45 (the war period) yields a p-value of 0.022. Furthermore, a Fisher's Exact Test between the occupational distributions in 1936-40 and 1946-50

(the immediate post-war period) yields a p-value of 0.015. Both of these results strengthen the claim that membership diversity changed during and after the Second World War.

How is it possible that an increased homophily rate can accompany increased membership diversity? Table 2 below provides trends in membership and overall recruitment patterns. The table reveals that a larger proportion of members were mobilized to recruit in the later time periods. In the peak period of civic participation in America, 1946 to 1950, over one fifth of members ended up recruiting at least one new member into the lodge. This contrasts with the period before the war, the pre-war period, when only seven percent of members recruited any applicants. Another key point to take from Table 2 is that recruitment dispersion monotonically increased over the twenty years in this study. In other words, recruitment became a responsibility shared across a greater portion of members as time went on. If recruitment dispersion instead became smaller, it would have indicated that a smaller portion of members were responsible for a larger portion of sponsorships.

To summarize the analysis thus far, the proportion of members who recruited grew over time, and sponsorships became spread more evenly among those recruiters. Combined with the previous section's discussion of the increase in the recruiter-recruit homophily rate, one can see that each individual sponsor was likely to recruit both less frequently and more homophilously over time, at least in terms of occupation.

Were the recruiters in later stages the same as those in earlier stages? Put differently, could the change in recruitment style be due to some sort of generational change in which early sponsors were simply replaced by later sponsors? This was not the case. 12 of the 37 recruiters from 1936-40 still actively sponsored applicants in 1951-55, of whom eight continued to recruit without regard to occupational homophily. The heterophily of long-standing, highly active recruiters was not going away—it instead was engulfed by the homophily of this large group of new, infrequent recruiters.

Table 2 shows that the majority of this large group who recruited in later time periods was a combination of new and previously inactive lodge members. Previously inactive members are those who had never sponsored before this time period, even though they became members in a prior time period (including before the study period began). New members are those who joined in the same time period that they became recruiters. These two groups—previously inactive and new members—were the ones who increased the occupational homophily rate, increased the proportion of membership who recruited, and made sponsorships more evenly distributed across recruiters.

A quick recapitulation of how recruitment unfolded across occupations and employers at the Anacostia Lodge will make the story clear. The lower proportion of members who recruited in the 1936-40 time period did so without regard to homophily. They recruited seed recruits in lesser represented occupations. These seed recruits sponsored new members into the lodge, but each of them recruited fewer people, and most of these newer recruits belonged to the same occupational category as their seed recruit. Examples of these seed recruits included the machinists who brought in machinist colleagues during World War II, or the policemen who recruited other policemen from their district after the war's end. Furthermore, previously inactive members, a portion of whom belonged to less-represented occupational categories, were mobilized to recruit during and after the Second World War in the same fashion that the seed recruits did. Hence, the increase in the recruiter-recruit homophily rate led to an increase in the diversity of overall lodge membership.

Table 2. Recruitment Dynamics of All Members, Inactive Members, and New Members, by Time Period

Variable	1936-40	1941-45	1946-50	1951-55
<i>Membership Data</i>				
Total Members ¹	539	761	1,101	1,334
% of Members Who Recruited	7	18	23	19
<i>Recruitment Data</i>				
Recruitment Dispersion ²	94.26	98.81	99.21	99.25
Recruiters	37	139	249	248
% Recruiters Who Were Previously Inactive ³	n/a	29	34	34
% Recruiters Who Were New Members ⁴	15	50	39	23
% of Previously Inactive Members Who Recruited Homophilously	n/a	45	32	35
% of Previously New Members Who Recruited Homophilously	38	57	33	29
% of Previously Active Members Who Recruited Homophilously	n/a	22	20	26
Total Recruits	75	231	338	259
Number of Recruiter-Recruit Dyads	107	329	551	453

Homophily measures in this table refer to shared occupation among recruiters and recruits.

1Data come from the annual year-end Anacostia Lodge Masonic Register.

2Recruitment dispersion is calculated using the Gibbs Martin Diversity Index (see the Methods section).

3A previously inactive member is a member who joined in a prior time period but who did not start recruiting applicants until the current time period.

4A new member is a member who joined in the same time period in which they recruited applicants.

Data Limitations

One may be skeptical of the findings for five reasons, despite which the findings remain robust. First, the changes in the homophily rate and diversity index were relatively small over time. Second, it is possible that, instead of being close to one another, recruiters and recruits were weakly tied or in a patron-client relationship. Third, a recruit and his second recruiter may not have known each other

at all; the first recruiter may have simply gotten another member to sign the new member's application. Fourth, I only focus on how homophily increases diversity on one salient type of association: occupation. Fifth, the data cannot determine if organizational practices changed from before to after the war. I will discuss each limitation in turn.

Although changes over time in the Gibbs-Martin Diversity Index and recruitment dispersion were relatively small, there is no reason why changes could not occur in a more pronounced way in another setting. Furthermore, a computer simulation of recruitment patterns has shown this finding to be possible across a variety of initial conditions (Rubineau and Fernandez 2007). The analysis in this paper is merely a first step in demonstrating the contingent relationship between homophily and diversity. Future research should bear out the strength of the relationship in other organizational contexts.

