Ascription into Achievement: Models of Career Systems at Lloyds Bank, 1890–1970[1]

Katherine Stovel
University of North Carolina at Chapel Hill

Michael Savage
Manchester University

Peter Bearman
University of North Carolina at Chapel Hill

Optimal matching algorithms are used to model the transformation of career systems in a large British bank (Lloyds) from 1890 to 1970. The authors first model the breakdown of the traditional ascriptive, status-based system, and then identify a more dynamic, achievement-based system as its replacement. By relating the structure of careers to organizational growth and social change, the authors explore how the modern achievement career came about. More broadly, they argue that optimal matching enables one to see clearly the multiple time frames that are necessarily intercalated into career systems and hence provides new insights into the discontinuous and contingent nature of organizational change.

INTRODUCTION

In 1900, the typical employee of Lloyds Bank could, on his first day of work, look forward to working at the same job in the same branch for 40 years or more. At the end of his career, he would have been successful in his own eyes and in the eyes of his neighbors and kin. By 1970, retiring Lloyds Bank employees, and those around them, recognized this kind of immobility as a sign of failure. In less than two generations, static status-based employment arrangements had been replaced by highly dynamic

[1] All three authors contributed equally to this article. We thank Craig Calhoun, Andrew Miles, Arne Kalleberg, Kathie Harris, and the *AJS* reviewers for their helpful comments. Direct correspondence to Peter Bearman, Department of Sociology, CB 3210, University of North Carolina, Chapel Hill, North Carolina 27599.

0002-9602/97/10202-0002$01.50

achievement-oriented careers. This article traces how this transformation took place.

Using optimal matching techniques to analyze the employment histories of three cohorts of Lloyds employees, we show how the structure of careers at one of England's oldest and largest banks was fundamentally altered between 1890 and 1970. Profound social changes occurred in England during this period (Harris 1992), notably the rise of class (Hobsbawm 1964; Savage and Miles 1994), the decline of status (Clarke 1971), the erosion of local identity (Joyce 1980), and the formation of a national, monetarized, middle class (Savage et al. 1992; Lockwood 1958). As was the case in the United States, these changes in social relations were bound up with the emergence of huge organizations (Mills 1951), with the expansion of domestic and international markets (Chandler 1977), and with the creation of increasingly complex financial relations. Part of the process of modernization, the macrolevel changes which occurred in the early years of the 20th century posed new challenges for firms like Lloyds and their employees.

In many organizations, modernization meant that traditional work arrangements were reforged, resulting in new types of career ladders and pathways. We show that, within Lloyds Bank, these new career ladders and pathways occurred as a by-product of strategic policies designed to solve a set of firm-specific problems engendered by rapid social and economic restructuring. Lloyds's responses to these intense pressures ultimately resulted in the long-term erosion of a stable and secure status-based employment system and triggered the emergence of the modern achievement-oriented career.

This article has interlocking descriptive and analytical goals. Our primary descriptive aim is to document changes in the system of careers within a large firm during the early years of this century. Our analyses are made possible by the existence of a remarkably full set of employment records for Lloyds Bank employees, from which we were able to reconstruct full career histories for a random sample of bank workers over a long period of time. We use these data to identify robust career structures and discuss their emergence and history at Lloyds Bank.

Our context is, of course, shaped by some of the "peculiarities" of the English pattern of social and economic development (Thompson 1965). These peculiarities include the overall persistence of status in English social relations, and the comparatively strong hold traditional aristocratic, gentlemanly, amateurish, and anti-industrial values exerted in 20th-century England (Ingham 1986; Weiner 1981; Littler 1982; Lash and Urry 1987; Cain and Hopkins 1992). While peculiar, the English context works to our advantage, for the change we describe is marked at Lloyds and reveals the interweaving of and contrasts between traditional and modern career systems not so easily observed elsewhere.

Bureaucratic Organization and Dynamic Achievement Careers

Our analytic aim is to account for the emergence of modern achievement-based career structures in large bureaucratic organizations. The theoretical problem is not new to the discipline; many others have also tried to understand why such career systems emerge in modern firms (Weber 1978). While proposing different accounts, the three main theoretical models—human capital theory, control theory, and functionalism—all assume that achievement-based careers and bureaucratic organization are intrinsically coupled. Yet as recently noted by Althauser (1989), this basic assumption tends not to be supported in empirically based case studies. Our analyses also challenge these general causal accounts of this relationship. Specifically, we find limited support for the idea that modern career structures are an intrinsic product of large organizations in the core economy (cf. Kalleberg, Wallace, and Althauser 1981), that modern career structures are naturally derivative of the emergence of firm-specific knowledge (Becker 1965, 1984; Doeringer and Piore 1976), that achievement careers are a direct consequence of increased bureaucratic control and the development of personnel offices (Edwards 1979; Althauser 1989), or that modern career structures are necessarily associated with increasing task complexity (Davis and Moore 1945). Against this background, it is fair to conclude that general models which assume that bureaucratic firms necessarily entail modern careers (and vice versa) are oversimplified.

More proximate accounts of the link between modern career structures and large bureaucratic firms, which focus on the particular timing of changes within organizations, also bear an uneasy relationship to our data. We find little support for arguments that suggest that modern achievement careers emerge as the result of a scarcity of skilled workers, that such systems result from conflicts between workers and management (Edwards 1979; Jacoby 1985; Gordon, Edwards, and Reich 1982), or that they are necessarily a product of rapid firm expansion (Pfeffer and Cohen 1984).[2]

On the other hand, our work on Lloyds is consistent with the pattern observed in a number of other case studies, which stress the historically

[2] Pfeffer and Cohen (1984) find no systematic relationship between internal labor markets and firm growth, although the lay view is that ILMs are derivative of expansion. See Althauser (1989) for an excellent review of the current literature.

contingent determinants of the modern achievement career. Specifically, our findings echo those observed by Doeringer and Piore (1976), who show that achievement-based career systems with explicit promotion ladders may precede the emergence of bureaucratic control systems, and Elbaum (1984), who shows that status-based, and largely static, internal labor markets give way to more dynamic career systems in firms where workers are insulated from a competitive labor market.

While our analyses call into question the intrinsic coupling of fixed career patterns and bureaucratic organization, thereby questioning general arguments that imply a uniform causal relationship between firm characteristics and career structures, we are also unsatisfied with arguments that stress chance and contingency alone. Of course, viewed from a single point in time, contingency seems overwhelming. The strategies of individual actors are always meaningfully oriented to what other local actors were doing in the immediate time horizon, just as decisions made by firms often seem uniquely determined by some peculiar deep embeddedness in networks of prior commitments. These contingent elements make the policies of firms appear as ad hoc responses to local exigency. But while contingency provides plausible proximate accounts for the timing of organizational change, it provides little insight into the general process by which particularity is interwoven with general processes to yield systematic patterns. This is the task we think is central.

In this article we model the transformation of career systems as it is worked out over 70 years in Lloyds Bank. Optimal matching, a method we use to exploit the temporal aspect of careers, provides the analytic purchase for this task. By focusing directly on the system of careers, a unit of analysis which bridges levels across time, optimal matching promises to capture the interplay between individual experience and organizational change in the evolution of career structures within Lloyds Bank. Our analyses enable us to reveal patterns in the careers of Lloyds employees and to align these patterns with both particular microlevel and more general macrolevel processes.

We proceed by first elaborating how Lloyds Bank struggled with a classic problem of modernization: how to retain its local position in towns throughout England while reshaping itself into an efficient national firm. We discuss how this struggle appeared as a staffing crisis in the early 20th century. We then introduce our data sources and present aggregate figures that show how the promotion prospects of clerks changed over time. The second half of the article uses optimal matching techniques to explore dynamic changes in the universe of career structures at Lloyds Bank. We then examine the interrelationship of these career structures over time and discuss the emergence and the ultimate dominance of the modern achievement career form.

BACKGROUND

Traditional British Banking Practices

From its inception in the mid-18th century until the early 20th century, banking in England was organized locally.[3] Banking was slow to be diffused through the population, and individual savings accounts were rare outside of the upper middle class.[4] As a consequence, most banks were small, consisting of only a few local branches. This localist organizational structure carried two implications for banks: it meant they needed to actively signal financial stability to clients and potential clients (failure rates were high by modern standards) and they needed to signal discretion, since clients were disproportionately drawn from the local elite (and were therefore intensely interested in preserving the confidentiality of their holdings).

Against this background, local customers could be persuaded to open accounts only because of the reputation and standing of local bankers (Crouzet 1972; Pressnell 1956). This made banks heavily dependent upon the expertise and discretion of their clerks, whose characteristics signaled to depositors something about the stability and discretion of the bank. Bank clerks were expected to evidence middle-class attributes. They needed to be clean, polite, literate, and to have good handwriting (Rae 1902). In addition, clerks needed to be able to recognize legitimate bank customers and to handle money with quiet dignity, for it was essential to the bank's survival that customers' personal finances (assets as well as debts) did not become public knowledge. Because bank work required social status, Lloyds and other British banks had to confer social status on their clerks.

At the heart of traditional bank employment relations lay a fundamental exchange—clerks exchanged low wages in their youth for a safe and secure dotage. Thus, with few exceptions, all Lloyds employees were initially hired as clerks.[5] Young unmarried men from lower-middle-class backgrounds composed each years' entry cohort,[6] and all served as clerks

[3] Banks issued local county notes, e.g., until 1921.

[4] Even after a massive expansion campaign that culminated in its emergence as one of the top five English banks, Lloyds had only 50,000 deposit accounts in 1920. By 1929, new accounts had increased fivefold (Winton 1982, p. 216).

[5] Lloyds, and other English banks, never abandoned a single port of entry for employees.

[6] The lower-middle-class character of clerks' backgrounds is evidenced by a register kept by a branch of Lloyds Bank between 1890–1910 that records the occupation of new employees' fathers. For the 100 entries we examined, there is not a single case of a father working as a manual laborer. About 30% of the fathers were in the professions, and the rest worked in lower-middle-class trades such as shopkeeping.

for substantial periods of time, usually more than 30 years. A few were later promoted to senior clerical or managerial positions, but this was not overly significant, for tenure in the firm, more than rank, determined salary. Even net of promotion, clerks were assured that in their middle age they would receive a "middle-class" wage, and in their retirement would be supported by the bank's pension system.

During their early years with Lloyds, clerks relied on their parents to supplement their salary. In fact, Lloyds's insistence on parental support was structured into the traditional salary system: in 1885, Lloyds policies stated that "only those that are living with parents or friends will be eligible for appointments" beyond the initial (six month) probationary period. In general, the bank received seven years of labor from their junior clerks at a wage well below a market rate.[7] Parents saw in Lloyds (and in clerical work more generally) the opportunity to launch their sons into the stable middle class, and many parents gladly absorbed the early years of salary subvention in exchange for the prospect of secure, lifelong employment with a respectable firm. At its core, the traditional status-based employment system rested on a fundamentally middle-class trade-off between current wages and social prestige. This exchange was attractive to parents because any delayed gratification in terms of wages was more than repaid by security and social position. The stability of this exchange arrangement reflected the commitment of parents to middle-class values; for banks it was a means of signaling fiscal sobriety, stability, and discretion.

