Sieve, Incubator, Temple, Hub: Empirical and Theoretical Advances in the Sociology of Higher Education

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Abstract

Higher education lacks an intellectually coherent sociology; varied research on colleges and universities is dispersed widely throughout the discipline. This review initiates a critical integration of this scholarship. We argue that sociologists have conceived of higher education systems as sieves for sorting and stratifying populations, incubators for the development of competent social actors, temples for the legitimation of official knowledge, and hubs connecting multiple institutional domains. Bringing these lines of scholarship together facilitates new theoretical insights and research questions.

INTRODUCTION

There may be no institution more fundamental to sociology than higher education. Most sociologists are employed at colleges and universities (Erskine & Spalter-Roth 2006). The discipline's existence as a distinctive intellectual enterprise is predicated on the departmental structure of the modern university (Abbott 1999, 2001, 2002). Yet higher education remains without an intellectually coherent sociology. Instead, the varied and empirically rich sociological work on higher education is scattered throughout the field, creating at times a narrowness of analytic vision and inhibiting the benefits that can accrue from integrated scholarly discourse. Our review moves to redress this situation by integrating the diverse sociological scholarship on higher education, creating new dialogue among heretofore distinct research traditions.

In order to suggest the benefits of a more coherent sociology of higher education, we first discuss the dominant approaches to the subject within U.S. sociology. We identify some of the central metaphors sociologists have invoked or implied when describing higher education, explaining that sociologists have conceived of higher education systems as sieves for regulating the mobility processes underlying the allocation of privileged positions in the society, incubators for the development of competent social actors, and temples for the legitimation of official knowledge. We add that sociologists have not yet fully appreciated the plurality of institutional domains in which higher education is implicated: the labor market and the larger economy, the professions and the sciences, the philanthropic sector, the family, and the nation-state. The peculiar location of higher education at the intersection of multiple institutions encourages us to argue that higher education should also be seen as a hub, connecting multiple social processes that often are regarded as distinct.

We use these metaphors as heuristic devices, recognizing that each has its limits. Metaphors, by definition, are imaginative interpretations and summaries of reality; their job is to illuminate features of a phenomenon that more mundane descriptions would not reveal (Lakoff & Johnson 1980). Because our intent is to spur novel analytic paths through a substantive field that many may think already well traveled, the use of provocative if perhaps imperfect imagery seems justified.

Following Brint (2000), we define the field of higher education as encompassing those organizations awarding postsecondary academic degrees and whose legitimacy is formally recognized by organizational peers (through such mechanisms as accreditation, credit transfer, and student exchanges). The field includes a vast range of organizations that vary dramatically in size, wealth, mission, composition, clientele, and prestige. These organizations engage in extensive collaboration, but the field also is highly competitive: Criteria for membership, as well as rankings within the field, are politically contested and historically variable.

We devote particular attention to the more elite segments of higher education. We do so even while recognizing that, in terms of effects on individual life outcomes, some of the most dramatic changes over the past 50 years have been the expansion and vocational differentiation of lower tiers of national higher education systems (Attewell & Lavin 2007, Roksa 2008). Our paper and others in this volume explicate this fact in varying degrees of detail. Selective four-year colleges and universities, however, historically have been especially important both substantively and theoretically because they exemplify many other social processes—legitimation, incubation, and institutional interconnection—that sociologists have found worthy of examination. As these processes are among our primary interests here, and we are undertaking a review of existing scholarship, our orientation skews toward more elite schools. Nevertheless, we suspect that the processes we examine are operative throughout the higher education sector, though perhaps in variable ways.

Universities are crucial sites for the production of knowledge in modern societies, and

sociologists may be right to describe them as knowledge factories (Parsons & Platt 1973, Aronowitz 2000). Yet despite recent, admirable efforts to conceive of academic knowledge production synthetically (see Guetzkow et al. 2004 for a review), scholarship on this topic generally has developed through distinct and disparate literatures in the sociology of science, the professions, and sociological theory. Limits of space and authorial expertise oblige us to emphasize the role of higher education in the legitimation rather than the production of knowledge, though we recognize the deep mutual implication of these two processes.

We begin our analysis with sociology's strong research tradition on schooling and stratification because it is where disciplinary interest in higher education has been most fervent and where the consequences of higher education have been most carefully detailed. We believe that sociologists' concern with stratification and inequality should continue to be central to disciplinary scholarship on higher education, but also that progress in this area would be aided with insights from the sociology of knowledge, culture, organizations, and politics.

SIEVE: HIGHER EDUCATION AND SOCIAL STRATIFICATION

Sociologists long have recognized that schooling is central to stratification in modern societies, as the allocation of occupational positions is done largely on the basis of educational attainment. The notion that formal education might serve as a meritocratic mechanism of social mobility has been an animating ideal for many social scientists and social reformers for over a century (Labaree 1997, Meyer 1986). Nevertheless formal education has been less of a ladder than a "social sieve" (Jencks & Riesman 1968), regulating access to privileged social positions. Max Weber's core insight that education has a dual character—both facilitating and constraining social opportunity—has informed most subsequent stratification scholarship, from Sorokin's (1959 [1927]) foundational work on the role of education in the regula-

tion of social mobility, to Shavit and colleagues' more contemporary research (e.g., Müller & Shavit 1998, Shavit et al. 2007, Shavit & Blossfield 1993). Recognition of a fundamental relationship between formal schooling and social status has informed virtually all sociological research on higher education to date. Our summary of this research is decidedly schematic; other authors in this volume provide more detailed syntheses (Buchmann et al. 2008, Gerber & Cheung 2008, Grodsky et al. 2008).

With *The American Occupational Structure*, Blau & Duncan (1967) transformed sociologists' approach to stratification from a narrow focus on measuring rates of social mobility to a broader identification of the determinants of individual status attainment. Blau & Duncan built on Sorokin's classic insight that schools "sort and sieve" students for upward social mobility, but that this function varies—in a manner Sorokin characterized as "trendless fluctuation"—from society to society, as well as across historical time. Blau & Duncan demonstrated that for the cohort they examined in the United States, occupational destinations were strongly associated with educational attainment but that this attainment itself was greatly, though not entirely, determined by family background. Subsequent research has repeatedly demonstrated that socioeconomic background predicts college entrance and completion, holding other factors constant (e.g., Jencks 1972, Karen 2002, Roksa et al. 2007).

