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Academic Knowledge from Elite Closure to Professional Service:
The Rise of High-growth Fields in American Higher Education

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Dedication

To my daughters, Noor and Nada, who have learned that “work” means reading and writing, and to my wife, Iman, whose trusting patience overwhelms

ABSTRACT OF THE DISSERTATION

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The American higher education system today carries a scant resemblance to its roots, the early colonial colleges. One major change is the increasing emphasis on applied knowledge. Adopting an institutional perspective on organizational change, this dissertation analyzes the dynamic of ascendance of the “practical-arts” in American academia. Using data from the *National Center for Educational Statistics*, this work identified eight high-growth fields in the American undergraduate system since 1950. It traced the *innovative* institutions, those that first offered new fields that proved to be of high growth, and analyzed their institutional characteristics in terms of size, type of control, and academic complexity. Findings show that innovative universities were not elite; they were large institutions, typically public and not private ones. The role of the federal government in the rise of the new fields was crucial. The historical leadership of prestigious institutions seems to have vanished if not has been reversed, a development that took place along with the increased professionalization of the curriculum. Lastly, based on the trends that data showed, a general model for the rise of new academic fields

was developed. Furthermore, this work revisited the assumed role of mimetic pressures in institutional change and suggested some theoretical refinements.

Table of Contents

Table of Contents	viii
List of Tables	xii
List of Figures	xiv
CHAPTER ONE: THEORETICAL FRAMEWORK	1
What Accounts for Change in Higher Education?	3
The Faculty-as-Authors Perspective	3
The External Forces Perspective	7
The Institutional Perspective	10
Professions in an Institutional Context	14
Contrasting the Three Perspectives	20
Theoretical Framework	25
Labor Market.....	26
The State.....	27
Organizational Assets	29
Professional Action.....	31
Explanatory Guidelines.....	34
Anticipated Tendencies	37
Where Do New Disciplines Originate?	38
CHAPTER TWO: METHODOLOGY	41
Identifying Fields of Significant Growth	43
The First Year of Awarding.....	44
Selection Criteria	48
Data Analysis	52
Analyzing Data on Individual Fields	53
Comparing Institutional Characteristics.....	57
Hypotheses.....	61
Data Sources	66
Personal Communication	67
CHAPTER THREE: THE DYNAMICS OF FIELD ASCENDANCE	69
Public Administration	72
The Larger Social Context.....	73
The Process of Professional Development	76
Admission to Academia	79

Growth Pattern	83
Institutional Characteristics	88
Summary	89
Health Administration	89
The Larger Social Context.....	90
The Process of Professionalization	92
Formal Certificates	96
Admission to Academia	98
Growth Pattern	98
Institutional Characteristics	104
Summary	105
Recreation	106
The Larger Social Context.....	107
The Process of Professionalization	109
Admission to Academia	110
Growth Pattern	111
Institutional Characteristics	114
Summary	116
Legal Studies	116
The Development of Legal Education.....	117
The Professionalization Process.....	120
Starting Undergraduate Education.....	123
Growth Pattern	123
Institutional Characteristics	126
Summary	127
Computer and Information Sciences	127
The Larger Social and Intellectual Context.....	128
The Process of Professionalization	129
Admission to Academia	132
Growth Pattern	132
Institutional Characteristics	135
Summary	137
Mental Health	138
The Larger Social Context.....	139
The Professionalization Process.....	140
Admission to Academia	144
Growth Pattern	144
Institutional Characteristics	146
Summary	148
Criminal Justice	149
The Historical Context.....	149
The Professionalization Process.....	151

Admission to Academia	157
Growth Pattern	157
Institutional Characteristics	158
Summary	160
Communication	161
The Larger Social Context.....	162
The Process of Discipline Formation.....	163
Admission to Academia	166
Growth Pattern	167
Institutional Characteristics	171
Summary	173
CHAPTER FOUR: INSTITUTIONAL CHARACTERISTICS AND GENERAL PATTERNS	175
Two Pioneering Generations	178
Public Administration	180
Health Administration.....	183
Recreation.....	185
Legal Studies.....	188
Computer and Information System Science	191
Mental Health.....	193
Criminal Justice.....	195
Communication.....	198
An Overall View of the Two Pioneering Generations	201
Cross-Comparison of the Initiator Institutions	204
Control	205
Size	207
Academic Complexity Level.....	207
Regional Concentration.....	208
Multiple Pioneering Institutions	210
Pioneering and the Pioneers—Hypotheses Testing	212
CHAPTER FIVE: THEORETICAL IMPLICATIONS	219
Explaining Change in Academic Fields	220
Faculty-as-Authors Perspective	220
External Forces Perspective.....	223
Alternative Explanations	227
Points of Convergence	238
An Institutional Model of Discipline Formation	246
High-Entrenchment Fields	251
Low-Entrenchment Fields	256
Split-Entrenchment Fields	262

Organizational Environments	266
Favorable Conditions for the Rise.....	266
Mimetic Pressures.....	270
 CHAPTER SIX: CONCLUSION	 276
Major Findings and Theoretical Points	277
The Paths of Ascendance.....	281
The Impetus of Growth.....	282
Status and Prestige.....	285
Initial Conditions.....	287
Agency and Historical Contingencies.....	288
 Institutional Implications	 290
What Institutions Should be Supported.....	290
Middle-Class Academia and State Sympathy.....	292
International Competition.....	293
 Implications for Academic Knowledge	 294
Academic Autonomy and Quality.....	294
Paradigm Eruptions.....	296
The Sociology Factor.....	298
 REFERENCES AND APPENDENCIES	 300
References	301
 APPENDICES	 314
Appendix A	315
Legal Studies Today.....	315
The Field of Communication Today.....	317
Liberal Arts Orientation	319
Core-and-Track Orientation	320
Single-Focused	322
Comprehensive <i>Unintegrated</i>	323
References of Appendix A.....	325
 Appendix B	 327
Carnegie Foundation Classification Codes.....	327
 Appendix C	 329
Public Administration.....	332
Hospital Administration.....	335
Recreational Studies.....	336
Undergraduate Legal Studies.....	340
Criminal Justice.....	342
Communications.....	344

List of Tables

Table 1: Fields selected for analysis and the volume of their growth.....	52
Table 2: Awarding institutions and the number of conferred degrees in the first graduation year	61
Table 3: Early Higher Education Programs in Public Administration.....	80
Table 4: Top five institutions awarding undergraduate degrees in public administration, 1950 ...	84
Table 5: Number of graduate and undergraduate degrees in public administration, 1950-1959 ...	88
Table 6: Institutes with hospital administration programs, 1933 to 1955	97
Table 7: Conferred Bachelor's Degree, 1956	99
Table 8: Conferred degrees in hospital administration, 1956-1970	102
Table 9: Number of awarding institutions and conferred degrees in the field of recreation, 1956-1963	112
Table 10: Top three awarding institutions in recreation, 1956-1963.....	115
Table 11: Top institutions awarding bachelor's degrees in law, 1962-1964	124
Table 12: Institutions offering only undergraduate degrees in legal studies	125
Table 13: The 1965 pioneering institutions in computer	133
Table 14: Awarding institutions, and the number of conferred bachelor's degrees, 1971-1973 .	145
Table 15: LEEP's funding to criminal justice programs, 1969-1977	156
Table 16: Number of conferred bachelor's degrees and number of awarding institutions in the subfields of communication, by type of control, 1971	172
Table 17: The sizes of pioneering institutions in undergraduate public administration	181
Table 18: Academic complexity of pioneering institutions in public administration.....	182
Table 19: The sizes of pioneering institutions in health administration	184
Table 20: Academic complexity of pioneering institutions in health administration	185
Table 21: The sizes of pioneering institutions in recreational studies	186
Table 22: Academic complexity of pioneering institutions in recreational studies.....	187
Table 23: The sizes of pioneering institutions in undergraduate legal studies	189
Table 24: Academic complexity of pioneering institutions in undergraduate legal studies.....	190
Table 25: The sizes of pioneering institutions in computer information systems	192

Table 26: Academic complexity of pioneering institutions in computer information systems	192
Table 27: The sizes of pioneering institutions in mental health.....	194
Table 28: The sizes of pioneering institutions in criminal justice.....	196
Table 29: The sizes of pioneering institutions in communication.....	199
Table 30: Pioneering institutions and type of control, by field	206
Table 31: Regional distribution, pioneering programs versus all institutions, 1971	209
Table 32: Institutions that pioneered four fields	211
Table 33: The share of top awarding institutions of all degrees	216
Table 34: Ratio of graduate to undergraduate degrees in the first awarding year.....	250
Table 35: Facilitative conditions for the rise of new fields	267
Table 36: Facilitative conditions for the rise of new fields and the expected outcome	269
Table 37: Institutions that pioneered more than one of the eight high-growth fields	329
Table 38: Institutions offering undergraduate and/or graduate degrees in public administration, 1950-1959.....	332
Table 39: Institutions awarding degrees in hospital administration, 1956-1967	335
Table 40: Institutions awarding bachelor's degrees in recreational studies, 1956-1966.....	336
Table 41: Institutions awarding undergraduate degrees in legal studies, 1962-1964	340
Table 42: Institutions awarding bachelor degrees in criminal justice, 1971	342
Table 43: Institutions offering programs in journalism and communications, 1971	344

List of Figures

Figure 1: The four sets of factors affecting academic institutions	25
Figure 2: Number of institutions awarding undergraduate degrees in public administration, 1971-1997.....	85
Figure 3: Number of conferred bachelor's degrees, in public administration, 1950-1973	87
Figure 4: Number of conferred bachelor's degrees in hospital administration, 1956-1997.....	101
Figure 5: Recreational studies number of conferred bachelor degrees, 1956-1965	113
Figure 6: The number of conferred bachelor's degrees in law compared to 1/1000 th of conferred degrees in all fields, 1962-1995.....	126
Figure 7: Number of conferred bachelor's degrees in computing, 1965-1967, total and subfields	134
Figure 8: Type of control of institutions awarding bachelor's degrees in computer and information science, 1965-1985	136
Figure 9: Number of institutions awarding bachelor's degrees in mental health, 1971-1997	146
Figure 10: Number of conferred bachelor's degrees in mental health, 1971-1997.....	147
Figure 11: Number of institutions awarding bachelor's degrees in criminal justice, 1971-1997	158
Figure 12: Number of institutions awarding bachelor's degrees by Carnegie level.....	159
Figure 13: Number of bachelor's degrees programs in communication, 1971-1982	168
Figure 14: Number of conferred bachelor's degrees in communication, 1971-1982	169
Figure 15: Institutions with communication or journalism departments, by the Carnegie Classification level, 1971	173
Figure 16: Ratios of pioneering institutions in mental health by the Carnegie Classification.....	195
Figure 17: Ratios of pioneering institutions in criminal justice by the Carnegie Classification..	197
Figure 18: Ratios of pioneering institutions in communication by the Carnegie Classification..	200
Figure 19: Pioneer institutions type of control.....	201
Figure 20: Sizes of pioneer institutions, group-1	202
Figure 21: Sizes of pioneer institutions, group-2	202
Figure 22: Highest degree level of pioneer institutions	203
Figure 23: Major mechanisms of discipline survival.....	246
Figure 24: The process of closure and its limits.....	248

CHAPTER ONE
THEORETICAL FRAMEWORK

The focus of this study is the rise of high-growth fields in American higher education and the characteristics of the institutions that pioneered awarding undergraduate degrees in those fields. This chapter visits the theoretical principles that explain the forces that drive American higher education. Chapter 2 discusses the methodology of my investigation, and Chapter 3 comprises the detailed empirical findings of eight high-growth fields. Chapter 4 charts the growth patterns of emerging fields and identifies the general characteristics of pioneering institutions; this chapter summarizes the empirical discovery of this dissertation and lays down the foundations for suggesting explanations of the starting of new undergraduate fields. Chapter 5 presents theoretical refinements to the principles that explain the development of the American higher education system. The last chapter concludes with the discussion of some implications for the future of higher education on the academic and the institutional levels.

The system of American higher education has changed dramatically since its inception in the late 17th and the early 18th centuries. Specifically, three major characteristics have shifted in consequential ways: size, curriculum, and the type of control. The system of higher education grew from nine colleges in the year 1771 to 3,200 in the 1980 (Kerr 1991:xv). Graduate enrollments in the first six decades of the 20th century doubled forty-eight times (American Council on Education 1960:43). Seven out of the nine colonial colleges were private; in 1987, only 21% of enrollments were in independent private institutions (Kerr 1991:37-39). Indeed, until the Civil War, most of the colleges were started by Protestant groups (Lucas 1994). The curriculum then

centered around three specialties: theology, law, and medicine. Today, the field of psychological social psychology claims 17 subfields (Clark 2000:13), many of which are applied in nature. The concern with the applied and the “practical” is not new, and the Merrill Act of 1862 gave such orientation a strong incentive. There are no signs that the tide of discipline growth, coupled with the emphasis on the practical, will recede. To the contrary, there are indications that the rate of growth is increasing, probably putting universities beyond their capacity to serve this public demand (Clark 2000). Below I will review three perspectives on change in higher education, followed by a synthesized theoretical model that I will use in analyzing the high growth fields of this study.

What Accounts for Change in Higher Education?

Social institutions continuously change, and so did the education system. Three lines of explanations try to elaborate on the major forces of education system evolution: the faculty-as-authors perspective, the external forces perspective, and the institutional perspective. I will summarize the arguments of those three perspectives followed by a commentary that contrasts their views.

The Faculty-as-Authors Perspective

“Daily, the faculty enact the university,” Burton Clark (2000) declares (pg. 2). This is a bottom-up view that asserts that the relevant factors affecting academia are mainly internal. The academia in this view is tribes, territories, and small worlds, governed by its own rules and driven by its internal dynamics. The two main actors in

this arena are the faculty and administrators; sometimes the governing bodies play an important role, and less often students have some impact (Clark 2000).

The American university system comprises two structural properties and two cultural properties: it is highly centralized and extremely diversified, and it is sharply competitive and peculiarly entrepreneurial (Clark 1997:21-22). Consequently, the higher education system internalized three features. First, the *subject* largely defines the university, and the trajectory of its evolution within a specific department cannot be escaped. Academic systems operate according to the “matrix” organizational form, where production workers are simultaneously connected to discipline and institution. The department-discipline linkage becomes the source of strength and stability as well as the source of strain (Clark 2000). Furthermore, the academic profession is distinguished in that the intrinsic qualities of knowledge, to a large extent, determine the behavior of workers and departments. Subjects in academia are divided along two continua, the “hard-soft” continuum and the “pure-applied” continuum. Differences along these two continuums have been documented as affecting “work assignments, symbols of identity, modes of authority, career lines, and association linkages” (Clark 1997:24). Becher (1987) suggests a typology of discipline groupings based on the nature of their knowledge, which are matched by specific academic cultures.

Second, the academia operates under immense forces of differentiation (Clark 1987). The research impulse in the modern university is the driving force behind differentiation, a force that dates back to the early days of research groups in German universities (Clark 2000:12). This “self-amplifying” quality, according to Clark, has

driven the American higher education too far in incorporating outside fields and occupations into the academy. The over-dynamism of disciplines sets into motion a drift toward transdisciplinary or “applications-generated” knowledge, which is driven by the elaboration of new interorganizational networks (Clark 2000:16). The incorporation of new bodies of knowledge, along with the limitation in funding, drives the university to teach larger bodies of students (Clark 1997:25); this, in turn, contributes to strengthening the differentiation process, as students become representatives of their new disciplines.

At this point, it should be noted that differentiation went hand-by-hand with institutional isomorphism; these two forces are not necessarily contradictory. As Kerr (1994) asserts, differentiation of *functions* was taking place at the same time with differentiation of curriculum, faculty, students, and related occupations. However, those differentiations occurred despite the gravitation toward homogenized institutional *types* (pg. 85-99). The dual forces of differentiation and homogenization do not produce replicas of a singular model as much as they place “the imitators in various uncomfortable positions part way between the old and the new” (Clark 2000:9; also Clark 1987).

The third feature of the academic world lies in the high diversity of its institutional characteristics. These characteristics are partly shaped by the nature of discipline itself (Becher 1987), but also by the actions of the state and the market. Clark (1987:378) notes that generally the actions of the state push toward creating clear-cut dividing lines between the different academic sectors. Market-like systems, on the other

hand, tend to blur the distinctions and to create multiple or overlapping sectors. The United States system of higher education is a prime example of this second type.

The diversity feature is more crucial to higher education change than the self-amplifying feature, Clark (1997) notes, because it makes each type of institution operate in different ways. Clark reminds us that two-thirds of American academic institutions are not doctoral-granting universities and that 43% of enrollments are in community colleges. Work patterns among the doctorate-granting institutions differ markedly from those of community colleges. Part-time faculty constitute 40% of the total academic work force, and are concentrated in less prestigious universities and in community colleges. The nature of work in academia is extremely different, according to the kind of institution (Clark 1997:27).

The above three qualities of the academia speak of the primacy of the internal dynamics of higher education. These qualities allow disciplinary departments to “develop a sense of individual nationhood.” The dominant force in those settings is the discipline itself rather than the institution. In addition, the production workers in those settings are simultaneously connected to discipline and institution. This structural feature gives the American university its main character. Consequently, changes in higher education are generated more by spontaneous incremental evolution in disciplines and departments than by top-down planning (Clark 2000:5).

It should be stressed however, that focusing on disciplines and their internal dynamics does not mean denying the importance of wider societal effects. To the

contrary, the faculty-as-authors perspective is specifically distinguished by its interest in the national context and how it affects the structure of higher education (cf. Clark 1987).

The External Forces Perspective

This perspective takes an expansive view of the factors influencing the academia. It is also highly critical of what it depicts as the “internalist” explanation. Sheila Slaughter (1997) argues that the faculty-as-authors view is “incomplete, if only due to the lack of clarity about specific mechanisms and processes” (pg. 3). Instead, she advocates a perspective that draws heavily on social movement and power theories, utilizing, in particular postmodern conceptions of ideology. She notes, for example, that the civil rights movement led to the rise of demands for the inclusion of blacks in academic circles and for the curricular recognition of their heritage. She adds that only when faculty who were part of the civil rights movement entered the academia did the leftist curriculum appear. Similarly, she notes that women were 30% of college students since the year 1880. However, women’s studies entered the curriculum only after the rise of the feminist movement, which called for a gendered analysis of society. The Chicano movement and the gay and lesbian movements gained some ground in the academia in the same fashion. Furthermore, Slaughter (2001) notes that the opposition to social movements that helped to bring changes to the curriculum was also a social movement. One difference between the right and the left social movements, she notes, is that the former were more established and better connected to positions of power, but less connected to grassroots conservative cadres.

This critical perspective challenges the image of the higher education system as an agent of change. Philip Altbach (1980) argues that the professoriate is conservative in nature and that faculty seldom protest against the established social order. Slaughter (1980) documents that conservatism existed as far back as the Declaration of the American Association of University Professors in 1915. She argues that constrained by managerial procedures and cognizant of the wishes of the boards of reviews, professors' aspirations for reform become tamed; in exchange for job security, professors tacitly agreed not to challenge the status quo. Along the same line, Alain Touraine (1997) argues that class reproduction is one essential feature of the American academic system: "It is impossible to say that this production is institutionalized and organized independently of class relationships and the political situation as it is to declare that it is only an ideological tool for the reproduction of class relationships" (pg. 273). Along the same line, Slaughter (2001) asserts that the seemingly benign interests and actions of faculty practically mirror the larger structures of power and opportunities.

Slaughter and Silva (1985) argue that the American higher education system is organically connected to the political economy of the country, at both the national and state levels. Consequently, the fiscal crisis at any of these levels can largely affect the education system. They show that the expansion of higher education occurs where low unionization and pro-business laws prevail. Comparing data on unionization and growth, they assert that: "where the states are successful in selling their citizens as profitable labor, the infrastructure of higher education is likely to expand" (pg. 297). Specifically, they argue that research in prestigious institutions is highly integrated with state and

regional economies, and that the ability to acquire resources is the necessary condition for their academic production. Thus, growth and decline do not hinge merely on factors within departments. Rather, the ability of attracting funds dictates the growth potential of departments and their stance in the university. Moreover, growth in highly funded departments frequently occurs at the expense of other non-profitable departments, which may be eventually weeded out. Top research universities were able to maintain their positions and ratings for a long time, while non-elite universities continuously experience volatile conditions connected to state and federal funding (pg. 302-310). Similarly, Slaughter and Leslie (1997) emphasize the connection between the higher education system and the market. Faculty increasingly seek external funds to do “applied research,” research that meets commercial, industrial, and governmental research agendas; Slaughter and Leslie call this type of relationship *academic capitalism*. Academic decisions then become driven by market prerogatives, and university employees function “as capitalists from within the public sector; they are state-subsidized entrepreneurs” (pg. 9).

Most importantly, this critical view notes, is that the current debates over curricula “distort the understanding of the processes of curriculum formation in two ways” (Slaughter 1997:8): First, it portrays that the politicization of curriculum is a recent phenomenon; and second, it assumes that politicization is a problem limited to social sciences, while “real” sciences are above it. Science itself, she asserts, entered the university curriculum as a diffused social movement. Curricula, the external forces view asserts, are influenced by many factors, including governmental funding agencies,

foundations and corporations, and the military. On the professional side, Slaughter (1997) includes journals, learned associations, and accrediting and teaching associations (pg. 14). Similarly, Dickson (1984) points that the industry and federal agencies largely influence research and development in science through availing direct financial resources, directing technology transfer, providing policy advice, and making budgetary decisions.

The Institutional Perspective

This perspective on higher education draws on the institutional school in organizational studies, which itself has different versions and is still evolving. The main feature of this perspective is that it attends to the wider environment in which organizations operate, departing from the narrow emphasis on bureaucratic rationality. I will start with discussing the original conceptualization of this perspective. Then I summarize the argument of what is known as the “new institutionalism” school, followed by a critique of it in the context of higher education. Thirdly I present Brint and Karabel’s conceptualization, which is closer to the original institutional school and is in many ways a real neo-institutional view, at least as it relates to higher education institutions. This neo-institutional view leads naturally to the discussion of literature on occupations and professions—a literature that analyzes the organizational environment in which knowledge, including skills and experience, operates.

The original institutional school is usually associated with Philip Selznik (1948) and later Charles Perrow (1986). Selznik noted that formal organizational structures, customarily considered the hallmark of organizations “never succeed in conquering the

nonrational dimensions of organizational behavior” (1984:25). Similarly, Perrow (1986) advances a critique of the pure Weberian understanding of organizations, and calls for giving due attention to organizational “natural history.” He argues that the structure and function of organizations respond to temporal challenges, and that the present, to some extent, has already been done in history. In addition, Perrow notes, organizations are tools in the hands of their leaders who use them to augment their power and to further their own goals and interests. The implication is that there is no ideal way to run organizations—since leaders work for their own ends, why should they be expected to be rational? Most importantly, Perrow (1986) stresses the importance of the environment of an organization, which constitutes the heart of any institutional perspective: “The organization is tangled in a web of relationships that prevent it from fulfilling its real goals, and we can see how it deviates by examining this web” (pg. 160). Thus, the original institutional perspective maintains the focus on the basics of organizational elements and dynamics (structure, power, and interests, etc.), but gives due attention to the environment.

The “new institutional” theory of organizations, rooted in the work of Meyer and Rowan (1977), argues that organizations do not operate according to technical requirements of efficiency and rationality; instead, organizations seek to satisfy social expectations, constructing around themselves myths of legitimacy. Meyer and Rowan note that only certain policies, techniques, services, products, and programs become institutionalized in a society. The adoption of those organizational elements is not solely based on rational considerations; rather, they become ceremonially accepted and they

function as powerful “myths.” An organization adopts such myths to win societal support, deepening its legitimacy and insuring its longevity. Conformity with institutionalized myths may undermine efficiency and can create conflict within organizations. Nevertheless, organizations usually sacrifice efficiency for the sake of societal approval. Powell and DiMaggio (1983) extend Meyer and Rowan’s argument and show that institutions in an organizational field operate under high levels of mimetic pressures.

The strength of the new institutional school lies in accounting for the relevant context in which organizations operate, often neglected by the focus on the technical nature of organization. However, this strength is historic; its main contribution was in challenging straitjacket organizational rationalism. New institutionalism cannot stand alone as an adequate characterization of organizational action (as it becomes clear by the end of the chapter).

Specifically, the explanatory power of the new institutional view in the realm of higher education was challenged by Kraatz and Zajac (1991). Their research questioned the prevalence of the institutional assumptions of organizational conformity as argued by Powell and DiMaggio. Through analyzing data on liberal arts colleges, Kraatz and Zajac showed that those colleges largely practiced what the institutional theory considers “illegitimate” behavior of change. Although liberal arts colleges represent ideal candidates to operate according to the assumptions of institutionalism, they heeded the more basic of technical requirements. Kraatz and Zajac found that although those

institutions have faced the same environment, they adapted to it in different *non-conforming* ways.

Brint and Karabel (1991) studied the development of two-year colleges, challenging several assumptions of the institutional perspective and proposing a new conceptualization of institutionalism. Specifically, they point out that the new institutionalism school is more elaborate about the *forms* of organizational behavior than their *genesis*. Below I summarize Brint and Karabel's major points, which modified, supplemented, or disagreed with the new institutional theory.

First, Brint and Karabel (1991) recognize the importance of labor-market's positions for higher education graduates; however, they point out that students acted according to their "subjective perceptions" toward the labor-market opportunities (pg. 341). Thus, educational institutions would not have symmetric relationships with the labor-market. Second, the administrative bodies of educational institutions vary in their response to market forces and vary in their interpretation of its requirements. Third, organizational elites have interests of their own and have "mental sets" tied to their organizations' history, none of which is uniform across the organizational field. Fourth, centers of power exert influence, but it is seldom a direct one. Large corporations and governmental bodies enjoy "structural power" (pg. 347), which do not equate or translate to outright imposition. Rather, their power materializes in "anticipatory subordination" (pg. 348), which predisposes the actions of educational institutions in their relationship with more powerful centers. Fifth, competition within a field drives institutions to exploit the free space available in an environment. Lastly, institutions operate within a

sphere of influence that is generated from within, which collectively could be called “organizational assets” (Brint and Karabel 1991:352).