Modernization of British Banking

The traditional employment arrangements prevalent in British banks through the turn of the century could not be sustained in the wake of the rapid economic and organizational transformations underway in the years immediately preceding World War I. In the mid-19th century, joint-stock legislation paved the way for the development of large bureaucratic banking firms. This made possible a major wave of mergers and acquisitions which, by the early 20th century, had led to the emergence of the "big five"

[7] While seven years' subsidy was the norm, parental subsidy of a clerk's salary was often quite extended. Lloyds expected that if a young clerk wanted to live on his own or to get married, his parents should foot the bill. Lloyds's employment registers are full of references to such long-term parental subsidies of clerks' salaries. The London and Yorkshire Bank's staff register, e.g., records that at one branch the bank manager "gave permission to [a clerk's] marriage on the understanding that his father will supplement his salary by £30 pa." Lloyds (and the other major banks) generally refused to allow their clerks to marry unless the branch manager gave his consent, a device designed keep from having to pay a "family salary" to their clerks.

banks in Britain (Collins 1988; Balogh 1947).[8] These five banks (Lloyds, National Provincial, Westminster, Midland, and Barclays) each developed their own national branch network, and by 1920 they controlled 80% of all deposits, up from 25% only 50 years before (Winton 1982).

Expansion carried three major implications for the way banks were staffed and operated: banks became increasingly sensitive to their total payroll obligation, banks were confronted with the problem of developing a coherent national network from the formerly independent branches they absorbed, and financial practices were routinized and industrywide standards were adopted. Each of these changes made localism a luxury and contributed to the emergence of the modern achievement career.

As banking became more competitive on the national level, Lloyds was required to cut costs in order to maintain its prominent position. Because banking was labor intensive (labor costs accounted for 40% of Lloyds's operating expenditures in 1930), cutting costs threatened Lloyds's ability to pay the wages necessary to maintain its clerical staffs' middle-class social position. Since much of Lloyds's growth stemmed from mergers with other existing banks, the bank also faced the mammoth task of integrating the new branches into a coherent national network with uniform procedures.[9] Firms that grow through acquisition often bring foreign business cultures and practices into their organization; in the case of Lloyds, branch absorption created the possibility that different branches of the same parent bank were engaged in quite different business practices. Throughout the country, banks established industrywide standards to facilitate transactions, and standard operating procedures emerged that ultimately decoupled discretion from accounting.

In addition to new branches and new customers, acquisitions brought in whole new pools of employees who had originally been hired by others to work in others' banks. As was the case with Lloyds's own clerks, these bank workers' expertise rested on local knowledge; they also traded discretion and trust for status. Because these "foreign" workers were similar to those hired by Lloyds, the bank initially embraced the traditional status-based employment contract with them. Yet as financial policies became routinized and increasingly freed from local conventions, the vast majority of tasks could be conducted without local knowledge. While

[8] The consolidation of the banking industry was extremely rapid. In 1825, there were over 600 local banks. In 1912, 57 regional and national banks controlled 5,634 branches; by 1929, 23 banks managed 9,838 branches (Sayers 1957).

[9] Localist forces often collided with the drive toward uniformity, and there are many examples of local communities' hostility toward takeover by the large national enterprises (Sayers 1957).

clerks could still make use of their ability to recognize middle-class (i.e., legitimate) customers, this skill no longer depended on local knowledge. This change made it possible to transfer promising men laterally from branch to branch, thereby knitting together the firm through the careers of its employees.

Macrolevel Changes in the Position of Clerks

Simultaneous with Lloyds's rapid growth as an organization were significant macrolevel changes in the position of clerks in British society. As happened in the United States, clerical status declined as clerical skills were routinized. The decline of localism led to a reduction of clerical prestige, and by World War I, clerks were beginning to look more like workers than managers. Whereas in 1880 the average salary of a lower grade clerk was equivalent to the top 10% of manual workers, by the mid-1950s, male clerical wages were indistinguishable from those of an average manual laborer (Routh 1980). This shift in the relative level of pay made lifetime employment with a salary tied to tenure rather than position irrational for Lloyds as well as increasingly unattractive to new workers. The men who joined Lloyds between 1915 and 1930 were hired under the traditional arrangements, yet they confronted a macrocontext that was fundamentally shifting. While largely invisible to Lloyds's management in the 1920s, this paradox left Lloyds, along with other British banks, trapped in the (retrospectively) fruitless endeavor of trying to preserve their promise of middle-class status for their older clerical employees (whose careers were coming to a close during the period of rapid expansion), while the younger men could no longer reap the same social benefits from the traditional career trajectory.

We tend not to realize the extent to which the managerial revolution and clerical deskilling are two sides of the same coin, but by the 1930s these twin processes were beginning to be encoded into wholly new employment practices at Lloyds (Savage 1993; Winton 1982). As clerical skills became transferable across branches, so did managerial skills. As part of its effort to cut costs, Lloyds recognized the problem of paying men incremental salaries for what were effectively routine clerical jobs, and in 1929 the bank began to hire women in large numbers to process routine clerical tasks. By 1969, over half of the workforce at Lloyds Bank was made up of women. A consequence of the decision to hire women, observed two decades later, was that the careers of male employees who joined the bank after 1929 were characterized by increased lateral mobility and an emphasis on regular promotion, which appears distinctly modern. These men's achievement careers were made possible, in large part, by an ascriptive division of labor that segregated female clerical work from male managerial potential.

Summary

The traditional employment system delivered social status to clerks by linking salaries to *tenure* within the firm rather than to *position*. Initially, banks benefited from this arrangement because local knowledge and middle-class status were critical for attracting depositors and for maintaining institutional stability. Yet as the use of banks diffused through the middle class, and as banks consolidated and expanded their national branch-networks, these currencies of localism declined in significance. New problems of integration in an increasingly competitive environment emerged; we argue that some of these problems were "solved" by inducing a male achievement career from the building blocks of Lloyds's old employment arrangements. Ultimately, this career rested on a social basis of ascription, in this case gender. Describing this solution and demonstrating the emergence of the new system of career forms provide the focus of the remainder of this article.

DATA

Data Sources

Although hiring women to serve as clerks enhanced male managerial prospects, such prospects did not have to be organized into an achievement career. To understand and to model how this particular career structure emerged at Lloyds, we draw upon complete employment records for all Lloyds Bank employees, from the chief general manager to the most junior messenger or telephonist.[10] The primary data are contained in a remarkable book known by the bank itself as *The Bible,* an alphabetical listing of Lloyds Bank employees, compiled first in the 1940s, in order to assess living bank employees' claims to pension rights. Since Lloyds's *Bible* records the final job and branch location of each worker, it is possible—by working backward with Lloyds's yearly directories—to piece together the entire career of any Lloyds employee.

As part of the Pathways and Prospects project, Michael Savage et al. compiled a data set drawn from records of the first 4,000 employees listed

[10] Although it seems a natural trait of bureaucratic organizations, most British firms did not keep consistent employment records. Where other records have been located, they normally only record the work histories of specific groups of employees, e.g., footplate workers in railway companies.

in the Lloyds *Bible*.[11] For every employee, details on each change in job or branch are recorded. Further, a limited amount of individual-level information about each employee was garnered from *The Bible* and the yearly directories, including date of birth, sex, and whether the employee had passed national bankers' examinations.

Sample Composition

Although the Pathways and Prospects sample includes both men and women who worked at Lloyds Bank, in this article we analyze only the career structure of male employees. Women were not employed at Lloyds Bank for much of the period of our focus, and when Lloyds did begin to hire them in significant numbers (beginning in 1929), their careers at Lloyds were completely segregated from men's careers. In contrast to men, the career opportunities for women at Lloyds were structurally constrained. Women were hired as temporary employees and had virtually no prospect of moving out of the newly mechanized clerical positions; more important, they were not eligible for the jobs men performed.

Prior to 1890, entries in *The Bible* are left censored, since only those employees who retired from the bank (as opposed to those ever-employed) are recorded; after 1890, *The Bible* contains a more complete record of bank employees. Similarly, employees who began working at Lloyds in the 1940s are not systematically included in the Pathways and Prospects data set, and so we have not included them in our sample here.[12] Therefore the analyses presented in this article are conducted on the 2,418 male clerks who joined the bank between 1890 and 1939 and for whom we have relatively complete career histories.

Job Positions, Branch Type, and Coding

Throughout the 230-year history of Lloyds Bank, almost every male employee began his career as a simple clerk. Across their entire careers, how-

[11] Pathways and Prospects: The Development of the Modern Bureaucratic Career, 1850–1950, funded by the Economic and Social Research Council (UK) between 1991 and 1993, coinvestigators Mike Savage, Andrew Miles, and David Vincent. Since *The Bible* is arranged alphabetically, this sample consists of those workers whose last names begin with the letters A–E. We assume that last names are distributed constantly over time, so we feel confident that this sample is equally representative of Lloyds Bank employees during all time periods under investigation here.

[12] We also omitted the small portion of the male cases ($n = 10$) that had serious problems with missing data for parts of their careers. Not all cases with missing data were excluded, however. Many workers moved into Lloyds employment when other banks merged with Lloyds, and for these workers no prior branch information was recorded in the directories ($n = 899$). However, dates of entry were recorded, which enabled us to code the earlier branch as a merged branch, and generate a relatively complete career history.

ever, the 4,000 Lloyds employees in the Pathways and Prospects data set had a total of 114 different job titles. Nonetheless, 94.2% of all jobs held fell into six job titles: clerk (77%), submanager (1.9%), chief clerk (1.2%), branch manager (10.1%), messenger (2.4%), and accountant (1.0%). The remaining 5.8% of the jobs were other specialist senior clerical and staff managerial jobs. In the analyses that follow, we allocate all job titles into one of the following five categories: clerk, senior clerk (submanagers and senior clerks), manager (branch managers), specialist manager (accountants and other specialist staff), and messenger.[13]

In order to examine both positional and geographic effects, we also coded each branch in the bank according to the size of the community in which it was located and distinguished those branches which were part of the bank's head office. This resulted in six branch types: small rural (population < 20,000); large rural (population 20,000–100,000); small city (population 100,000–500,000); large city (population > 500,000); satellite head or regional office (mostly foreign branches); and head office.

We begin by sketching the contours of the career prospects of successive cohorts of Lloyds employees, using relatively simple descriptive procedures. We then use optimal matching to analyze the work histories of three cohorts in greater detail, in order to examine how career structures change over time. Finally, we assess the relative frequency, by year of entry, of the traditional and modern career types identified in the optimal matching analysis across the entire sample of Lloyds employees.

PATTERN IN PROMOTION CHANCES BY COHORT

There were a finite number of jobs that men who worked at Lloyds could hold. All entered as clerks; many remained clerks throughout their careers. Others were promoted out of the clerical ranks to senior clerks, to branch managers, or to specialist managerial jobs. Because Lloyds employees were unlikely to be promoted for 29 or 30 years, men looked to the cohorts ahead of them for a sense of what lay in store. Even though the social prestige associated with clerking in a bank changed over time, Lloyds never invented new classes of jobs for its male employees. For this reason, it is useful to examine the rate of promotions across successive cohorts of Lloyds employees.

[13] There are no appreciable differences in the distribution of job titles between the full Savage et al. data and the subsample used here. Messengers were manual workers and followed very different career routes than did the white-collar workers (notably, there is not a single case of a messenger crossing the "collar line" in our sample). As noted above, messengers are excluded from our analyses of patterns of career mobility in the bank.

Figure 1 shows the aggregate proportion of male clerical workers from each cohort promoted at some point during their tenure at Lloyds into senior clerical, managerial, and specialist managerial positions and therefore gives a crude picture of changing promotion rates over time. Note that there are marked shifts across cohorts of entry. Early cohorts had fairly high promotion rates; almost-one third of those hired between 1890 and 1909 became managers. This is the pattern we would expect during the "golden age" of clerical work (Anderson 1977), and one that these men were familiar with from watching the careers of clerks older than themselves.