Blau & Duncan's colleagues at the University of Wisconsin (e.g., Sewell et al. 1969) extended this explanatory model to identify the influence of parents, teachers, and significant peers on young people's life expectations and aspirations, factors that were recognized as mediating the relationship between social background and educational attainment. This work focused on schooling in general and college attainment in particular (Sewell & Shah 1968). Such scholarship has repeatedly demonstrated the centrality of social origins on higher education attainment (Featherman & Hauser 1978, Grodsky 2007, Jencks 1972), confirming Weber's and Sorokin's analytical

propositions about the capacity of schooling to facilitate social mobility, as well those that emphasize the capacity of schooling to reproduce patterns of class privilege and status-group exclusion across generations (Bourdieu 1973; Bourdieu & Passeron 1977; Collins 1971, 1979).

The role of social background in predicting college admission has generated an enduring discussion about the fairness of college admissions. Various authors have documented discrimination in elite college admissions (Karabel 1984; Karabel 2005; Karen 1991, 2002; Zweigenhaft 1993). Debate exists over whether college admissions became more meritocratic over the course of the twentieth century (Baltzell 1958, Soares 2007, Synnott 1979, Wechsler 1977) and about whether college admissions in the United States are more or less meritocratic than in other countries (LeTendre et al. 2006).

Sociologists at Wisconsin also methodologically extended the status-attainment tradition by reconceiving the relationship between social background and educational attainment as involving a series of transitions, whereby individuals face a sequence of options about whether and how to complete a certain level of schooling and move on to subsequent levels (Mare 1980). Research based on these transition models generally has shown diminishing effects of social background with the higher level of educational transition attempted (Dougherty 1994, Shavit & Blossfield 1993).

More recent research has extended these models by explicitly building in assumptions of an individual rational actor, whose choices in schooling are often multidimensional and are affected by both the perceived relative economic benefits of further education as well as the likelihood, at a given level of ability, that one would be successful at completing the next attempted course of study (Breen & Goldthorpe 1997, Gabay-Egozi et al. 2007, Morgan 2005). Although students now enter, move through, and leave college in a wide variety of ways (Jacobs & King 2002, DeLuca & Bozick 2005, Goldrick-Rab 2006), transition

models have provided a parsimonious framework with which to identify inequalities in the allocation of formal schooling. A focus on transitions also has stimulated policy research on how institutional articulation mechanisms can be enhanced (Roksa 2007) and how schools can better serve individuals who are not successful in attaining what Rosenbaum (2001) has famously called the "college for all" ideal in the United States.

Until recently, status attainment scholars did not find that they needed a separate set of theoretical or methodological tools to conceptualize transitions into and out of higher education; their primary goal was to identify factors associated with achieving more years of schooling, and they had the tools for that job. However, increasing mass participation in higher education since World War II has complicated the task of stratification scholars. The meaning of "years of schooling" has become ever more variable in the face of the myriad ways to participate in postsecondary education. Even among four-year institutions, widened diversification increasingly undermines the analytical coherence of the meaning of a bachelor's degree (Bastedo & Gumport 2004).

Diversification of the higher education sector has led concurrently to research designed to consider whether variation in college experience across different kinds of institutions has expanded variation in the attainment of outcomes we traditionally assume a college degree to confer: an entry-level professional job, admission to a graduate program, and symbolic passage across the threshold into the upper middle class (see Gerber & Cheung 2008 in this volume for a review of this research). For example, community college degrees have benefits relative to high school diplomas but, perhaps not surprisingly, lower labor market returns than four-year degrees (Arum & Hout 1998, Dougherty 1994, Grubb 2002, Kane & Rouse 1995). Differences among four-year colleges such as admissions selectivity, however, have only relatively small effects on adult earnings relative to attending other four-year colleges (Astin 1993, Brewer & Ehrenberg 1996,

Dale & Krueger 2002, Pascarella & Terenzini 2005). Although evidence for independent effects for variation in college characteristics on subsequent labor market outcomes has been found by several scholars (Behrman et al. 1996, Brewer et al. 1999, Black & Smith 2006), consideration of the larger body of empirical findings in this area encourages "skepticism regarding causal effects" (Gerber & Cheung 2008). The notable exception occurs at the very most selective, elite U.S. colleges (Alwin 1974, Karabel 2005, Useem & Karabel 1986), which serve a demonstrable mobility function for nonwhite students (Bowen & Bok 1998, Fischer & Massey 2006, Hout 1988, Alon & Tienda 2007, Small & Winship 2007). In the most general terms, however, completion of any four-year degree is likely a watershed event in individual biographies; Hout (1988), for example, has argued that once individuals have attained four-year diplomas, social background has only negligible additional effects on occupational position.

Stratification researchers have also focused on the association between college attainment and marital outcomes. Schwartz & Mare (2005) found that college graduates are increasingly likely to marry each other, leading to a widening class divide between well-educated and well-compensated couples and all married and unmarried others. This "educational assortative mating" (Mare 1991) may be contributing to growing social inequality in American society as a whole. DiPrete & Buchmann (2006) demonstrated that advantage in marriage markets is a key benefit, and perhaps even an incentive, for increasing college completion rates for women (see also Buchmann & DiPrete 2006, Mare 1991).