In summary, Brint and Karabel (1991) adopt an institutional view that accounts for the environment relevant to higher education. They carefully acknowledge the influence of the labor market, although it is tempered by the internal dynamics of higher education. To enrich the institutional view on higher education, it is necessary to discuss related literature on occupations and professions.

Professions in an Institutional Context

The institutional perspective that I have just summarized serves as a natural bridge for the review of relevant literature on the professions. This body of literature helps in understanding the development of high growth fields that this dissertation is focusing on, because either those fields represent professions or they have aspired to become as such. Specifically, I will review the part of the literature on professions that elaborates on the interconnections between knowledge, knowledge workers, their organizations, their status, and the embeddedness of professions in the labor market.

There is no consensus over the definition of professions or professionalism. Brint (1994) notes that there are four kinds of definitions: one focuses on the common traits that typify an occupation, and another sees professions no more than a “folk category” culturally constructed around some functional affinities of tasks; one that focuses on the process through which professions go through, and another focuses on the structure of professions. Thus, these definitions represent two genres of conceptualizations, one is

static and the other is dynamic, and within each genre, one variation stresses the internal nature of professions and the other stresses their external nature.

Restricting ourselves to the dynamic definitions that focus on structure and process, we find different but converging definitions. Larson (1977) defines professionalism as “a collective project which aims at market control” (pg. 50), and Freidson (1999) defines it as the “occupational control of work” (pg. 2). Brint (1994) seeks an encompassing definition and argues that the defining *matrix* of contemporary professions “must be at once occupation-based, organization-based, and market-based” (pg. 12). Brint’s definition corresponds in many ways to Freidson’s (1999) definition, which conceives professions in terms of four major elements (pg. 3):

1. an officially recognized body of knowledge and skill which is believed to be based on abstract concepts and theories and to require the exercise of discretion,
2. an occupationally negotiated division of labor
3. an occupationally controlled labor market based on training credentials, and
4. an occupationally controlled training program that is associated with a university and segregated from the ordinary labor market.

Warning against ascribing the idea of professionalism on undeserving occupations, Wilensky (1964) noted that not all occupations have been professionalized in similar ways. For an occupation to be judged as professionalized, he asserts, it is not enough for it to become well established: it is not enough to become connected to an applied theory, to involve transferable skills, to provide stable employment, and to have work rules. Rather, “[a]ny occupation willing to exercise professional authority must find a technical basis for it, assert an exclusive jurisdiction, link both skill and jurisdiction to standards of

training, and convince the public that its services are uniquely trustworthy” (pg. 138). That is why while thousands of occupations aspire to become professionalized, Wilensky notes, only around thirty or forty fully attained such status. Therefore, it would be advantageous to think in terms of *degrees* of professionalization without overemphasizing the claims of exclusive technical expertise (pg. 141). Brint (1994) is not in disagreement with Wilensky on this point, but he notes that the *logic* of professionalism has become so ingrained in contemporary life to a degree that we can speak of “professionalized work environments” regardless of the existence of an organized labor market connected to a credential system (pg. 25).

In contrast to Wilensky’s approach, Freidson (1999) purposely seeks an abstract definition of professionalism, which may not necessarily correspond to any given empirical case. For him, an “ideal type” definition allows for a “stable, logically articulated framework with minimal national and historical bias, one that can organize the way we look at and compare a wide variety of cases” (pg. 2). Freidson is cognizant that his defined elements are “constants,” but they become dynamic as they interact within four spheres: with the internal organization of the occupation, the prevailing professional ideology at the time, the policies of state agencies, and the substantive contents of knowledge and skills. Brint (1994) adds that professionalism is a continuously evolving idea that tries to become accommodated in different social contexts, matching some cultural mandates at times and fitting uncomfortably in others. For example, while the idea of professionalism fits the heightened sense of personal duty in the American culture, it also competed with the principle of wide-based democracy. The contemporary

understanding of professions, he argues, should not merely focus on occupations and the relationship among occupations. Instead, the focus should be simultaneously based on the realities of (1) occupations, (2) organizations, and (3) markets (pg. 8-12).

The four elements of professions that Freidson (1999) identified operate in a working environment in the following ways. First, specialization constitutes an important feature of professions: neither professional work can be preformed by the ordinary person nor does it follow fixed mechanical steps. That is because professional work typically faces contingencies that call for a discretionary decision based on experience. It is this capacity to make discretionary decisions that distinguishes professionalism, because it ensures the successful execution of the job. Second, the division of labor in a profession develops naturally through internal negotiation of boundaries, but it also emanates from legally prescribed rules and from consumer choice. Third, professions seek to control their own labor market and put barriers to arbitrary consumer and managerial choices. This is attained by the profession through exercising a Weberian social closure, which Freidson prefers to call “labor market shelter.” The shelter entails putting credentials requirements for the performance and the evaluation of tasks. Finally, professional schooling represents a strategic component for professionalism. Unlike craft methods, training for professions takes place outside the labor market and evolves into full-time teaching institutions (pg. 2-5). Along the same line, Brint (1994) asserts that the main characteristic of professions is the use of credentials to set up “exclusive shelters” in the labor market. As *organizations*, Brint (1994) notes, professions “have nothing to do with public service, ethical standards, or

collegial control, however often these ideals and practices may grow up in support of the professions' claim to distinction” (pg. 23).

The importance of the affiliation between training and academic institutions was specifically highlighted by Freidson (1999). He noted that the main advantage of classroom-based training is that it is “insulated from the practical demands of the everyday world and free to engage in ‘pure’ or ‘basic’ research, or in scholarship or reasoning that has no immediate relevance to everyday problems” (pg. 5). Thus, Freidson makes a direct connection between professionalism and the rise of academic fields. However, heeding the nature of his analysis, we should not conclude that Freidson suggests that academic maturity necessarily precede the professionalization of a field. Furthermore, he is skeptical about the centrality of professional associations for the establishment of professions (pg. 7). Similarly, Larson (1977) stresses the centrality of educational institutions to professions: “The double nature of the professional project intertwines market and status orientations, and both tend toward monopoly—monopoly of opportunities for income in a market of services, on the one hand, and monopoly of status in an emerging occupational hierarchy, on the other. The institutional locus in which both monopolizing converge is the educational system” (pg. 79).

The stages of professional development to which Freidson hinted were elaborated by Wilensky (1964). Studying 132 professionalized occupations, he found that only 32 of them deviated from five-phase *process* of successful professionalization. First, as the necessity is the mother of invention, having a “thing that needs doing” which justifies the existence of a full-time practitioner is the initial phase. What naturally

follows is the starting of a training school. Third, a professional association would appear; but for weakly professionalized fields, professional associations precede training schools. A field enters the fourth phase when it seeks legal protection, which is associated with political agitation over territory claims. The legal protection could be sought for the recognition over the title of a profession or for regulating the performance of tasks within it. Areas with weak claims of competence seek the law for the very recognition of their titles; exclusive areas of competence have a de facto over their titles and seek to further their legal grounding by regulating performance. The last phase in professional development comes in the form of code of ethics, which is a synthesis of the rules of competency, the rules that regulate internal conflict, and the rules of the ideal service (pg. 142-145).

Larson (1977) also speaks of a professional process, but she links it to the larger social structure. Specifically, she sees professionalization as a process aimed at the formation of new class relations. Professionalism, she notes, is mainly a middle-class phenomenon where professionals set themselves apart from the working class. This conceptualization comes in direct contrast to Parsons and Platt's (1973) who conceive professionalization within a system-subsystem scheme. For them, "cognitive-rationality," which is institutionalized in higher education institutions, links the cultural sphere to the social sphere (1973:38). In contrast, for Larson, professionalism reflects one facet of the middle class consciousness. She argues that in the Progressive Era the self-definition and self-esteem of the middle class became largely rooted in occupations

(1977:154). Thus, both views seek to link knowledge to the wider social structure, but they do that in different ways

Brint (1994) also points to a wider phenomenon in the *social* development of professions, a process that is not directly connected to professions-as-organizations. He makes a noted contribution in accounting for the status of professions in relation to their positions in the labor market and the wider cultural expectations. Brint argues that the old idea of professionalism as “social trustee” imbued with status has been transformed into “expert professionalism” that has internalized the business spirit and the logic of profit. He writes: “[t]oday, more clearly than ever before, a stratum of upper-level experts has become definable by the combination of marketable skills and location in resource-rich organization, while a stratum of lower-level expert has become definable by the combination of less marketable skills and location in resource-poor organizations” (pg. 11), a far cry from old time community orientation and cultural authority.

Contrasting the Three Perspectives

The faculty-as-authors and the external forces perspectives stand at opposite poles. One sees the university as largely an autonomous actor while the other sees it as limited power unit squeezed between big players. The faculty-as-authors perspective has the advantage of identifying factors are at the heart of higher education institution: it can pinpoint names, locate specific places, and remind with concrete incidences. This view is the historian’s choice. It is also the choice of the academician who cannot say farewell to majestic higher education institutions—institutions that impart pure knowledge and nurtures sophistication. Compelling as it is, this approach could be criticized on the

ground that it has reduced the scope of relevant factors. Ironically, this view typically acknowledges the larger setting in which academia is situated: national context.

The external forces perspective lies at the other pole. It is distinguished in emphasizing political and economic factors that affect academic institutions. This view is the choice of the system approach as well as the radical reformer. The trouble with this perspective is its causal, or semi-causal, distance. That is, while it is hard to deny the existence of the factors that it identifies, those same factors could be found operative in any social phenomenon. Consequently, the argument could turn into a kind of truism. Furthermore, the causality ascribed to some factors in this perspective is doubtful, specifically, the impact of social movements. Social movements themselves are prompted, in part, by changes in the academy. Thus, while this perspective invokes social movements as a major factor in academic change, it undermines the role of ideological and symbolic dimensions in the rise of social movements, as emphasized by several studies (e.g., Melucci 1985; Swidler 1986; and Snow and Benford 1988). In other words, we can claim that social movements are a relevant factor in academic change, but we must draw the arrow of influence in the opposite direction. Furthermore, using social movements as a major factor in academic change becomes more troublesome when explaining changes in science. Slaughter considers public demand for science as a “broad social movement” (1997:9). Such a view seems to convolute cultural and social trends with social movements.

Conspicuously absent in the faculty-as-authors and in the external forces perspective is the role of market forces in the forming of disciplines. Market forces are

not exogenous factors that just impinge on academia; rather, to a certain degree, they are intertwined with it. Thus, an attention to market forces does not have to make a perspective a consumer choice one. Such attention is specifically poised in the institutional perspective. It should be acknowledged, however, that the refined argument of Slaughter (2001) has somewhat broadened the critical perspective. Instead of concentrating on social movements, she also considered the interests of the professional class. Nevertheless, she was quick to note that such interests were mainly the interests of conservative social movements, and that reformative progressivism saw in science as an empowerment to middle class professionals. Slaughter (2001) also calls for examining the organizational structures that support scholarship, but she does not seem to consider that market forces share in forming institutional structures. Again, the most troubling aspects of the critical perspective are two: (1) it does not clearly differentiate between proximate and direct influences; and (2) it identifies *singular* influencing factors, treating the effects of each in isolation of other relevant factors. In her 2001 work, Sheila Slaughter does note that the influence of the communities of scholars does not become significant unless it *intersects* with resourceful external organizations. I see that the lack of theorizing for such *intersections* constitutes the critical perspective's major weakness.

The institutional perspective sees that higher educational institutions operate in an organizational field that has its own interests and priorities, both at the collective level and at the individual-institutional level. Power relations in the society do penetrate educational institutions, but they do *not* restructure them in their own image. Rather,

educational institutions realign external power pressures according to internal power arrangements. Thus, the interests of the elites of educational institutions are recognized in this perspective, but as interests that are reconciled within organizations that have priorities of their own. Lastly, market forces are intertwined with educational institutions because (1) they compete with other institutions within their organizational fields, (2) knowledge structures are connected to professional structures with distinct power, status, and financial interests, and (3) labor market opportunities of graduates are crucial for the survival of a field.

The institutional perspective on higher education, as advanced in the writings of Steven Brint, synthesizes some of the issues raised by the critical perspective but after situating them in a different scheme. The institutional perspective recognizes that the system of higher education operates in a complex ecology; the challenge lies in drawing the boundaries of the relevant factors and their relative importance. For example, we can say with confidence that the industry affects the academia, but should it be considered a *direct* factor, as the critical perspective does? The faculty-as-authors perspective sidesteps the question by focusing on the autonomous nature of the decisions made by faculty and departments in response to external influences. The institutional perspective accounts for the influence of the industry and the labor-market as pressures mediated by the structure of the organizational field and the interests of its elites.

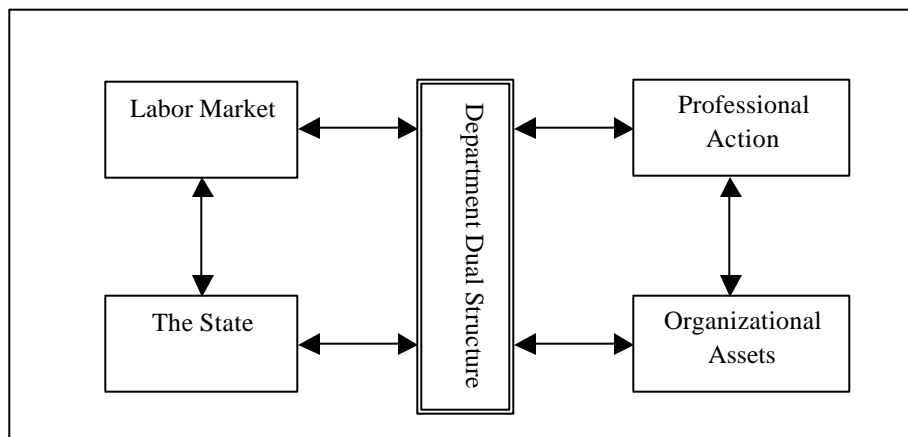
Lastly, it should be noted, that the faculty-as-authors and the institutional perspectives share an important common ground in focusing on the special structural feature of higher education: the discipline-institution dual structure, which gives it a

peculiar ability to filter-out highly unwanted external pressures and to maintain a relative high degree of autonomy. The centrality of such dual structure has been highlighted by Abbott (2000). He notes that the structure of the American academia is peculiarly resilient in being “organized into departments that are both pieces of universities and pieces of disciplines. No single university can radically modify its departmental structure without undercutting the employability of its Ph.D.s. At the same time, no single discipline can be destroyed unless a large number of universities decide simultaneously to get rid of it” (pg. 296). Below I elaborate on an institutional theoretical framework that this dissertation adopts.

Theoretical Framework

The theoretical model that I will use is based primarily on the work of Steven Brint, which can be best summarized by his thematic statement: “Ultimately constituted by the markets, universities, and states, professions nevertheless created grounds for their legitimacy on the basis of ideals—by promising to serve important functions for the broader community and to meet high standards in the performance of intellectually demanding work” (1994:16). Thus, I conceive that the rise of new fields in higher education is at the center of four interacting sets of factors: two internal and two external, mediated by the departmental structure. The two internal factors are the professional action of specialists and the organizational assets of the academia. The two external factors are the labor market and the state (see Figure 1).

Figure 1: The four sets of factors affecting academic institutions



These two sets of factors interact through the peculiar dual structure of the academic institution, a structure that filters-out and modifies incoming and out-going demands and responses, as well as the expectations of those who are involved in the process.

Labor Market

The higher educational system and the labor-market are heavily dependent on each other, although they operate in different organizational fields. On one hand, the labor-market needs professional services that are furnished by the product of higher education. On the other hand, higher education tries to respond to the labor-market, but it responds on its own terms. Higher education cannot ignore the demands of the labor-market because its reputation is partially connected to the usefulness of its product (graduates) in such a market; failing to respond to the labor-market affects its very credibility. Higher education is also partially resource dependent on the labor market.

However, the relationship between labor-market and higher education is not one to one relationship; rather, it is negotiated through thick organizational and social layers. Freidson (1999:2) argues that although professions ultimately operate in markets, they bask in professional control that is “logically and empirically distinct from consumer control and managerial control”; professions are distinct from free markets that are focused on “organizing exchange,” and are distinct from rational-legal administration that is focused on organizing “command, or dominance.” This Freidson’s view of a softly interfaced relationship between higher education and the labor market is not shared by Larson (1977), who considers the process of professionalization an integral part of the marketized economy. Larson argues that (1) as professional work became full-time and the normal way of earning a living, capitalist competition started to define its character; and (2) the claim to exclusive professional knowledge is not achieved without first

controlling the providers of the service “at the point of production,” which allows for the standardization and commodification of their product (pg. 13-15).

The employability, work conditions, and the income of a profession are components of the status of a career and of the educational field connected to it. The labor-market, including large corporations, relishes in its capacity to hire the products of higher education, securing for itself an advantageous structural power position. However, the influence of large corporations, as big players in the labor-market, does not stem from their direct demands as much as from the *potentiality* of their structural position. It is exactly such kind of influence that should be recognized—an implied influence that does not have legal or procedural jurisdiction over higher education, but a potent influence in being the source that furnishes the haven to which the graduates of the educational system struggle to reach (Brint and Karabel 1991). The influences of the market, Freidson (1999) reminds us, are largely refracted because, through occupational credentials, professions create labor market shelter for themselves.

The State

The influence of the state on higher education institutions comes in the form of funding, direct laws, or structuring an academic field’s environment. State influence necessarily varies according to the circumstances that the society is experiencing. However, regardless of the historical context through which state influence was exerted, state intervention is dependent on the structure of the *linkage* between the government and social institutions. Freidson (1999:6-12) adopts Mirjan Damaska typology of state

behavior that varies along two dimensions of *structure* (hierarchical versus coordinate) and of *policy orientation* (reactive versus activist):

1. A state of a hierarchical structure that adopts a reactive policy orientation would affect professions through bureaucracy; bureaucracy serves as an agent of civil interest groups.
2. A hierarchical-activist state would directly implement the policies of the state.
3. A coordinate-reactive state would let private civil interest groups formulate and implement policies.
4. A coordinate-activist state depends on state-approved groups to formulate and implement policies.

It is safe to suggest here that the United States government is a coordinate-reactive state, although at times of crises and national urgencies it may act as a coordinate-activist state.

Thus, driven by interests and by the need to respond to public demands, the state exerts pressures on educational institutions. Political institutions provide funds and enact laws that affect the academy. However, the government itself is dependent on academia in forming and executing its demands. The government's initial move to regulate a profession could be based on need, public pressure, or its natural tendency to expand its control. Nevertheless, state intervention comes, to a certain degree, academically prescribed although it is legally formulated. In addition, as had been argued by Wilensky (1964), academic professions often seek the recognition of the law, thus, exerting influence on its final formation. I suggest that the more complex the issue that the government is trying to regulate the more it finds itself dependent on academic expertise. Therefore, in such cases the pressure of the state becomes transformed into a negotiation

process between two camps of experts, a process which attends to the priorities of educational systems and the interests of their elites and decision-making bodies.

Organizational Assets

Higher education institutions bequest nonmaterial assets constituted from their symbolic status as the carrier of beneficial knowledge, and from their organizational memory of their accumulated practices. These two types of assets parallel Bourdieu's (1986) cultural and social capitals.

The prestige of the educational fields is generally based on three-element criteria: (1) the apparent unintelligibility of the knowledge it supplies; (2) the socially accepted claim over an area of expertise that is perceived critical for the society (Larson 1977; Freidson 1999); and (3) the work conditions and the expected future economic payoffs of the professionals in a field. The effects of the first two elements are self-sufficient, while the third contributes to the status of a field only when at least one of the two first conditions is met. Educational institutions have to keep a precarious balance between guarding the aura of a field and asserting its market utility. It is a precious balance because if any of these elements was satisfied to the fullest it diminishes the other. Keeping this balance, however, is facilitated by the difference in *time-velocity* between changes in the prestige of an educational institution and labor-market changes: the labor-market is contemporarily driven, experiencing fluctuations that take place in the short and the mid-range terms; status is historically anchored, stable but not fixed, and experiences mid to long-term changes.

The status reserved for professional fields co-evolves with other social changes. There are two opposing perspectives that argued that there was a qualitative change in the status and the worth of professions, as summarized by Freidson (1984). First, the *deprofessionalization* thesis argues that the standardization of formal knowledge, the rising levels of education, and contest within the subspecialties of a profession have weakened the jurisdictional control over areas of knowledge. An apposite thesis argues that professions have been *proletarianized* as they came under the control of large and bureaucratic organizations. Freidson (1984) refutes both claims. He argues that the quantitative and qualitative expansion of professional expertise keeps it above the crude accessibility of the average person, and that there is no clear trend toward the contraction of jurisdictions. Responding to the proletarianization thesis, he notes that there is no empirical evidence that self-employment is declining, at least in the United States. He further notes that employment status is not directly connected to economic autonomy. The “position in the market” is the determining factor for status, not the type of employment.

The second type of organizational assets is relational. The established networks of a field and its mode of operation represent its largest assets and most crucial engine. The organizational longevity of higher education provides a momentum that has a value of its own. Kogut (2000) argues the structure of networks *is* knowledge: it is “an emergent outcome generated by rules that guide the cooperative decisions of firms in specific competitive markets” (405). The generative rules of coordination is one kind of capability, Kogut asserts, which adds to the value of a firm. This argument becomes

clearer if we remind ourselves that different universities in the system of higher education do not operate as individual actors. Instead, considerable “deep structure” coordination takes place among universities. If such kind of coordination is not evident when looking at universities as administrative organizations, it is certainly evident when looking at them as knowledge organizations, including conferences, associations, and journals. It should be noted here that the structure of higher education institutions and their mode of operation are rooted in social practices. Developing new conventions in steering institutions is considered “social technologies” with which different societies are differently endowed, and which their very development is contingent on certain national epochs (Stinchcombe 1965).

Thus, the strength of higher education in negotiating external demands is not only based on its status, but also on its mundane network structure and on its established ways of doing business, the last of which could be called a Garfinkelian market-shelter. Obviously, organizational assets of a field feed on state support and recognition, on the reactions of the labor-market, and on the nature of knowledge itself. Academic institutions use their assets to advance and augment their position, and successful disciplines erect around themselves intellectual edifices that enable them to filter out unwanted demands. Ironically, the more symbolically expressed the more potent these edifices are (cf. Meyer and Rowan 1977).

Professional Action

Professionals are free agents who are imprisoned in what they produce. Professional action is never arbitrary and is always constrained by the self-perception of

actors, by their collegial relations, by the rules of their professional organizations, and by the etiquettes of prevailing paradigms of the time and the nature of knowledge itself.

This last element is my focus, and its calls for some clarification.

Different works accounted differently for the importance of the *content* of knowledge. Most explicitly, Parsons and Platt (1973) theorize that “cognitive rationality” is a core value in the university and that it has a linkage function between societal subsystems; they also note that higher education represents an “institutionalized concern with cognitive matters” (pg. 33). The content of knowledge is specifically privileged in Clark (1997) as he argues that the *subject* defines the world of academia. The institutional analysis of Freidson (1999) conceives that one of the four constitutive elements of professions is the substantive content of knowledge. Larson (1977:38-48), stressing the connection between knowledge and capitalism, observes that the content of the subject, the elusive nature of service, and the scientific sounding of a field affect the authoritativeness of professional claims. Brint and Karabel (1991) talk about “mental sets” that develop within an organizational history (pg. 347), which would be conditioned by the nature of the subject. They also note that the administrative staff acts according to certain interpretations of the environment (pg. 347), which would necessarily be influenced by the theoretical premises of their own professional training. Brint (2001) deciphers Dewey’s description of advanced knowledge and concludes that three industry types are “knowledge-centered” (pg. 116). Furthermore, Brint (1994) speaks of “professionalized work environments” that transcend the organizational base of professions (pg. 25), and that higher education is typified by “intellectually demanding

work” (pg. 16). These varying theoretical undertakings seem to share a minimum common denominator: professional action is not only constrained by structural positions, but it is also conditioned by the cognitive nature of the subject.

Therefore, I argue first that the academic nature of the subject affects the actions of its constituents. For example, lawyers would appeal to precedence, which is a very legally inspired concept; physicists would stress the objective scientificity of their knowledge, while truth claims of social scientists would stress social desirability or reflexivity, which are also rooted in their respective traditions. I argue, second, that different academic fields have different potentials for internal differentiation. The theoretical model of higher education change that I have adopted gives due attention to the nature of knowledge that conditions professional action in a specific field.

Moreover, as the cognitive base of a field defines an inescapable realm within which professional action materializes, it introduces a measure of permanence to such corpus of knowledge. It is neither advantageous for higher education to abandon this accumulated knowledge, nor is it possible. That is because the prestige of a field is rooted in its symbolic heritage. The compromise on the value of knowledge is self-defeating. Furthermore, abandoning knowledge is not possible because the edifice of knowledge itself has been integrated within an elaborate structure that has its own market dynamics, and which calls for its own survival, as Abbott’s (2000) argument instructs us.