Promotion rates tumble strikingly, however, for the cohorts hired between 1910 and 1924, with less than one-quarter of all employees in these cohorts ever becoming managers. Declining promotion rates appear to support the claim that white-collar work was proletarianized during the 20th century (Klingender 1935; Braverman 1974; Abercrombie and Urry 1983). For those employees who were hired by Lloyds during these 15 years, the bank failed twofold: it was unable to deliver the social status associated with a long clerical career (the basis of the traditional employment arrangement) and it failed to launch large numbers of men into higher-status managerial careers. These men were the lost cohorts of Lloyds workers.

The standard proletarianization thesis ultimately bears an uneasy relationship to the historical data from Lloyds, however, since men hired after 1925 experienced much improved promotion rates, approaching 30%. This reversal of fortunes for male clerks directly coincides with the introduction of women into the lower ranks of the clerical workforce at Lloyds in 1929. By reserving menial clerical work for women, Lloyds was able to reduce the size of its male workforce and release the building pressure on male promotion prospects (Savage 1993; Crompton and Jones 1984; Crompton 1989; Llewellyn 1981).

Also evident in figure 1 is an important change over time in the proportion of workers who became senior clerks.[14] For all cohorts before 1920, the proportion of entering employees who ever became senior clerks remained quite low and stable—hovering around 15%. However, during the three cohorts with the worst prospects of becoming a manger (1910–24), the probability of becoming a senior clerk increased steadily. By 1920, a profound change in the pattern of promotion to senior clerk is evident; specifically, the proportion of employees who became senior clerks began to mirror the proportion who became managers. This change is consistent

[14] Bear in mind that fig. 1 does not distinguish those who were both senior clerks and managers at different times in their careers from those who were only ever one or the other of these. This is remedied in the optimal matching analysis.

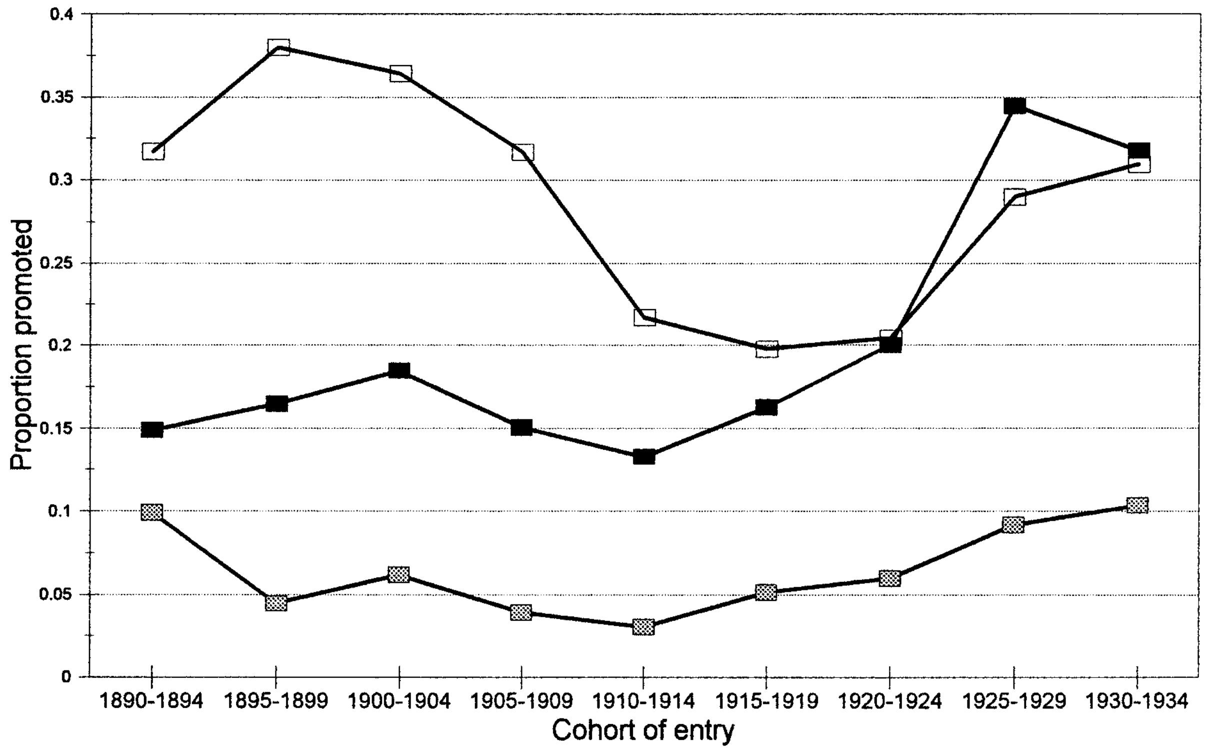

FIG. 1.—Promotion rate by entry cohort (empty box = manager; solid box = senior clerk; grey box = specialist manager).

with a move toward careers based on achievement, since the widespread use of an intermediary step on the career ladder gave the organization another opportunity to evaluate employees.[15]

Figure 1 provides one image of the promotion picture at Lloyds. Like any rate, the promotion rate calculated here is a sociological construct, visible only retrospectively. Figure 2 reports the cumulative conditional probability of promotion into each job category for each cohort.[16] Because the pattern of promotions shown in figure 2 controls for employees' exposure to promotion, it more closely mirrors what Lloyds clerks saw as they looked toward the careers of their older colleagues.

Focusing on exposure modifies the pattern of promotion rates evident in figure 1. Before 1914, nearly all of Lloyds's workers worked for the bank for life, so there is little divergence between the raw proportions reported in figure 1 and the conditional probabilities shown in figure 2. During and after World War I, however, the proportion of clerks leaving the bank early rose substantially, partly because many clerks fought in the war and partly because the market for white-collar labor was expanding rapidly in England. As a result of this exodus, the dip in the rate of promotion to branch management positions evident from figure 1 is less marked. The results for the other two job categories are consistent with the pattern shown in figure 1; an employee's chances of reaching specialist management positions did increase slowly in later cohorts, and while the chances of a reaching senior clerical post wavered uncertainly during the middle cohorts, there is little evidence of a major downturn in promotion rates during this period. In sum, however, the drastic drop in the rate of promotion to branch manager is much less distinct when we control for exposure, which suggests that the growing numbers of younger clerks leaving their jobs at the bank played a key role in affecting Lloyds's internal labor market.

The most striking feature of figure 2 is the dramatic rise in the rate of promotion among those entering the bank from the later 1920s on. Because a high proportion of these male clerks left the bank early, the condi-

[15] Fig. 1 also shows that, for all cohorts, the proportion of clerks who became specialist managers is much lower than for either managers or senior clerks. Nonetheless, the trend associated with becoming a specialist manager follows a curve similar to that for managers, except that the nadir occurs slightly earlier. This pattern is consistent with the increasing professionalization of managerial responsibilities and suggests that by midcentury the bank was beginning to rely on a cadre of specialized managers (who developed skills distinct from ordinary clerks or managers) to coordinate operations of the bank.

[16] The cumulative conditional probabilities are calculated from a life table that uses five-year exposure intervals. Employees who left the bank during an interval are considered at risk for promotion for half of that interval and are removed from subsequent exposure periods.

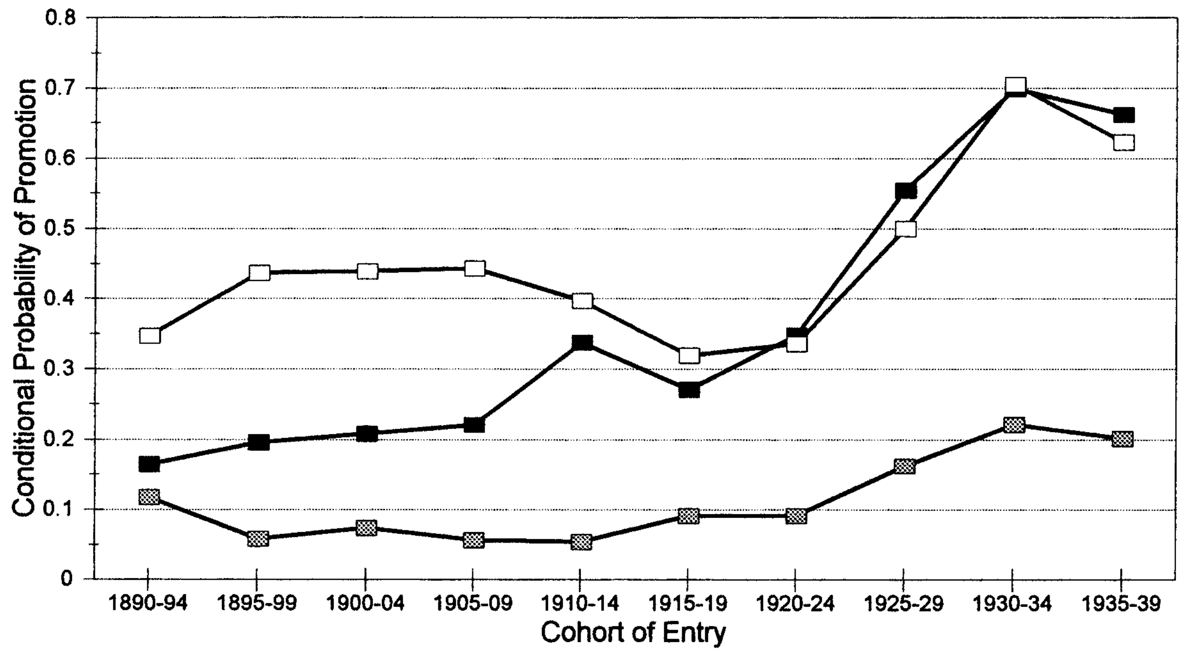

FIG. 2.—Promotion rate by entry cohort controlling for exposure (empty box = manager; solid box = senior clerk; grey box = specialist manager).

tional probabilities of achieving promotion for those who remained rose extremely rapidly, reaching 70% among the 1930 cohort. Almost equally striking is the convergence—slightly earlier—of the probability of reaching senior clerical and branch managerial positions. The tight coupling of these job categories, combined with elevated rates of promotion, hints at the construction of an achievement career within Lloyds Bank.

The Promotion Crisis

The pattern of promotion rates for the early cohorts of our sample are consistent with Lloyds's stated employment arrangement, in which promotion into management was largely determined by age and chance. Thus at any given moment, all clerks were also potentially managers. Vacancies in local branches were the dominant cause of promotion, so that older clerks "achieved" managerial positions primarily by being in the right branch at the right time. When the manager retired or died, the oldest clerk in the branch was promoted to fill his slot. As long as clerking carried prestige, and as long as the status difference between clerks and managers was small, clerks were prepared to work continuously for Lloyds and not move to other employers. Clerks, who also knew they were potential managers, were quite willing to spend a considerable amount (if not all) of their working lives as clerks. Further, since parents subvented the costs of underutilizing potential managers, Lloyds and other British banks could afford to "misallocate" some talent by leaving potential managers in clerk positions forever.

However, since the wages of older clerks and junior managers were quite similar, employing too many older clerks and too few managers was costly and inefficient as the bank grew. This problem worsened as more and more potential managers filled the bank and its newly expanded branch network and ultimately caused the age-graded system to break down. During the 1920s, the general managers at Lloyds increasingly recognized that they were unable to sustain the traditional employment arrangement. These managers sought new ways of meeting their labor needs and, following the depression of the late twenties, began to restructure employment practices (Savage 1993).

Efforts at Restructuring

Informally in the 1920s and formally in 1929, credentials and lateral mobility across branches became salient signals of talent and potential for success. Under the new arrangement, middle-class men came to compete for the increasingly elite management positions that they had previously inherited by virtue of tenure in the branch or bank alone.