Higher education may contribute to educational homogamy in both direct and indirect ways. Colleges may provide sexual and marital marketplaces—contexts in which to forge connections that culminate in marriage (Laumann et al. 2004). But a later age of marriage—particularly among the most privileged sectors of the population—likely reduces the role of colleges as literal marital marketplaces. Less

directly, individuals may meet dating partners through friendship networks formed in college; colleges may host alumni functions (particularly in large urban areas) that allow graduates to meet each other; and, of course, a college degree channels individuals into educational or professional venues (e.g., graduate or professional school) where they meet other college graduates. The college degree may also serve a signaling function; college graduates may screen potential marriage partners for those with similar credentials. College may additionally impart shared experiences, tastes, and dispositions that attract individuals with similar credentials. The evidence strongly suggests that one or more of these processes is in play: College graduates tend not only to marry other college graduates but, more specifically, those who attended schools of the same type. Arum et al. (2008) found that one-third of college graduates who married or cohabitated with an individual possessing similar levels of educational attainment did so with someone who attended colleges with identical institutional characteristics in terms of selectivity, prestige, and per student expenditures.

INCUBATOR: INVESTIGATING THE EXPERIENTIAL CORE OF COLLEGE LIFE

Stratification scholars have shown that higher education is associated not only with occupational attainment and marital outcomes, but also with other outcomes of interest, for example health, happiness, sociopolitical attitudes, civic participation, cosmopolitanism, cultural taste, and social capital (Bowen & Bok 1998, Hunter & Bowman 1996, Kingston et al. 2003). However they have attended less to how the process of moving through college contributes to these outcomes. Some of the most insightful sociological investigations of college life are more than 30 years old (Becker et al. 1968, Clark & Trow 1966, Waller 1937). In recent years, the study of what we call the experiential core of college life—the space between the elaborately studied moments of college entry

and exit—has been left largely to the field of education and to a handful of anthropologists and historians (Boyer 1987, Holland & Eisenhart 1990, Horowitz 1987, Kuh 1997, Light 2004, Moffatt 1989, Nathan 2005, Pascarella & Terenzini 2005). There are a few exceptions to this general neglect of college experience, notably a growing body of research on how members of racial minority groups move through college (Fischer & Massey 2006, Massey et al. 2003, Torres & Charles 2004). In general, though, sociologists have attended much more carefully to the lived experiences of students in elementary and secondary schools than they have to those in college. This is a significant oversight, leaving us with an incomplete understanding of just how college attendance impacts so many arenas of life.

Colleges and universities are quintessentially social places, shaping the number, quality, and type of social ties that particular individuals and groups enjoy. We know that the number and kind of ties students build while in college are associated with patterns of academic achievement and degree completion (Aleman 1997, Tinto 1987, Winston & Zimmerman 2004). These ties may have myriad lifelong consequences, as people often find jobs, marriage partners, medical care, homes, and schools for their children through people they know (Arum et al. 2008, DiMaggio & Louch 1998, Lareau 2003, Royster 2003). Classic studies of U.S. higher education suggest that colleges and universities, especially elite ones, are important sites for the coalescence of privileged identities, group boundaries, and social networks—in a word, incubators for young adults and the relationships that solidify and divide them into groups (Baltzell 1958, Hall 1992, Wechsler 1977). The effect of college attendance on network formation may partially explain how social class comes to be "positively related" to the "size, complexity, and diversity of networks" and negatively related to network "density and average tie strength" (DiMaggio 1987). Although research has indicated the career benefits of networks formed in college (Buerkle & Guseva 2002, Granovetter 1974, Useem &

Karabel 1986), this strain of scholarship is still in its infancy. Further research might also examine the ways social relations acquired through college attendance structure access to marriage partners and other social goods. Higher education may not simply shape the social ties of individuals; it may also reconfigure entire networks.

Research has demonstrated that social and cultural capital influence whether students attend college, the kinds of institutions they attend, and whether they stay to complete their degrees (Carr & Kefalas 2004, DiMaggio 1982a, DiMaggio & Mohr 1987, Kaufman & Gabler 2004, Kim & Schneider 2005, Lareau 2007). Higher education may offer contexts for the development of cultural capital in ways that are useful for establishing an upper-middle-class life. Bourdieu (1984) viewed social class as constituted not only by occupation, income, and wealth but also by cultural dispositions and styles of embodiment (see also Lamont 1992). Although Bourdieu argued that most cultural capital is acquired at an early age in the context of the family, scholars also have demonstrated that cultural dispositions continue to evolve throughout the life course (Erickson 1996). Scholarship on elite colleges and boarding schools posits that learning to embody privilege—through physique, dress, speech, manners, and style—is an important aspect of college learning (Cookson & Persell 1985, Zweigenhaft 1993). Stevens (2007) argues that the athletic activities that are so pervasive on elite U.S. campuses help produce the fit, healthy, attractive bodies that facilitate their owners' movement though privileged circles during and after college. Social and cultural capital are, of course, intertwined, as "wide-ranging networks require broad repertoires of taste" (DiMaggio 1987).

Ethnographic research indicates that important networks and distinctive cultural styles are cultivated among students on the social side of college life. Particularly at residential colleges, students devote considerable attention to friendships, partying, scouting for sexual and romantic partners, competing for popularity, practicing sports, and either participating in or

observing athletic competitions (Moffatt 1989, Nathan 2005). Many of these activities are explicitly social, oriented around forging, maintaining, and displaying bonds with peers. The popularity of collegiate networking websites such as Facebook suggests that students seek network ties as ends in themselves.

Bourdieu (1996) argued that most social sorting occurs prior to college enrollment, as "students generally tend to choose the institution . . . that requires and inculcates the (aesthetic, ethical, and political) dispositions most similar to those inculcated by their family." We suggest, however, that social sorting continues throughout the undergraduate years in the context of hierarchically structured student cultures. Although little contemporary sociological research on college peer cultures exists, we suspect that intramural hierarchies may resemble high school status systems in terms of both classification schemata and dynamics (Colemen 1961, Milner 2004). New research in this area might draw insights from an extensive body of work on the peer cultures of children and adolescents (e.g., Adler et al. 1992, Corsaro 1997, Eder et al. 1995) and refer back to an earlier tradition of sociological research on college peer cultures (e.g., Clark & Trow 1966, Larson & Leslie 1968, Reiss 1965, Scott 1965, Waller 1937).