At this point, a final word on the role of interests is due. Organizational action cannot be explained by interest, although organizations are impregnated with interests. The crude Marxist and rational choice conceptualizations of interests (and power) as the

ultimate organizational drive point to undeniable yet over-generalized forces. Most importantly, interests should not be reduced to personal interests; interests are not synonymous with greed and acquisitiveness. Rather, they are structural potentialities that influence (1) the direction of actions and (2) the evaluation of the situation. They influence the direction of action by sensitizing about the feasible courses of action that are more probable to success. They influence the evaluation of the situation attaching moral weights to the different claims over choices. In an eloquent statement on the development of the American higher education, Brint (1994:34) notes: “The history of the American university during the period of its great transformation (1870-1910) is, in large measure, the history of an ambitious and visionary group of university presidents and faculty, many of them influenced by graduate study in Germany, who saw the possibility of raising the status of their institutions at the same time that they contributed to the economic and cultural development of their society.” Interests and serving higher social goals, at least partially, are not necessarily oppositional.

In sum, the higher education system is subject to influences from several sources, which are often contradictory. The education system negotiates the demands it faces through its dual structure backed up by status and prestige. Eventually educational institutions change through *innovation* and *adaptation*, maintaining their historical legitimacy and allowing them to produce knowledge worthy of respect.

Explanatory Guidelines

The literature review that I have covered and the theoretical model that I have built drew the larger picture of change in higher education. However, they do not speak

of exact routes of institutional change. Therefore, and in search of explanatory guidelines, I will start by a brief review of research that studied some innovative institutions. Next, I discuss concepts directly connected to the empirical research of my dissertation. I first entertain what would the three perspectives anticipate of developmental tendencies in educational institutions. Then, I define parameters related to the location of innovation in the higher education environment.

Several research projects have studied change and innovation in higher education institutions. For example, Grant and Riesman (1978) studied higher education reform movements, dividing them into two genres. On one hand, there is the “telic” reform, or efforts that aim at changing the orientation of a college or a university and to affect its philosophy and ultimate purpose. On the other hand, there is the “popular” type of reform that is concerned with “meritocratic discontent.” This reform effort focuses on the delivery of knowledge, on “the relations between students and faculty, the processes of education, and the context in which it takes place” (pg. 179). Townsend, Newell, and Wiese (1992) conceptualize ten paths leading to “distinctiveness” in higher education institutions, a state of affairs that emanate from an interpretive, rather than adaptive, management strategy. They define institutional distinctiveness as “*a phenomenon resulting from a common set of values that shape institutional activities and unite key constituencies, both internal and external.* A distinctive college or university has a unifying set of values that are apparent to and esteemed by faculty, students, staff, alumni, and the public” (pg. 10, emphasis in origin). They suggest that small and liberal

arts colleges with selective student body are most eligible to be distinctive; however, these characteristics are not prerequisites for distinctiveness, the authors note.

Kliewer (1999) define innovative colleges and universities in terms of five qualities: “(1) interdisciplinary teaching and learning approaches; (2) students-centered education programs; (3) egalitarian governance and community life; (4) experiential learning; and (5) an educational mission devoted to undergraduate teaching” (pg. 5). Kliewer’s is a case study of five colleges and universities. These colleges and universities were chosen from a list of twenty-two, rather selective, candidate institutions, which in turn were selected out of a master list of few hundred institutions (Kliewer 1999, Appendix B). Kliewer (1999) concluded that being affiliated with a public university system inhibits the survival of innovation. She also reports that her research confirms the conclusion of other studies that public institutions “are more vulnerable to external pressures and less successful in maintaining their distinctiveness overtime (pg. 213). Levine (1980) theorizes five organizational structures in pursue of innovation: establishing a brand new college for such a purpose, constructing an enclave within the existing college to focus on a specific mission, change in the college as a whole, seeking gradual and partial innovations, and launching a parallel body that has impact on the original institution.

In general, the above-mentioned studies are concerned with at least one of three issues: (1) reform in terms of infusing a liberal arts spirit, (2) changing the process of delivering education, or (3) specifying managerial strategies and behavior that are conducive to innovation. These studies are not concerned about the rise of *professional*

tendencies in curricula, and they do not focus solely on the *undergraduate* level, both of which are this dissertation's specific interest. The closest to the subject of my dissertation is Kliewer's study. However, in contrast to my focus on innovation in terms of pioneering new undergraduate fields, she focuses on the devotion to undergraduate *teaching*. The theoretical leads that those studies suggest are appropriate for qualitative research of a limited number of cases, making them of little utility for my research that includes *all* postsecondary institutions. Now I turn to specific propositions that the three perspectives on higher education change suggest.

Anticipated Tendencies

The three covered perspectives on higher education anticipate different narratives in the rise of new high-growth fields. Although this dissertation is not designed to verify the specifics of the three perspectives, it nevertheless points to their plausibility. The faculty-as-authors perspective is knowledge-centered and would forecast at least four tendencies. First, it would expect to find a minimum of state effect on the growth of fields. Specifically, it would not forecast passing national decrees that are directly connected to the practice of an academic field. Second, the federal government should feel obliged to fund certain research projects, whether out of mere respect or as a gesture of benevolence. The centers of knowledge, imbued with status, have the ability to convince private funding agencies and gain modest support from them. Therefore, governmental funding would not be crucial to the development of fields, and universities would have made it with or without state support. Governmental support could contribute to the acceleration of academic growth, not to its very existence. Third, the

knowledge-centered perspective should anticipate that only status fields grow, or that they grow in larger rates than other fields. That is because if the engine of growth is located in knowledge and in those who process knowledge, the high status of a field should give it more chance for growth, or at least faster growth. Fourth, it would anticipate a linear branching and ordered differentiation of fields. That is, subspecialties within fields would expand their research activities, gain experience, and build for themselves a departmental character until they become recognized as an independent field.

The external-forces perspective would forecast at least three different tendencies. First, fields would form according to the political economy dictates. The agenda of power positions outside the academia would furnish a template according to which the fields of study comply. Second, this perspective would anticipate a significant effect of private industry on the emergence of new fields. Third, it would forecast that fields rise at the heels of social movements and align themselves with their ideologies.

Finally, the institutional perspective would forecast contingent developmental stories in which the outcome is determined by the intersection of organizational priorities and interests, state regulations and pressures, and market opportunities.

Where Do New Disciplines Originate?

The three perspectives on educational change do not speak directly of the location of change. However, it could be argued, they *suggest* different probable locations of innovation. The faculty-as-author logic leads us to expect more curriculum innovation in academically complex institutions because of the richness of the knowledge content they

harbor. This perspective may also favor private institutions as having more freedom in altering curricula. Similarly, since this view concentrates on internal factors, the relative high weight of large institutions would make them favorable locations of innovation. The external perspective would direct our attention to two institutional locations. It would argue that public institutions that are not academically complex are less guarded against external pressures, and consequently yield to demands for new undergraduate fields. It would also point to private and highly selective institutions as candidate institutions that positively respond to the wants of their resourceful foundations and extracurricular administrative bodies, and thus initiating new special undergraduate programs. Within this view, large institutions should be more likely to start new fields because they represent better grounds for social movement mobilization.

Lastly, the institutional perspective would point to institutions at the mid-level as the most likely place for innovation. That is, institutions that are not high, but not low, in their academic complexity are more likely to start new undergraduate fields because they are less tied to stringent academic criteria. The absence of stringent academic criteria is also true for low-level academic complexity institutions, but such institutions have smaller academic repertoire to draw upon. Middle-size institutions are more likely to initiate new fields simply because of the existence of more organizational space that allows for growth. In contrast to very large institutions, they are more likely not to have reached a point of field saturation. Moreover, their bureaucracies are expected to be operating under a lower level of coordination load, which creates an organizational environment more receptive to opening new departments and starting new fields. Finally,

the institutional perspective would expect new fields to start in public rather than private institutions. That is because public institutions of higher education have accumulated more organizational assets, making them more capable of innovation in the form of starting new fields. Moreover, public institutions are less obsessed with status, therefore, they are more likely to risk starting new undergraduate fields that have not established their reputation yet. Organizational priorities and faculty interests in public institutions are more likely to optimally converge at starting new fields as compared with private institutions.

CHAPTER TWO METHODOLOGY

This study investigates the ascendance patterns of high-growth fields in the last fifty years as well as the institutional characteristics of the pioneering universities that first conferred bachelor's degrees in those fields. The theoretical chapter suggested several possible expectations of institutions that are more likely to pioneer new undergraduate fields. These expectations are related to three institutional characteristics, size, control, and academic complexity. In other words, we can ask if new disciplines are more likely to originate in large, medium, or small size institutions; we can ask if new disciplines are more likely to originate in public or in private institutions; and we can ask if new disciplines are more likely to originate in institutions of high, middle, or low levels of academic complexity.

The plan for investigating these questions will be discussed as follows. I start by discussing the selection criteria of growth fields. The second section discusses the three ways in which data will be analyzed: an examination of the development of individual fields and two types of comparison, within and across fields. After stating the hypotheses of this work, I will point to the sources of the data.

I should note here that the growth of fields is accounted for in terms of earned degrees, not of enrollment figures. The number of earned degrees is a better measure than enrollment figures because students frequently change majors (Adelman 1999). First year's enrollment figures may tell about the popularity of programs, but the actual size and the real growth of programs are better captured by the terminal number of degrees granted to students. I first explain how fields were identified and then discuss how the analysis was conducted.

Identifying Fields of Significant Growth

Among the twenty-eight different major areas that the *Chartbook of Degrees Conferred, 1969-70 to 1993-94*¹ (referred thereafter as the *Chartbook*) recognizes, and between the years 1970 and 1995², some fields grew, others shrank, and many did not experience any significant change. However, examining data at the aggregate level (the area level) masks important details. For example, between the years 1970 and 1995, earned bachelor's degrees in Business more than doubled; however, hospitality services management (a subfield of business) increased from 526 to 5,553, i.e. more than 10 fold increase in the same period. Similarly, the overall earned bachelor's degrees in Biological Science/Life Sciences experienced a minimal growth: the number of conferred degrees was 34,034 in the 1970 and 55,984 in the year 1995. This is only a 1.6 time increase. However, under this field-level category, cell and molecular biology grew from 55 to 1,759; i.e., it doubled 32 times.

Data allow us to make another general observation. Between 1970 and 1995, there were only two points at which proliferation of sub-area largely occurred: 1971 and 1983. In other words, the *Chartbook* recognized most of the new divisions within general areas of study in these two years. The *Chartbook* listed 509 areas, fields, and disciplines in 1995. In 1971, ninety-one new program registered entries in conferred degrees after they were zeros in 1970. For the years 1972, 1983, 1984, 1985, and 1990, the numbers of

¹ Note that the electronic version of the *Chartbook of Degrees Conferred, 1969-70 to 1993-94* includes the year 1994-95 figures.

² For the sake of ease, I will denote academic years by the *ending* year. Thus, for example, the academic year 1970-1971 will be referred to as 1971.

emerging programs were 26, 82, 7, 5 and 1 respectively. No program made a first showing in the years in-between. As it will become clear, such proliferation could not be attributed merely to administrative procedures of data recording; rather, to a large extent it represents substantive divisions within disciplines.

Moreover, data show that the proliferation of fields within an area occurs at proximate dates. For example, 1971 was the year when many fields appeared for the first time in communications and in computer and information sciences. Proliferation of divisions in the area of health profession and in the sub-area of engineering-related technologies occurred mainly in 1983. In the areas of business and education, proliferation occurred in both years: in 1971, seven new fields rose in business and six in education; in 1983, sixteen new subfields rose in business and twelve in education. The proliferation of subject areas before 1970 (the data range that is not covered by the *Chartbook*) was less complex. The earliest available data by the National Center of Educational Statistics (NCES) go back to 1948. The number of fields listed before 1956 was 68; only the field of languages had subfields within it. In 1956, the number of fields and subfields became 159, grouped under 25 major headings.

The First Year of Awarding

The above observations instruct us to be careful in judging the beginning year of awarding bachelor's degrees in a field. The NCES data is based on college administration reporting of degrees. Higher education institutions are required by law to participate in the NCES's *Earned Degrees Conferred* survey. The survey's forms have specified field designation. If an institution awarded degrees in fields that are not listed

in the form, it is instructed to handwrite them in a designated space. Some offerings in a field may have existed before they were recognized by the NCES as stand alone fields; i.e., they were either lumped under another general field or listed as “other.” However, when a large number of degrees are listed in a non-previously designated field, or if the reported field is distinctive enough not to be included under an existing field, the NCES, as early as 1952, did create a new entry for such a field (cf. NCES 1952:VIII).

Thus, the new recognition of a field by the NCES is an indication of the continuity in awarding degrees in such a field. The disappearance of some fields follows the same logic. For example, chiropractic (under health professions) was listed as a field starting from 1970. It fluctuated for several years, and then reported zero degree offerings starting from year 1987; the year 1991 was the last time chiropractic listed as a field.

Yet, the listing of a field in the NCES publication does not equate the establishment of an independent *department* in such a field in the respective institution. The new independent listing of a subfield could be a matter of slicing a larger field into several pieces. For example, the number of conferred degrees in the area of “business management and administrative services and marketing operations/marketing and distribution” increased from 105,580 in 1970 to 114,729 in 1971, where seven new fields appeared. This is an 8.6% increase that added roughly 9,000 degrees. However, the number of offered degrees in the field labeled as “business, general” dropped 21,000. In addition, among these seven new fields, “business administration” increased more than 28,000 degrees, but other degrees stayed close to their figures in 1970. That leads us to

conclude that most of the 28,000-degree increase in “business administration” is a result of taking out from “business general” and listing them under a new category, because the whole area added only 9,000 degrees. Similarly, the field “marketing management and research” started in 1983 with a huge number of 24,764 degrees, while the subfield “marketing operation/marketing and distribution” dropped from 26,945 in 1982 to 3,227 in 1983. In other words, if we collapse the two programs, we see little increase between 1982 and 1983, despite the formal appearance of a “new” field. We can describe this process as splitting and re-labeling of fields. In contrast, we can observe, in the same year, a truer emergence of sub-specialties under “business information system”; it added 2,513 degrees, with no apparent interchangeable labels for such a program.

The area of education went into a similar process in 1971, and into an extreme pattern of interchangeable proliferation in 1983. Education created six new fields in 1971 with a similar growth rate of that of Business in that year. However, in 1983 Education created 12 new fields despite that it, as a whole, shrank around 2%. Qualitative scrutiny here becomes more crucial. For example, the field of “mathematics education” appeared for the first time in 1971; obviously, the field has always existed under a more inclusive label. Careful observation of data suggests that a relative huge birth size may indicate a process of splitting and re-labeling. A small or moderate relative birth size may indicate that the new field was an embryo within another field until it branched out, as the case is with “computer engineering” that appeared the first time in 1983.

It should be noted that the way the NCES survey is conducted is advantageous for this dissertation’s concern. The listing of early-conferred degrees in a field, even if they

were not conferred by an independent department, points to the formation stage of the field. In addition, it serves as a possible indication of mimetic trials by some institutions. That is, the institutions that are awarding large numbers of degrees in a field would mostly have departments for such a field. On the other hand, institutions awarding a scant number of degrees (relative to their size) may indicate that they were under pressure to confer degrees in a field that they lacked, or that they were experimenting with new programs. Therefore, in analyzing data I paid a specific attention to top awarding institutions in the first few years of a field's appearance (as will be discussed below). In other words, the survey have supplied data that could be qualitatively checked, and which their absence would have concealed interesting details. The survey was also keen to standardize the listing of fields under appropriate labels. As early as 1954, the NCES survey team would correspond with institutions to get data that are more detailed. For example, they would correspond with secondary-school teacher training institutions to distribute aggregate degrees reported under "education" into respective fields of specializations, such as English, history, biology, etc. (NCES 1953-1954:3).

Finally, despite the impressive consistency of data presentation by the NCES, two aspects required special attention in relation to the focus of this dissertation. First, in its early years, the NCES survey reported the aggregate numbers of bachelor's and first professional degrees. This practice was maintained until 1963 when the total of each type of degrees started to have a separate listing. The two years of 1961 and 1962 were a special case; they reported one number for 4-year bachelor's *and* first-professional degrees, and reported another number for first-professional degrees requiring 5 or more

years. These ways of reporting data, however, did not cause much problem for my research. Three of the growth fields on which this dissertation is focusing have started before 1961: public administration (1950), health administration (1956), and recreation (1956). These fields showed no sharp fluctuations in the number of awarded degrees during the transition period. Also, the introductions of the NCES yearly publication do warn about shifts in classification, and the above three fields of concern were not mentioned. Only when tracking the long-term growth pattern of health administration did I encounter a clear shift between first-professional degrees and master's degrees (discussed in Chapter 4).

The second concerning aspect of data consistency is that degree reporting up to 1953 included honorary degrees. Starting 1954, the NCES requested that only *earned* degrees to be reported (NCES 1953-1954:17). Thus, in relation to the fields of this dissertation, the manner of early data reporting could have affected only public administration. There is no mention of honorary degree ratios before 1954. Nevertheless, in 1954 six *more* degrees were conferred in public administration than in 1953; thus, honorary degrees in such a field were likely not to have been significant.

Selection Criteria

The foregoing discussion of possible spurious growth instructs us to differentiate between growth rates at the different levels of program listing. Therefore, I followed a stratified process of field selection based on the NCES's three levels categorization scheme of study fields. At the most general, the NCES recognizes 40 fields; for example, education, engineering, and health. I will call this level an *area*, defined as a broad

category that includes several fields that share the goal of studying a manifest object of reality. I will call a sub-area a *field*, defined as the focused study of a partial area in which there is a consensus on the core subjects that are considered relevant to the field. For example, physical education and nursing are considered fields within the general areas of education and health sciences, respectively. A discipline is a focused specialty of study within a field, which usually corresponds to a labor market position in the world.

In the stratified selection process, I looked first at the growth rate at the area level (most aggregate), then at the field level, and then at the discipline level. To be able to compare growth rates, I generated a *weighted growth rate* variable since the lifespan of fields between their first appearance and the year 1995 varies. The rate of growth in terms of the number of times a program has doubled was adjusted according to the following formula: Adjusted Growth Rate =

$$(\# \text{ 1995 degrees} / \# \text{ degrees in starting year}) * (1995+1 - 1970) / (1995+1 - \text{Starting year})$$

Two notes are in order. First, this formula deals with the average of growth and does not concern itself with fluctuations between the inception year and 1995; fluctuations at this point are irrelevant. Second, the growth rates were calculated for the *Chartbook's* 1995 listed programs; consequently, the few programs that existed once but disappeared in 1995 were suppressed (typically, they were fine subdivisions).

The following criteria were followed in selecting growth fields:

1. A three-time growth rate or more is set for an *area* to be designated as a "growth area," and a ten-time growth rate is set for a *field* (sub-area) to be considered a "growth field."

2. A growth in a subcategory will be considered only if there were a growth in the parent category.
3. If there were growth at both the parent and child levels, the lower level of aggregation will be selected if the significant growth occurred mainly at that level.
4. Very small fields with size less than 0.001% of the total number of conferred degrees in 1995 will be discarded.

There are reasonable justifications for the limits stated above. If the *area* growth limit is set to “two,” business enters in the selection. However, as discussed above, the growth of new fields in business is somewhat spurious—the growth of a new subfield and the decline of an older subfield seem to be complementary. Furthermore, choosing two-fold growth as the limit makes it too close to other unselected disciplines (those disciplines that grew 1.5 times and over but stayed less than 2). In other words, the limit of 2 is not less arbitrary and is more troublesome than the limit of 3. Setting the limit for *fields* to 10-fold growth is also judicious—setting it much lower includes too many areas, and setting it higher yields almost the same results. The second condition in the criteria controls for spurious growth—the type of growth that is more likely to be an internal differentiation or re-labeling within an area. The need of the third condition is obvious: it is meaningless to study the growth of an aggregate category if we know that growth has actually happened in one of its constituent parts. The fourth condition has its merit too because size indicates the relative importance of a field. Nevertheless, this fourth condition affected only small disciplines in the health professions. The area of “health professions and related sciences” is a broad category that includes many fine subdivisions (46 subdivisions). Four of these subdivisions were discarded because of the fourth condition: community health liaison; health and medical assistance, other; medical basic

science; and veterinary medicine. The numbers of conferred degrees in those areas in 1995 were 731, 141, 361, and 48 respectively. Thus, the only somewhat significant field that was dropped is community health liaison.

Applying the above criteria, the following eleven fields were *preliminary* selected:

1. Communications (field level)
2. Computer and information sciences (area level)
3. Health services administration (field level)
4. Mental Health services (field level)
5. Law and legal studies (area level)
6. Liberal arts and sciences, general studies, and humanities (area level)
7. Multi/interdisciplinary studies (area level)
8. Parks, recreation, leisure, and fitness studies (area level)
9. Criminal justice (field level)
10. Public administration and services (area level)
11. Transportation (area level)

However, further refinements were needed in order to have meaningful analysis. Three fields were discarded, liberal arts, interdisciplinary studies, and transportation, and for different reasons. The area of liberal arts and sciences, general studies, and humanities is an open field of which its constituting subfields kept changing along years. That makes tracing its pattern of growth not possible. Similarly, interdisciplinary studies is a field that varies significantly across institutions. Sharing a label does not guarantee a

unified body of knowledge that can be traced along time. Transportation was under business before 1970, and I was not able to find any written history on it, which obviates tracing the early development of the field and putting its figures in context. All what we know is that transportation departments were under business and that 454 bachelor's degrees were conferred in 1968. This is a large number of degrees, and without additional information on its earlier existence, analysis of data remains highly speculative. For this reason, the field transportation was dropped. I have also to mention that the fine divisions in the field of law and legal studies did not exist in past years; thus, the whole discipline was considered. Similarly, the subdivisions in the discipline of park, recreation, leisure, and fitness studies were interrelated and interchangeable; thus, the whole discipline was considered too. After refinement, the eight fields shown in Table 1 below have been selected for analysis:

Table 1: Fields selected for analysis and the volume of their growth

<i>First Graduation Year</i>	<i>Field</i>	<i>Conferred Degrees, 1970*</i>	<i>Conferred Degrees, 1995</i>	<i>Weighted Increase in Folds</i>
1950	Public Administration	4,414	18,586	4.2
1956	Hospital Administration	32	3,872	121.0
1956	Recreation	1,416	12,889	9.1
1962	Law	555	2,032	3.7
1965	Computer Science	1,544	24,404	15.8
1971	Mental Health	36	603	16.8
1971	Criminal Justice	2,045	23,828	11.7
1971	Communication	1,734	22,894	13.7

** Figures in italics are 1971 figures. The figure for communication does not include journalism*

Data Analysis

Two types of information are needed for understanding the rise of academic fields: data on the institutions that first offered a field, and information on the period

before the field formally appeared in statistics. The pre-formal acknowledgement period is important for several reasons. One is that the formal acknowledgement might come late, although the NCES was continuously adding fields as appropriate. Furthermore, the pre-formal period is specifically important because it sheds light on the challenges that a field had to face before it became recognized. Knowing how long did it take a field to enter academia helps in understanding the necessary conditions for its admission. As we have seen in literature review, there are three views on the principal factors behind change in higher education: faculty, society and politics, or institutional processes. The pre-formal period is critical in understanding how these factors may have influenced a field.

Analyzing Data on Individual Fields

The history and the data on the individual selected fields are analyzed in Chapter 3. The discussion there is presented in three sections: (1) the larger social context, (2) the process of professional development, and (3) entry to the academia. Below I point to the significance and the organization of each these three sections.

The first section starts with the widest view, exploring the societal circumstances within which a field (as a knowledge area) existed. That is, how was this area of knowledge organized in the society and what was the societal input to its development. Crises, public demands, social movements, state and federal interventions, contributions from philanthropic organizations are briefly discussed in this first section. I do not consider these factors as causal; rather they are facilitative. The societal factors can

produce a variety of outcomes depending on the field itself, a topic that I discuss in Chapter 4.

The relevance of the social context and of history to organizational analysis can be further elaborated on. While historical events do not determine one outcome, historical antecedents condition the structure and culture of the social system that is to come. Mayer Zald (1994) stresses the importance of the time dimension in sociological theorizing, and calls for a “narrative positivism” approach in studying organizations. Such an approach challenges functional, conflict, and efficiency explanations, and looks for a causal story of sequence in studying organizations.

Specifically, the relevance of organizational history can be demonstrated from two conceptual angles. First, path dependency is one way in which historical elements co-evolve along with organizations. The initial conditions of an organization affect its development trajectory because they shape organizational structure and institutional culture. On the cultural level, the initial conditions are crucial because they usually influence the actions of the elite and demarcate the nonrational boundaries of their decision-making process. On the structural level, the initial conditions put the seeds of interests’ acknowledgement. Payoff allocation at one point is highly contingent on an implied contract in a previous point in time, specifically that of the time of establishment. Commenting on the origins of institutional interests, Brint and Karabel (1991) note that interests come from three sources: legal, market processes, or develop gradually within a specific structure and space. Paraphrasing Marx, they assert that “organizations may make their own history, but they do not make it just as they please” (pg. 346).

Furthermore, the temporal environment functions as a resource for the organizational architecture and for the methods of their conduct. Stinchcombe (1965) showed that there is a correspondence between the social structure of organizations and the organizational types popular at the time of their establishment. He also argued that the capacity to organize is dependent on history—on organizational skills and knowledge available at the time. Second, organizational history is important because it embodies “defining events.” Major historical events pressure organizations to respond, even if those events were exogenous to the organizations’ primary goals. The organizational responses come in the form of new procedures that outlive the specific circumstance of the event. Actors in organizations adapt to those procedures, and an altered new outcome becomes part of the organizational character. Historical events that are relevant to the educational system could be a national crisis or a war. It can also come in the form of a major shift in the national legal attitude toward educational institutions. Historical political decisions and related funding policies are likely to be milestone events that affect the general direction of educational institutions.

The second section in the presentation of each of the fields discusses the childhood period of that field. That is, the period when the material of the field was taught informally in apprenticeships or instructed in workshops and training sessions. This section is crucial in understanding the rise of a field, and it goes into details showing what institutions offered short courses or training sessions, what professional conferences and publications contributed to the maturation of the field, and what professional associations existed in the field then. Thus, for each field, sections one and two discuss

the history of the field *before* it entered the academia as an acknowledged program in which formal degrees can be sought.