The changed pattern shown in figure 2 confirms that the rapid upswing in promotion prospects for lifelong workers hired after 1915 was associated with the growing number of "leavers." This suggests that as clerical work was routinized, deskilled, and made less local, many clerks chose to leave the bank, freeing up promotion channels for those who stayed.

Human capital theory would predict that an increasingly fluid labor pool would trigger the rise of a sorting mechanism by which the firm identified those whom it would promote. Beginning in the mid-1880s, the Institute of Bankers provided professional credentials for bank clerks, although it was many decades before the big five banks began to recognize systematically these credentials (Green 1982). By 1914, Lloyds openly encouraged its clerks to pass the Institute of Bankers examinations by offering day release for clerks to attend courses and providing small financial inducements to pass exams.

To examine the effect of these credentials on promotion rates, we calculated for each cohort in our sample the cumulative conditional probability of promotion to branch manager for men with and without a credential. Figure 3 shows that employees with a bankers credential almost always had a higher probability of becoming a manager than those without a credential, although the differences are modest among the early cohorts. Through the 1905 cohort, promotion to manager was only slightly more likely among clerks with a credential than among those without objective evidence of banking proficiency. This changed substantially with the 1910 cohort, when the promotion rates for clerks with a banking credential began to diverge considerably from the promotion prospects of clerks without one. Men who were hired between 1910 and 1925 and who attained some sort of credential were 20–30 percentage points more likely to become a manager at some point in their career than were their peers who lacked a credential.

While the absence of a bankers credential became more salient over time, possessing a credential was never a guarantee of promotion. Lloyds never guaranteed that credentials would lead to promotion and, across all cohorts, roughly 40% of those with bankers qualifications were never promoted. Further, in the last two cohorts, there is clear evidence of rapidly improving prospects of clerks without qualifications; for those hired after 1925, 60% of those without qualifications were ultimately promoted into the managerial ranks.

While Lloyds toyed with a credentialist strategy for demarcating promotable clerks among the cohorts of the teens and twenties, they largely abandoned this strategy after the mid-1920s (see Savage [1993] for further discussion). The effect of credentials at Lloyds presents a challenge to

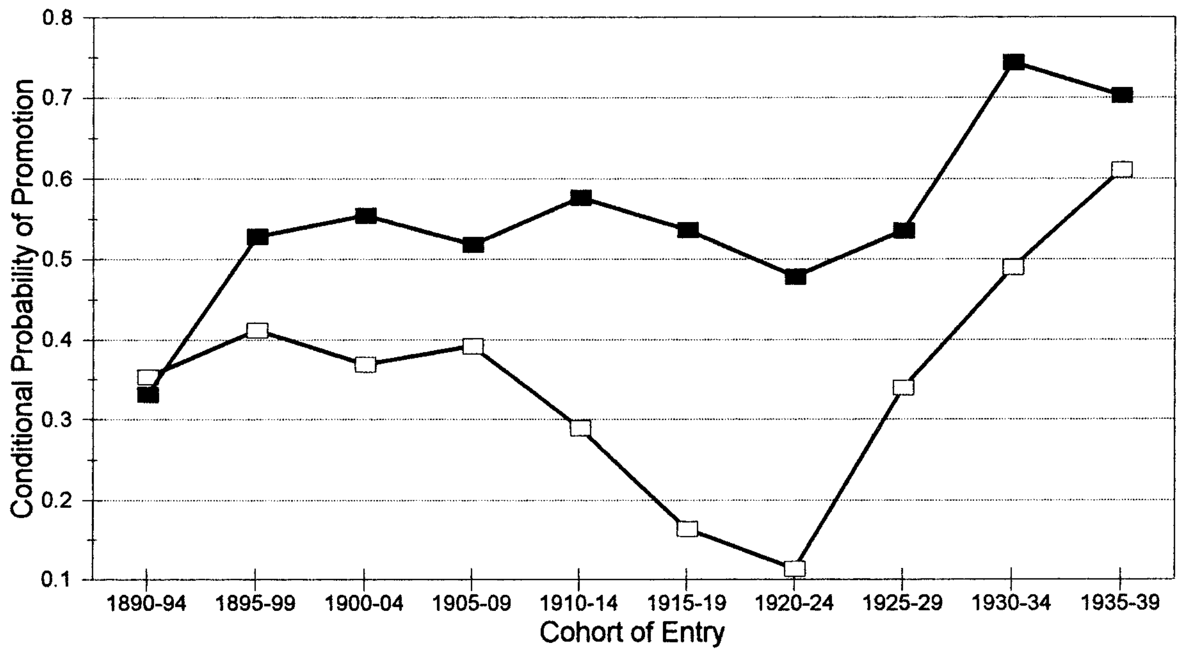

FIG. 3.—Effect of bankers credential on managerial promotion rate (empty box = no credential; solid box = credential).

human capital theory's account of changes in employment practices, since rising promotion rates in later cohorts are tied to the declining relevance of qualifications.

Promotion Rates Revisited

The analysis of promotion rates across successive cohorts of Lloyds workers suggests that three broad periods of employment practices can be identified at Lloyds Bank. The early period, which includes men hired before 1910, was characterized by relatively high rates of promotion into branch managerial positions and little mobility into either other jobs in or out of the bank's employment. Men hired during the middle period, between 1910 to 1925, experienced lower rates of promotion; it was for these men that credentialism emerged as a differentiating principle for promotion prospects. Promotion chances rose dramatically for men hired after 1925, but exit rates also rose, and credentialism became a much less significant axis of differentiation.

The analysis of promotion rates, however, obscures the sequential unfolding of careers and therefore cannot illuminate the process by which cohorts of employees progressed during their tenure at the bank. Because they treat time solely as the anchor from which careers are launched, these figures are not sensitive to the complex temporalities of careers themselves. From them we have no indication of the interleaving of different jobs and therefore gain little insight into whether those who became managers had fundamentally different careers from those who did not or whether the universe of career structures changed over time. To answer these questions, we use sequentially based optimal matching algorithms, which allow us to focus on the temporality of the mobility process itself and to model emerging career structures directly.

CHANGING CAREER STRUCTURES IN LLOYDS BANK

Using Optimal Matching to Analyze Career Data

Optimal matching is based on the simple premise that we can measure how similar two sequences are to one another by assessing how difficult it is to turn one sequence into the other. Optimal matching algorithms are a powerful tool for the analysis of temporal career data because they offer a systematic method for assessing the extent of similarity in complex sequential data. We use optimal matching algorithms to conduct within-cohort analyses, yielding sets of career patterns commonly followed by members of a cohort, while subsequent comparison across cohorts yields insight into the erosion of old patterns of employment and the emergence of new career structures.

Optimal matching refers to a set of dynamic algorithms most commonly used by molecular biologists to analyze the similarity of DNA strings. Abbott (Abbott and Forrest 1986) introduced social scientists to these methods in the 1980s, and since then some interesting empirical applications have shown that these techniques can help us understand social processes characterized by scripted unfolding (Stovel 1994; Abbott and Hrycak 1990; Abbott and Forrest 1986; Chan 1994). The technical details of optimal matching are outlined in Sankoff and Kruskal (1983) and Abbott and Hrycak (1990), but since optimal matching is not widely used in the social sciences, we provide a brief overview here.

At its core, optimal matching algorithms seek the most efficient way of transforming one sequence into another. If we thought of words as sequences of letters, we might consider how to turn ASCRIPTION into ACHIEVEMENT by inserting, deleting, and substituting letters for one other.

ASCRIPTION	S1
ACHIEVEMENT	S2

When comparing two sequences, there are often many possible solutions, from simply substituting each "mismatched" letter to trying to selectively delete and insert letters in order to remedy "misalignment." In this example, deleting the S in ascription would align ACRI with ACHI; then substituting an H for the R would bring the first four letters into perfect alignment. However, this partial alignment leaves S1 two letters shorter than S2 and requires additional insertions at some point in the process.

If each transformation "costs" the same, we could choose the most efficient matching by simply comparing the number of transformations various solutions entailed. However, just as all letters are not equally likely to appear in English words, all possibilities are not equally probable in social life (or in biology).[17] Identifying the costs associated with the substitution, insertion, and deletion of each element in a particular application is a key stage in optimal matching analysis.

As discussed above, Lloyds Bank career data contain dated job and branch information for every position held by each employee during the employee's tenure within the bank. Thus the elements of the career sequences analyzed here simultaneously capture branch size, branch type, and job. The substitution cost scheme we use is based on both the overall distribution of employee positions in the bank over the entire period for

[17] In the example given above, we might assign a lower cost to the substitution of an H for an R than to the substitution of an H for a V, since R's are more common than V's in the English language.

which we have data (e.g., more workers worked in small branches than in the head office; more worked as clerks than as managers) and the analysis of a transition matrix reporting the distribution of job transitions for all Lloyds workers over time, from 1890 to 1970. The cumulative substitution costs are determined by an additive process, whereby changes across each of the three dimensions (branch size, branch type, and job category) contribute to the overall cost of substituting one element for another. The substitution cost matrix is more fully discussed in the appendix. The cost of each insertion or deletion is fixed at 6.5, which is equal to the maximum substitution cost.

Given such a set of predetermined cost constraints, optimal matching evaluates all possible solutions and identifies the minimum distance between two sequences (the minimum total cost of transforming one sequence into another). Distances are standardized by the length of the longer sequence to account for possible differences in the number of transformations necessary.

When data consist of many sequences, as is the case here, our algorithm compares each pair of sequences dyadically, which results in a triangular distance matrix. We then apply a clustering algorithm to this distance matrix in order to identify groups of sequences similar to one another. We use CONCOR, a blockmodeling algorithm, to cluster the career sequences because CONCOR is simultaneously sensitive to the pattern of distances both within and across clusters (White, Boorman, and Brieger 1976).

We selected one five-year cohort from each of the three periods identified in the promotion rate analysis (1890–1909, 1910–24, and 1925–40). We drew a random sample of 80 workers from each of the three cohorts (1900–1904, 1915–19, and 1930–34). We then conducted optimal matching analyses on these three samples of Lloyds career data. For each cohort sample, we first used optimal matching to calculate the distance between each pair of career sequences, as described above. Careers were then clustered (within cohort) on the basis of their sequential similarity; for each cohort, we have produced a five-block partition of the data.[18]

1900–1904 Cohort: Ascriptive Careers

Blockmodeling the distances between each pair of careers in our sample of 80 members of the 1900–1904 cohort yields five blocks, each containing

[18] For all three cohorts, the t-value is significantly different from zero at the $P = 0.05$ level, signaling that the mean within-block distances are significantly smaller than the mean across-block distances (1900–1904, $t = -4.4729$; 1915–19, $t = -2.9412$; 1930–35, $t = -4.2187$; $df = 13$ for all cohorts). Thus the blockmodel partitions have identified a set of relevant career structures for each cohort.

TABLE 1

Career Types Identified from Optimal Matching Analysis of the 1900–1904 Cohort Sample

Block	N	Characterization	Typical Career*
1	14	Urban clerks	45@41
2	26	Rural clerks	16@11, 2@21, 26@11
3	14	Shorter-stay clerks	27@11
4	13	Vacancy-driven managers	27@11, 18@13
5	13	High flyers	7@11, 12@21, 1@23, 7@64, 3@24, 16@23

* The no. of years an employee spent in a branch-position are indicated before the @, the code for that branch-position follows. Branch-position combinations are contained in a two-digit code: the first digit reflects branch size and type; the second, position (job). *Branch type:* small rural = 1; large rural = 2; small urban = 3; London = 4; specialist head office = 5; head office = 6; *position:* clerk = 1; senior clerk = 2; manager = 3; specialist manager = 4.

a distinct career type. Blocks 1–3 are composed of clerical careers, blocks 4–5 of managerial careers. Within both managerial and clerical careers, the salient cleavage is between rural and urban workers. Table 1 presents a typical sequence drawn from each block.