Fraternity and sorority recruitment is perhaps the most formalized and explicit version of social evaluation and exclusion on campuses—and we note that African Americans have been especially deft at using Greek letter societies as mechanisms of social distinction (Brown et al. 2005)—but they are by no means the only such processes. Scholars amply have documented social exclusion on campus along the lines of race and class (Allen et al. 1991; Aries & Seider 2005; Chang et al. 2004; Frank et al. 1994; Granfield 1991; Hurtado et al. 1999; Stuber 2006a,b; Torres & Charles 2004; Walpole 2003). Economic, social, cultural, and even physical capital may influence whether students gain access to the most desirable networks when in college. Having the "right" clothes, body, hygiene practices, hair style, accent, cell phone,

and musical tastes can matter (Armstrong et al. 2006, Bergerson 2007, Hamilton 2007, Milner 2004). Acquiring appropriate cultural accoutrements requires time and money, both of which are often in short supply among first-generation college students. Stuber (2006a) found that upper-middle-class students tend to arrive at college with an orientation to sociality: They have been "primed" (Corsaro & Molinari 2000) by parents and friends to be as "outgoing" as possible and have learned techniques for "meeting people." By contrast, students from less affluent families are less comfortable with the dominant campus style of sociability. Bergerson (2007) found that first-generation students viewed the socializing promoted by campus culture to be a distraction from what they understood to be the main purpose of college—academics. Such cultural norms and expectations tend to produce homophilic social networks (McPherson et al. 2001).

This Bourdieuian emphasis on the ways in which college peer cultures may reproduce social inequalities stands in sharp contrast to how the field of higher education approaches student experience. Education scholars have focused on the role that social integration plays in college persistence. Drawing on Durkheim's notions of social solidarity, Tinto (1987, 1988) argued that those who become socially and academically integrated into the college community are more likely to stay in school. A vast body of research applying, testing, extending, and challenging Tinto's theory has developed (e.g., Astin 1993, Braxton et al. 1997, Christie & Dinham 1991). Tinto's model has been criticized, particularly by those who study minority student experience, as suggesting that lack of integration stems from failure on the part of the person or group that does not become integrated, rather than with the college culture into which the person is expected to integrate (Hurtado & Carter 1997, Tierney 1992). Despite these criticisms, Tinto's theory and others focusing on "involvement" (Pascarella 1985, Pascarella & Terenzini 2005) continue to dominate how the field of higher education conceives of college life.

New sociological research on college experiences is underway. Well-crafted longitudinal studies of cohorts of students, such as the one by Massey and his colleagues of black, white, Asian, and Latino students moving through elite schools, provide opportunities to better understand how life at the experiential core of college implicates larger patterns of social stratification (Massey et al. 2003). Ethnographic research in progress promises to illuminate the microlevel interactional processes that sum to various kinds of college biographies (Armstrong 2007, Chambliss 2003–2004). Finally, recent advances in data collection techniques, mathematical modeling, and computational technology offer rich possibilities for scholars to map precisely the dynamics of undergraduate social networks. Provocative research by Carley (1985) on the relationship between network structure and decision making among dormitory residents at MIT and by Kossinets & Watts (2006) on the organization of email correspondence at Columbia University provides starting points for further inquiries into network dynamics at the experiential core of college.

TEMPLE: HIGHER EDUCATION AND THE LEGITIMATION OF KNOWLEDGE

Although the relationship between higher education and social inequality has been the primary focus of research in the field in recent decades, the role of the university in the legitimation of knowledge has long been of sociological interest as well. For Talcott Parsons, the primary purpose of higher education was to preserve, promote, and inculcate the modern "cognitive complex," a rational, universalistic mode of thinking (Parsons & Platt 1973). The "fiduciary" role of the university in guarding the modern cognitive complex is what, for Parsons, explains its prestige in contemporary societies. It also is why people destined for leadership roles in government and the professions are expected or required to undergo years of inculcation into this cognitive complex as undergraduates. Although critics found the Parsonian

conception static and immune to falsification, they also praised the way it suggested deep linkages between higher education and the broader society (Gusfield 1974). A few years later, Collins (1979) reiterated the definitively Weberian insight that education also is terrain on which different social groups compete for power and recognition. Collins pointed out that educational credentials serve as primary markers of status in modern societies, provoking conflicts over control of the organizational infrastructure and curricular content of credential conferral (Collins 1979).

While Collins and others were developing this critical approach to the linkages between the academy and the politics of knowledge, particularly among occupational groups (Abbott 1988, Freidson 1986, Larson 1977), John Meyer and his colleagues at Stanford University theorized the connections between the university and the modern nation-state. For the Stanford school, formal secular education is an essential component of nation-building, through which the state assumes jurisdiction over the production of competent citizens and workers (Boli et al. 1985, Ramirez 2002, Ramirez & Boli 1987). This has been a long-term historical process, spearheaded by the university, which developed in early modern Europe as a hybrid institutional space between church bureaucracies and emerging secular states (Ruegg 2004).

In this approach formal education not only certifies social capacities, it produces a distinctive kind of social actor: the legally and normatively autonomous, rights-bearing, rationally cognizant citizen of Enlightenment modernity. Because this production process entails the formal organization of knowledge into curriculum, it also defines what counts as legitimate knowledge (Meyer 1977). Higher education enjoys pride of place in this production apparatus because it produces and certifies the best and brightest citizens and the most complex and rarefied knowledge. As the organizational instantiation of intellectual progress, the university is the secular temple of modern societies (Meyer et al. 1994, 2007; Schofer & Meyer 2005).