Lastly, the third section in the presentation of each field analyzes the data on the field after it entered the academia. First, it identifies the institutions that first conferred degrees in the field—those are the pioneer institutions. The discussion in this section focuses on the stability of offering, especially in the first three years of a field's existence. That is, did pioneer institutions stay conferring degrees in that period, and how many institutions joined in subsequent years? Moreover, I identify the large providers as institutions that had an important impact on the field. In addition, the number of conferred degrees and the rate of their growth will be discussed. I also briefly examine if there was a relationship with the graduate level, because the bachelor's level may take away from the graduate level. Finally, I discuss the characteristics of the pioneering institutions in terms of their (1) type of control, (2) their level of academic complexity, and (3) their size.

The complexity level of institutions is measured by one of two variables: the highest degree level and the Carnegie scale. For the fields that started pre-1971, the highest degree level (baccalaureate, master's, or doctorate) that an institution had is considered an indication of its overall complexity. For the three fields that started in 1971 (mental health, criminal justice, and communication), I used the Carnegie Classification (see Appendix B for the description of the classification). The first

Carnegie Classification appeared in 1973, although it used some earlier data³. The Carnegie Classification scale is also used for all fields in cross-comparison, as it will be discussed below.

In sum, the development of *each* field is discussed in relation to (1) the social forces that influenced it, (2) the professional efforts in and around such body of knowledge, and (3) becoming a recognized field, including detailed data on the early providers and the number of conferred degrees. These are discussed in Chapter 3. Chapter 4 provides further analysis on the general patterns and the institutional characteristics of pioneer institutions. The scheme of presentation of Chapter 4 is discussed below.

Comparing Institutional Characteristics

Chapter 4 further analyzes the data on institutions in two ways: longitudinal within each field, and cross-sectional among all fields. For the first type of analysis, five institutional characteristics are considered: (1) the control of the institution, public vs. private; (2) the size of the awarding institutions, denoted by the number of student enrollment; (3) the awarding level of the institution—whether the highest degree awarded in the institution, as a whole, is bachelor's and or professional degree, master's and or second professional degree, or doctorate degrees; (4) religious affiliation of the institution, if any; and (5) student body, in terms of colleges exclusively for men or women. For the five fields that started before 1971, the source of data for the above-

³ See *A Classification of Institutions of Higher Education*, by the Carnegie Foundation, 1973.

mentioned variables was the *Education Directory* of the US Department of Education.

HEGIS was the source of data for the post-1971 fields.

The longitudinal comparison divides the pioneering institutions into two generations, the early-pioneers and the late-pioneers. The two pioneering generations are defined as those that started awarding bachelor's degrees *before* the big rush occurred in the respective field. For each field I selected a year in which the number of awarding institutions started to become relatively large—the field's popularity cutoff line. All awarding institutions before this point are considered “pioneer institutions.” The early-pioneers will be called the *innovators*, and the late-pioneers will be called the *imitators*. I did not force any fixed number of institutions to differentiate between those two generations of pioneers, nor did I choose any fixed number of years. Rather, the differentiation is based on the relative wide diffusion of awarding institutions in the particular field.

The cross-sectional comparison analyzes the data of the *initiator* institutions. Initiator institutions are defined as the first year pioneering institutions. The comparison here adopts a stationary point of time at which all of the eight fields of concern have existed—1971. Four characteristics are examined in the cross-sectional comparison: type of control (which should not have change along years⁴), size, academic complexity, and regional distribution.

⁴ Note that after the Morrill Acts of the 1862 and 1890 some private colleges were converted into state colleges, as mentioned in Chapter 2.

There are three advantages in doing a cross-sectional comparison. First, it adjusts for the size growth of pioneering institutions, since not all of the eight fields started at the same year. Yet, in examining the size of institutions, the NCES (for good reasons) has used the same configurations: 5,000-9,999 student enrollments, 10,000 to 19,000 student enrollments, etc. However, since there was a significant growth in student general enrollments along the time range of this study (1950-1971), the same size category signifies differential eminence in size at the time. Comparing institutions as they developed at one point of time adjusts for this growth effect. However, this picture would not be perfect unless growth in the size of pioneering institutions was uniform across all fields. Nevertheless, given the massive growth in the number of student enrollments, data distortion that result from some institutions growing faster than other would be less than the distortion that results from using the same size categories despite the overall growth.

Second, comparing institutions in 1971 allows the use of a more sophisticated measure for academic complexity. For five of the eight growth fields, the examination of academic complexity of pioneering institutions used the higher degree level (baccalaureate, master's, or doctorate) as an indicator. However, comparing institutions in 1971 allows for using the Carnegie Classification scale, which first appeared in 1973. The Carnegie scale classifies institutions as research, doctorate, masters, or baccalaureate, and provides two sublevels within each of these categories. In addition, it identifies some institutions as specialized (see Appendix B).

Third, the cross-sectional comparison takes into consideration the number of programs an institution had pioneered. Ignoring that would inflate the institutional characteristics of some colleges: one large institution might have awarded degrees in one of the eight fields under considerations, while a middle-size institution might have awarded degrees in several fields. In this case, size would be inflated toward the larger institution. Therefore, the institutional characteristics in this cross-sectional comparison are based on multiple records per institution. That is, I did not aggregate the file to have one record per institution; rather, if an institution was a pioneer in more than one field it was represented by an entry for each field. In this way, the institutional characteristic represents a *weighted* measure. Thus, the comparison here is between institution-
programs, not institutions as a whole.

A methodological note is necessary here. One noticeable difference among the eight studied fields is the large disparity between the numbers of “starter” institutions. This could be a function of decisions made by the National Center of Educational Statistics (NCES); the large number of institutions awarding degrees in the first year of a field may indicate that the NCES was late in their recognition. For example, criminal justice and communication had unusual large number of starter institutions and conferred degrees from their first awarding year (see Table 2). However, we cannot assume any systematic bias from the NCES. A careful look strongly suggests that intrinsic factors were behind this apparent late recognition. For example, the field of communication was closely associated with journalism, although it grew independent from it, and was comprised of several research activities in radio, persuasion, etc. Moreover, these

research activities were scattered among different professional organizations, and only speech was formally housed in universities. Yet, speech, rhetoric, and the like were

Table 2: Awarding institutions and the number of conferred degrees in the first graduation year

<i>First Graduation Year</i>	<i>Field</i>	<i>Number of Awarding Institutions</i>	<i>Number of Conferred Bachelor's Degrees</i>
1950	Public Administration	25	273
1956	Hospital Administration	9	128
1956	Recreation	45	245
1962	Legal Studies	27	193
1965	Computer Science	14	67
1971	Mental Health	5	36
1971	Criminal Justice	57	2,045
1971	Communication	184	5,180

Source: NCES, HEGIS and Directory of Education, selected years

programs under language departments. Thus, the later recognition of communication is explained by the relative fragmentation of the field as well as the association with a well-established field, journalism. Similarly, the large first year volume of criminal justice programs is explained by the lack of consensus over curriculum and the overwhelming practical nature of the field as viewed by its practitioners, which delayed the field's entry to the academia until the Federal incentives pushed many institutions at once to offer degrees in the field.

Hypotheses

The theoretical framework presented in Chapter 1 has pointed out that the three perspectives of educational change anticipate different locations for the origination of new disciplines. These scenarios differ along three dimensions, size, control, and academic complexity of institutions.

First, middle size is an advantageous feature that makes higher education institutions more likely to innovate in offering new fields of study because of (1) the limits on institutional administrative growth and (2) the capacity for planning. Starting a new field entails the growth of two kinds of tasks: an increase in the *scale* of operations, or doing more of the same activities; and an increase in the *types* of operations, or differentiation. Administrative size is more positively associated with the latter than the former type of institutional growth (Scott 1992:259-261). Thus, it is reasonable to suggest that middle size institutions have more organizational space to grow into than large institutions. On the other hand, larger size organizations tend to be more capable at planning, which partially constitutes an effort aimed at reducing market influences (pg. 197).

Smaller institutions may also have organizational space, but middle size organizations have modest organizational power for differentiation. The capacity to differentiate, not only to grow, is important here. That is especially relevant because the high growth fields that this dissertation analyzes are largely applied fields; applied studies are more likely to be interdisciplinary than basic research (Scott 1992:13), requiring more capacity for differentiation. Furthermore, for smaller organizations expansion might constitute a major shift in the course of the whole institution. However, in a middle size institution, subdivisions are more likely to have organizational inertia that allows them to expand with reasonable institution-wide new loads. Large and very-large institutions do have such inertia. However, expansion for them might trigger coordination complexities that raise the cost of starting new fields. Smaller institutions may be also at a

disadvantage because of their relative small number of student enrollments. That is, there is a need for a relatively large volume of enrollments that provide the university or the college with a minimum number of potential students who may become attracted to new fields.

Second, the capacity to start new fields should be influenced by the type of control under which institutions run. The type of control affects the sensitivity degree to market demands. While the private sector is known to be more responsive to the needs of the environment, it might not rush first toward starting new fields. In the realm of higher education, it is likely that responsiveness to market demands would not be sufficient for starting new fields. Rather, responsiveness should be coupled with the ability to sustain a program. That is because there is a delay factor between rising market needs and the prospects of satisfying them by training students in certain areas of expertise. On one hand, higher education institutions have to be convinced, to some degree, that market needs are generated by structural changes in the job market, which give them more likelihood to stay. On the other hand, higher education institutions need certain knowledge resources to *academically* satisfy the needs of the labor market. Moreover, public institutions have more tolerance to programs that do not have immediate financial payoffs and should be in a better position to pursue long-term aims such as starting a new field of study. In addition, it is expected that public institutions would not be as conscious about status and would be more willing to experiment with fields that have not yet established themselves.

Lastly, institutions that are at a middle level in their academic complexity should have more freedom to innovate. Historically, the few prestigious colonial colleges were the trendsetters of higher education (Lucas 1994). However, the relevant question here whether that was a function of their academic level or their status. The twentieth-century changes in the nature of academic knowledge makes it more likely that institutions other than those that are academically sophisticated would be candidates to innovate in higher education, at least in offering bachelor's level degrees in new areas. The transformation of the economy to a service economy matched by the cultural shift away from the classics brought to the surface two social realities: a job market of professional expertise in each corner of life, and social demands for academic degrees as they became the new social class markers. We can add to that governmental encouragement to the expansion of education and the process of credential inflation (Collins 1979). In such an environment, universities at the middle levels of academic complexity should be strategically positioned to start new fields for a larger numbers of aspirants for somewhat applied subjects.

At this point, it is appropriate to make a distinction between the different kinds of expected responses to the expansion of educational opportunities and of market demands. The debate whether higher education is pressured from the bottom or driven from the top should take into consideration the types of offered classes. It could be argued that two-years colleges are the likely candidates to innovate because they offer classes that most correspond to market needs—their very mandate and their organizational interests coincide at rushing to offer new, mostly applied, courses (cf. Brint and Karabel 1989).

However, offering a course or a collection of courses related to an applied area is a matter that is *qualitatively* different from starting an independent field. An independent field has to have enough academic depth and theoretical anchors to be offered at the bachelor's level. The mere fact that two-year colleges award certificates in new subjects does not qualify such subjects to become stand-alone fields. As Chapter 3 shows, some fields stayed for a long time outside the university system incapable to form a cohesive core that entitles them to be admitted to academia.

Therefore, institutions that are at the middle level of academic complexity should be the ideal candidates to innovate in starting new *bachelor's* level fields. Larson (1977) and Freidson (1999) remind us that the prestige of an educational field is related to the claim of expertise in an area that is perceived critical to the society. Two-year colleges can hardly claim expertise over new areas. On the other hand, institutions that are high in their academic complexity may be inhibited from innovation by their very complexity. Certainly, they will be the candidates to innovate in areas related to basic research, not to applied areas. The fields of this dissertation are largely applied, and institutions of middle-level academic complexity should be the ideal institutions to start them.

This dissertation proposes three hypotheses that are congruent with the institutional perspective that it has adopted:

1. New fields are more likely to originate in middle-size institutions.
2. New fields are more likely to originate in public institutions.
3. New fields are more likely to originate in institutions of mid-level academic complexity.

Data Sources

The sources for the historical part of analysis are books and articles written on the early development of fields. In this section of each field, I was constrained to the available secondary source histories, and different fields varied in their coverage. In general, there were adequate sources on public administration, criminal justice, and law, as well as hospital administration and communication.

The National Center for Education Statistics (NCES) is the data source for the period after entering the academia. The NCES is a governmental office under the Office of Education, and is required by law to collect data on educational institutions. The data on conferring institutions and the number of conferred degrees are available for the years 1947-48 and after. A hard copy of the data from that year and until 1969-70 is available in the NCES's publication *Earned Degrees Conferred*. Electronic files are available from the years 1970-71 to 1996-97, known as HEGIS and IPEDS files. The data files of HEGIS, Higher Education General Information Survey, and IPEDS, Integrated Postsecondary Education Data System, are available on the World Wide Web at the University of Michigan site under the Inter-university Consortium for Political and Social Research (ICPSR). The data comprise annual surveys conducted by the United States Department of Education. The universe of this survey is all postsecondary institutions in the United States and outlying areas. Postsecondary education is defined "as the provision of a formal instructional program whose curriculum is designed primarily for students who are beyond the compulsory age for high school. This includes programs

whose purpose is academic, vocational, and continuing professional education, and excludes avocational and adult basic education programs” (USDE 1998/2153:1). IPEDS covers a much wider scope of information than HEGIS, but both databases include basic characteristics of institutions and the number of degrees they conferred in each field. From 1970 to 1981, HEGIS used a four-digit discipline and subdiscipline ID. In the years 1984 and 1985, they adopted a six-digit discipline ID. IPEDS continued to use this six-digit discipline, but with different field codes for health programs. In order to do cross-year analysis, a common discipline ID was generated.

HEGIS files were the main source of data on institutions and conferred degrees for the three fields that started in 1971. HEGIS and IPEDS were also the source of data on the post-1970 development of all fields. Also, the *Education Directory*, published by the US Education Office, was a major source of data on the older fields.

Personal Communication

To gain a deeper understanding of the dynamics of the rise and the context in which institutions started to offer degrees in new fields, personal communications were conducted. The departments that are contacted for interviews were largely from the institutions that were pioneers in more than one field. I used both the email and the telephone in the initial contact; when I used the telephone, I asked for a professor emeritus or for a professor who have been in the department for a long time. The original plan was to conduct personal interviews; however, age had its toll on who has this knowledge. The most recent fields of this study go back more than thirty years. At the

wish of all contacts whom I was successful in reaching, I ended up doing telephone interviews. Telephone interviews took from forty-five minutes to an hour. The following two questions were first asked:

- What do you think were the practical and pedagogical reasons for starting such a specialty?
- What were the major challenges that faced the department in its early days?

The interviewees were generous in recalling the histories of their departments; they delved into details that enriched the picture of their discipline. The interviews were very helpful in understanding the intricacies of different fields and to avoid misunderstanding some cold facts. Therefore, they mainly clarified blind areas more than they offered citable facts. However, one of the most important payoffs of the interviews was the verification of the starting year of the bachelor's level education. Interviews in four fields were in particular helpful and interviews concurred with the starting date reported by the NCES: public administration, recreation, criminal justice, and communication⁵. The small number of awarded bachelor's degrees, as reported by the NCES, in the fields of health administration, computer science, legal studies, and mental health can be interpreted as an indication to the accuracy in reporting the starting year.

⁵ Robert Biller, The University of Southern California, Public Administration Department. Michael Blazey, California State University, Long Beach, Recreational Studies Department. Allan Blomm, California State University, Los Angeles, Communication Department; Edna Erez, Kent University, Department of Justice Studies; Marvin Zalman, Wayne University, Criminal Justice Department; Eugene H. Czajkoski, Florida State University, Founding Dean of the Criminal Justice Department.

CHAPTER THREE
THE DYNAMICS OF FIELD ASCENDANCE

This chapter analyzes data on the eight high-growth fields that were identified in the last chapter. These fields are: public administration, health administration, recreation, undergraduate legal studies, computer science, mental health, criminal justice, and communication. As has been mentioned in the previous chapter, these fields showed impressive growth in terms of the number of conferred bachelor's degrees as well as the number of awarding institutions. All of those fields (except for legal studies) are distinguished in their novelty—they are not the traditional subjects that used to mark higher education. In addition, some of these fields were subspecialties within larger graduate fields. Nevertheless, they gained ground and succeeded in building large departments. Their rise at the undergraduate level underlies their independence as core subjects worthy of pursuing, and indicates the employability of their graduates. Most interestingly, these fields are, to a large extent, applied subjects—it is there where the labor market demands new kind of educated labor.

The goal of this chapter is to discover the patterns of ascendance of the eight high-growth fields and to analyze the institutional characteristics of the colleges that first awarded bachelor's degrees in them. Different fields had different starting dates, and I would like to remind the reader with two conventions that I have used. First, an academic year is usually identified by the two years it covers. For the sake of easier presentation, however, I used the ending year—e.g., the academic year 1970-1971 will be identified as year 1971. Second, the stated years point to the years that bachelor's degrees have been conferred, not the years that a program had been first offered. Thus, programs typically started four years before the graduating dates that I am using.

This chapter analyzes the data on *individual* fields, and next chapter examines their common patterns. The discussion of each field in this chapter is divided into three sections:

1. The larger social context: the indirect influences that affected the field, such as governmental legislation and policies, public demand, and popular books related to the field.
2. The process of professional development: early training in the field, conferences and seminars in the profession, the establishment of association, and the publication of textbooks. In addition, federal and philanthropic support is discussed here since they usually fund conferences and training programs as well as research projects.
3. Formal entry to the academia: the early beginnings of awarding bachelor's degrees in the field. Three points are discussed in this section: the growth pattern in the number of offering institutions, the growth pattern in the number of conferred degrees, and the institutional characteristics of those awarding institutions.

In other words, I first discuss the factors that enabled or publicized the need and relevance of a field to the nation. Typically, these factors were sweeping influences that had impact on more than one field or one facet of social life. Then I examine the pre-discipline days, the days in which there were no four-year college degree offerings; instead, there were educational activities that helped in the development of the field. The third section discusses the development of the field after it was recognized by the NCES. I focus in the third section on the first few years of the field's life in academia. Specifically, I focus on the institutions that pioneered awarding degrees in the field and the changes in their numbers and in the number of degrees they conferred. In addition, I will point to the volatility in the number of conferred degrees as well as the top awarding institutions. This is important because it would be misleading to consider that all pioneering institutions had the same effect on the field when some of them conferred only

a limited number of degrees. Furthermore, not all institutions persisted in their offering the new programs (the appendixes include detailed information on this point). Moreover, I will note the ratios of male and female degree granting in relation to the prevailing ratio for *all* undergraduate fields in respective years. Lastly, I will discuss the institutional characteristics of the “pioneer” institutions. I will focus primarily on their type of control, public versus private. In addition, for post-1970 fields, I will briefly analyze two institutional characteristics: the level of academic complexity (using the 1973 Carnegie Classification) and size. The discussion of institutional characteristics in this chapter directly relates to individual pioneer institutions and to the changes in the number of awarded degrees. More comparative discussion on institutional characteristics will be presented in Chapter 5.

A significant part of the discussion is historical, tracing the early development of fields. Fortunately, several of the sources that I have used were written by the early principals in the field who had access to the disciplinary networks and the early internal literature in the field. I will present the fields in their chronological order, starting with the earliest: public administration, and followed by hospital administration, law, computer science, mental health, criminology, and communication.

Public Administration

In addition to being interconnected with several other disciplines, the field of public administration is unique in its interdependence with the non-academic world. Administrative reform and attitudes toward the performance of the government directly

affect the field (Stone and Stone 1975). Historically, the Great Depression era was consequential for the field of public administration: this era witnessed the expansion of the conception of government's obligations and responsibilities and highlighted the necessity of having professional institutions through which political leadership can be effectively exercised. Furthermore, the nature of the relationship between the federal and state governments significantly changed in the first half of the 19th century, and the emergence of a national economy underlay the need for a new system of public administration (Egger 1975:90-92).

The Larger Social Context

The early beginnings of the field of public administration can be traced back the late 1890s and early 1900s, the days of progressive "good government." Since then, the field passed through a period of crises between 1933 and 1945, followed by a period of intermingling with social sciences between 1946 and 1960, and became embroiled in politics in the 1960s (Mosher 1975). The post-Civil War era brought to the surface the need to deal with the problem of administration, a need that was fueled by the desire to put an end to rampant corruption among officials, lawyers, and contractors. The Whiskey Ring scandal of 1870 served as a wake-up call for the necessity of reform, and President Theodore Roosevelt led the efforts in establishing important measures to cope with monopoly trusts and the relations between capital and labor. The Civil Service Reform League of 1881 and the Pendleton Act of 1883 were critical steps in the efforts of achieving a governing system marked by integrity. Competitive examinations based on merits became required from civil servants, a turning point in the acknowledgement of

the relevance of public service education to the conduct of government (Stone and Stone 1975:11-13).

The new demographic conditions of communities and states called for a new level of expertise in public administration. By the turn of the century, 40% of the population lived in cities, which required a much more sophisticated administration system than that of 19th century when only 6% of population lived in urban settings. The new problems included fires, crime, transportation, running water, etc., and the public attitude toward them was reflected in Thomas Jefferson's view of cities as a source of evil. Administration through the appointment of acquaintances became incompatible with city realities, and political patronage started to be seen as a problem. The *Shame of the Cities* that exposed the corrupted ties between polity and industry was published in 1904. Furthermore, the legal foundation of administration also became incompatible with the new realities. Legislation and state constitutions were then based on the idea of serving "territories," which meant giving priority to rural interests if not outright discrimination against cities. In particular, the conditions of New York City made it clear that governing by the intuitive approach of "throwing the rascals out" and electing new officials does not work. The 1906 was a turning point in the establishment of the New York Bureau of Municipal Research, which Andrew Carnegie and John D. Rockefeller were invited to join in financing. The year 1909 marked the first time in the United States history that a local official was *formally* removed from office for malfeasance. The professional help of the bureau became publicly recognized, and the common use of the term "survey"

started at this time. The need to use expert input led also to the establishment of the Institute of Government Research in 1916 (Stone and Stone 1975:16-21).

Two decades later, the regulations of the Second New Deal were consequential for public administration education because they introduced four changes to the landscape of governance and its relation to public administration studies (Egger 1975:70-75):

1. The passing of the Reorganization Act of 1939, which involved many academicians in the writing of the Report of the President's Committee on Administrative Management.
2. The establishment of personnel departments (beginning in 1938) to deal with the Civil Service commission requirements.
3. The founding of the American Society for Public Administration in 1939, which strengthened the links between the academy and public authorities. Shortly after, the society's establishment it published the Public Admission Review journal.
4. The Executive Order 8248 at the time of President Roosevelt that required the Bureau of the Budget to "conduct research" and to advise the administration.

Governmental reforms and projects, public demands, and social movements continued to influence the field throughout its life. Specifically, the projects of the New Deal in the 1930s, such as the Tennessee Valley Authority, represented an extraordinary experiment in public administration (Egger 1975:61). On the legal front, the enactment of the Administrative Procedures Act (1946) brought the logic of law to administration—adding regulatory agencies and advisory groups were considered a mark of maturation in public administration, although there were questions about their independence and detachment from interests groups. Similarly, the Freedom of Information Act (1967) entitled ordinarily citizens to have access to administrative records, altering the historical

relationship between courts and agencies. That is, it used to be that court dictated what administrators must *not* do, but now they started to dictate what they *must* do. Lastly, the 1960s witnessed the “Naderite” attacks on administrative policies, which represented a new era in the use of legal power to induce administrative change (Schick 1975: 175). Furthermore, the rise of the New Left in the sixties represented a rejection of governmental solutions coupled with demands that necessitate the dependence on government and its funding (Waldo 1975:186-187).

The Process of Professional Development

Conveniently, we can consider the Manhattan Street Survey as a starting point in the professional development of the field of public administration. This survey, sponsored by the New York Bureau of Municipal Research, caught the attention of mayors as a new solution to public service problems. By 1925 some 235 studies were conducted, raising public support for such research efforts. The Public Administration Clearing House was established in Chicago in the early 1920s to signal the beginning of a period association proliferation: The International City Manager’s Association, the Civil Service Assembly, the Municipal Finance Officers Association, the American Municipal Association, the American Legislators Association, the American Public Welfare Association, and the American Public Works Association started in the period highlighting the professional dimension of the field (Stone and Stone 1975:23).

The professionalization of the fields’ environment paved the road for the professionalization dynamics within the field to operate. In 1934, the Social Science Research Council established a Committee on Public Administration to improve research

in this area. Some of their major studies were: the city-manger government, the grant system, the social security administration, and education of public administration (Egger 1975:66-67). The National Institute of Public Affairs, which was founded with the aid of the Rockefeller Foundation, started to play a vital role. For fourteen years, the institute sponsored students for internships in Washington, and every year, from 30 to 50 top college graduates took their internship practice in federal departments. This professional intermingling between government administration and educational institutions was best symbolized by the career of an eminent figure in public administration, Dean William E. Mosher. Mosher, the director of the Maxwell School left it to direct a study for the Federal Power Commission in Washington (Egger 1975:63). By the 1950 research in public administration became energized, and in 1956 and 1957 a major research-conference program was jointly conducted by the American Society for Public Administration, the International City Manager's Association, and the Fels institute of Local and State Government, University of Pennsylvania. Around fifty principal administrators from across the country were involved in this program. The Samuel S. Fels Fund was instrumental in supporting research, and in recognition of its 20th anniversary a special grant was allocated to evaluate administrator education and training programs (Sweeney and Davy 1958a:7-10).