Lifetime clerks.—The norm for a man employed at Lloyds in the late Victorian period was to remain a clerk nearly all his life. Blocks 1 and 2 disproportionately contain such lifelong clerical workers. These men's careers at Lloyds lasted between 37 and 46 years, and the vast majority of them retired from the bank. Among these lifelong clerks, however, two distinct career patterns emerge: those who worked in rural and small urban branches throughout their careers, and those who worked in large urban and head office branches.

Clerks who spent their tenure at Lloyds toiling in large urban and head office branches are clustered into block 1. Individual mobility between the head office and the large urban branches was rare, with only a few workers in our cohort sample moving between these branch types. Indeed, leaving aside entry and exit, urban clerks experienced little lateral mobility at all: the members of block 1 averaged less than one move each during their entire careers. In keeping with its traditional policy of paying middle-class subsistence wages to its clerks, up until 1929 Lloyds paid slightly higher salaries for clerks working in London. While this policy no doubt sustained distinct city and provincial labor markets for clerks, the general lack of mobility across branch types typified the bank's preoccupation with local status considerations. As the urban clerks neared retirement in the 1940s, nearly all of them were still working as clerks in the same branch they had started in 40 years before.

A different sort of clerical career is evidenced by the one-third of our cohort sample clustered into block 2. This group is composed of men who never escaped the countryside. Inspection of their career sequences reveals that, relative to the stable careers of the urban clerks, rural clerks were more likely to move from one branch to another during the course of their career. On average, each worker moved two to three times (mean = 2.6), although 20% never left their original branch. Despite the frequency of lateral mobility across branches, not a single rural clerk moved into an urban or head office branch. In this early period, even the movers' mobility was localist and governed by ascriptive forces; as one leading bank authority wrote in 1902, "Customers will hardly care to establish relations with managers who will be migratory as so many bedouins" (Rae 1902).

Like block 2, block 3 is composed of small-town and rural clerks, but these workers differ from other clerical workers in that they had truncated careers; employees in block 3 were "shorter-stay clerks." Even so, the shorter-stay clerks in this cohort worked for Lloyds for a mean of 25 years. Like the urban clerks in block 1, these men experienced relatively little branch mobility, averaging only 0.6 moves during their shortened careers with the bank.

Managerial careers.—We now turn to the remaining employees in the 1900–1904 cohort sample, the one-third who became managers. There were two distinct managerial career patterns, and again the rural/urban split is the dominant axis of differentiation. Rural and small-town clerks who eventually became managers are found in block 4. The majority of these men moved from their entry-level clerical job into management without spending time as a senior clerk, and, like the rural clerks, none of them ever held a position in a large city or in head office. The rural managers averaged 2.7 job changes during their careers, and in the majority of cases their first move was their promotion into management. Time to promotion varied from 14 to 42 years, with a mean of 28 years. Clearly rural managers were not expected to spend time in different kinds of branches to gain the experience necessary for promotion.

In almost all respects the careers of rural managers were identical to the careers of rural clerks, with the only exception being their promotions into management. The variation in time to promotion suggests that the managerial ranks in rural branches were filled by a vacancy-chain process, in which rural clerks were promoted when vacancies arose. Once promoted, such managers were not likely to move again. There is no evidence in our data to suggest that these managers were on a distinct promotion track.

The final cluster of employees in the 1900–1904 cohort sample also became managers, but their career paths were quite different from those followed by Lloyds's rural employees. These urban managers were promoted into management significantly earlier than were the rural managers (mean time to promotion was 21 years), and by 1930 almost all had been promoted. The members of this block were the high flyers of the 1900–

1904 cohort, the only employees in the 1900–1904 cohort whose careers consisted of multiple moves, independent of branch-specific vacancies. They became managers during the 10 years following the merger wave, a period in which Lloyds doubled in size. As clerks these men regularly moved from branch to branch; they were considerably more likely than their peers to move from small rural branches to larger branches, a circumstance that suggests their careers did not depend upon locally specific knowledge. While many of the block 5 managers served some time at the head office during their tenure with the bank, each ended his career as the manager of a large branch. It is likely that the bank responded to the pressing problem of integrating its expanding branch network by filling key positions in merged branches with its most talented and experienced employees. For those who began their careers at the turn of the century, the critical positions were in the hinterland controlling regional branch offices rather than in the head office. Status was revealed locally. In subsequent cohorts, when the problems of bank integration were largely solved, such high flyers ended up in the head office rather than in the countryside.

Net of these high flyers, the vast majority of employees hired at the turn of the century could not expect significant mobility—either spatial or social—during the course of their lives working for Lloyds. Nor did the bank expect it. The tenure-based remuneration system structured careers around regular, incremental salary increases, and clerks counted on steadily increasing incomes as they grew older, independent of their job mobility. Lloyds's paternalistic employment practices extended to pensions, sick leave, and full subsidy of employees' income taxes.

The careers of most Lloyds workers at the turn of the century were stories of stasis. Simply attaining a position at Lloyds Bank allowed the children of the lower middle class to preserve their lower-middle-class status for the rest of their lives. The typical Lloyds career for a man coming of age in 1900 consisted of working as a clerk in the same branch for 40-odd years and slowly benefiting from a sequence of orderly age and pay grades. During this period the banking career was designed neither to bind the different regions of the bank together nor to provide a job ladder upon which especially skilled workers would rise. The vast majority of those clerks who became managers did so as the result of a chance vacancy that occurred in the branch where they worked. Localist managers were in the right place at the right time. Promotions were made not because of clerks' choices or credentials, but because the manager in front of them died or retired when they were positioned to inherit the job. The next oldest clerk in line could look forward to being a clerk forever, all things being equal.[19]

[19] Of course, this *was* Prince Charles's problem, before Camilla Parker-Bowles.

TABLE 2

Career Types Identified from Optimal Matching Analysis of the 1915–19 Cohort Sample

Block	N	Characterization	Typical Career*
1	22	Short-stay workers	13@41
2	15	Medium-stay workers	20@11, 1@61
3	16	Urban hybrids	39@41, 5@42
4	20	Rural clerks	46@11
5	7	Rural managers	8@11, 5@31, 8@12, 23@13

* For a key to the coding of typical careers, see the notes to table 1 above.

1915–19 Cohort: Mixed-Form Careers

Now we turn to the careers of men who joined Lloyds 15 years later. While still statistically significant, the block model partition of this cohort is less robust than for either the 1900–1904 cohort or the 1930–34 cohort. Unlike the 1900–1904 cohort, in which the overarching principle organizing career structures is local status (embodied in the urban/rural divide), status based ascription and achievement compete to structure careers of the 1915–19 cohort (see table 2).

For the workers in this cohort who dedicated their full careers to Lloyds Bank, the boundary between urban and rural careers was still evident. Compared with the crisp structures found in the 1900–1904 cohort sample however, the blocks which emerge in this cohort are somewhat fuzzy, confounding urban/rural and clerical/managerial cleavages within and across careers.

Rural workers are clustered into blocks 4 and 5. Block 4 contains most of the lifelong clerks, while block 5 contains those who ultimately became managers. As in the previous cohort, the block of lifelong rural clerks is very large. Even when compared with the rural clerks of the earlier cohort, clerks hired between 1915 and 1919 who remained as rural clerks had amazingly immobile careers. Rural clerks in this cohort averaged only 1.2 lateral moves during their careers, and fully one-quarter of these men never moved at all. Again those who were transferred moved only between small rural market towns and small urban areas.

While a stable rural career was an indication of success for members of the earlier cohorts, the lifelong clerks of the 1915–19 cohort found themselves making a poor deal, exchanging low wages in youth for low status in middle age. The symmetry of interests between parents and bankers inherent in the traditional employment relationship had always rested on a fragile foundation. Either clerical work had to remain middle class, or clerks required good prospects of promotion to management. During the

19th century, clerical work at Lloyds carried prestige because clerk functions were directly coupled with bank business and because the difference in prestige (and salary) between clerks and managers was small (Routh 1980).

As clerking diffused across industries, the tasks associated with being a clerk were routinized and decoupled from specific firm contexts. This "proletarianization" of clerking, together with the influx of additional clerks from new branches, made it difficult for parents, children, and Lloyds to justify the old employment exchange. As clerical activities became routinized, banks such as Lloyds found the system inefficient and costly, since more and more of their potential managers were spending more and more of their time in routine jobs (85% of the total man-years worked by this cohort, e.g., were spent as clerks). As the gap between clerical and managerial activities became larger, all parties to the exchange were forced to place renewed emphasis on promotion possibilities. Since clerking in and of itself was no longer a sufficient mark of middle-class status, Lloyds could honor its implicit contract to deliver middle-class status only through promotions to management.

The other rural block in the 1915–19 cohort contains the relatively small group of rural clerks who ultimately became managers. Whereas among the members of block 4 we see an ossified form of the traditional rural clerk career, the rural managers' careers in this later cohort contained the seeds of a modern bureaucratic career. Over half of the workers in this block were promoted to senior clerical grades before being promoted to management, and all earned their promotions to manager at roughly the same time—between 22 and 36 years after being hired, with a mean of 29 years. All but one were transferred between different types of branches as clerks, further evidence of the emergence of a more structured career among rural managers. For these men, early moves were beginning to be tied to subsequent promotions.

In contrast to the rural workers in blocks 4 and 5, block 3 contains urban employees, both clerical and managerial. Only one of these urban employees ever worked outside a large city or head office, and whereas in the earlier period there was evidence of circulation between large urban branches and the head office, in this cohort only one man's career bridges these branch types. Almost one-third of the urban workers reached managerial positions, and an additional two became senior clerks, so all told nearly half of the members of this group experienced some form of vertical mobility. However, it took an average of 32 years for these clerks to earn promotion, a period significantly longer than in the early cohort. For most of their careers, the urban managers' employment histories are indistinguishable from the careers of those urban workers who remained clerks.

Length of career.—While the careers of lifelong employees from this cohort are still largely structured by the importance of localism, the proportion of workers who actually remained at Lloyds until their retirement declined precipitously. Block 1 consists of 22 short-stay workers, those employees whose tenure at the bank lasted a mean of 10.5 years. Nearly half these men left Lloyds because of death or ill-health. A few others in this group left for other employment, the first indication that the growth of a wider white-collar labor market may have pulled some clerical workers out of the bank and thereby influenced the internal labor market dynamics of Lloyds. Further partitioning of the optimal matching distances distinguishes those with longer from those with shorter careers. Block 2 in table 2 consists of 15 workers employed for an average of 28.3 years—still a relatively long tenure, but distinct from the lifelong workers. Nearly all of the medium-stay workers left the bank without any lateral or vertical mobility, and in this respect they composed an essentially stable group of employees.

In general, analysis of the career sequences for the 1915–19 cohort suggests that, for many, the banking career was still a recognizable variant of the traditional arrangements characterized by the 1900–1904 cohort. The only real evidence of increased mobility was for those who left the bank early. Indeed, if anything, the careers of those who stayed at Lloyds were more fixed and less dynamic than the careers of those who arrived two decades earlier and rode the merger wave. Fewer clerks entered the managerial ranks from this cohort, and it took longer for them to be promoted. There were no high flyers in this cohort, and once workers reached management they were unlikely ever to move again. The men of the 1915–19 cohort entered the bank during World War I, at the height of the merger wave, and suffered for it. Although the reforms of the later 1920s occurred just 10 to 15 years after these men were hired, *their* careers were not changed. Even as Lloyds modernized, it carried with it a pool of employees firmly anchored in more traditional career structures. The men from this cohort who stayed at the bank experienced the fossilization of the status-based employment arrangement.