The traditions of scholarship that we here describe with the metaphors of sieve, incubator, and temple only rarely have been made mutually informative, despite the shared organizational housing of the empirical phenomena they investigate. We find it compelling, for example, that the status of universities and their students is reciprocally generated. In the United States, the academic quality of schools is assessed, in part, on their admissions selectivity and admitted students' prior academic performance—for example, class rank and SAT scores (Geiger 2002, Stevens 2007, Wechsler 1977; see Brint et al. 2006 for an alternative analysis of organizational status based on administrative career trajectories). Stinchcombe (1990) once theorized that student matriculation decisions are based on the assumption of a connection between the amount and quality of faculty research and the prestige of an institution's credential. Social scientists only rarely have systematically assessed the closeness of fit between faculty productivity and organizational prestige. Network research shows that perceptions of institutional and individual quality overlap in faculty hiring decisions in sociology departments (Burris 2004). Economists have shown that administrators at elite schools make decisions about how to set tuition and spend money on the premise that institutional clients perceive a correlation between faculty productivity, admissions selectivity, and the value of particular degrees (Clotfelter 1996, Ehrenberg 2000). The rise of standardized ranking schemes, such as those produced by *U.S. News and World Report*, reinforces these perceptions (Espeland & Sauder 2007). The above research notwithstanding, social scientists have only begun to explore the empirical relationships between the stratification, knowledge production, and legitimation functions of higher education.

Ironically, our reluctance to consider the links between these different aspects of the university directly mirrors organizational sociology's famous insights about loose coupling between disparate components of complex organizations—insights that themselves grew out of the study of schools (Meyer & Rowan 1977, 1978; Weick 1976). Because colleges and universities have so many different functions and so many different outside constituents (e.g., parents, professional and philanthropic organizations, alumni, trustees, state funding agencies, legislatures, and the National Collegiate Athletic Association), loose coupling is often the most reasonable or even the only possible organizational response. Sociologists have taken this idea a long way—so far, perhaps, that we have lost sight of a crucial fact: In modern societies, much of the work of class stratification, knowledge production, and legitimation is relegated to the same organizations, universities. Social scientists generally have been less appreciative of this fact than they should be.

As Max Weber pointed out long ago, the rationalization of education and training tends to make secular knowledge a primary substantive value under modernity (Gerth & Mills 1946). Meyer and colleagues' (1994) contribution to this insight has been to combine it with a Durkheimian conception of formal education as a moral enterprise. Formal secular education is the religion of modernity, the university is its temple, and one of its primary consequences is to legitimate the allocation of scarce and privileged social positions (i.e., socioeconomic stratification). The task of capturing the simultaneity of these different features of higher education systems is well served, we believe, by an additional metaphor.

HUB: HIGHER EDUCATION AND THE STRUCTURATION OF MODERN SOCIETIES

We propose that higher education is a hub connecting some of the most prominent institutional sectors of modern societies: the labor market and the larger economy, the professions and the sciences, the philanthropic sector, the family, and the nation-state. This structural arrangement is historically specific and cross-nationally variable, but in certain times and places, higher education systems are key sites where institutions intersect. We propose that

conceiving of higher education systems (even perhaps all formal schooling systems) as hubs is an apt extension of the three sociological traditions summarized above and opens up large new terrain for empirical inquiry.

The notion of the modern university as a hub connecting multiple institutional domains was implicit in the benchmark analysis of U.S. higher education by Jencks & Riesman (1968). The university was the primary organizational catalyst of Jencks & Riesman's "academic revolution," which they defined succinctly as "the rise to power of the academic profession (xiii)." By the second half of the twentieth century, academics had accrued considerable influence over American life in at least three ways: First, the expanded higher education sector that employed them became the nation's official portal to middle-class prosperity; second, academics' formal authority over the terms and content of academic credentials grew with the increasing number of professional certifications; third, academics' amassing esoteric knowledge and their claims to scholarly and scientific objectivity facilitated their access to leadership and advisory positions across a wide spectrum of social institutions.

The dramatic expansion of the instructional and research capacities of U.S. higher education after World War II through the 1970s provided much of the infrastructure for an increasingly technocratic society, in which coveted occupational positions and status honor were distributed largely on the basis of postsecondary schooling and in which the university became the official locus of knowledge production. Over the course of 50 years and through the massive financial largesse of state and federal governments, U.S. universities became virtually unavoidable passageways into the upper middle class and central nodes in the professional networks of literally all fields of expert knowledge and practice.

This academic revolution was funded by huge government investment, and it was accomplished with virtually no popular dissent. Standing explanations for these remarkable facts include the overall massification of

U.S. industry and society after the Civil War and an accompanying imperative to rationalize the national stratification system (Jencks & Riesman 1968); a national attempt to both manage and reward legions of World War II veterans (Mettler 2005); pervasive anxieties about U.S. scientific supremacy during the Cold War (Kleinman 1995, Lowen 1997); and an official government policy of expanded access to higher education as a mechanism of social mobility (Brint & Karabel 1989, Cohen 2003, Dougherty 1994, Rosenbaum 2001, Stevens 2007). Still, the question of just how higher education was able to enjoy its radical mid-century expansion, unsullied by political controversy, remains something of a historical puzzle (see also Calhoun 2000, Walters 2000).

We suspect that part of the answer is that colleges and universities historically have been institutions that serve more privileged segments of society. For all the populist rhetoric that heralded its progress, the academic revolution was a velvet one. Corporate and civic leaders viewed the expansion of higher education as a useful means of seeding economic development, rationalizing labor markets, absorbing excess workers during economic recessions, expanding middle-class consumer markets, and even tempering race relations (Bowen et al. 2005, Cohen 2003, Kerr 2001). The virtual absence of elite opposition to the massive social engineering the academic revolution entailed suggests that powerful parties in government and business saw the aggrandizement of the university as politically and perhaps even financially advantageous. Nevertheless, the statements in this paragraph are, at best, hypotheses; to our knowledge this period of U.S. higher education history remains without a political sociology.