George Maxwell Center at Syracuse University is considered by the profession to be the first true school for public administration. Luther Gulick, one of Maxwell's contemporaries, provided a detailed account on the circumstances of the establishment of this "first" school. As a successful organizer and a believer in morality, democracy, and

education, Maxwell was disturbed by American politics and was convinced that a morally responsible education in public administration is the key solution to its problems. In 1916 he approached the Theological School of Boston University and secured a gift of \$60,000 to establish a chair of “Practicalities and Homely Virtues.” After two years, he transferred the endowment to a chair in “United States Citizenship” in the Arts College. Not satisfied with the results, in 1919 he offered a series of lectures on American citizenship at Syracuse University of which he was a trustee. Finally, the Chancellor of Syracuse University was convinced to donate a \$500,000 to establish a “School of American Citizenship,” which was to be run by Maxwell’s friend, Fredrick M. Davenport, a former Methodist minister, a sociologist, and a professor of political science. The idealist vision of the several principals who sought a school that would teach the *practical* in civil service was materialized. The Maxwell School was born in 1924 offering graduate degrees of a highly interdisciplinary program that drew on history, anthropology, economics, sociology, and education (Gulick 1975).

Finally, it should be mentioned, that some textbooks in the field had already existed in 1926, and they contributed to the forming of the field’s character since that time. Two of these books stand out as significant, Leonard D. White’s *Introduction* and W. F. Willoughby’s *Principles*. These books accepted the orthodoxy of the time of dichotomizing politics and administration. That is, public administration is valued on its own and that scientific management constitutes its organizational theory; in addition, budgeting and personnel management are the instruments of rationality, and

administrative law should be the basis of standards and administrative practices (Sayre 1958:37-38).

Admission to Academia

The Maxwell School successfully planted the seeds of reputation for the field of public administration at the graduate level, which opened an upper mobility path for the less academically programs. The School for Public Service was one of the first training schools, founded in 1911 by the New York Bureau of Municipal Research. In 1922 the school became part of the Institute of Public Administration that worked on broadening the curriculum and established connections with universities. This coincided with the receptive attitude of universities in the era of the Land-grants and the desire to adopt practical subjects. Thus, by New Deal of 1933, around forty graduate programs in public administration had already existed. However, those programs were usually under the political science departments and were not truly professional or interdisciplinary (Stone and Stone 1975:28-30).

Public administration started to gain a solid foot in the academia when some top universities offered quality programs in the field (see Table 3). Other academically reputable universities also started to have public administration programs, which included the University of Pennsylvania, Columbia University, the University of Wisconsin, the University of Illinois, and Harvard University, although they were not as much professionally oriented and some of them lacked adequate curricula. In addition, the programs of the specialized schools started to become more rigorous under the stimuli of two parallel developments: (1) the establishment of municipal, legislative and research

bureaus by some universities, and (2) the education of specialized administrators in other fields, such as civil engineering, public health, and police academies (Stone and Stone 1975:32-36). These two lines of development asserted the centrality of public in managing the affairs of modern life, although they may have, at the same time, contributed to the blurring of the discipline’s boundaries.

Table 3: Early Higher Education Programs in Public Administration

<i>Institutions</i>	<i>Starting Year</i>	<i>Nature of Program</i>
The University of Michigan	1914	One-year master’s degree in municipal administration
The University of California, Berkley	1920	Graduate courses in public service
Stanford University	1920	Program in public administration under political science department (disintegrated after founder departure)
Syracuse University: Maxwell School of Citizenship and Public Affairs	1924	Graduate public administration program
The University of Cincinnati	1927	Public administration connected to political science dept.; joint-degrees with other units; co-op programs.
The University of Southern California	1928/1929	The first totally professional school
The University of Minnesota	1930s	A well-rounded program for generalists and specialists
Columbia University	1931	Institution of Public Administration (disintegrated 1942)
The University of Chicago	1920s & 30s	Enormous contribution but no formal degree program
The Brookings Institute	[1927]	Degrees in economics and government

Source: Compiled from Stone and Stone 1975, pp. 30-32

Public administration schools in their early years had two types of programs. The first is public administration *proper*, which was oriented toward having graduates ready for employment at some level of government. The second was public administration as a preparation for “functional departments,” such as working in conjunction with public

health, engineering, or forestry departments. This latter type was offered by few universities, such as Cornell, Michigan, Minnesota, and Wayne. Most programs were one-year programs that may lead to a master's degree, and some have extended internship requirement. Interestingly, the thesis requirement was dropped from many programs, and the structure of degrees among those programs differed markedly. While Harvard and Woodrow Wilson School at Princeton offered programs that had heavy doses of social sciences, the University of Southern California focused on subjects that are more practical and offered DPA's—professional degrees of Doctor of Public Administration (Short 1958:27-31). In addition, there were many off-campus programs, which were typically evening classes. The University of Oklahoma offered a type of distance learning programs around the world. Students are assigned the reading material in advance, then they meet with faculty for 30 classroom hours in no more than 10 days. Nova University took a radical approach when it offered a DPA program that requires just 18 weekend seminars and 3 weeklong seminars (Klay 1982:3).

The educational programs discussed so far were mainly at the graduate level. Graduate programs in public administration were mostly sub-specialties within the departments of political science, not full-fledged programs. However, some major universities started having “schools of public administration,” equating professional education in this field with other specializations in academic programs, in addition to some programs that were offered in the colleges of business administration. Nevertheless, even when public administration existed in political science departments, they formed interdepartmental committees that served to create a special character for the

field as a practical program for the preparation for a *professional* career. Undergraduate education remained a rarity until the late 1950s, and their curricula had a different focus than that of graduate programs. Undergraduate education tended to offer general instructions in social sciences with emphasis on public administration. Three notable exceptions are the American University in Washington, D.C., the University of Southern California, and Florida State University, which offered undergraduate *major* in public administration (Short 1958:23-27).

It should be noted that beside that sources of funding influenced the type of programs, demographic location had its influence too: state universities tended to emphasize local administration subjects, while urban universities tended to emphasize municipal administration (Short 1958). The variation of public administration programs was highlighted by the 1952 Fles Institute survey of 86 schools of graduate programs in public administration. This survey showed that 45 schools offered master's degrees, 30 schools offered master's degrees with some courses in public administration, and 11 schools did not offer any graduate study. Most of schools required 23 semester hours, and 7% of them focused on the federal level, 9% on the state and local level, and 17% focused on all levels of government (Sweeny and Davy 1958b:340-342).

Despite that the field of public administration, the “science of muddling through,” had always to deal with the lack of consensus over its core, dependence on other fields, such as political science was gradually vanishing in the 1970s. According to Waldo (1975), the proportion of political science-based courses compared to courses based in other disciplines “beyond question, has been and is diminishing” (pg. 199). Business

administration was another field that claimed its relevance to public administration. Some business administration schools started expanding their programs because they thought that their graduates may work in the public sector; some programs were relabeled from “School of Business” to “School of Management” (Waldo 1975:201-202). Nevertheless, based on 1973 NASPAA data, public administration programs showed four organizational patterns: separate professional schools (25%), separate departments in large unit (22.5%), PA/A program combined with another professional school or departments (16.5%), and PA/A program within political science (36%) (Wolf 1982: 122). Another sign of the growing independence of the field was observable in the decline of the influence of constitutional law, which was once highly valued in public administration. Moreover, the importance of administrative law was downgraded. On the other hand, the permanent areas of public administration, personnel, budgeting, and organization continued to be at the center of the field (Waldo 1975:203).

The problem of the lack of consensus over the core content of public administration was considered more acute at the undergraduate level. Such disagreement on the goals has been reflected in the proliferation of nonorthodox forms of education, of which the NASPAA has accommodated (Bowman and Plant 1982:44)

Growth Pattern

The field of public administration is the oldest among the high growth fields that this work has identified. The year 1950 was the first year that formal bachelor’s degrees were conferred in this field, which came around fifty years after the beginning of its professional development, and around twenty-five years after the first offering of

graduate degrees. Twenty-five schools conferred 273 bachelor's degrees in 1950, but five of those institutions alone conferred 61% of all degrees (see Table 4). Interestingly, those institutions were not among the early institutions that had *graduate* public administration programs between 1910s and the 1930s (refer to Table 3). The University of Southern California is the only exception.

Table 4: Top five institutions awarding undergraduate degrees in public administration, 1950

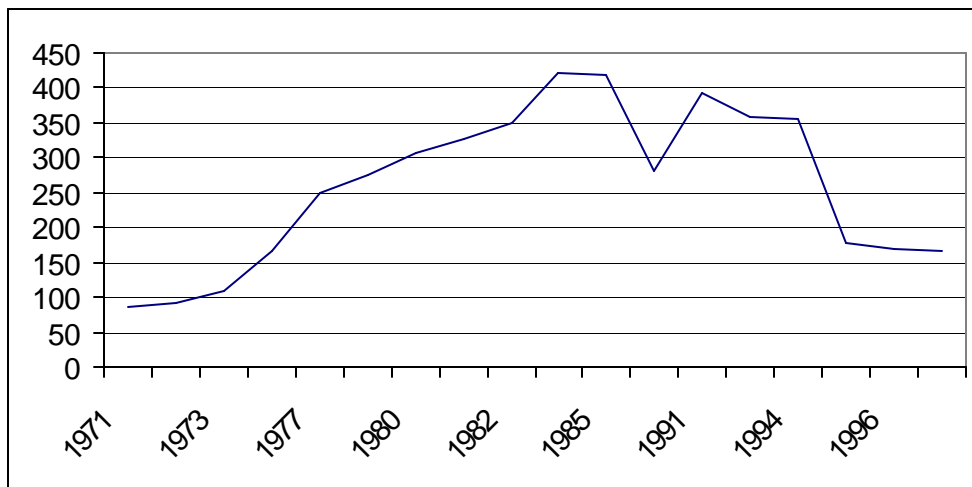
<i>Institution Name</i>	<i>Bachelor's Degrees</i>	<i>% of Total</i>
Michigan State University	59	22%
University of Southern California	39	14%
University Missouri at Columbia	27	10%
American University	22	8%
San Jose State College	19	7%
Total	166	61%

Source: NCES, Earned Degrees Conferred, 1949-1950

In 1951, five new institutions joined in offering undergraduate degree: Colgate University of New York, Ohio Wesleyan University, Willamette University in Oregon, Trinity University in Texas, the University of Maryland, and Eastern New Mexico University. Noticeably, four of these institutions were small private universities. The number of institutions awarding undergraduate degrees in public administration did not grow significantly for many years: it reached 28 the next year, 31 in 1952, and back to 28 in 1953; the number of institutions stayed around 30 for the next seventeen years (refer to Table 38 in Appendix C). In 1969 the number institutions that have undergraduate public administration programs reached 49, starting its phase of sustained growth that lasted until 1985 (see Figure 2).

It should be noted that the lack of theoretical consensus on the field's core was reflected at the structural level of its organization. To a certain degree, the field was polarized around separate graduate and undergraduate institutions. Graduate departments

Figure 2: Number of institutions awarding undergraduate degrees in public administration, 1971-1997



Source: HEGIS and IPEDS database files, NCES, selected years

were older, and probably better established, awarding a large number of degrees despite that they are not larger in numbers. In 1950, there were 39 institutions of public administration at all levels; 14 of them were graduate-only institutions and 18 were bachelor's-only institutions. Only seven institutions awarded degrees at both levels. These institutions were: American University, Michigan State University, New York University, the University of Minnesota, Twin Cities, the University of California (all campuses), the University of Southern California, and the University of Maine at Orono. As has been noted before, three of those institutions were leaders at the undergraduate level too, conferring a large numbers of bachelor's degrees. New York University was the only institution that awarded a large number of degrees at the graduate level but a

small number at the undergraduate one: it conferred 25 graduate degrees (mainly master's degrees) and 7 bachelor's degrees. Michigan State University was the counterpoint of New York University: it conferred 59 undergraduate degrees and 3 master's degrees. In other word, the picture of public administration institutions in the 1950 is that the 39 institutions were of three kinds:

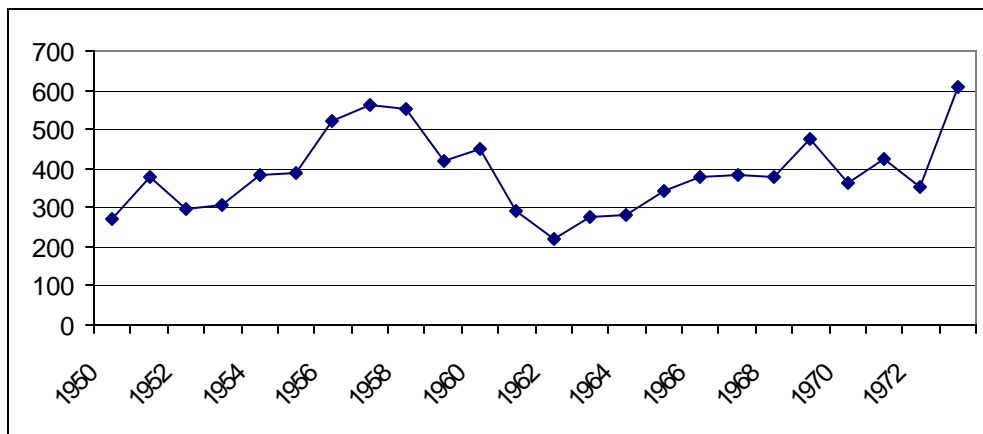
1. Graduate-only institutions: 14 of them, conferring 65% of all graduate degrees.
2. Undergraduate-only institutions: 18 of them, conferring 48% of all undergraduate degrees.
3. Two-level institutions: 7 of them, conferring 52% of undergraduate degrees, and 35% of graduate degrees.

This landscape of graduate and undergraduate levels remained basically the same in 1951, except for the great drop in the number of graduate degrees awarded by the American University and the joining of Georgetown University that conferred 66 bachelor's degrees. The picture was closely repeated in the third year, 1952: the share of American University continued to drop, and Washington State University joined with a substantial number of undergraduate degrees.

In terms of the number of conferred degrees, the field remained stagnant for many years. Not until 1973 that the field succeeded in surpassing the 500-degree mark, but by 1975 it was conferring 1,471 bachelor's degrees. Thus, although the field of public administration showed an overall high growth rate, growth did not occur until late in its life (see Figure 3). The connection of this field to the world of politics made it "unsuitable" for women at that time: out of the 273 bachelor's degrees conferred in 1950, only 21 went to women. This represented 8% of total conferred degrees, compared to the

prevailing ratio of 24% for all fields combined in 1950. The ratio of females at the master's and the doctorate levels were 13% and 7% respectively, compared to 29% and 9.7% for all fields combined. Female representation at the graduate level was higher than that of the undergraduate level, and it could be that some upper-class women had access to higher positions in polity and were able to pursue higher education in a field related to it. Low undergraduate female ratios of 12% or lower persisted until 1973, compared to 44% ratio for all fields combined. Not until the 1980s that the ratios of females became reasonably close to males.

Figure 3: Number of conferred bachelor's degrees, in public administration, 1950-1973



Source: NCES, HEGIS, and IPEDS, selected years

As has been mentioned before, graduate offering in public administration superseded undergraduate offering, and in several years the number of conferred graduate degrees was larger than that of undergraduate degrees (see Table 5). Generally, there was a substantial number of undergraduate degrees in the first ten years. However, by 1970 the number of undergraduate degrees was only 326 as compared to 1,115 master's and 42 doctoral degrees.

Table 5: Number of graduate and undergraduate degrees in public administration, 1950-1959

<i>Year</i>	<i>Bachelor's</i>	<i>Master's</i>	<i>Doctorate</i>
1950	273	190	14
1951	377	172	12
1952	297	307	19
1953	309	256	15
1955	386	265	12
1956	522	318	30
1959	421	178	18

Source: NCES, Earned Degrees Conferred, selected years

Institutional Characteristics

Seventeen out of the twenty-five institutions that had undergraduate public administration programs in 1950 were public. This ratio of around 70% public institutions persisted through out this decade, which compared to the ratio of 50% for all fields combined. Furthermore, the ratios of public institutions at the undergraduate programs were much higher than those at the graduate ones. Within the bachelor's-only institutions, the ratio of public institutions was 72% in 1950, and it climbed to 81% in 1955. That compares to 46% public institutions in the graduate-only level, a ratio that generally persisted until 1955. In other words, the new terminal undergraduate programs were largely appearing in public institutions.

Finally, the institutions that offered public administration *courses* before 1950 were generally high in their academic complexity; they included universities such as Harvard, Columbia, the University of Chicago, and Stanford (refer to Table 3). However, the universities that awarded bachelor's degrees in 1950 (some of which had graduate programs too) were generally not prestigious institutions and not as selective (refer to Table 38 in Appendix C).

Summary

The early days of the field of public administration go back to the late 18th century, and then the field was embroiled in the politics of cities. The federal government had a tremendous impact on the field as many acts and decrees were passed in relation to it. Furthermore, the field had a hard time establishing its independence, and its terrain were always contested—the field’s subjects largely intersected with political science and business administration subjects. The graduate level had a significant presence in the field and existed before the undergraduate level. However, in the early 1950s programs at the bachelor’s level appeared, half of which were in separate institutions that offered degrees exclusively at this level. Most of the institutions of public administration were public, especially at the undergraduate level. The institutions that had graduate programs were noticeably higher in their prestige and selectivity than those awarding undergraduate degrees only. Finally, the field remained stagnant for many years until 1973 when it started its journey of high growth.

Health Administration

The field of health administration, then called hospital administration, has developed through five stages, according to Duncan Neuhauser (1983). The first stage, 1880-1915 was the period of new hospital creation, a period in which the community hospital was the prevailing model; the physician-owner and the nurse were the important figures in this period. The stage from 1915 to 1945 was the period of “hospital superintendent” who knew every detail about the “simple” operation; Taylor’s scientific management was the prevailing management theory then. The third stage, the “hospital

administrator” stage, stretched from 1946 to 1965. The operation of hospitals in this period became much more complex as they became staffed with technical and professional personnel; the human-relations management model dominated during this stage. The era of the “hospital manager” covered the years 1966-1978 and was marked by an increased concern over efficiency and performance. From 1979 and onward, the corporate CEO model dominated the field (Neuhauser 1983:159-179).

Below, I will (1) briefly examine the larger social context in which this discipline grew, (2) trace its journey of professionalization, and (3) discuss the earliest years in which undergraduate degrees were conferred through regular university programs.

The Larger Social Context

The delivery of health services through institutions goes back to the mid 19th century. In 1873, there were only 178 hospitals in America, but this number jumped to more than 5,000 in 1915, just before World War I. The number of nursing schools was 34 in 1880, doubled 52 times by 1920, and reached around 2,286 in 1927 (Neuhauser 1983:1, 38). However, the size of hospitals then was very small. In 1945, seventy percent of hospitals had less than 100 beds (pg. x). The administration of the old voluntary hospitals was not differentiated in a specialized body, and hospitals were supported by contributions from trustees who made the important decisions. Until the turn of the century, philanthropy was the reference authority for admitting patients. The criterion for admission was based on the idea of the “deserving poor.” It took years until the hospital, as an institution, moved from the “welfare” basis of health delivery to the “science” basis in which physicians make the decisions (Neuhauser 1983:8)

At the turn of the century, America was gradually moving out of its agricultural base toward a more urban and industrialized setting. By the late 1920s, the health care sector had become a huge one-billion dollar business, but which had only 7,000 administrative positions in the United States and Canada. Hospital superintends then were not professionals of a recognized specialty. Rather, 37% of them were physicians, 20% were nurses, and 21% were laymen and laywomen, and the physicians had a much more stable career than others (Davis 1929:4-18).

The change in the organization of hospital services and the rise of a formal specialty of hospital administration were influenced by society-wide trends as well as some specific events. For example, in 1918 a worldwide pandemic of influenza took place, which highlighted the cost volume of public health services and the importance of a “rational” administration of its operation. The Great Depression wiped out around 700 hospitals, but one of the unintended consequences of this epoch was the opportunity to introduce changes to the architecture of hospitals, and hence their functionality. Hospital architecture moved from the pavilion to the vertical design (Neuhauser 1983:42), a structural change that invited a different style of administration. The Social Security Act of the 1935 was a major development on how people and government view individual well-being and the collective responsibility over it. Similarly, the Wagner Act of 1935 allowed union movements to grow and made possible the collective negotiation of health benefits. The legislation of Medicare and Medicaid in 1966 gave rise to a plethora of health service devices, including neighborhood health centers, planning agencies, consultants, and large third party payers—all of which required health managers. The

involvement of government in public health critically influenced the terrain of health delivery systems. In 1963, the government expenses on medical research reached more than one billion dollars, and in 1977 it paid \$3.6 billion out of the \$5.5 billion dollars it spent on medical research; by 1983, medical care expenses reached 10% of the Gross National Product. Furthermore, the increase in population demanded more hospitals and aging population demanded special kind of services—by 1975, more people were housed in nursing homes than in hospitals (pg. 8-19).

The Process of Professionalization

In his seminal study, Davis (1929) found that most administrators felt that “their backgrounds for hospital administrative work were deficient in ways that would have been capable of correction if suitable plans had been made” (pg. 23); since then, there was a realization that hospital administration education should comprise three elements: business, the community, and medicine (pg. 37). It was also acknowledged, that business courses like those in Harvard, Chicago, and Columbia have “proved fruitful”; however, some features of the business curriculum “are of practically no value [sic] to the hospital administrator, because the problems with which they deal do not exist or are not significant in a noncompetitive business which has no tangible product to sell. Examples are subject-matter[s] under the head of Marketing, Risk and Financing. Business policy and business organization are of direct value” (pg. 50). It is rather fascinating to contrast such managerial views with today's. Davis continued in describing “Ten Prerequisites to a Successful Course,” which included practical work in a hospital, supervision, and “[c]onnection with an educational institutions such as a university...” (pg. 54). Thus, the

sanctioning of the academia was on the minds of the principals of the hospital administration profession a long time ago.

As a discipline, hospital administration was specifically influenced with the prestigious field to which it is connected—medicine. Abraham Flexner's report of 1910 had a rippling effect on many disciplines, including hospital administration. The first hospital survey was conducted in 1918 and covered 692 hospitals of 100-bed or more. Only 12.9% of hospitals were approved that year; but after 16 years (1933), an impressive 93.9% of hospitals were approved (Neuhauser 1983:12). The National Bureau of Standards was established in 1901 and aimed at developing standards for science, engineering, industry, and commerce. After nine years, the Hospital Bureau of Standards and Supplies was established as an independent organization, and by 1938 it had members in 24 states (pg. 39). This professional development in hospital administration was preceded by professional development in related fields. TKH American Medical Association had already been established in 1847, and the American Public Health Association started in 1872. The American College of Surgeons, which was the first specialty college, was founded in 1913, and in 1918 it started accrediting hospitals. Lastly, the American College of Hospital Administrators was formed in 1933, which became a major force in the professionalization of hospital administration education (pg. 9-10).

The American College of Hospital Administrators (ACHA) was formed 1933 in Chicago by an 18 administrators who held their meeting during the meeting of the Council on Medical Education and Hospitals of the American Medical Association. By

1955, ACHA had 2500 affiliates. ACHA did not accept executives of health care associations as members; instead, it aimed at restricting membership to hospital administrators (Neuhauser 1983:15-24). Since the 1930s, two professional organizations became pivotal in the field: the just mentioned ACHA, and the American Hospital Association (AHA) established in 1938. There was a division of labor between these two organizations where AHA aimed at representing all hospital administrators while ACHA acted as an elite organization that selected only qualified superintends. However, establishing a recognized profession takes more than starting a professional organization: in 1937, ACHA “was still a professional society without a profession” (ACHA 1955:37).

It is interesting to note that in medicine, specialization and elite organization were combined, while in hospital administration the elite organization, ACHA, came before specialization. Other organizations did form, such as the Association of University Programs in Health Administration in 1951, and the Society of Medical Administrators in 1920. The later organization was specifically for physician-administrators, and remained small and not active: until 1966, it had only 120 members. However, 38 of its members became presidents of AHA, and 13 of its members became presidents of ACHA in the same period (pg. 10, 17). In 1940, ACHA had its first examination to College entrance, and between 1945 and 1948 ACHA and AHA organized joint commissions on education in hospital administration. ACHA started publishing the journal of *Hospital Administration* in 1956⁶, and in 1964 it awarded the first Gold Medal Award for Excellence in Hospital Administration (Neuhauser 1983:4-20). The first effort toward

⁶ In 1976, the name of the journal was changed to *Hospital and Health Services Administration* to reflect the nature of graduate employment in this field (Neuhauser 1983:24).

the standardization of internships in hospital administration came in a 1947 conference by the HCHA and AHA joint commission at Columbia University (ACHA 1955:95).

The professionalization of the field was specifically facilitated by a number of landmark publications: Michael M. Davis book (1929), the Prall Report (1948), the Olsen Report (1954), and the W. K. Kellogg Report (1975). Davis's book was crucial to the profession because it pointed to its major structural weaknesses: the lack of systematic training and the financial instability of the administrator career; in addition, it stressed the importance of having hospital administration programs under the auspices of a university that have both business and medical programs. The Prall Report discussed the curriculum requirements for training hospital administrators beyond what Davis had recommended. The Olsen Report stressed the significance of *university* training for hospital administrators and the peculiarity of such a profession when compared to general administration; the report also adopted the term "education" instead of "training." This report, however, created much controversy for its recommendation that all hospital administration programs become part of schools of business administration, which confronted the reality at hand: in the year of its publication in 1954, only two of the thirteen hospital administration programs were in business schools, six in public health schools, and five in other university locations. Finally, the Kellogg report of 1975 did not discuss the job market of hospital administrators, as the Prall and Olsen reports did; rather it focused on presenting a critical evaluation of the educational programs of hospital administration. Furthermore, the Kellogg Foundation funded several task forces for the advancement of the profession (Wren 1980).