1930–34 COHORT: ACHIEVEMENT CAREERS

Whereas the universe of career types found among the 1915–19 cohort bears a family resemblance to that evident in the 1900–1904 cohort, by the 1930–34 cohort the structure of careers in Lloyds Bank retains hardly a hint of the traditional, ascriptive career. The bank clerk entering Lloyds in the early 1930s confronted a fundamentally changed career system from that which had existed 15 years earlier. This is not surprising in view of the radical restructuring Lloyds undertook in the later 1920s in response to its own overstaffing problems and the subsequent global economic downturn (Winton 1982).

While the dominance of the achievement career at Lloyds was made possible by the managerial revolution and deskilling of clerical work, it was ultimately triggered by the fallout of the merger wave. As the size of Lloyds workforce grew, the bank found it increasingly difficult to promise secure employment, social status, or future pensions to its employees. In the mid-1920s the bank began its effort to create a unified bank culture by systematically moving employees from one branch to another, stating explicitly for the first time that promising male clerks should be moved between branches or to the head office in order to gain experience quickly. Once lateral movement across branches became possible, the ascriptive system of promotions was mortally wounded. Since eligible clerks could now be moved into branches whenever there was a managerial vacancy, promotion was no longer an accident of timing. Instead, achievement became the basis of promotion, and the bank's decision to turn routine clerical work over to women ensured the success of the achievement-oriented career. For male employees, the pattern of earlier moves became the trace of individual achievement, and the least localized clerks—those with the widest variety of moves—ended up as the stars, those who achieved successful modern careers.

The sequencing analysis shows that the changes introduced by the bank in the late 1920s had a profound impact on the nature of the banking career for men entering Lloyds in the early 1930s. Much more frequently than in the 1915–19 cohort, employees left the bank well before retirement. For the 1930–34 cohort, the critical divide for life-time employees was between specialist head office managers and other branch managers, rather than the previously salient distinctions between urban and rural careers or managerial and clerical careers. Table 3 presents typical sequences for each block.

Block 1 is composed of long-term workers who were eventually employed as specialist managers in the bank, either at a head office, in large urban branches, or in specialist units (e.g., regional offices) located outside London. A slight majority (58%) began their careers with Lloyds either in urban or head office jobs, and with one exception all earned an initial promotion to senior clerk. Over 80% of these workers had some experience in specialist or head office units before their promotion to management (either as clerks or senior clerks). Finally, only one-quarter of these managers ever worked as a branch manager in a small or rural branch. Specialist managers had managerial careers that were largely decoupled from the branch network itself; they were "staff" rather than "line" managers.

This block therefore consists of a new breed of manager, men who per-

TABLE 3

Career Types Identified from Optimal Matching Analysis of the 1930–34 Cohort Sample

Block	N	Characterization	Typical Career*
1	12	Staff managers	12@11, 6@31, 3@21, 3@52, 19@64
2	26	Line managers	17@11, 4@12, 3@22, 21@13
3	5	Medium-stay workers	20@21
4	22	Short-stay clerks	3@21, 12@11
5	15	Quick exit clerks	3@11

* For a key to the coding of typical careers, see the notes to table 1 above.

formed head office functions and were removed from the branch managerial career structure that had predominated in early cohorts. All but two of these workers had also moved into management via the intermediate stage of senior clerk, a development indicating the emergence of a formalized career ladder. It is interesting that these men's careers were cultivated by the men who cultivated them—the high flyers of 1900–1904 cohort.

The next block in this cohort sample is composed of a cluster of long-staying branch managers—the line as opposed to the staff managers. Consistent with the bank's new emphasis on experience, the majority of these men were frequently transferred among branches as clerks before being promoted to manager. Fully 80% of the men in this block who became branch managers spent a few years as a senior clerk prior to promotion, further evidence of a managerial job ladder.

A key point of contrast between the two managerial career structures evident in this cohort concerns the speed of promotion: line managers spent many more years as clerks than did staff managers. In block 1, every worker had earned his first promotion within 20 years; in block 2, only 8% had been promoted within the same period. For most of the line managers, the initial promotion did not occur until the worker had been employed at the bank for 25–30 years. Further, there is a striking difference between staff and line managers in terms of the spatial location of their first job. Among the 26 line managers, only three began working in urban or head office jobs. The distinction between rural and urban worker apparent in earlier cohorts remained, but it assumed different significance. Those Lloyds employees hired as urban clerks were now more likely to move into specialist management, while those who started as rural or small-town clerks were more likely to become branch managers.

Little needs to be said about short careers of the men in blocks 3, 4, and 5. There is some evidence in our data that these men disproportionately lacked credentials, and perhaps they came to realize they had only limited chances of promotion within the bank. This is consistent with the trend shown in figure 3, that credentialing was an increasingly important signal to workers, indicating to them (and to the bank) their prospects for success.

The patterns revealed by the optimal matching analysis of this cohort indicate that, of those men hired by Lloyds Bank between 1930 and 1934, nearly all either left the bank relatively quickly or experienced a considerable amount of occupational mobility. The possibility of immobility, which was clearly evident among those entering the bank at the turn of the century, had now completely disappeared. By the 1930s, the organizational labor market had become a dynamo, forcing mobility or exit onto all its entrants. This dynamism was only possible because the bank had found an alternative means of staffing its routine functions, which permitted new patterns of mobility for male employees. The widespread use of women for clerical tasks played a crucial role in the development of new career structures for male employees, and in this the construction of an achievement-based career for men relied upon the elaboration of a new ascriptive divide.

TRADITIONAL AND MODERN CAREER PATTERNS OVER TIME

The in-depth optimal matching analyses presented above suggest that traditional status-based ascriptive careers gave way to more modern, achievement-based careers. As a test of this argument, we use our optimal matching algorithm to determine whether a traditional or modern career form better summarizes each employee's career. We then look at the relative distribution of traditional and modern career forms for all 2,418 members of our sample, by year of entry.

Across the whole period from 1890 to 1970, managers had to be made from clerks, so the salient distinction between a traditional and a modern career is not promotion to management. Rather, we aim to capture the structure of the entire career as it unfolds over time. Recall that traditional careers are characterized by spatial immobility, promotions based on vacancies, and the absence of spells in staff or senior clerical positions. In this sense, our nine ideal-typical traditional careers are studies in stasis. In contrast, modern achievement careers are characterized by significant spatial mobility, spells in staff positions, obtaining senior-clerical grades, and promotions to management subsequent to a series of lateral and vertical moves. These more complex careers are captured by 18 ideal-typical careers.[20]

[20] The typical traditional careers are (1) 45@11; (2) 45@21; (3) 45@31; (4) 45@41; (5) 45@61; (6) 30@11, 15@13; (7) 30@21, 15@23; (8) 30@31, 15@33; (9) 30@41, 15@43.

Using optimal matching, we calculate the distance between each observed career and the 27 ideal-typical careers and label employees' careers "traditional" if they are closest to one of the nine ideal-typical traditional careers. Careers are labeled "modern" if they are closest to one of the 18 ideal-typical modern careers.

In figure 4, we report the relative distribution of traditional and modern careers across time. The graph is symmetric: declines in one form are mirrored by increases in the other, necessarily. The pattern is striking. Traditional careers are prevalent among the early entrants, while modern achievement careers are significantly less so. And there is a real muddle in the middle, with neither traditional nor modern achievement careers disproportionately observed. But starting with the entry cohort of 1925, traditional career forms become increasingly rare (decreasing from roughly 50% to just over 10%), and modern career forms become dominant. In short, figure 4 presents a vivid picture of dynamic achievement replacing stasis as the organizing principle of careers in Lloyds bank.

DISCUSSION

> The white-collar people slipped quietly into modern society. Whatever history they have had is a history without events. (C. Wright Mills, *White Collar*)

Careers as Insulators from History

Analyzing careers as sequences provides unanticipated insights into the historical development of modern bureaucratic careers by identifying robust patterns in the structure of systems of careers over time. These patterns are not revealed when employment patterns are analyzed in the cross section. Recall the curvilinear promotion pattern evident in figures 1, 2, and 3, a pattern that shows that promotion rates were highest for those in the first and last entry cohorts. Men who entered Lloyds as clerks be-

The typical modern careers are (1) 20@11, 8@22, 17@23; (2) 20@11, 8@12, 17@13; (3) 20@21, 8@32, 17@33; (4) 20@31, 8@23, 17@43; (5) 20@41, 8@22, 17@23; (6) 20@14, 8@62, 17@63; (7) 28@11, 5@12, 12@13; (8) 28@11, 5@22, 12@23; (9) 28@21, 5@32, 12@33; (10) 28@31, 5@32, 12@43; (11) 28@41, 5@22, 12@23; (12) 18@11, 5@32, 6@64, 9@23, 7@33; (13) 18@21, 5@32, 6@23, 9@33, 7@64; (14) 18@31, 5@22, 6@33, 9@43, 7@64; (15) 18@31, 5@22, 6@33, 9@64, 7@43; (16) 18@41, 5@32, 6@33, 5@64, 11@33; (17) 18@41, 5@42, 6@23,11@33, 5@64; (18) 15@11. In each case, the number in parentheses indicates a particular career; within each career, the number preceding the "@" indicates the number of years of service in a particular job; the numbers following the "@" refer to the branch-position code associated with that job (see notes to table 1 for a key to the branch-position codes). Career type 1, e.g., describes an employee who spent 45 years working as a clerk in a small rural branch.

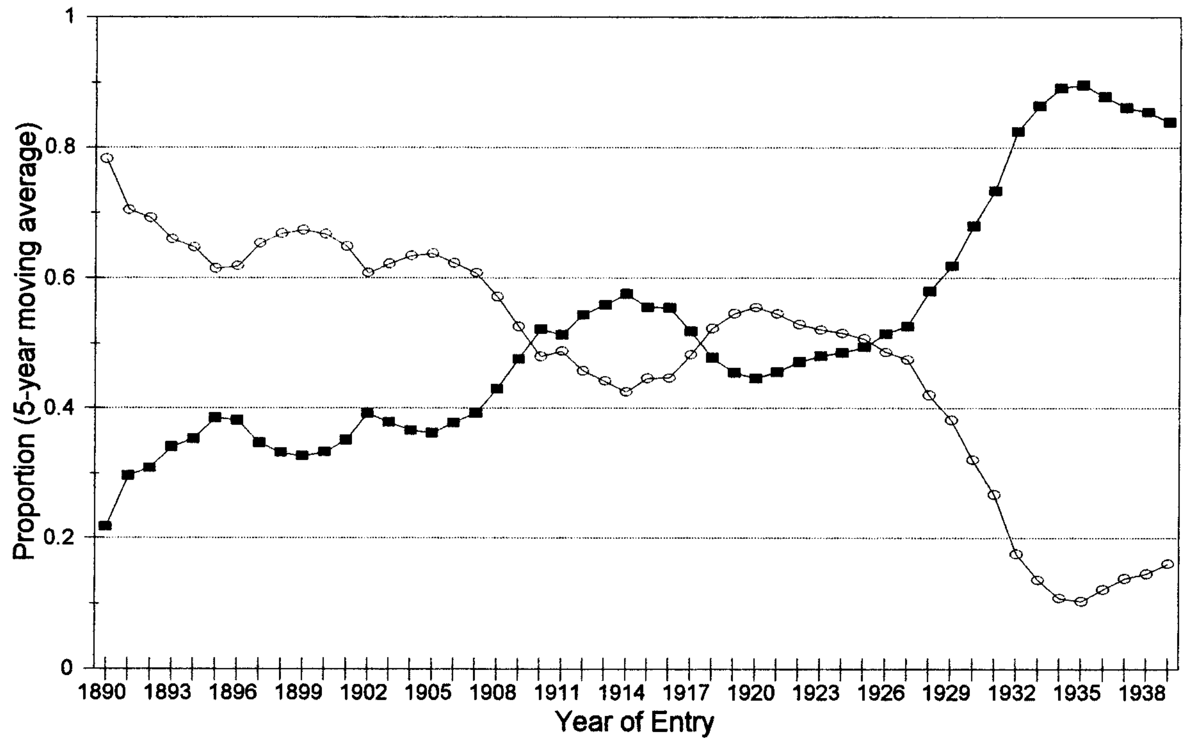

FIG. 4.—Traditional (empty circle) and modern (solid square) career types by year of entry at Lloyds.

tween 1905 and 1920 experienced a precipitous drop in promotion prospects. From this perspective, the careers of men entering in the middle cohorts appear quite different from those of both the early and later entry cohorts.