Useful precursors to such scholarship are DiMaggio's (1982b,c) influential articles on the creation of philanthropic arts organizations in late-nineteenth-century America. In these papers, DiMaggio explains that Anglo-Protestant Boston elites built cultural institutions such as the Museum of Fine Arts and the Boston Symphony Orchestra in order to demonstrate

their cultural sophistication in the eyes of Europe, to pursue the cultural primacy of their region in the young United States, and to ensure the legitimacy of their privilege in their own Massachusetts backyards. A definitive history suggests similar incentives for Brahmin patronage of Harvard College (Story 1980). The basic insight of this work—that elites use philanthropic organizations to create privileged social networks and ensure their legitimacy (see also Hall 1992)—is portable to U.S. higher education generally. Historical scholarship makes clear that early Americans patronized colleges and universities, both public and private, partly to aggrandize the cultural stature of particular cities and regions, partly to seed regional economies, and partly to enable elite social networks to coalesce (Baltzell 1958, Story 1980, Thelin 2004, Wechsler 1977). The vast, varied, and extraordinarily competitive organizational ecology of U.S. higher education is the product of these efforts.

Even while the emergence of the modern higher education system in the mid-twentieth century United States awaits its political sociology, one fact is tantalizingly certain: The modern university commingles a wide array of elites. Privileged families and those who wish someday to be counted among them send their children to the most selective (and often the more costly) undergraduate programs to which they are afforded access. Professional schools of law, medicine, engineering, business, education, art, and communications train future occupational leaders and produce the esoteric knowledge essential to any professionalization project. In the social sciences and the humanities, faculty appointments at top universities are the ultimate status markers. Accomplished people in government, the arts, and business are pleased to receive university speaking engagements and honorary degrees. U.S. presidents often unveil new initiatives in speeches to college students. Wealthy patrons donate millions to university advancement projects and lend their names to buildings and entire schools. That higher education is a meeting ground for so many different kinds of elites is, we believe, good prima

facie evidence for the appropriateness of our hub metaphor.

Appraised as a hub linking disparate institutional systems, higher education is a paradox. As a mechanism for the production of valuable credentials and official knowledge, it is simultaneously a powerful and a fragile social institution. On the one hand, higher education connects and reciprocally blesses various forms of privilege. Elite groups (e.g., high-status families, professions, politicians, scientists, intellectuals) and those aspiring to be a part of them use higher education to certify their legitimacy. This is the essence of Collins' (1979) credential society. On the other hand, the university is fragile in at least three ways. First, its status as an official arbiter of status and knowledge makes it the object of contestation among a wide array of parties about the terms of admission. Hence, for example, the U.S. civil rights movements of the late twentieth century made college access a primary site of political contention. The results of this conflict included a nationally peculiar and hotly disputed system of race-preferential admissions and a lofty discourse about the virtue of "diversity" among elites generally (Karabel 2005, Karen 1991, Skrentny 2002).

Second, the legitimating power of the university means that its workers, their departments, and their careers are the objects (and subjects) of political conflict and ideological controversy. In addition to their demands for change in selective college admissions, civil rights activists successfully advocated for the creation of African American, Latin American, and women's studies courses and entire academic units (Abbott 1999, 2002; Rojas 2007). The politicization of curriculum is not limited to a single historical time period. Earlier in the twentieth century, patron and administrative anxieties about the ideological underpinnings of the social sciences at the brand new University of Chicago were quelled by conscientiously distinguishing "scientific" departments of sociology and pedagogy from the progressive social-reform milieu that had helped give rise to them in the first place (Abbott 1999, Deegan 1988, Westbrook 1992). It may not be

too much to say that political context always is implicated in the organization of academic knowledge, both in the structuration of fields of inquiry and in the risks scholars take when navigating careers through them. American philosophy's wholesale migration toward ostensibly apolitical analytic approaches during the Cold War (McCumber 2001), and Richard Rorty's celebrated move in the opposite direction in the middle of his career, are provocative empirical examples (for a critical analysis, see Gross 2008).

A third aspect of the university's fragility is its constitutional reliance on patronage as a primary source of revenue. We use the term constitutional decidedly here. An essential feature of the university is its formal autonomy from the other institutional hierarchies it helps to legitimate. With its modernist commitment to the idea of knowledge as a transcendent, substantive value and its ability to bless the legitimacy of multiple institutional hierarchies, the university acts in the manner of a religious institution. Like any religious concern, it needs resources to survive, but it tends to carry out resourceful transactions with symbolic safeguards for protecting what the university calls sacred. The university is not, or at least not only, a business, and it often does not feel or behave like one. On this point we depart sharply from educational economists, who often simplistically model universities as firms (see also Calhoun 2006).

The university's constitutional reliance on patronage attaches strings to its revenue streams. It can accumulate wealth, but it has to do so with the appropriate rituals and with fealty to the notion of free and disinterested inquiry. If the university were only or even primarily a business, it would not have its special power to legitimate hierarchies beyond its own institutional borders. The elaborate symbolism that marks so many movements of people and resources into and out of the university is indicative of its distinctive, sacred character. It is not by accident that there is a special word—tuition—for payments made in exchange for university instruction; that other financial contributions to the university are called gifts or grants; that faculty members are officially appointed, not hired, to their positions; and that diplomas are conferred on special feast days involving elaborately scripted processions, costumes, documents, and speech acts.

However, it appears that the work of distinguishing what the university calls sacred from more profane dimensions of organizational survival has become increasingly difficult in recent years: when the cost of educating students has escalated much faster than overall inflation rates (Ehrenberg 2000); when the most prestigious forms of knowledge, specifically in the physical and life sciences, have extraordinarily high production costs; and when universities themselves, as well as individual faculty, are aggressively pursuing patent protection for research innovations (Owen-Smith 2003, 2005; Powell et al. 2007). The problem has been abetted by shrinking government subsidies for higher education and increasing reliance on liberal credit markets that are leaving large numbers of graduates heavily indebted (Long & Reily 2007). As Gumport and her colleagues have ably explained, the revenue streams that ushered in the academic revolution have changed, and universities have become increasingly dependent on alternative sources of revenue (Brint 2005, Gumport 2002, Gumport & Pusser 1999).