Formal Certificates

Personal apprenticeship was the dominant form of entering the hospital administration profession. Some hospital superintendents were interested in promoting the profession and furnished their hospitals as centers for such a mission. However, for a profession that is growing more complex, professionalization required the coordination of five interested groups: businessmen, public official, the medical profession, professional administrators, and national agencies involved in public health (Wren pg. 87-90).

Several programs in hospital administration education started before it made its way to university main departments. The earliest educational institutions that offered “short courses” in hospital administration, according to Davis (1929), include: New York University (1928-1929), Temple Novelty in Philadelphia, Teachers College of Columbia University, the Illinois Training School for Nurses in Chicago (1919 and 1920), McGill University of Montreal, Iowa University (1923), and Harvard School of Public Health (1927). Courses with more complete curriculum came after the Report of the Committee on the Training of Hospital Executives in 1922 (pg. 90-93). The first degree-granting program was at Marquette University in Milwaukee, which was proposed by a Father at the Catholic Hospital Association. This program had some kind of a curriculum and awarded two degrees to two sister students in 1927. Beside undergraduate studies, the program included two-week graduate level and summer courses. However, the program failed in 1928. For twenty-five years, ACHA sponsored short educational programs. In 1933, it sponsored an important program at the Chicago Institute for Hospital Administrators, which was under the University of Chicago; this program was

cosponsored also by the American Hospital Association, the American Medical Association, the American College of Surgeons, and the Chicago Hospital Association, and was attended by a 169 administrators. The covered topics ranged from hospital planning and construction to volunteer services to medical records and public health (Davis 1929: 90-95). Other programs in the nation followed, most of which were held in conjunction with notable educational institutions (see Table 6).

Table 6: Institutes with hospital administration programs, 1933 to 1955

<i>Number of Sessions</i>	<i>Program</i>	<i>Institution name</i>	<i>Total Attendance</i>
23	Chicago Institutes ² 1933-1955 (2 weeks)	University of Chicago	2138
5	Chicago Advanced Institutes 1950-1954 (11 week)	University of Chicago	1242
6	Midwest Institutes 1941-1954 (1 week)	University of Colorado, Boulder and Denver, Colorado, Women's College	335
15	Minnesota Institutes 1939-1955 (1 week)	University of Minnesota	1006
6	New England Institutes 1940-1953 (10 days)	Harvard, Brown, LaSalle, Yale,	443
6	New York Institutes 1939-1954 (2 weeks)	Columbia, Cornell, Francis	528
1	Southeastern Institute 1952 (1 week)	University of Tennessee	105
9	Southern Institute 1939-1954 (1 week)	Duke, Tennessee, Rollins, Medical College of Virginia and others	635
4	Southwestern Institutes 1941-1953 (1 week)	Southern Methodist, Baylor, Houston	308
6	Western Institutes 1938-1954 (10 days)	Stanford	491
3	Canadian Institutes 1941-1951 (1 week)	University of Western Ontario, Queens	213
2	Inter American Institutes 1940, 1944 (2-3 weeks)	San Juan, Lima and Mexico City, University of Puerto Rico	169

Source: Neuhauser 1983, pg. 96

In 1947 an ACHA survey showed that there were 10 courses for hospital administrators. In 1943 the Northwestern University program conferred degrees at the bachelor's and master's levels. The University of Minnesota also had a program, and

Yale had its first program in 1947. The program at Washington University, St. Louis was the only program within a medical school. The total number of conferred degrees in 1947 was 48 at the master's level, and one at the bachelor's level (Neuhauser 1993:104-107).

Admission to Academia

Data of National Center for Educational Statistics (NCES) show that 1956 was the first year in which bachelor's degrees were conferred in the field of hospital administration. This graduation date coincides with the date of the inaugural issue of ACHA's journal, *Hospital Administration* (Neuhauser 1983:175). As we have seen, many programs in this field were offered by special-purpose schools that were under the auspices of universities. Neuhauser (1983) reports that *graduate* programs have been offered since 1934 at the University of Chicago; in the 1940s, Northwestern University, Columbia University, University of Minnesota, Washington University, Yale University, University of California at Berkeley, and St. Louis University all had graduate programs; State University of Iowa, the University of Pittsburgh, Baylor University, Cornell University, and the University of Michigan also had some types of programs between 1950 and 1955 (pg. 105). The extent to which such programs were formalized and organized around a cohesive curriculum that would satisfy the criteria of a regular program in a university is a different matter.

Growth Pattern

The formal admission of the hospital administration field to academia was in 1953. According to NCES data, nine institutions conferred bachelor's degrees for the

first time in 1956 (see Table 7). Notably, six out of those nine institutions were listed by Neuhauser, 1983, as having graduate programs before 1953. However, some of the institutions that were claimed by Neuhauser to have had programs did not appear in the NCES data. For example, the NCES data show no conferred graduate degrees in 1956 in hospital administration; Cornell University, and Columbia University do not appear in the NCES listing before 1961, and 1965 respectively. The NCES data show one undergraduate entry for Yale in 1960, and the University of California at Berkeley does not appear at all; but these institutions were reported to have graduate programs by Neuhauser. This suggests that those programs were not full-fledged programs; rather, they were graduate courses.

Table 7: Conferred Bachelor's Degree, 1956

	<i>State</i>	<i>Men</i>	<i>Women</i>
Catholic University of America	DC	-	2
State University of Iowa	IA	11	-
Northwestern University	IL	37	3
University of Minnesota all campuses	MN	19	1
Saint Louis University	MO	12	8
Washington University	MO	14	-
Oklahoma Baptist University	OK	1	-
Baylor University main campus	TX	7	1
Commonwealth University Medical College of Virginia	VA	12	
	Total	113	15

Source: NCES, Earned Degrees conferred, 1955-1956

Education in the field of hospital administration remained circumscribed within a limited number of institutions. From the first year a bachelor's degree was conferred until 1967, the total number of institutions that awarded graduate or undergraduate degree in this field was 23; it was only 17 for the exclusively undergraduate institutions. After 10 year of the field's first conferred bachelor's degree, 1965, only 11 institutions were

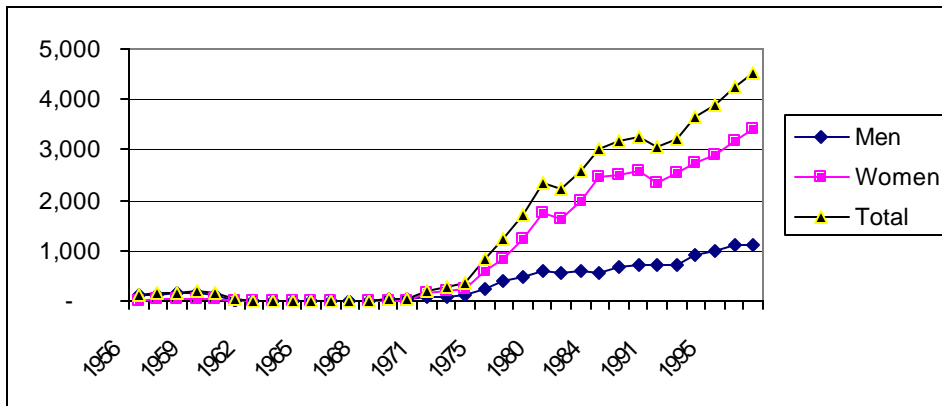
awarding undergraduate degrees in this field. Interestingly, these institutions included six of the nine starter institutions. The Catholic University of American, Northwestern University, Oklahoma Baptist University, and State University of Iowa ceased from offering any degree by this date, while George Washington University, Georgia State College, Michigan State University, and the University of Chicago joined in different years after 1956 (refer to Table 39 in Appendix C).

In terms of the number of conferred degrees, the field of hospital administration passed through three stages. The first four years, 1956-1959, were years of modest growth. One hundred and twenty bachelor degrees were conferred in the first year, which grew to 208 after three years—a 163% increase. However, from 1960 to 1970 the field, at the bachelor's level, experienced a sharp decline. For example, in each of 1963 and 1967 the field conferred only nine degrees. The recovery period started in 1971 when the number of conferred bachelor's degrees returned to its 1959 level, the year that preceded the decline. Since 1971, the field grew steadily, with only two years of slight negative growth, 1981 and 1991. Otherwise, the field maintained a modest growth rate, which peaked between 1975 and 1980. The total number of conferred degrees reached 4,523 in 1997 (see Figure 4).

Looking back at the decline phase, 1961-1970, it seemed that the field was at the verge of extinction. In 1961 and in 1963 through 1965, there were only two institutions conferring bachelor's degrees in the field; the number increased to three in 1966, to four in 1968, and to five in 1970. Not until 1971 that the field entered its recovery stage with thirty-two institutions awarding bachelor's degrees in hospital administration. This

fluctuation, however, is underlined by an apparent internal reorganization between the graduate and the undergraduate levels. Until 1960, the NCES data reported bachelor's and first-professional degrees jointly. And despite that the number of institutions dwindled in the period 1961-1970, the number of awarded degrees did not necessarily decline (see Table 8). If we consider together the numbers of conferred bachelor's and first-professional degrees, there was a general growth trend until 1966. For example, there was a sudden drop in the number of degrees from 236 in 1965 to 34 in 1966. However, looking carefully, we find that the number of master's degrees jumped from 38 in 1965 to 277 in 1966. In other word, the sudden drop in the number of conferred bachelor's and first-professional degrees was matched with a sudden increase in the number of conferred master's degrees.

Figure 4: Number of conferred bachelor's degrees in hospital administration, 1956-1997



Source: NCES, HEGIS, and IPEDS, selected years

It should be noted that the same institutions that were conferring bachelor's and first-professional degrees, were also conferring master's degrees, with few exceptions. In 1960, the Catholic University of American, Northwestern University, and Xavier

University awarded graduate degrees exclusively; in 1961 the University of Minnesota joined Xavier; in 1962, the University of Michigan joined them too, conferring graduate degrees exclusively.

Table 8: Conferred degrees in hospital administration, 1956-1970

<i>Year</i>	<i>Bachelor's</i>	<i>1st Prof; 5 or more years</i>	<i>Bachelor & 1st Prof.</i>	<i>Master's</i>
1956	-	-	128	-
1957	-	-	156	-
1958	-	-	177	-
1959	-	-	208	-
1960	-	-	150	70
1961	20	226	246	39
1962	15	170	185	58
1963	9	187	196	60
1964	11	198	209	68
1965	13	223	236	38
1966	15	19	34	277
1967	9	19	28	303
1968			14	385
1969			37	393
1970			32	479

Source: NCES, Earned Degrees conferred, relevant years

Year 1971 marked a starting point of two developments in the field of hospital administration. Undergraduate level started its sustained growth independently from the graduate level. The second post-1971 development was the sharp increase in women entering the field. In 1970, twenty-six degrees were conferred to males as opposed to six to females; in 1971, the distribution flipped and 63 bachelor's degrees were conferred to males as opposed to 145 to females. In general, twice as many bachelor's degrees were conferred to women in 1971-1977 compared to men, while the aggregate ratio for all fields was still above fifty percent in favor of males. However, between 1978 and 1982, the ratio was three to one in favor of women, and became four to one in 1984-1989.

Since then, the number of bachelor's degrees conferred to women scaled back to be three times as many as those conferred to men. Thus, since 1971, the field experienced strong rates of growth, especially among women. However, the dominance of females in the field was not reflected at the master's level.

Finally, it is instructive to compare the number of awarded degrees in the field of health administration with other related fields. Health professions, as an aggregate area, awarded 22,379 and 23,075 bachelor's degrees in 1957 and 1958, respectively. This represents more than 3% yearly growth, which declined to 1% in the next two years. The growth rate of health administration was 21% and 14% in the first two years, but this level of growth was not maintained. Although the field of medicine (M.D. degrees) was not growing significantly during this period, the field of nursing was. The average yearly growth rate of 6% in nursing, suggests but does not warrant, that there was a significant expansion in hospitals main workforce that called for the need to manage it. The growth of the nursing field was evident for several years before the appearance of health administration: since 1952, conferred bachelor's degrees in nursing were growing at an average rate of 5%.

Interestingly, within health professions, the growth of conferred bachelor's degrees in medical technology approximated that of health administration; and 1956 was the first year in which medical technology was recognized as an independent field. Again, it could be suggested that the operations of health services were becoming more complex that encouraged the rise of a field that is specialized in managing complexity. We can also look outside the area of health professions for clues. The rise of health

administration seems to correlate with the diffusion of the idea of scientific management. Business administration was growing at an average rate of 10% in 1957 and 1958. More specifically, the year 1956 was also the inauguration year for awarding bachelor's degrees in the field of hotel and restaurant administration.

Institutional Characteristics

Since its early years, the field of hospital administration was serviced largely by privately controlled universities. In 1956, six out of the nine awarding institutions were private. The ratio of around two-thirds in favor of private institutions was maintained until 1972. However, in 1961, only two private institutions conferred bachelor's degrees—the University of Chicago and Oklahoma Baptist University; the rest conferred first-professional degrees requiring five or more years. Conversely, in 1965 two public institutions were exclusively conferring bachelor's degrees (Georgia State College and Michigan State University), while the rest were mainly conferring first-professional degrees. In other words, if we consider both levels of degrees, the bachelor's and the first-professional, there were more private institutions than public institutions conferring degrees in hospital administration. However, if we restrict our consideration to bachelor's degrees, the ratio between the public and the private kept changing with no apparent pattern. Given the field's recent apprenticeship history, such alternation between the kinds of degrees gives a further indication on the state of the field—a field that was still trying to crystallize its programs and offerings.

Starting 1973 and until 1985, there were roughly equal number of private and public institutions awarding bachelor's degrees in hospital administration. After that, the

number of public institutions started to decline, and by 1997, public institutions represented 43% of institutions awarding bachelor's degrees. The departments of public institutions tended to be smaller than those of private institutions until the mid 1980s. For example, in 1966, 33% of departments were public, but they conferred only 27% of bachelor's degrees. However, since 1989, the departments of public institutions started to become larger, despite some decline in their absolute numbers. For example, in 1989 and 1992, public institutions represented 47% of institutions, but they conferred 53% of bachelor's degrees. These rates represented a trend opposite to that of the nation. That is, in 1966, public institutions, on the aggregate, were awarding more degrees (59.7%) than private institutions, and the trend was slowly increasing.

The data between 1978 and 1985 differentiate between private and private-religious institutions; during this period, religious institutions outnumbered private institutions and conferred more bachelor's degrees. The data from 1989 and after show that the typical private institution was a nonprofit one; the for-profit private institutions accounted for around only 1% of institutions.

Summary

The field of health administration had a long history of informal training. Efforts toward the professionalization of the field were extensive as the field was trying to establish itself in the middle of the prestigious field of medicine and its professional associations. Most of the institutions that first conferred bachelor's degrees in the field were private institutions, and the number of those that ever offered this program remained

very small. The field remained stagnant for many years until 1971 when it started its journey of sustained growth.

Recreation

The concept of leisure is a social construct that evolved with time. Leisure activities, which once were localized and frowned upon, started to approximate a social institution in modern societies. Increasingly, these activities gained economic significance constituting about 10% of personal income in the United States in 1977 (Loomis ~~DDG~~ Walsh 1997:17). To appreciate the shift in the social attitude toward recreation, it is instructive to note that in 1619 the Assembly of the State of Virginia decreed that any person who is found idle would be forced to compulsory labor. New England Calvinist theologians viewed recreation as a frivolous activity that has negative consequences on the material as well as the spiritual stance of communities. However, the years following the Civil War witnessed a heightened interest in sports. Jesse F. Steiner captured the essence of this social development in saying: “The traditional amusement of a rural people became pitifully inadequate and unsatisfying for factory workers and for the large numbers of people caught in the meshes of the business and the industrial world” (quoted in Kraus 1955:5). Community leaders soon recognized the need to take a constructive leadership role in offering recreational activities for the youth. Churches established guild houses and parish houses for showing movies, dancing, playing several kinds of sports, and for conducting social parties. The Young Men’s and Young Women’s Christian Associations, the Young Men’s and Women’s Hebrew

Associations, the Knights of Columbus, the Catholic Youth Organization were prime examples of this trend (Kraus 1955:6).

The Larger Social Context

The increased interest in recreation was partially driven by the relative economic security and affluence of the American society. The modern social conditions set the social stage for the development of a recreation and park movement, which went into stages of professional development. The earliest development goes back to the later part of the nineteenth century, prompted by socially-spirited individuals who were responding to the deteriorating conditions of urban life. The formation of an organized “Recreation and Parks” movement came in 1906. A significant development also occurred when city planners started allocating open space and park areas: The Central Park in New York was constructed in 1858, Franklin Park in Boston in 1883, and Fairmount Park in Philadelphia in 1867. World War I and the War Camp Community Service were important landmarks in the development of the Recreation Movement since they established six hundred recreation programs in communities and near military bases. Recreation during the Great Depression period came to be considered an important “diversionary” activity away from monotony and poverty (Murphy and Howard 1977:8-9).

The 1960's were particularly important for the Recreation and Parks Movement since it witnessed a shift in the definition of the quality of life. Recreation and leisure services started to be considered basic ingredients in a quality lifestyle and as means for reducing social diseases. Such social consciousness was reinforced by governmental responsive actions. The Outdoor Recreation Resources Review Commission was found in

1958, which eventually led to the establishment of the first federal agency dedicated to recreation: The Bureau of Outdoor Recreation (Murphy and Howard 1977:10-11). The latest development in the Recreation Movement indicated a shift in emphasis, where ecosystem values have been considered along with personal and community values (Cordell et al. 1996:215-233). And it should be noted that from a pure economic view, outdoor recreation experiences are distinguished by being partially produced by consumers through their input of time, effort, and money (Loomis and Walsh 1997:15).

Finally, recreation and leisure were always gendered concepts. The Victorian ideal linked the biological features of femaleness to its 'goodness' and 'gentility,' which conflict with physical exertion. Outdoor leisure, furthermore, was considered to conflict with women's modesty and circumspectness. After the Great Depression and World War II, the nuclear family ideal reasserted the traditional family view, although it was a lifestyle available only to white and middle or upper class women (Henderson et al 1996:31-36). Historically, one of the first shifts in the concept of women's leisure came in the practice of spectating: "ladies stands" were erected in horse racing, ice-skating, baseball, and other male sports fields for the purpose of encouragement. However, athletic clubs for women did exist as early as 1877, mostly for the wealthy, but also for young workingwomen. By 1916, thousands were enrolled in gymnasium classes and programs, but until the 1960 they were segregated. In 1972, Title IX of the Education Amendments schools to provide equal opportunity in athletic programs for both sexes (pg. 55-63).

The Process of Professionalization

In 1929, fourteen institutions in America offered *certificates* in social work, which included specialization in recreation. Eight of these institutions offered courses in recreation under social work or sociology; in two instances the courses were in the department of education, another two in physical education, and the remaining three were not connected with any university (Hjelte 1956:342). The concern of the field at that time focused on the lack of an adequate curriculum and the unavailability of enough specialists. The leaders of the leisure occupation in its early days had very diverse academic backgrounds; they had degrees in sociology, business, landscape architecture, industrial arts, and fine arts (Jensen 1977:45). In 1938, the Recreation Division of the Works Progress Administration and the University of Minnesota called for a conference for the discussion of professional training in recreation. A year later, 1939, another conference was held at the University of North Carolina. These conferences discussed teaching leisure at the undergraduate and the graduate levels, as well as the adequate curriculum elements they should include (Hjelte 1956:342-353).

One of the earliest institutions that helped in the development of professional recreation programs was the Chicago Training School for Playground Workers in 1911. The establishment of this institute was the result of the efforts of West Chicago Park Commissioners who became convinced in the importance of professional training for recreational leaders. Recreation used to be considered a part of physical education, and those commissioners felt that there is a need for a broader program. Later on, the institute became associated with Northwestern University. A similar development

occurred on the East Coast where the People's Institute of New York established a one-year training program for professional community workers. Notably, Syracuse University was the first college to offer a program in park administration in that year. In 1926, the National Recreation Association (NRA) established an advanced program, which was equivalent to a graduate level program at the time. In 1935, the NRA sponsored courses that included diverse subjects such as music, drama, nature study, crafts, games, and organization and administration techniques. Another significant contribution came from the American Association for Health, Physical Education, and Recreation (AAHPER) that was established in 1937; this organization held an important college conference that was cosponsored by the University of Maryland and the WPA Recreation Division. In addition, the American Recreation Society was established in 1938, representing a milestone in the development of the field. In general, the 1930s witnessed the contributions of several college departments to the field of recreation. Among them were the Landscape Architecture Department of the University of Massachusetts, and the Forest Management Department of Utah State University. In 1935, the Department of Forestry at Michigan State University started a recreation major. Finally, after World War II several colleges started programs in recreation; among them were North Carolina State University and Colorado State University (Jensen 1977:48-50)

Admission to Academia

The full admission of recreational studies into the academia occurred after it became a social reality. Historically, recreational studies were under the department of education. In 1955, the Teachers College of Columbia University had a single

department for Health Education, Physical Education, and Recreation (cf. Kraus 1955). It was the year 1956 when the publications of the National Center of Educational Statistics (NCES) first recognized different subfields under *Education*. The table of contents of the NCES publication (Earned Degrees Conferred by Higher Educational Institutions, 1955-1956) listed three major categories under Education: Specialized Teaching Fields, General Teaching Fields, and Non-Teaching Fields, and each category included several subfields. Recreation was listed under the first category along with fourteen other subfields. Noticeably, those fields were not listed alphabetically. Instead, we find that under “Specialized Teaching Fields,” physical education was listed first. It was followed by health education, recreation, education of exceptional children, education of the mentally retarded, and speech correction; after this point, the rest of subfields were listed alphabetically. The reason behind such listing-order is that physical education was the mother specialty from which health education and recreation branched. Obviously, the demarcation between the mother field and its twin subfields was not clear-cut. The NCES data on earned degrees labeled the fields as follows: “Physical Educ. (separate curriculum; or combined curriculum with Health Educ. or Recreation), Health Educ. (separate curriculum), and Recreation (separate curriculum)” (NCES, 1956:7). Thus, for some time, recreation was recognized in two ways: as a separate specialty under education, and as an emphasis under physical education.

Growth Pattern

The field known now as parks, recreation, leisure and fitness studies remained a small field with low rates of growth for many years, until it experienced two periods of

significant growth in 1964 and 1992. As mentioned above, the field of recreation was not a total novelty when it first appeared in 1952; the core of the subject matter has been there, but new connected subjects started to form an area of emphasis that demarcated some boundaries. It should be no surprise, then, that in the field's first year of graduates, 45 institutions conferred only 245 bachelor degrees (refer to Table 40 in Appendix C). The large number of offering institutions coupled with the small number of conferred degrees (5.4 degrees per institution), may indicate that recreation was not a fresh new field. Rather, it was a field in the process of identity formation. As it is expected, in 1956 the number of bachelor's degrees in physical education (the mother field) far exceeded the number of degrees in the two new twins—8,269 degrees in physical education, as opposed to 52 in health education and 245 in recreation education.

Table 9: Number of awarding institutions and conferred degrees in the field of recreation, 1956-1963

Year	Number of institutions	Total bachelor's degrees conferred
1956	45	245
1957	52	344
1958	57	411
1959	52	366
1961	52	397
1963	60	421

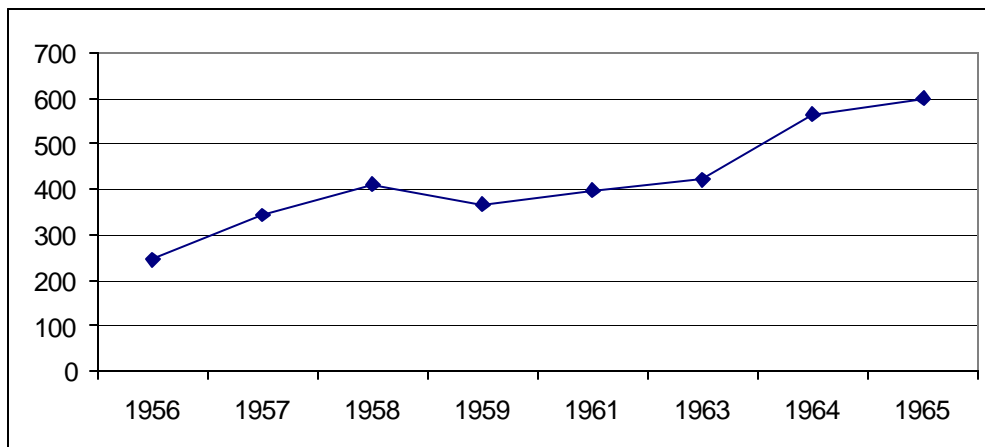
Source: NCES, Earned Degrees Conferred, selected years

Noticeably, the number of institutions that conferred degrees in recreation remained stable in the first eight-year period, 1956-1963. Forty-five institutions conferred bachelor's degrees in 1956; the following year seven institutions joined, and in 1958 another five institutions started to confer bachelor's degrees in recreation (see Table

9). However, in the fourth year in the fields' existence, the number of awarding institutions rolled back to fifty-two.

The growth of the field of recreation in terms of the number of conferred degrees remained relatively slow for a prolonged period of time (see Figure 5). In the second year of the field's independence, 1957, the number of conferred bachelor's degrees increased by 40%; in 1958 it increased by only 19%, followed by a decrease of 11% in the fourth year. Fluctuation persisted in the next four years: a year of modest growth in 1960 was followed by a year of decline and was trailed by two years of weak growth. It was until 1964 that the field managed to surpass the 500 bachelor's degrees line and started a journey of accelerated growth. Thus, the take-off period of this field extended for eight years of identity formation.

Figure 5: Recreational studies number of conferred bachelor degrees, 1956-1965



Source: NCES, HEGIS, selected years

It should be noted that in its first year, 1956, the field of recreation conferred 92 master's degree and 19 doctoral degrees. The number of conferred master's degrees did not grow during this period; rather it remained around 80. However, the number of

conferred doctoral degrees declined significantly, where it dropped from 19 in 1956 to a single degree in 1963.