The cohort-based optimal matching analyses show, however, that the same system of careers governed opportunity for men in the early and middle cohorts and that modern hierarchical career forms appear only among the later entry cohorts. In this case, sequencing tells us that the fact of mobility is independent of its structure. The career structures identified by the sequencing analyses suggest mobility in the early and middle cohorts was largely the product of individual contingency and rapid expansion. Neither the Victorian career nor the early 20th-century career revolved around the identification of talent. Both shared a similar structure, and this structure was associated with wildly different promotion outcomes.

The clerks who entered Lloyds in the early 1900s were men from the lower middle class. They aspired to stability, but all around them the winds of change swirled. These men worked through a global depression and two world wars. They witnessed a massive political transformation of the British state and the rise of welfare capitalism. During the same period, Lloyds emerged as one of the five dominant banks in England. It doubled in size by absorbing hundreds of smaller local banks less able to adjust to the shifting economic and political context. Despite these firm- and macrolevel changes, after 40 years of service to the bank, these early Lloyds clerks got exactly what they wanted. Their static careers insulated their biographies from history (Vincent 1993).

Immobility of this type was not an individual achievement, it was the achievement of the traditional career system at Lloyds. Mobility occurs in most firms, but how mobility is interpreted is historically negotiated and is ultimately a product of whole systems of careers (Haveman and Cohen 1994; DiPrete 1993). At Lloyds, innumerable mobility experiences were encoded into a career structure that absorbed mobility and ensured stasis. The analysis of promotion rates or job shifts hide this underlying structure; our optimal matching analyses reveal it.

The traditional kind of career structure is absolutely inside out for us today. We now live in a world in which mobility signals individual achievement, and therefore we recognize achievement by its trace in an individual's career (Carroll, Haveman, and Swaminathan 1992; Haveman and Cohen 1994; Hannan 1988). For men operating under Lloyds' traditional employment arrangements, mobility did not signal achievement; success was signaled by the fact of tenure. For clerks entering before the late 1920s, their banking career served as an anchoring device which allowed middle-class parents to preserve their hard-won and often insecure middle-class status for their offspring. Bank employment was not designed to lead to mobility, either social or spatial. This was true not only for the substantial number of clerks who remained as clerks, but also for the significant number of rural managers who were promoted for reasons of local expediency. In short, the late Victorian banking career was a device for securing stasis.

Careers as Insulation from Self-Interest

Banks had good reason to structure careers as they did. At the turn of the century, British banking faced an odd set of challenges that pushed bank managers in seemingly contradictory directions. Banks found themselves pushed and pulled between decentralizing and centralizing pressures. On one hand, profit was increasingly found in national and international capital markets. Successful banks would be those that had a national presence. On another hand, capital was hard to come by. Many bank managers recognized that the most important (and untapped) source of capital lay in recruiting small share accounts from the growing middle class. Bank recruitment of new accounts was dependent on a local presence and evidence of sufficient holdings. Because all banking was "personal" banking, banks needed "personal" bankers, that is, bankers who made decisions keyed to local context, on the basis of local knowledge. One solution was branch banking, which simultaneously localized customer functions and centralized investment functions—a solution that Lloyds (and four other banks) achieved at the expense of hundreds of smaller independently owned banks (Winton 1982; Sayers 1957; Collins 1988).

Localizing customer functions at a time when personal banking was the norm (and not a marketing device) carried implications for employment relations. Like all banks, Lloyds needed to signal trust. Banks that hired working-class men as tellers risked sending the wrong signal. Depositors might think low-status tellers would steal their savings, make investment decisions that would deplete reserves, or sell information about the status of their account, thereby damaging their own local status. Banks also needed to signal sobriety and responsibility. In the absence of cultural acceptance of professional claims to legitimacy, bureaucratic norms, and the familiarity with banking that blinds depositors from perceiving risk, British banks at the turn of the century hired people whose *present* and *future* social status signaled sobriety, responsibility, discretion, and—perhaps most important—disinterest in personal advancement. These attributes were proxied *in the present* by middle-class standing, so Lloyds recruited from among the middle class. But because each individual faced a different future (some would be promoted to management while others would remain as clerks) Lloyds also guaranteed continued standing in the middle class for all employees through its traditional career system, which rested on the lifelong employment contract, parental subvention, and a salary system that keyed wages to tenure, not position. The traditional employment system thus managed to unite the otherwise contradictory goals of personal banking (which blocked the bureaucratic rationalization of procedures and decisions) and disinterest. At the macro level, Lloyds careers insulated clerks from history, at the micro level they insulated clerks from self-interest. Each is dual to the other.

Because the traditional career system rested on ascription into the middle class rather than on achievement, the system was stable only as long as clerical activity carried status beyond the bank. Through the interwar period this shaky foundation was sustained. Ultimately, this foundation proved unstable.

Restructuring and the Achievement Career

While the clerks of the 1900 cohort were halfway through their immobile careers, growth at Lloyds and macrolevel changes in the position of clerks in England posed new challenges to the stability of the Victorian career system. Looking forward in time, it was easy to see too many overpaid clerks, the end of branch expansion, and the consequent need for fewer branch managers. Facing these constraints, Lloyds managers, the high fliers of the previous cohorts, began to reconstruct Lloyds's employment practices. They constructed a new system, a system our optimal matching analysis reveals as the modern achievement career. In this system, mobility signaled achievement. Early moves were keyed to subsequent moves, so that managers and clerks could assess their chances for promotion and act in accordance with these assessments. For many clerks, this assessment must have led to early exit. Their exits, of course, shaped the opportunity structure for those who stayed (Haveman and Cohen 1994; Rosenfeld 1992).

Many of the obvious strategies for creating an achievement career (multiple ports of entry, credentialism, etc.) were not followed by Lloyds because the managers involved in shaping the new system were deeply embedded in the more traditional employment arrangement. Thus, parental subventions, a single-entry port, and hesitancy to rely upon credentials in order to evaluate talent were retained as the basic building blocks of the achievement system. That these aspects of the traditional career were retained does not mean that English firms' peculiarity stemmed from British character. Actors build systems from the fabric of goods around them. More like sculptors than inventors, Lloyds managers pieced together modernity from the elements of their past; they transformed career structures by developing a new mechanism to signal promotion chances from among the old and by hiring women to perform some clerical tasks, thereby soaking up male demand for mobility (Rosenbaum 1979; DiPrete and Grusky 1990). The mechanism was deceptively simple. Lloyds made use of the existing senior clerical grade and the possibility of spatial mobility to encode mobility across branches, or positions, as a sign of achievement. Mobility, which had always occurred, took on new significance. Early movers moved on, whatever their prior move. The learning curve was clearly steep.

Our models show that the cohort of 1930–34 had careers that appear distinctly modern. The relatively high number of early exits helped the promotion prospects of those who remained, and indeed virtually all long-stay workers could expect to become managers. This was critical because clerking by itself no longer signaled middle-class status. By midcentury, only through promotion to management could Lloyds guarantee that male employees would end their careers as members of the middle class. Recognizing that the social gulf between clerks and managers had increased, Lloyds's appeals to parents to launch their children in banking (retaining the parental subvention, of course) stressed mobility over stasis: "Those who bear responsibility of guiding a young man in the choice of a career must readily see the advantages of banking as a profession and . . . certain vital features stand out clearly—adequate remuneration, *certain promotion to men of ability and energy (perhaps to the highest executive posts the Bank has to offer),* social opportunities of the most attractive kind, and assured comfort on retirement. At the first and most significant crossroads of a boy's life these are matters which no parent or guardian can afford to ignore" ("A Banking Career" 1947; emphasis added).

Since high numbers of male clerks who stayed in the firm were promoted to management, we also see emerge, for the first time, a meaningful distinction between line and staff positions. Chandler (1977) describes the same process for similar American contexts.

The collapse of the traditional career and the emergence of the achievement career rested on a number of contingent factors that saw the reworking of forms of ascriptive attributes, rather than their erosion. Most obviously, the introduction of women to Lloyds allowed gender to serve as an axis of division within clerical ranks, since all men could be employed with the expectation that they would rise. The impact of hiring women (whose mobility was blocked) was that males spent more years than ever before as managers. The construction of a female clerical labor force made it possible for Lloyds to resuscitate core elements of the traditional status-based career since they could once again guarantee the "middle-class contract" with the promise that young clerks could expect to become managers. Thus, the 1929 restructuring reaffirmed the need for young clerks to be subsidized by their parents and to live at home. But the process of career restructuring, as shown in figure 4, was underway well before 1929. By triggering exits, by structuring spatial mobility in new ways, and by soaking up demand for managerial posts by hiring women as clerks, Lloyds pieced together an achievement-oriented, meritocratic system that reinscribed ascriptional forces within a modern bureaucratic career. Ultimately, the stability of modern achievement careers was derived from ascription on the basis of gender.

Suspending Time in Multiple Frames

Because the newly constructed achievement career affected new intakes only, many of those already working at Lloyds were largely untouched by change. Even after the "reforms" of the late 1920s, a significant number of workers (roughly 20%) continued to have highly traditional careers. Their static careers just went on and on. By focusing on sequences we are able to see how multiple time frames are suspended in social structure. Because social structure is precisely about encoding future states from past and present conditions, any real structure has the capacity to carry many competing stories at the same time. The multivalent carrying capacity of social structure serves to blunt the sharp edge of change in individuals' experience of the world. When time is suspended across multiple frames, social scientists working in the cross section (like all people living in the present) are all too likely to imagine that an evolutionary process is occurring. Our sense is that by focusing on sequences, social science will discover that social process is marked by fundamental discontinuities rather than gradual transitions.

APPENDIX

Substitution Costs

The assignment of transformation costs haunts all optimal matching analyses. Ours are derived from an analysis of the complete transition matrix that reports the distribution of job transitions for all workers over the entire period, 1890–1970. Careful examination of this matrix yields information that enables us to assess the likelihood of a transition from one type of job/branch combination to another (see tables A1 and A2).[21] The substitution cost matrix we work with reflects these probabilities, insofar as unlikely shifts are "costly" and frequent shifts are "inexpensive." Thus, transitions directly from clerical positions to branch managerial po-

[21] Readers interested in examining the underlying transition matrix may request it from the authors.