An important domain of innovation in response to this shifting environment is the life sciences, where universities eagerly seek to capitalize on the intellectual property produced under their auspices. Many parties (university administrators, faculty scientists, large corporations, venture capitalists) are invested in this realm of inquiry, and the entire sector is quite dynamic. Accumulating scholarship suggests that the implications of this dynamism for the form and future of higher education generally are large (Colyvas & Powell 2006, 2007; Owen-Smith 2003, 2005; Powell et al. 2005). Blurred boundaries between the academic and corporate sectors in the sciences have dramatically increased the wealth and authority of these academic units relative to the social sciences and the humanities (Kerr 2001, Readings 1996).

There is little question that in terms of dollars, physical plants, government endorsement, and popular sentiment, the physical and natural sciences dominate the contemporary academic world. The steady historical decline of the humanities (Frank & Gabler 2006) has likely only been exacerbated by the new forms of commercial profitability in other sectors of the university.

Widening intramural resource divides invite fascinating questions for organizational and cultural sociologists and for sociologists of knowledge. To wit: how, and to what degree, has the increasing wealth of the sciences been accompanied by increasing administrative influence? Have what Kerr (2001) perceptively called the "unhappy humanities" found enduring pockets of administrative authority despite their loss of students to other disciplines? Do the humanities embody a form of organizational cultural capital that retains a distinctive value in academic prestige systems? Why do we still have classics departments?

CROSS-NATIONAL VARIATION IN HIGHER EDUCATION SYSTEMS

Sociologists have shown that the multipurpose, research-and-teaching university form—Clark Kerr's (2001) "multiversity"—developed in the United States after World War II and quickly became the definitive organizational model for universities worldwide (Schofer & Meyer 2005). The boundaries and content of academic disciplines developed in the West have similarly diffused (Frank & Gabler 2006). Yet important questions remain about the extent to which higher education should be appraised as a coherent global phenomenon or a nationally variable one.

Shavit and his colleagues (2007) consider the consequences of the expansion, differentiation, and privatization of higher education systems for relative inequality of access to postsecondary schooling. This work follows in the tradition of the "fourth generation" of comparative social stratification research—i.e., scholarship focused on the extent to which organizational variation across countries affects both intergenerational mobility and associations between social class and educational attainment (see Treiman & Ganzeboom 2000). Working with stratification researchers from 15 different countries, Arum and his colleagues (2007) found that, in general, as higher education expands it also tends to diversify. Contrary to expectations, however, neither diversification nor privatization results in greater inequality of access. Instead, expansion increases opportunities for persons from all social backgrounds, and in some cases (where most advantaged groups already have nearly universal access to higher education), opportunities increase more for persons from disadvantaged origins. For example, during the late twentieth century women's opportunities increased faster than men's, and in most countries, women now enter higher education at higher rates than men (see also Buchmann et al. 2008).

Despite their somewhat counterintuitive finding that organizational differences in higher education systems do not contribute much to overall inequality, the team assembled by Shavit and his colleagues (2007) nevertheless documents dazzling variation in how different countries assemble postsecondary schooling. For example, in the United States higher education is a complex mix of public and private organizations and funding streams, but Western European nations and Canada have planned higher education regimes that are funded primarily through direct government subsidies. The U.S. system is characterized by an exceptionally steep interorganizational status hierarchy, a peculiarity that is especially clear in comparison with neighboring Canada, where access to higher education has been comparably universalized (Davies & Hammack 2005). Profit-driven entrepreneurial systems are rapidly developing in the former Soviet republics, Southeast Asia, and elsewhere (Shavit et al. 2007).

How ought we to square this organizational variation with the commonalities found cross-nationally? We suspect that the metaphors we introduce here are conducive to addressing this

puzzle. Our theory is that higher education systems are sieves, incubators, temples, and hubs in all modern societies, but cross-national variation in the structure of these systems is related to other enduring cross-national differences in the character and cultural manifestations of social inequality. Specifying this variation would reveal a fascinating feature of modernity: The expansion of higher education and its consequences for stratification are truly global, even while their expressions tend to remain nationally peculiar.

Recent scholarship suggests linkages between the structure of higher education systems and national class cultures. Stevens (2007) argues, for example, that the exceptionally populous and competitive organizational ecology of U.S. higher education is both an outcome and a cause of Americans' enduring ambivalence about class distinction. Because, historically, U.S. elites have been unable to agree fully on the proper relationship between higher education and class exclusion, they have supported an extraordinarily large number and variety of colleges and universities. Although American culture has a thin language for talking about social class per se, it maintains an exquisitely elaborate discourse about college. Upper-middle-class life in America is characterized by endless discussion of where one attended college and where one's children are headed. Affluent parents care about not just whether their children will be admitted to college, but also about which among the prestigious schools will offer their children spots. Testament to the cultural significance of college choices and admissions decisions, many people embellish their car windows, homes, and wardrobes with the insignia of their alma maters and of the schools their offspring attend.

Unlike anywhere else in the world, intercollegiate athletics are a constitutive feature of U.S. higher education's prestige system. Intercollegiate sports leagues are "status clubs" (Stevens 2007) that serve as a shorthand for relative organizational status (the paradigmatic example is, of course, the Ivy League). The athletic contests that give this prestige system its

official purpose enjoy millions of fans and generate billions of dollars in ticket and advertising revenues. The human capital essential to this system is produced by the vast organizational infrastructure of youth athletics, which simultaneously grooms the talented athletes coveted by college and university sports programs, defines the rhythms of bourgeois American family life, and provides inspiring narratives about the possibility of social mobility through athletic accomplishment (Lareau 2003, Shulman & Bowen 2001).

Things are different in other societies. Canada maintains a government-funded, centrally administered higher education system with a relatively flat interorganizational status hierarchy. Although there is modest variation in the prestige of degrees from different Canadian universities, competition among applicants for seats at particular schools is much less intense than in the United States (Davies & Hammack 2005).

In contrast with the North American systems, French higher education is both centrally administered and intensely competitive. In France, the highest-status schools are the grandes écoles, which generally are regarded as having the most elite academic faculties and have the most competitive admissions. Different écoles confer different kinds of status, which parallel the intended futures of their graduates as technical professionals, government officials, or intellectuals. Beneath the grandes écoles are the more numerous French universités, which have less competitive admissions and which confer degrees of lower prestige. The relatively rigid and explicitly hierarchical character of French higher education parallels the character of the French class system, as one of its most famous sociologists well understood (Bourdieu 1996).