Finally, education is a field that was traditionally dominated by female students. The ratio of bachelor's degrees conferred to females in all fields for the year 1956 was 35.9%. However, in the field of education 70,616 bachelor's degrees were conferred in this year, 71.8% of which went to females. Nevertheless, female over-representation in this field was in the "general teaching" category, not in the "specialized fields" category under which recreation was listed. The number of degrees that went to females in the specialized category was slightly less than that of males. In the field of recreation, 123 bachelor's degrees were conferred to males and 122 to females in 1956. However, in the following seven years the female ratio dropped to an average of 36%, which coincides with the average of all fields. We can speculate then that the curriculum of recreation then might have stressed outdoor activities or managerial roles, which then deemed not to be feminine. It is curious to note that the University of North Carolina State College, which was one of the top granting universities, did not confer any bachelor's degree to a female until 1961. In addition, it is important to note that the ratios of conferred degrees to females at the graduate levels were lower than those of the undergraduate level: 28% at the master's level and 16% at the doctoral level.

Institutional Characteristics

In 1956, seventy-five percent of institutions awarding bachelor's degrees in recreation were public institutions, which is slightly lower than the ratio of all fields combined. Those public institutions conferred 80% of bachelor's degrees in recreation,

compared to 48% for all fields combined in this year. The growth of public institutions in the first eight years surpassed that of the private institutions, reaching 85% of all institutions in 1963 and conferring 90% of bachelor’s degrees in that year. However, most of the growth in the number of institutions after 1963 came from the private sector. Nevertheless, most degrees were still conferred by public institutions—the private sector participated in a larger number of institutions but with smaller departments.

As mentioned before, the recreation field was distinguished in that many institutions participated in its rise, each conferring only few degrees. Interestingly however, three institutions conferred substantial number of degrees for six consecutive years: San Jose State University in California, Springfield College in Massachusetts, and the University of North Carolina State College at Raleigh (see Table 10). The private institution, Springfield College, which once was in the lead, just disappeared after 1961.

Table 10: Top three awarding institutions in recreation, 1956-1963

<i>Year</i>	<i>1956</i>	<i>1957</i>	<i>1958</i>	<i>1959</i>	<i>1960</i>	<i>1961</i>	<i>1962</i>	<i>1963</i>
Springfield College	17	25	40	41	28	21	-	-
San Jose State University	12	13	15	18	75	12	20	20
Univ. of N.C. State College	10	19	33	28	21	24	31	28

Source: NCES, HEGIS, selected years

Finally, the examination of the early institutions that offered degrees in recreation suggests that they were not high in their academic complexity level. Fifty-eight of the awarding institutions in the first three years were not doctoral-granting institutions, and around 17% of them were terminal-bachelor’s degree institutions. Furthermore, institutions of later years tended to be less academically complex.

Summary

The field of parks, recreation, leisure, and fitness studies branched off from physical education and had its first university graduates in 1956 after many years of informal training. The larger social conditions, from deteriorating urban areas and the benevolent response to alleviate them to the later American affluence greatly affected the field. Growth in the number of conferred degrees was slow in this field until 1964 when it started its journey of sustained growth. In its early days, the field was dominated by public institutions that conferred most of bachelor's degrees. Finally, the institutions that offered recreational studies were not highly selective.

Legal Studies

Unlike other fields that this study has identified, the field of law existed since the early days of American colleges. Undergraduate education in the law did not branch out from another field, nor did it form as a synthesis of other disciplines. Rather, undergraduate law education was just a new phase in an old established field. Law, along with medicine and theology, was a classical subject in the American collegiate system, and graduate instructions in the law existed for more than half a century before undergraduate started in the late 1950s. Below, I will briefly review the rich and complex history of the discipline of law, and then I turn to the period in which undergraduate education in it had started.

The Development of Legal Education

Legal knowledge was one social basis on which the American Commonwealth has been established. The popular fascination in the law goes back to the period before the Declaration of Independence, and was reflected in the sale of nearly twenty-five hundred copies of *Blackstone's Commentaries* (Hoeflich 1988). According to Colby (1896), legal education in the colonial era was one of three models. First, the “private law offices” in which the instructions in legal matters were offered through apprenticeship. Second, “law schools” in which there was formal enrollment. Third, the “collegiate chairs of law,” which included institutions that offered some undergraduate courses in the law. The number of law programs was relatively large, and in 1895 there were 71 law schools; in 1891 there were 240 college or seminary offering some undergraduate law courses (Colby 1896). Litchfield School in Connecticut that lasted between 1784-1833 was the first of the second type, followed by Harvard, although Harvard and the other colonial colleges viewed their mission as to train ministers, not lawyers (Hoeflich 1988:4).

This division into three modes of teaching was the structural manifestation of the fracture in theorizing legal studies. The law-as-a-craft view dismissed the value of law-as-academics on the ground that it is divorced from real practical experiences (Hoeflich 1988:8). For examples, Harlan Fiske Stone (1924), a professor at Columbia Law School and an Attorney General of the United States, was troubled by legal education that bore little relationship to practice, and that “the time had not yet come” for the integration of practical experiences into a legal doctrine (pg. 389). On the other hand, in his address to

law students of Transylvania University in 1834, Daniel Mayes admonished those “who either have not learned, or who having learned cease to remember, that there is a science of jurisprudence as well as an art of jurisprudence”; he equated law practitioners who are not aware of its theoretical principles to the cook who is not aware of chemistry principles of cooking, a situation that could not be found in the Continent (in Hoeflich 1988:145-146, emphasis in origin). Similarly, Felix Frankfurter (1915), an Associate Justice of the United States Supreme Court, pointed out to the existing drift between statute law and the law that is developed by judicial opinions, and that they should complement each other. He further acknowledged that laws in the American legal tradition have been developed by being a “partisan in a controversy,” and that those who “free themselves from the absorption of practice and turn their time into constructive contributions to the law are indeed of invaluable assistance to courts and practitioners” (pg. 676).

Law schools, despite all of the prestige that the field had enjoyed, had less than impressive curricula. Stone (1924) considered that the late 18th century was “the golden age of legal education in America”(pg. 689), but Karl N. Llewellyn (1935), the professor of law at Columbia University and the University of Chicago, saw that the teaching of law was inadequate since the colonial era and up to the 1930s. The address of Roger North (ca. 1700-1730) was critical of law teaching and deplored that the “Societies” that teach the Common Law “have the outward show, or pretence of collegiate institution” (in Hoeflich 1988:15). In 1890s, the president of the Columbian (Washington) University spoke of its law school as a school of comparative jurisprudence, while it was merely a

successful night school for helping government clerks (Stevens 1983:40). Arthur L. Corbin (1915), a professor at Yale Law School, opined that legal education is “bound to a dogmatic process” because of the huge knowledge gap between the great judges and the followers (pg. 668). The call for a “legal science” gained acceptance in the late 18th century, and the Langdell’s “case method” approach finally prevailed. From the 1870s forward, the idea that a law professor (versus a practitioner) can teach the law began to spread. The first full-time law instructor who had never practiced the law was James Barr Ames, a student of Langdell, in 1873 (Schweber 1998:632-633).

The field of law, as any other academic field, was affected by wider social transformations and pressures. The expansion of commercial and industrial activities in the late 19th and early 20th century created a new space for the law as the tool that secures protection for such activities (Johnson 1978:172). In addition, the Progressive Era altered the social conscience of what is just and how justice could be achieved, and found a protagonist in Roscoe Pound. In his speech before the 1906 meeting of the American Bar Association (ABA), Pound called for a sociological approach to legality and a move away from “mechanical law”; he envisioned a law that serves society rather than a law that adheres to a deaf logic. His speech was the center of controversy, but reform did partially come in 1910 with the Federal Rules of Civil Procedure (LaPiana 152-157). By 1926, “sociological jurisprudence” posed a challenge to the field, which eventually helped (or forced) the reorganization of law education curricula (Stevens 1983:137).

The Professionalization Process

The early beginning of institutionalized legal education goes back to the 1850s, before the Civil War. By the 1880s, and after the passing of the Morrill Act of 1862, the proliferation of propriety professional schools was evident. Specifically, part-time schools opened a new chapter in legal education, most of which started in the 1860s. Those schools were concentrated in Washington in order to prepare civil servants for the expanding civil service sector after the Civil War. Interestingly, there were several occasions when the granting of diplomas was ordered by the government. The Wisconsin legislature passed a “diploma privilege” law in 1870; this law, in return for a nominal fee, granted the graduates of the University Law Department admission to practice in any court in the state. A similar statute first appeared in Virginia in 1842, but which was repealed in 1849; also, New York had a similar statute in the 1850s (Johnson 1978:57). Law was becoming a significant industry in the mid 18th century, and by 1850 there were 23,939 lawyers; the number grew to 40,376 in 1870, and to 64,137 in 1880 (Stevens 1983:22). However, the number of students remained relatively small: the total attendance in apprenticeships in 1787 was 31, and increased to 70 in 1887, and to 266 in 1895 (pg. 55). The 1880s was an important period in the development of legal education because it was a period of merger and reorganization between different schools of law and university departments (pg. 78).

As has been mentioned before, the field of law had always been rooted in practice. However, the legal profession eventually adopted the academic view, growing then, that law is a “science.” This view was welcomed by the profession, not without

hesitation, because it carried with it the promise of status and better rumination. By the end of the 19th century, formalism had taken place at all levels of the legal process. The concern with clarification and articulation of social and moral values was largely replaced by the emphasis on technicalities. This shift in turn made practitioners see themselves as experts and their activities as part of a *private* profession, with the physician as the exemplar (Johnson 1978:170-177). However, this private view of the profession may have sharpened the curricular tensions within educational institutions by focusing on regional needs. For example, in 1891 there were 240 “collegiate chairs” 103 of which were located mainly in the West and the South. What was distinctive about them is that they offered courses on commercial law, unlike the collegiate curriculum that included subjects such as constitutional law, international law, elementary law, and the Roman law (Colby 1896:2). Regional variations that emerged in response to political and economic needs eventually tainted the academic nature of the field.

The professional status of the field was always of concern, and medical education posed, at least temporarily, an irresistible model, especially after the 1910 publication of the Flexner Report. Two similar reports appeared in the field of law, one was the Redlich Report in 1914, sponsored by the Carnegie Foundation, and the second was the well-known Reed Report in 1921. And it should be noted that the appearance of the Reed Report occurred at the time in which the case method of Langdell was in place (Stevens 1983:112), an approach that was supposed to bring some uniformity to the profession. However, the call for more practical training in law education was challenged by Harvard, which was the dominant model between 1870 and 1920. Erwin N. Griswold

(1948), the professor and dean at Harvard, disagreed with the calls of practicality and rejected the idea that law education should follow the medical education model. Arguing against it, he pointed out that the Harvard Medical School trained 400 students and had an endowment of 20 million dollars, while the Harvard Law School trained 1,700 students and had a 5.5 million dollar endowment (pg. 723).

Achieving a more professional status in the field was fortified by the development of standards for legal education by the Council on Legal Education (under the ABA) in 1921, which included the recommendation to publish the names of schools that met those standards (Johnson 1978:161). However, as late as 1947, a significant 14% of all legal studies schools were still unapproved (pg. 205). Another important professional development was the attempt to bridge the differences between law professors, judges, and practitioners, which was materialized in the creation of the American Law Institution, 1923, but which the war put an end to it (LaPiana 1994:158-159). The 1950s and 1960s represented a continuation in the efforts to raise the standards, which included the recommendation that the paralegal college requirement to be raised from 2 to 3 years. In 1952, the Association of American Law Schools (AALS) decreed that colleges should have a minimum of one full-time teacher to every 77 student. By 1950, three years of college became the norm.

The period of late 1950s and the 1960s ushered qualitative changes. Legal education was finally penetrated from outside the profession, and input from other disciplines asserted its relevance. By the 1970s, the use of psychiatrists and sociologists

in teaching family or criminal law became an accepted practice as well as economist teaching antitrust laws (Stevens 1983:207-213).

Starting Undergraduate Education

The influence of social sciences on the study of the law paved the way for formal *undergraduate* programs in legal studies to take place—the exclusivity of a specialized discipline was successfully challenged. However, the undergraduate level was expected to focus on liberal subjects, stressing the historical, philosophical, and social science aspects of the law. The preparatory period also witnessed an increased number of institutions that offered a joint J.D.-Ph.D. programs (Stevens 1983:233).

Growth Pattern

The year 1962 was the first year in which bachelor's degrees in law were conferred, according to the NCES data. Twenty-seven schools conferred 193 undergraduate degrees in that year. Since then, the undergraduate field grew steadily: after six years (1968) there were 58 awarding institutions, growing to 71 in 1978, and to 135 in 1995.

In the second year, 18 new institutions experimented with offering degrees in law at the undergraduate level, but 12 institutions dropped out. Among those that dropped were the University of Chicago, and the University of Notre Dame. As for the institutions that joined, only two were large public institution: the University of Michigan, Ann Arbor and the University of Georgia, in addition to one prestigious private institution, the College of William and Mary. Otherwise, several of the

institutions that joined this second year were unstable institutions that ceased to exist after ten years. What is noticeably different in the 1963 is that public institutions conferred 64% of degrees, a ratio that reached 69% in 1964. This ratio compares to 58% of bachelor's degrees conferred by public institutions for all fields combined.

Not many new institutions experimented in offering programs in the third year, and only four new institutions joined in: Louisiana State University and A&M College, Washington University of Ohio, David Lipscomb University of Tennessee, and the University of Wyoming. Against those four new arrivals, eight institutions dropped out. Thus, in the third year there were only 29 institutions offering bachelor's programs. Typically, few institutions dominated the field. In 1962, five institutions conferred around 43% of all degrees, and in 1963 six institutions conferred around 42% of all degrees (see Table 11). Interestingly, the private institution that alone conferred 10.9% of degrees in 1962 disappeared later on. Emory University consistently conferred a substantial number of degrees.

Table 11: Top institutions awarding bachelor's degrees in law, 1962-1964

	1962	1963	1964
Emory University	7.3%	8.6%	10.2%
La Salle University	10.9	-	-
Mercer University	-	-	7.1
University of Houston	5.7	7.7	8.2
University of Michigan	-	11.6	12.8
University of Oregon	8.8	6.7	5.6
University of Nebraska	10.4	1.7	4.1
University of Georgia	-	6.0	7.1
<i>Total</i>	43.1%	42.3%	55.1%

Source: NCES, Earned Degrees Conferred, selected years

Another important observation is that most of offering institutions had graduate law programs. However, one-third of them conferred exclusively undergraduate degrees

(see Table 12). With the exception of Kansas State University, those institutions are not doctorate granting institutions. Rather, four of them have the master's degree as their highest degree level, and two of them have the bachelor's degree as the terminal degree in the institution. The number of degrees conferred by these institutions is typical of other institutions—private colleges conferred small numbers of degrees, with the exception of La Salle College which was a top provider. Thus, what is distinctive about those institutions is that they were not of high academic complexity.

Table 12: Institutions offering only undergraduate degrees in legal studies

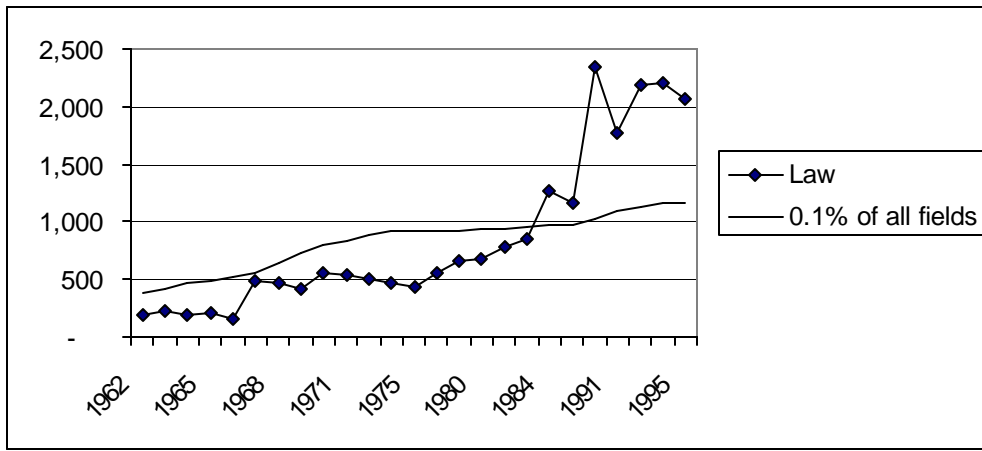
<i>State</i>	<i>Institution</i>	<i>Degrees</i>	<i>Control</i>
CA	Los Angeles State College of Applied Arts and Science	8	Public
CA	San Francisco State College	7	Public
IA	Simpson College	1	Private
KS	Kansas State University of Agriculture	12	Public
KY	Centre College of Kentucky	1	Private
LA	McNeese State College	4	Public
OH	Kent State University	3	Public
OH	Ohio Wesleyan University	1	Private
PA	La Salle College	21	Private
	<i>Total</i>	58	

Source: NCES, Earned Degrees Conferred, 1961-1962

The number of conferred bachelor's degrees started at 193 in 1962 and grew slowly until the sudden growth of 1967 where the field conferred 493 bachelor's degrees. But not until 1970 that the field crossed the five hundred degrees mark (see Figure 6). The number of bachelor's degrees conferred to women was sharply smaller than that of men. Only 9 degrees out of the 193 degrees conferred in 1962 went to women. In the next two years, the number of degrees conferred to women was 12 and 7 out of 233 and 196 total degrees, respectively. Such ratios trail far behind the ratio of all fields combined, which was at 40% in 1962. Finally, the number of undergraduate degrees in law was always smaller than that of the graduate ones. In 1965, the number of conferred

bachelor's degrees was 208, compared to 11,792 first-professional degrees and 672 master's degree; in 1995, there were 2,032 bachelor's degrees and 2,511 master's degrees.

Figure 6: The number of conferred bachelor's degrees in law compared to 1/1000th of conferred degrees in all fields, 1962-1995



Source: NCES, HEGIS, and IPEDS files, selected years

Institutional Characteristics

The institutions that started awarding undergraduate degrees in law were a small minority in the larger field of law: in 1962 there were 144 institutions awarding graduate and undergraduate degrees, and only 19% of them awarded bachelor's degrees, half of which were conferred by private institutions. What is interesting is that, unlike private institutions, public awarding institutions were not highly selective. Private institutions included Stanford University, the University of Southern California, Emory University, the University of Chicago, and the University of Notre Dame. Public institutions did not include highly selective institutions; rather, they included one large school, the University of Minnesota at Saint Paul (refer to Table 41 in Appendix C).

Summary

Law education existed since the earliest days of the American college in the form of apprenticeship and graduate studies. The field was plagued by an internal dispute of emphasis on practice versus an emphasis on theory, which delayed the professionalization of its university education. The field maintained its full independence until it was penetrated by the social sciences in 1970s. Undergraduate education focused on the philosophy of the profession and its history, and the first bachelor's degrees bearers appeared in 1971. It is interesting to note that the curriculum of undergraduate legal studies was not a simplified curriculum of law—it was not a paralegal studies curriculum. That suggests that the proper field of law opted to keep its privilege and image of sophistication, and that it could not be made suitable for an undergraduate level. Half of the institutions that started offering bachelor's degrees in legal studies were private, highly selective, and high on the Carnegie scale of academic complexity; in contrast, the Carnegie level of the other half, which were public institutions, centered around the Master's level. Finally, both the number of institutions and the number of conferred bachelor's degrees remained relatively small through out the years. For a description of today's undergraduate legal departments, see Appendix A.

Computer and Information Sciences

Teaching computer and information sciences in universities started in the early 1960s, and the first formal degree in this field was first conferred in 1965. However, the science of computing as well as actual computers were in place several decades before this pedagogical birth.

The Larger Social and Intellectual Context

The pedagogy of computer science as an independent discipline did not start until applied technology became commonplace. Pascal invented his adding machine as old as 1642, and Babbage published his logarithm tables in 1826 and conceived an “Analytical Engine” in 1834 (Williams 1985:409-410). However, not until the late 1900s that applied technologies, in general, started to appear as consumer products. Electrical appliances became common in the 1920s. The transistors appeared in the 1940s proceeded by research on the electrical properties of substances, such as silicon and germanium. By the late 1950s, high-speed general-purpose computers arrived (Cortada 1993:4).

The context in which computing emerged had extended beyond the United States. The making of computers was backed up by contributions from several scientific communities in France, Italy, Germany, and the Soviet Union; British contributions were specifically crucial. Early twentieth century efforts focused on finding mechanical and electronic means to calculate and manage large volumes of data. Research and Development in the United States after World War II was one of the largest impetuses for the emergence of computers. Watson, the president of IBM put the entire company at the disposal of the War Department and ordered a halt on the development of commercial products (Pugh 1984:1). The concerns over patent rights were temporarily eased through war-related projects at, for example, MIT and the Moore School, which brought the field of computers to public attention (Cortada 1993).

The story of computer and information sciences, however, was not that of pure technological outbreaks and device manufacturing. Rather, it was the convergence of three clusters of factors: theoretical principles, laboratory research, and business efforts in making computers marketable.

The Process of Professionalization

Different branches of science collaborated before electronic computing became a reality. Specifically, two scientific lines had to merge before computers became possible: harnessing electricity as means for storing information, and the mathematical development of calculus into Boolean logic—these are the two pillars of information theory and computer science (Cortada 1993:17). For example, the ENIAC was presumably a general-purpose computer, but switching from one program to another required disassembling the machine and rewiring it again (Travers 1996:920). Certain materials and components have to become available before the construction of a more usable computer. Vacuum tubes were available for use in 1946 and magnetic cores in the 1950s, which provided necessary building blocks for computers. Early memory systems used relays in the early 40s, electrostatic devices in the late 40s and the early 50s, and static magnetic devices in the 50s (Cortada 1993:48-50). The principles of software had to develop to allow for computing processes. The concept of flowcharts, mundane as it is today, was developed in 1946/1947, and general-purpose subroutines were developed in 1945/50. General Motors developed operating systems in the 1950s; FORTRAN language was developed in 1956 and early database managers were developed in 1959 by

IBM. The first major commercially viable computer system appeared during the period from 1953 to 1959: IBM 650 in 1954 and UNIVAC II in 1957 (pg. 52-53).

The federal support for computer technology was crucial. The United States army's Ballistic Research Laboratory (BRL) and the Moore School shared information essential for the building of ENIAC in 1944. The convergence of many R&D research ideas pursued by laboratories, such as those at the MIT, the Moore School of Engineering, IBM, AT&T, GE, RCA, and IAS made the process overwhelmingly complex. The U.S. government, then, decisively stepped in and financed almost all of the research in computer related subjects. The U.S. Navy sponsored the research at Harvard and NCR, the U.S. Army turned to Moore School scientists for support, and virtually all military organizations underwrote projects at MIT (Cortada 1993:50-68; Flamm 1988b). In the period between 1930 and 1940, federal funds for research and development for computers ranged from 12 to 20% of all funds. However, in the period 1940-1945, federal funds constituted 83% of research expenditures while the industry covered 13% (Flamm 1988a:7)

The government also supported software development and programming languages: COBOL was supported by the Department of Defense in 1959, and BASIC by the National Science Foundation in 1965 (Cortada 1993:50-69). However, the government's role in the development of computer languages was, generally, less significant than in hardware, although it was critical in some areas such as artificial intelligence (Flamm 1988a:26-27). The military support of electronic development continued after the war, which heightened the competitive pressures within the industry

(Pugh 1984:2). In later years, 1970s, computers and computing sciences were funded principally by venture capital (OECD 1985).

Regular computer conferences did not become mainstream until December 1947, eight years after serious work on digital computers and twenty-five years after the beginning of analog computing (Cortada 1993:57). Early data-processing professional associations included the American Society for Information Science (1937), the Association for Computing Machinery (1947), and Data Processing Management Association (1949). These professional organizations helped in information sharing and in developing collective solutions to bottleneck problems (pg. 121). Publications on computer science in computer-focused journals started as early as 1943. Having wartime secrecy lifted, the applications of the field started to be discussed by widely-read magazines, such as *Time*, *Newsweek*, *Business Week*, and *Collier's*. The *New York Times Index* shows that the frequency of articles on the subject of computers increased dramatically, from around 40 articles in 1950 to around 120 in 1959 (in Cortada 1993:106).

The conditions for a wider use of computers were ready by 1960 and the academic discipline appeared only after computers became a viable market product. The computer science field in the academia was born matured and well-built, and its applications were already in place. In 1964 more than one thousand unit of IBM System/360 were ordered, and the first shipment went through in April 1965 (Pugh 1984:311-312); few months later, the first graduates in computer and information

sciences were ready to take their positions as skilled workers in an already existing professional labor market.

Admission to Academia

Having introduced a glimpse of the field in its pre-university phase, I will turn now to the analysis of the institutions that first offered such programs. The field of computing passed through four phases. The take-off years 1965-1969 represented a period of rapid growth, which was followed by a nine years of stagnation. A recovery period stretched eight years from 1979 to 1986, after which decline started until 1997. The analysis below focuses on take-off period only.

Growth Pattern

In 1965, six higher education institutions conferred 67 bachelor's degrees in computer and information sciences for the first time. Those institutions were: the American International College in Massachusetts, the University of Michigan, Mississippi State University, New York University, Syracuse University-Main Campus, and New York Institute of Technology. Four out of these six institutions were privately controlled, and they conferred 95% of awarded bachelor's degrees; the other two institutions, the University of Michigan and the Mississippi State University, awarded 1 and 2 degrees, respectively.