Given the secretive nature of Freemasonry, it is unlikely that sponsors and applicants were weakly tied. Any fraternity careful about admitting new members is unlikely to recruit casual acquaintances. Patron-client relationships were also not the majority of sponsor-applicant ties. Between 1936 and 1940, 46 percent of sponsor-applicant ties (49 out of the 107 for which Duncan's Socioeconomic Index (SEI) information (Duncan 1961) is available) included a sponsor whose SEI was greater than the applicant's; the percentage dropped to 33 (108 of 329) between 1941 and 1945, 37 (202 of 544) between 1946 and 1950, and 42 (189 of 452) between 1951 and 1955. Between 1936 and 1955, on the whole, sponsors were not more prestigious than the applicants with whom they were associated, so patronage was unlikely to be the primary mechanism at work. Additionally, applicants and their second sponsors were rarely connected through the first sponsor. Reproducing the analyses above for applicants and only their second sponsors leave the results virtually unchanged.

When individuals are treated as having multiple salient types of association, such as occupation and religion, the increase in homophily on one association may inadvertently increase diversity in another. Although this may be the case, I deemphasize multiple salient attributes in this paper because a single attribute is enough to demonstrate how homophily can increase diversity. Researchers should incorporate multiple salient attributes into future analyses. In addition to this data limitation, the archival materials on which this analysis is built do not reveal if organizational practices, such as the meaning of the sponsor-applicant tie, changed during and after World War II. The pathway found in this paper remains intact, however. Regardless of whether organizational practices did change during and after the war, the lesson of this analysis continues to be that an increase in the homophily rate can make an organization more diverse. Thus, the data are appropriate for an analysis of changes in recruitment patterns. The pathway from homophily to diversity revealed by the case, moreover, is a plausible one. The next section concludes by exploring the implications of this finding for ecological theory and the micro-meso link more generally.

Conclusion

According to the ecological theory of affiliation (McPherson 1983), there is a supposed order between interpersonal recruitment dynamics, organizational membership composition, and competition between organizations in social space. Inside organizations, studies have long claimed that homophilous recruitment decreases the diversity of membership, or at least sustains its homogeneity (Acker 2006, Royster 2003, Etzkowitz et al. 2000, Popielarz 1999, Ibarra 1992, Kanter 1977). Outside of organizations, researchers claim that an organization's recruitment base can expand when

competition for recruits nearby in social space is limited (Popielarz and Neal 2007:74-75). Although major theoretical advances have shown how the relationship between micro-level and meso-level social processes operate, data are rarely available to confirm the strict association between homophily and diversity in organizations.

Using a unique data set on recruitment dynamics in a Freemason Lodge, this study provides an empirical instance in which an increased homophily rate among an organization's recruiters and recruits yielded increased, rather than decreased, membership diversity. Prior to World War II, a smaller concentration of members recruited prospective members, and they did so without regard to homophily. After the war, however, a combination of previously inactive and new members, who together sponsored more infrequently and more homophilously, recruited the majority of prospective members. This simultaneously increased both the homophily rate between recruiters and recruits as well as the diversity of the lodge's membership. This may have been part of a larger change in the population niche from which the organization drew its members, but it was achieved by increasing the homophily rate between recruiters and recruits, a process not discussed in ecological theory. Because data have largely been unavailable to properly test theories about the micro-meso link, the elegance of ecological theory has rarely had to contend with the messy, contingent nature of empirical reality. This paper concludes that ecological theory must do so to affirm its viability.

Although this paper examines one case study, it suggests a need to collect more data from organizations like fraternal societies in order to get a clearer understanding of the relationship between recruitment, organizational membership, and population niches. Many fraternal societies across North America keep in their archives the sorts of data analyzed in this paper. With more data collection, researchers can answer bigger questions about the place of individuals in organizations and of organizations in social space. For now, however, the case study can offer one scope condition for those seeking to broaden the understanding of the micro-meso link: In order for increased homophily to yield increased diversity, minorities must already exist in the organization, and they must recruit homophilously. Majority members can either recruit homophilously or heterophilously. If they recruit homophilously, then they reproduce the majority's dominance over membership composition. If they recruit heterophilously, then membership diversity increases due to the use of heterophily in recruitment, not homophily. The only way that homophily can lead to diversity is if minorities recruit homophilously. This has also been touched on in agent-based models created by Rubineau and Fernandez (2007, 2009).

This scope condition suggests lessons that extend beyond organizational boundaries to the differentiation of society as a whole. Because of the general tendency toward homophily in interpersonal relations (McPherson et al. 2001), the use of homophily in order to make an organization more diverse requires that minorities exist in the organization to begin with. Otherwise, the organization may just recruit new members from the same population niche until it saturates the niche. This highlights the need to ensure that policies exist so that minorities are in a position to recruit homophilously. In firms, this may mean promoting affirmative action hiring programs (Fernandez and Fernandez-Mateo 2006). In voluntary organizations, this may mean initially encouraging heterophilous recruitment in order to avoid the saturation of one population niche and the eventual inability to attract more members (cf. Popielarz and McPherson 1995).

Great research challenges lie ahead in order to fully understand how interpersonal recruitment, organizational change, and organizational environments mutually constitute one another. A particularly important dynamic for research in the future is to recognize the difference between

horizontal and vertical diversity within organizations. Recruitment may add to membership diversity in the organization, but minority members still may not be able to climb the ranks and create diversity along the status positions inside an organization's hierarchy. Future research should be sensitive to this fact.

Mahesh Somashekhar is a Ph.D. Candidate in the Princeton University Department of Sociology. His research interests include organizations, economic sociology, social networks, immigration, race/ethnicity, and geography. His dissertation examines how the growth of immigrant-owned businesses in the American suburbs is creating barriers to the economic and social mobility of immigrant workers that were not there when immigrant-owned businesses were largely an urban phenomenon. Prior to entering graduate school, he worked as a research assistant at the Urban Institute's Center on Nonprofits and Philanthropy.

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