Since about 1980, the British higher education system has been in transit between a binary, categorical prestige hierarchy—with Oxford and Cambridge enjoying unquestioned preeminence over all other national universities—to a more complex and finely calibrated status gradient in which government financial support is

tied to measurable performance on standardized metrics of organizational quality. Oxbridge degrees remain marks of social and academic distinction in the UK, but less definitive ones than they were 30 years ago. The transformation of the British university system has been part of an explicit and ongoing government effort whose officially stated purpose has been to render class distinctions more porous throughout British society (Soares 1999).

We believe that the consistent covariation of national higher education systems and class cultures is an important area for further research. We here reiterate the overarching sociological paradox: Even while higher education is similarly implicated in modern stratification regimes globally, quite visible forms of national organizational and cultural distinctiveness remain. This insight is hardly our own; it received eloquent expression in Turner's (1960) classic essay contrasting the sponsored and contest mobility educational logics in mid-century Britain and America. Yet the remarkable simultaneity of higher education's universal diffusion and particularistic expression remains largely unexplored by sociologists and provides a starting place for multiple research hypotheses in the sociology of culture, organizations, and stratification.

Is there a postnational university? The question promises to become ever more salient with the continuing functional integration of European states and ever larger flows of students and scholars across national borders. Sociologists have long viewed the university as a constitutive feature of the nation-state, and the codification of national culture has been a prominent function of the university since its medieval inception (Readings 1996). Despite the ideal of higher education as a cosmopolitan sector, in which people and ideas travel with little regard for national borders (Keohane 1993), universities continued to be nationally parochial throughout the twentieth century. With the important exception of the most elite graduate students and aristocratic progeny, who long have been attracted to U.S. and a few European universities, migration patterns of faculty and students have long been constrained by national borders.

This is changing. Students, especially, are becoming more peripatetic. U.S. institutions have remained powerful magnets for students from throughout the world, while for an ever growing number of American undergraduates, some period of study abroad is now *de rigueur* (Inst. Int. Educ. 2007). This latter phenomenon echoes a longstanding tradition among the American upper classes, in which families sent young people on European tours to acquire cultural sophistication (Stevens 2007); today the project is formally managed by colleges and appears be a nontrivial source of tuition revenue and institutional prestige. This is another topic that would reward sociological research.

Finally, we note that the functional integration of national higher education systems in the new Europe, manifest in a series of accords known as the Bologna process, promises to revise the historically enduring relationship between universities and national identity (Wachter 2004). How the easy movement of students, tuition, and academic credits across national borders will influence migration patterns, institutional prestige hierarchies, and national class cultures remains to be seen.

CONCLUSION

Our review indicates that sociologists of higher education generally have pursued three basic problems: social stratification, social reproduction, and the legitimation of knowledge. We think it is fair to say that stratification has been the field's main business, conducted largely through quantitative analyses of individual-level data, in which people are presumed to enter, move through, and leave higher education with varying degrees of success. This intellectual project has been enormously productive not only for the sociology of higher education but for the discipline as a whole, because it has demonstrated the central role of formal schooling, and the state policies that produce and regulate it, in the hierarchical organization of modern societies. Nevertheless we suspect

that two core precepts of research in the stratification tradition have channeled attention too narrowly.

First, the presumption that higher education does its work on individuals should not lead us to ignore the fact that people experience schooling as a thick web of relationships. Although individual-level data often make it easy for analysts to conceive of students as singular entities who move through school on individual trajectories, students are also nodes in networks that supply them with much of what they need to get through school: money, advice, friendship, emotional nurturance, and information. Just how the sociology of education should integrate its robust corpus of findings derived from individual-level data with the empirical and theoretical importance of network approaches is an important scholarly frontier.

Second, the presumption that higher education is primarily a credentialing system should not limit our consideration of other significant aspects of schooling. The conferral of valuable credentials may be the master task of colleges and universities, but it is not thereby the only important one. It may be the case, for example, that the work of earning and conferring degrees is the legitimating glue that holds the entire enterprise of higher education together, the official business that rationalizes, blesses, and even renders invisible the other myriad functions of universities.

We use the term "functions" cautiously but decidedly. The dense interconnections between universities and families, governments, and corporate and philanthropic organizations of all kinds have convinced us that higher education occupies a privileged place in the broader institutional order. Ultimately our guiding image of the hub is not merely a rhetorical device but a theory about the sociological significance of universities: They are central to the infrastructure of modernity, connecting modern societies' major institutions even while they remain officially independent and intermittently critical of them.

FUTURE ISSUES

1. Further investigation is needed on the extent to which increasing educational homogamy is contributing to class polarization.

2. Further investigation is needed into the kinds and amounts of social and cultural capital acquired in college; into how the social and cultural capital people possess at the beginning of college conditions acquisition of further capital; and into the dynamics of capital sharing and hoarding within particular student populations.

3. Comparative research is needed on potential variation in the social and cultural capital benefits of college within schools, between schools, and across societies.

4. Research is needed on the empirical links between the certification of knowledge and the certification of persons within higher education systems.

5. A political sociology of the expansion of higher education in the twentieth century is needed. Through what activities has the notion of the university as a sacred institution been produced and protected? By what means and to what extent has this sacredness been challenged?

6. How are we to explain the paradox that the expansion of higher education has parallel consequences for stratification throughout the world, yet the structure of higher education systems is nationally specific and quite variable?

7. Comparative research is needed on the ways in which national class cultures and higher education systems may be mutually constitutive.

DISCLOSURE STATEMENT

The authors are not aware of any biases that might be perceived as affecting the objectivity of this review.

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Colleges and Universities 2000 Study. **http://www.higher-ed2000.ucr.edu**

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The Transformation of Public Universities. **http://publicuniversities.ssrc.org**

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