TABLE A1

SUBSTITUTION COSTS FOR BRANCHES

	Small Rural	Large Rural	Small Urban	Large Urban	Specialist Head Office	Head Office
Small rural	. . .	.5	1	1.5	2	2.5
Large rural			.75	1	1.75	2
Small urban				.5	1	1.5
Large urban					.75	1
Specialist head office						.5
Head office						. . .

TABLE A2

SUBSTITUTION COSTS FOR POSITIONS

	Clerk	Senior Clerk	Manager	Specialist Manager
Clerk	. . .	2	4	4
Senior clerk			2	2
Manager				2
Specialist manager				. . .

sitions are more costly than transitions from senior clerk to manager, and vice versa. Central to our assignment of substitution costs (for positions) is the distinction between staff (specialist managers) and line (branch managers) positions. This is reflected in the nonlinearity of the transitions between senior clerical positions, branch management, and specialist management. The substitution matrix for positions is transitive, but it is sensitive to this distinction. Ultimately, we define substitution costs independently for changes in branch and position and generate the overall substitution cost for each possible transfer by adding the relevant branch and position costs together (see table A3). This strategy retains the independent contribution of changes in branch and position in these analyses.

TABLE A3

FULL SUBSTITUTION COST MATRIX

	11	12	13	14	21	22	23	24	31	32	33	34	41	42	43	44	51	52	53	54	61	62	63	64
11	. . .	2	4	4	.5	2.5	4.5	4.5	1	3	5	5	1.5	3.5	5.5	5.5	2	4	6	6	2.5	4.5	6.5	6.5
12			2	2	2.5	.5	2.5	2.5	3	1	3	3	3.5	1.5	3.5	3.5	4	2	4	4	4.5	2.5	4.5	4.5
13				2	4.5	2.5	.5	2.5	5	3	1	3	5.5	3.5	1.5	3.5	6	4	2	4	6.5	4.5	2.5	4.5
14					4.5	2.5	2.5	.5	5	3	3	1	5.5	3.5	3.5	1.5	6	4	4	2	6.5	4.5	4.5	2.5
21						2	4	4	.75	2.75	4.75	4.75	1	3	5	5	1.75	3.75	5.75	5.75	2	4	6	6
22							2	2	2.75	.75	2.75	2.75	3	1	3	3	3.75	1.75	3.75	3.75	4	2	4	4
23								2	4.75	2.75	.75	2.75	5	3	1	3	5.75	3.75	1.75	3.75	6	4	2	4
24									4.75	2.75	2.75	.75	5	3	3	1	5.75	3.75	3.75	1.75	6	4	4	2
31										2	4	4	.5	2.5	4.5	4.5	1	3	5	5	1.5	3.5	5.5	5.5
32											2	2	2.5	.5	2.5	2.5	3	1	3	3	3.5	1.5	3.5	3.5
33												2	4.5	2.5	.5	2.5	5	3	1	3	5.5	3.5	1.5	3.5
34													4.5	2.5	2.5	.5	5	3	3	1	5.5	3.5	3.5	1.5
41														2	4	4	.75	2.75	4.75	4.75	1	3	5	5
42															2	2	2.75	.75	2.75	2.75	3	1	3	3
43																2	4.75	2.75	.75	2.75	5	3	1	3
44																	4.75	2.75	2.75	.75	5	3	3	1
51																		2	4	4	.5	2.5	4.5	4.5
52																			2	2	2.5	.5	2.5	2.5
53																				2	4.5	2.5	.5	2.5
54																					4.5	2.5	2.5	.5
61																						2	4	4
62																							2	2
63																								2
64																								. . .

REFERENCES

"A Banking Career." 1947. London: Lloyds Bank.
Abbott, Andrew, and John Forrest. 1986. "Optimal Matching Methods for Historical Sequences." *Journal of Interdisciplinary History* 16:471–94.
Abbott, Andrew, and Alexandra Hrycak. 1990. "Measuring Resemblances in Sequence Data." *American Journal of Sociology* 96:144–85.
Abercrombie, Nicholas, and John Urry. 1983. *Capital, Labour and the Middle Classes.* London: Unwin Hyman.
Althauser, Robert P. 1989. "Internal Labor Markets." *Annual Review of Sociology* 15: 143–61.
Anderson, Gregory. 1977. *The Victorian Clerk.* London: Croom Helm.
Balogh, T. 1947. *Studies in Financial Organization.* Cambridge: Cambridge University Press.
Becker, Gary. 1964. *Human Capital.* New York: National Bureau of Economic Research.
———. 1985. "Human Capital, Effort, and the Sexual Division of Labor." *Journal of Labor Economics* 3:33–58.
Braverman, Harry. 1974. *Labor and Monopoly Capital.* New York: Monthly Review Press.
Cain, Peter, and E. Hopkins. 1992. *British Imperialism.* London: Methuen.
Carroll, Glenn R., Heather Haveman, and Anand Swaminathan. 1992. "Careers in Organizations: An Ecological Perspective." *Life-Span Development and Behavior* 11:112–44.
Chan, Tak Wing. 1994. "Tracing Typical Mobility Paths: An Exploratory Study Using Optimal Matching Techniques." Manuscript. Oxford University, Nuffield College.
Chandler, Alfred. 1977. *The Visible Hand: The Managerial Revolution in American Business.* Cambridge, Mass.: Belknap Press.
Clarke, Peter. 1971. *Lancashire and the New Liberalism.* Cambridge: Cambridge University Press.
Collins, Michael. 1988. *Money and Banking in the U.K.: A History.* London: Croom Helm.
Crompton, Rosemary. 1989. "Women in Banking." *Work, Employment and Society* 3:141–56.
Crompton, Rosemary, and Gareth Jones. 1984. *White-Collar Proletariat: Deskilling and Gender in Clerical Work.* London: Macmillan.
Crouzet, François. 1972. *Capital Formation in the Industrial Revolution.* London: Methuen.
Davis, Kingsley, and Wilbert E. Moore. 1945. "Some Principles of Stratification." *American Sociological Review* 10:242–49.
DiPrete, Thomas A. 1993. "Industrial Restructuring, Organizational Labor Markets, and the Mobility Response of American Workers in the 1980s." *American Sociological Review* 58:132–46.
DiPrete, Thomas A., and David B. Grusky. 1990. "Structure and Trend in the Process of Stratification for American Men and Women." *American Journal of Sociology* 96:107–43.
Doeringer, P. B., and M. J. Piore. 1976. *Internal Labor Markets and Manpower Analysis.* Lexington, Mass.: D.C. Heath.
Edwards, Richard. 1979. *Contested Terrain.* New York: Basic Books.
Elbaum, B. 1984. "The Making and Shaping of Job and Pay Structures in the Iron and Steel Industry." Pp. 71–107 in *Internal Labor Markets,* edited by Paul Osterman. Cambridge, Mass.: MIT Press.
Gordon, David, Richard Edwards, and Michael Reich. 1982. *Segmented Work: Divided Workers.* Cambridge: Cambridge University Press.

Green, Edwin. 1982. *Debtors to Their Profession: A History of the Institute of Bankers.* Oxford: Oxford University Press.

Hannan, Michael T. 1988. "Social Change, Organizational Diversity, and Individual Careers." 1:161–74 in *Social Change and the Life Course,* edited by M. Riley. Newbury Park, Calif.: Sage.

Harris, Jose. 1992. *English Social History, 1870–1916.* Oxford: Oxford University Press.

Haveman, Heather, and Lisa E. Cohen. 1994 "The Ecological Dynamics of Careers: The Impact of Organizational Founding, Dissolution, and Merger on Job Mobility." *American Journal of Sociology* 100:104–52.

Hobsbawm, Eric. 1964. *Labouring Men.* London: Weidenfeld & Nicholson.

Ingham, Geoffrey. 1986. *Capitalism Divided? The City and Industry in British Social Development.* London: MacMillan.

Jacoby, S. 1985. *Employing Bureaucracy: Managers, Unions and the Transformation of Work in American Industry, 1900–1940.* New York: Columbia University Press.

Joyce, Patrick. 1980. *Work, Society and Politics.* Brighton: Harvester.

Kalleberg, Arne, Michael Wallace, and Robert P. Altauser. 1981. "Economic Segmentation, Worker Power, and Income Inequality." *American Journal of Sociology* 87: 651–83.

Klingender, F. W. 1935. *The Condition of Clerical Labour in Britain.* London: Lawrence.

Lash, Scott, and John Urry. 1987. *The End of Organized Capitalism.* Madison: University of Wisconsin Press.

Littler, Craig. 1982. *The Development of the Labor Process in Capitalist Societies.* London: Hutchinson.

Llewellyn, Catriona. 1981. "Occupational Mobility and the Feminist Method." In *Doing Feminist Research,* edited by Helen Roberts. London: Unwin Hyman.

Lockwood, David. 1958. *The Blackcoated Worker.* Oxford: Oxford University Press.

Mills, C. Wright. 1951. *White Collar: The American Middle Classes.* New York: Oxford University Press.

Pfeffer, Jeff, and Y. Cohen. 1984. "Determinants of Internal Labor Markets in Organizations." *Administrative Science Quarterly* 29:550–72.

Pressnell, L. S. 1956. *Country Banking in the Industrial Revolution.* Oxford: Oxford University Press.

Rae, Gordon. 1902. *The Country Banker.* London: Harrods.

Rosenbaum, James E. 1979. "Organizational Career Mobility: Promotion Chances in a Corporation during Periods of Growth and Contraction." *American Journal of Sociology* 85:21–48.

Rosenfeld, Rachel. 1992. "Job Mobility and Career Processes." *Annual Review of Sociology* 18:39–61.

Routh, Guy. 1980. *Occupation and Pay in Britain, 1906–1979.* London: Methuen.

Sankoff, David, and J. B. Kruskal. 1983. *Time Warps, String Edits and Macromolecules.* Reading, Mass.: Addison-Wesley.

Savage, Michael. 1993. "Career Mobility and Class Formation: British Banking Workers and the Lower Middle Classes." Pp. 196–216 in *Building European Society: Occupational Change and Social Mobility in Europe, 1840–1940,* edited by Andrew Miles and David Vincent. Manchester: Manchester University Press.

Savage, Michael, James Barlow, Peter Dickens, and Anthony Fielding. 1992. *Property, Bureaucracy and Culture: Middle Class Formation in Contemporary Britain.* London: Routledge.

Savage, Michael, and Andrew Miles. 1994. *The Remaking of the British Working Class.* London: Routledge.

Sayers, Richard. 1957. *Lloyds Bank in the History of English Banking.* Oxford: Clarendon.

Stovel, Katherine. 1994. "The Structure of Lynching: Temporal Pattern and Spatial Variation in the Deep South, 1882–1930." Manuscript. University of North Carolina at Chapel Hill.

Thompson, Edward. 1965. "The Peculiarities of the English." *Socialist Register* 3: 311–62.

Vincent, David. 1993. "The Gold Watch Career." Pp. 217–40 in *Building European Society: Occupational Change and Social Mobility in Europe, 1840–1940,* edited by Andrew Miles and David Vincent. Manchester: Manchester University Press.

Weber, Max. 1978. *Economy and Society.* Berkeley: University of California Press.

Weiner, J. 1981. *English Culture and the Decline of the Industrial Spirit.* Harmondworth: Penguin.

White, Harrison, Scott Boorman, and Ronald Breiger. 1976. "Social Structure from Multiple Networks: Part I. Blockmodels of Roles and Positions." *American Journal of Sociology* 81:730–80.

Winton, John. 1982. *Lloyds Bank, 1918–1969.* Oxford: Oxford University Press.