It took the field of computer science only five years to reach adulthood of more than 50 institutions awarding near 1,000 bachelor's degrees. The field in its second year experienced important changes. Two of the six starter institutions disappeared: the Air

Force Institution of Technology and the American International College. This is of significance because in 1965 the Air Force Institution of Technology conferred 31 master's degrees, which represented 18% of graduate degrees; the American International College conferred more than 50% of the bachelor's degrees of computer science for that year. In their place, 22 new institutions entered the field, 12 of which conferred bachelor's degrees. Interestingly, these new 12 institutions conferred 75% of the bachelor's degrees of this year.

The above picture of pedagogical birth, however, is incomplete since there were eight other institutions offering exclusively graduate degrees. Furthermore, graduate degrees outnumbered undergraduate degrees: 166 master's degrees and 6 doctor's degrees were conferred in 1965, compared to the 67 undergraduate degrees (see Table 13). Most institutions conferred degrees on one level or the other. Only the University of

Table 13: The 1965 pioneering institutions in computer science

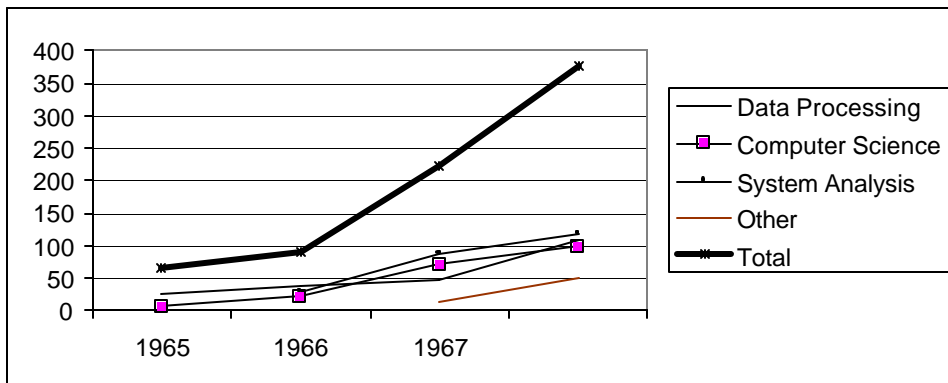
<i>Institutions</i>	<i>Control</i>	<i>Bachelor's Level</i>	<i>Master's Level</i>	<i>Doctor's Level</i>
American International College	Private	36		
New York University	Private	21		
N.Y. Inst. of Tech., all campuses	Private	5		
Syracuse University, main campus	Private	2	1	
Stanford University	Private		19	
University of Chicago	Private		20	
Mississippi State University	Public	2		
University of Michigan	Public	1	7	5
U S Naval Postgrad School	Public		32	
Wayne State University	Public		4	
Air Force Inst. Tech.	Public		31	
Texas A & M University	Public		31	
Univ. of Wisconsin, Madison	Public		19	1
Rutgers the State Univ., all campuses	Public		2	
<i>Total</i>		<i>67</i>	<i>166</i>	<i>6</i>

Source: NCES, Earned Degrees Conferred: 1964-65

Michigan and Syracuse University conferred graduate as well as undergraduate degrees. Thus, the entry of the field of computing to the academia was split between graduate and undergraduate providers.

The field of information sciences was divided, from its very beginning, into three subfields: data processing, computer science, and system analysis (see Figure 7). Out of the 67 bachelor degrees conferred in computer science (as a general area), only 6 degrees were conferred in the computer science subfield. Twenty degrees were conferred in data

Figure 7: Number of conferred bachelor’s degrees in computing, 1965-1967, total and subfields



Source: NCES, *Earned Degrees Conferred, selected years*

processing, and another 36 degrees were conferred under “other” (by the American International College alone). Again, we can observe that there was a dual division of labor in terms offered programs: (1) those institutions that offer degrees in data processing are different from those that offer computer science or system analysis; and (2) the former offered undergraduate degrees while the latter offered graduate degrees⁷.

It should be noted the label “data processing” had a different connotation from today’s

⁷ In 1965, the University of Chicago conferred 20 degrees under the heading “5-or-more-year 1st professional” degree. This degree level for computers, however, did not continue. Therefore, I listed those 20 degrees under the Master’s level.

connotation, for it was possible to get a master's degree in this subfield (offered mainly by the US Service institutions). Nevertheless, we can reasonably conclude that the field at its graduate level was more theoretical, borrowing theories and concepts from mathematics (and electrical engineering) and applying them to operational designs and programming algorithms.

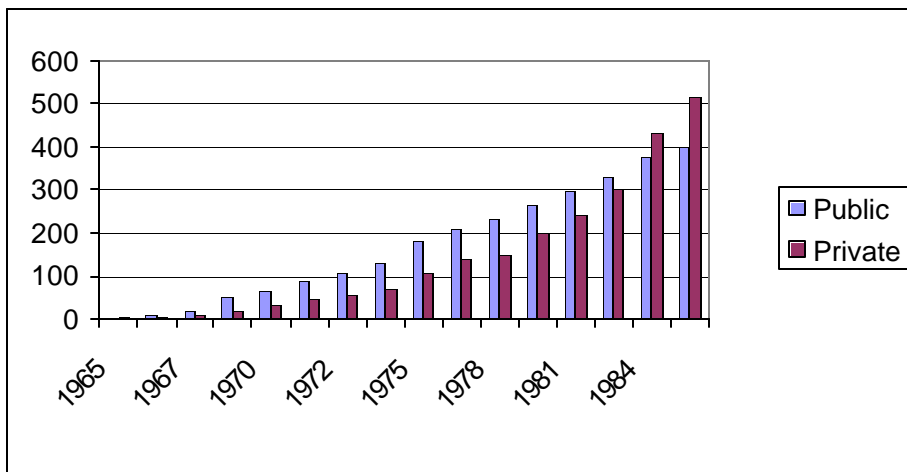
Female representation in the field of computer and information sciences was dismal since its inception, and continued as such through 1969. Only four bachelor's degrees were conferred to women in 1965, compared to sixty-three degrees to men. The awarding institutions were the American International College and New York University, both of which were private institutions. However, we cannot say that private institutions were more accessible for women. From 1966 and until 1969, nearly 90% of women bachelor's degrees were conferred by public institutions. And it should be noted that in 1965 the University of Wisconsin at Madison conferred a single doctorate degree, and it went to a female, while the University of Michigan conferred five doctorate degrees, all of which went to men.

Institutional Characteristics

Four out of the six institutions that first awarded bachelor's degrees in computer science were private institutions. The next year, 1966, the percentages flipped, and 67% of bachelor's awarding institutions were publicly controlled. Close to this ratio between the public and private institutions continued for many years (see Figure 8). Similarly, 96% of bachelor's degrees were conferred by private institutions in 1965, but this share dropped to 33% in 1966. In 1967 and 1970, private institutions conferred 44 and 23%

respectively. The above ratios compare to those of all fields combined, where private institutions conferred 46% of bachelor's degrees in 1965, 40% in 1967 and 34% in 1970. In other words, private institutions in computer science were conferring a lower rate of degrees compared to all fields combined.

Figure 8: Type of control of institutions awarding bachelor's degrees in computer and information science, 1965-1985



Source: NCES, *Earned Degrees Conferred, selected years*

Pioneering institutions in the field of computing tended to be large. Forty-three percent of those institutions had student enrollment of 20,000 or more, and another twenty-one percent had enrollments between 10,000 and 20,000. This bias toward large institutions holds when we restrict the examination to institutions offering only undergraduate degrees. The enrollments in University of Michigan, New York University, and Syracuse University were around 36,000, 32,000, and 23,000 respectively. However, the size of the institutions was not reflected in the number of conferred bachelor's degrees. The University of Michigan conferred only one bachelor's degree and Syracuse University, main campus conferred two. Only the private large institution,

New York University, conferred substantial number of degrees. Furthermore, it was the small institution of American International College with student enrollment of 3,306 that conferred 36 bachelor's degrees.

Finally, the early awarding institutions were marked by their relative academic complexity. Ten out of the fourteen institutions that awarded bachelor's degrees in computer science in 1965 were doctoral-granting institutions. However, in terms of the number of conferred degrees, undergraduate institutions were in the lead. The American International College, which was a terminal-bachelor's degree institution, conferred more than 50% of the degrees. Interestingly, *all* the bachelor's degrees were conferred by privately controlled institutions in this inception year. We can conclude, then, that pedagogical birth of the field of computer and information sciences was a twin birth that was demarcated by status: the more complex programs were offered by public institutions that mainly conferred graduate degrees, while the less complex programs were housed in private institutions that offered undergraduate degrees.

Summary

The growth of the field of computer science and information systems was phenomenal: for five consecutive years, the annual rate of growth of conferred bachelor's degrees was above 200%. The field was able to depart from its infancy in just five years after which it comprised more than 50 institutions conferring more than 1,000 bachelor's degrees.

Starter institutions in this field tended to be large, and in the first year only the private large institutions conferred the bulk of bachelor's degrees. This field exhibited a complex set of co-evolutionary dynamics between the public and private sectors. The private sector conferred almost all undergraduate degrees in the first year, while the public sector conferred most of graduate degrees. In addition, the private sector was comprised of institutions at a lower level of academic complexity. The field of computer science had an unusual birth in that from its first day it was differentiated among four subfields: data processing, computer science, system analysis, and other. During the first five years, the private sector offered degrees mainly in data processing, while the public sector offered degrees in computer science and in system analysis. Thus, the entry point of this field to the academia was differentiated along three lines: along the kind of offered courses, the complexity level of institutions, and along the type of control.

Mental Health

Since the dawn of history, the perceived mental soundness of a person was conditioned by the collective concurrence of what constitute proper conduct. Modernity gave mental health new meanings and changed the criteria according to which people's faculties are judged. Change came slowly, and the late routinization of the perceptions of mental health came through offering formal university degrees in this area. Below, I will start with a brief description of the larger social setting through which the field of mental health emerged, and then trace some key events in the efforts to professionalize its services. Lastly, I will analyze the data on the pioneer institutions in the field's early years in the academia.

The Larger Social Context

For a long time the mentally ill people were seen as dangerous, and their treatment was not less than jail confinement. The Pennsylvania General Hospital in 1756 was the earliest advocate of care for the mentally ill, and the first public asylum for them was founded in Virginia in 1733 (Connery 1968:12). The field had its protagonist since 1810s when Dorothea Lynde Dix, a retired schoolteacher, led a campaign against the bad treatment of the mentally ill. A more academic public outcry was represented by Clifford W. Beer who wrote an influential book on the subject, *A Mind That Found Itself*, which led to the founding of the National Committee for Mental Hygiene in 1909. Beer directed this organization that emphasized the need for research in the subject of mental health (Foley and Sharfstein 1983:3-9).

The social conditions of the early days of the American society helped in the growth of the mental health profession. Around two and a half million immigrants entered the United States between 1874 and 1854. The Irish Catholics formed more than one third of those immigrants, and their strange culture and religion qualified them to become over represented in mental health patients. Grob estimated that immigrants constituted seventy five percent of mental health admission at that time (Levine 1981:22).

The years following the Civil War represented a critical era in which the issue of mental health gained governmental attention. After the Civil War, hospitals came under a degree of centralized state control, mainly for economic reasons. However, such supervision resulted in greater attention to the conditions of prisons, orphanages, and insane asylums. In 1890, The New York Care Act marked the beginning of government

involvement in mental health care. The concerns for mental health were also reflected in the provisions of the Selective Service Act of 1917, although it was not a concern for *people* with mental illness. The army was concerned about the mental fitness of its recruits, and the Division of Neurology and Psychiatry under the War Department started to screen recruits to select the mentally fit. By 1930, the issue of mental health was redefined as a public health issue, and the Division of Mental Health Hygiene was created under the department of Public Health Service, although it was mostly focused on drug issues (Connery 1968:14-15).

The Professionalization Process

The first professional association representing the field of mental health goes back to the mid 19th century. The American Psychiatrist Association (APA) was founded in 1844, known then as the Association of Medical Superintendents of American Institutions for the Insane. The APA was relatively inactive, and in 1944 the Committee on Psychiatric Standards and Policies called for the modernization of the APA's structure by centralizing its headquarters under qualified psychiatrists (Grob 1991:25). In 1947, the APA had a large membership of 4000 but an inadequate budget of \$60,000 (pg. 33).

Breaking from the ancient views of mental illness did not guarantee the psychiatric profession a unified vision—the field suffered from divisions and dissent. In 1946, dissenting views within the profession created the Group for the Advancement of Psychiatry (GAP), which sought to integrate psychiatry with social and behavioral sciences. Between the 1940s and 1960s, GAP was active in steering psychiatry into an interdisciplinary direction with special emphasis on psychoanalysis. GAP raised funds

from private foundations, and by 1950 it secured \$135,000, most of which came from the Commonwealth Fund. GAP challenged the normative scientific claims of psychiatry and called for understanding the dynamics of personality along a “bio-psycho-social continuum.” The rising power of GAP put it in direct conflict with the APA on organizational and personal grounds (Grob 1991:28-31). Community psychiatry was another strand that formed a social movement of professionals who shared intense experiences. Community psychiatry was driven by a generation of professionals who left their clinics and served in the military; there they formed their views about the importance of early detection and close-to-the-source treatment (Daniels 1969:553). Revolutionary reform efforts in psychiatry might have been defeated, but they helped in reshaping national policies toward mental health and the mentally ill (Grob 1991:43).

The development of the field of mental health was highly dependent on federal involvement. In 1854, a presidential veto bared the passing of a land-grant bill for mental health; in 1946, the National Mental Health Act was a turning point in favor of a sustained federal intervention. The goals of such legislation were: (1) research support, (2) training of mental health personnel, and (3) awarding grants to states in order to support treatment clinics (Connery 1968:21; Grob 1991:45). This period witnessed many changes in the whole health care system and services, influenced by federal funds, policies, and new diagnostic technologies. The 1946 Act entitled the creation of the National Institute of Mental Health (NIMH) for state programs and research, which was formally founded in 1949. By 1951, the NIMH helped in establishing 342 clinics in twenty-six states (Grob 1991:48-59). Research grants awarded by the NIMH between

1947 and 1951 amounted to \$2,863,667, which was distributed among seventeen research fields. Ironically, they funded research on intervention methods that are contradictory to each other. Moreover, the share of medical and biological sciences in these funds were 20% of the total, while psychiatry's share constituted 15%. Nevertheless, the NIMH was an important resource, and its appropriations started at \$9 million in 1949, reached \$50 million in 1959, and within five years it tripled to \$189 million (pg. 67-68). In 1966, the total expenditures of the NIMH were estimated to be around \$233 million, which included around \$85 million for research grants and \$86 million for training grants (Connery 1968:22).

Federal policy of the mental health field from year 1946 to 1961 was supportive but unobtrusive. It stimulated the growth of the discipline but with little intervention in its direction. Specifically, mental health in the psychiatric tradition received much more support than that rooted in psychology, social work, or nursing (Levine 1981:4). However, governmental intervention in the business of mental health was significant. The extent to which governmental agencies became implicated in the field could be demonstrated by the number of different governmental departments that had connections to the field. In 1966, mental health authorities in the fifty states included thirteen Departments of Health, sixteen Departments of Mental Health, five Departments of Institutions or State Mental Hospitals, five Departments of Welfare, six Departments of Health and Welfare, two Departments of Mental Health and Corrections, and three others. The impact of governmental funding was translated into a significant increase in the number of psychiatric clinics after the passing of the 1946 National Mental Health

Act: most of the 1,234 psychiatric outpatient clinics operating in 1954 had started in 1946, and in 1965 there were 2,007 of them. The field of mental health was blessed by a U.S. President, John F. Kennedy, who showed interest in the field and signed into law a major bill in its support. This initiative became an item to which President Johnson had to attend; in his presidential election campaign of 1964, President Johnson declared: “We must step up the fight on mental health and mental retardation. I intend to ask for increased funds for research centers, for special teacher training, and for helping coordinate state and local programs” (in Foley and Sharfstein 1983:71). Governmental involvement, however, does not mean that private philanthropic organizations had no role. Rockefeller and Hogg Foundations and the Milbank Memorial Fund did contribute to research and training in mental health (Connery 1968:25-31).

The field of mental health was an area of concern for several agencies and associations. Since the passage of the National Mental Health Act of 1946 there were discussions on the creation of a mental health section under the American Public Health Association (APHA); the APHA resisted this initiative for nine years. However, the proposal for creating the section was approved in 1955, and its 1960 first resolution stressed the importance of the “promotion of research, education, and service...” (Ross 1972:3). The section became active and organized 15 sessions in APHA’s annual meeting in 1971 (pg. 4). Furthermore, in the mid 1950s the APA and the American Medical Association were jointly discussing the improvement of the mental health situation in the nation. A joint commission in 1955 was attended by representatives from 20 organizations, which coincided with the passing of the Mental Health Study Act of

1955 (Connery 1968:38-40). Finally, it should be noted, the reform of the mental health multi-part system and the final structure to which it arrived were facilitated by interlocking directorates that allowed players to be politically effective (pg. 62).

Admission to Academia

The above discussion showed that the field of mental health was involved with academia since the late 1940s. However, its participation was in the form of research and training; mental health was not a regular college study field. Nevertheless, the field since then was slowly forming its boundaries and gaining independence.

Growth Pattern

In 1968, five institutions started offering a specialty in mental health, and in 1971 those institutions conferred the first 36 bachelor's degrees in the field. Those institutions were Edgecliff College in Ohio, the university of California in San Francisco, Morgan Sate University in Maryland, the University of Texas Southwest Medical Center, and Walla Walla College in Washington. Interestingly, in the next year, 1972, none of those pioneer institutions conferred any degrees in this field. Rather, they were replaced by three different adventurer institutions (see Table 14). Of these three intuitions, only one survived to the following year. Of the six institutions that awarded degrees in 1973, one had awarded degrees in 1971 and another one in 1972. The field of mental health then was still too young that sporadic offerings were taking place.

It should be noted that in the field's first awarding year, 1971, the number of conferred graduate degrees were 8 times larger than the number of conferred

undergraduate degrees. In this year, 304 master’s degrees were conferred, in addition to 7 doctoral degrees. This is consistent with the development of the mental health field, since research in the subject goes back around twenty years before undergraduate degrees started to be conferred. However, the growth of the undergraduate level outpaced that of the graduate level: in 1975, the number of degrees at the graduate level became only three times larger than the undergraduate level, twice as large in 1980, and in 1985 the undergraduate level surpassed the size of the graduate level.

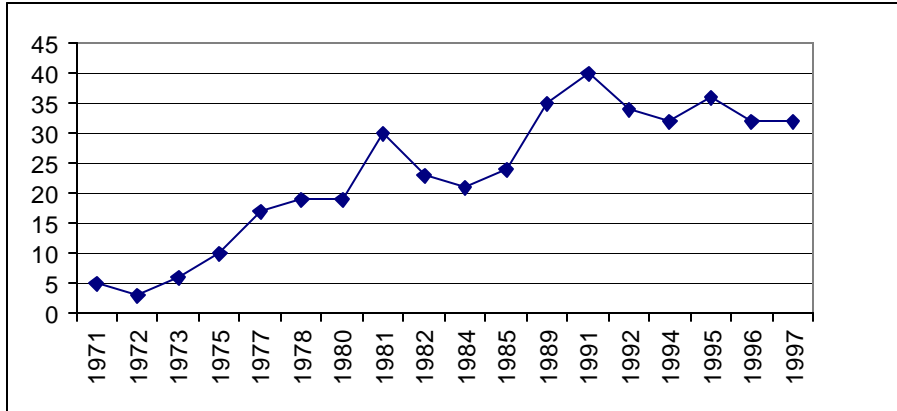
Table 14: Awarding institutions, and the number of conferred bachelor’s degrees, 1971-1973

	1971	1972	1973
Avila College			10
Cedar Crest College		3	
Edgecliff College	4		20
Florida International University			8
Henderson State University		14	1
Marshall University		24	
Morgan State University	4		
The Union Institute			1
The University of Texas Southwest Medical Center	3		
University of California, San Francisco	23		
University of Florida			1
Walla Walla college	2		
<i>Total</i>	<i>36</i>	<i>41</i>	<i>41</i>

Source: NCES, Earned Degrees Conferred, selected years

The number of institutions awarding undergraduate degrees in the field of mental health grew rapidly, although they stayed small in absolute numbers. Unlike the other fields that this study analyzed, the mental health field could not reach the 50-institution mark, which was usually achieved after the stabilization of a field; the field of mental health could not reach this point even in 1997. Nevertheless, the increase in the number of awarding institutions was near consistent (see Figure 9).

Figure 9: Number of institutions awarding bachelor's degrees in mental health, 1971-1997



Source: NCES, Earned Degrees Conferred, selected years

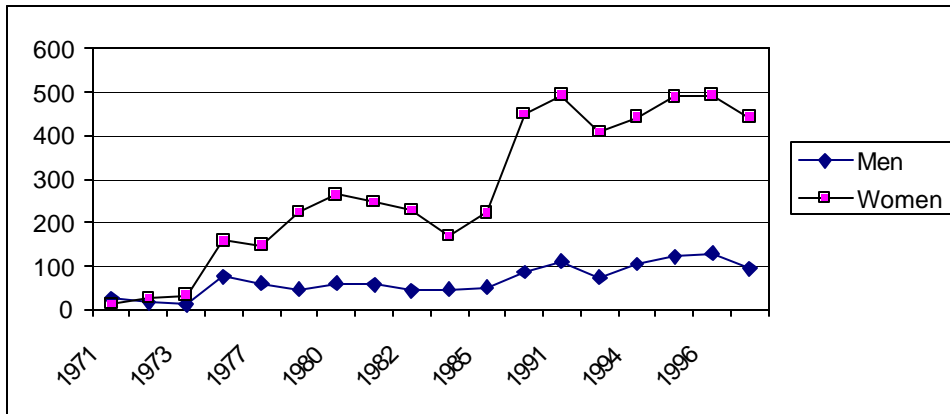
Finally, the field of mental health was overwhelmingly dominated by female degrees. Only in its first year, degrees conferred to males were twice as much as those conferred to females. However, since the second year, degrees conferred to females accelerated, and the acceleration increased at several points, especially in 1985 and 1989 (see Figure 10). The overrepresentation of females was not restricted to the undergraduate level. In 1971, 166 master's degrees were conferred to males as opposed to 138 to females. However, in 1975, 1985, and 1995, the ratios of female-to-male conferred master's degrees were 107%, 213%, and 388% respectively.

Institutional Characteristics

Three out of the five 1971 pioneer institutions were public institutions. In 1972, two of the three awarding institutions were public institutions, but in the third year the number of private institutions equaled that of public institutions. Generally, during the whole life of the field (1971-1997) there were more public institutions than private institutions, although not in a large margin. However, public institutions had larger

departments, and for the first four years they conferred many more degrees than private institutions. In 1977, public institutions conferred 53% of bachelor's degrees, which is below the average of 68% for all fields combined in these years.

Figure 10: Number of conferred bachelor's degrees in mental health, 1971-1997



Source: NCES, *Earned Degrees Conferred, selected years*

The apparent instability of the mental health field may be explained by the small size of awarding institutions. In 1971, of the five awarding institutions, only one was mid-size institution (student enrollment 5,000-9,999); two institutions were from the smallest category (500-999 student enrollment), and the rest fell between those two sizes. The picture was the same in 1972 and in 1973, except that in 1973 the University of Florida, a large institution, joined in. However, it should be noted that the numbers of conferred degrees were not in proportion to the size of institutions—the University of Florida conferred only one degree in 1973; the University of California at San Francisco had an enrollment of 2,601 students in 1971 but it alone conferred 64% of degrees; and Marshall University of 9,944 students conferred 56% of degrees in 1972 (refer to Table 14).

The connection of mental health to the medical field did not make its awarding institutions of higher academic complexity. Of the 1971 five awarding institutions, there was one institution at each of the Master's-I, Master's-II, and the Baccalaureate-II levels; the two remaining institutions were Special institutions on the Carnegie scale. As has been mentioned, the University of Florida joined the field in 1973, and it was the only Research-I institution. However, starting from 1977 there was an upward mobility on the Carnegie scale in the awarding institutions.

Summary

The scientific approach to mental illness was not taught as an independent specialty until the late 1960s, and 1971 was the first year in which bachelor's degrees were conferred in the field. The field was dominated by graduate degrees and was largely offered through specialized institutions. The late start of the field came at the heels of controversies over the core of the discipline. The federal government played a decisive role on the development of this field, both in terms of passing relevant legal acts and in terms of research funding. Only few institutions offered bachelor's degrees in this field, and it was marked by instability and slow growth in its early years. Offerings in the field were near equally divided between public and private institutions, although public institutions had larger departments. Lastly, the sizes of most institutions were small or very small, and large institutions were not the larger providers of degrees.

Criminal Justice

According to Walker (1998), the American criminal justice system passed through three periods: The colonial era that spanned 150 years, the institutional building period between 1820 and 1920, and the modern era, post 1920. The criminal justice system of the past did not have the modern elaborate apparatus, nor was it professionally organized.

The Historical Context

Criminal justice in the colonial era was distinctive in the absence of criminal justice agencies that we now take for granted, such as police and prisons; only criminal courts existed then. Colonial communities were highly homogenous, and the system of control rested on neighborhood and churches, pressuring deviant acts to a minimum. The law was obsessed with order, and its central theme was the obedience to authority: God, clergy, and the male head of the household. A 1665 New York law set the punishment of death for striking a parent. Criminal justice then also meant punishing suspected criminals as well those who were perceived to be lazy, and punishments ranged from whipping to execution (Walker 1998:16-24). The enforcement of the laws did not necessarily follow, however. By large, the law was based on oral traditions rather on written documents, and there was no dedicated bureaucracy responsible for its execution. In effect, the royal governors then directed criminal justice efforts under the law of treason (Herbert 1988:130). Historians reported that there were 326 different vigilante movements through the end of the 19th century. Nevertheless, the most striking contrast between the system then and the system now is that imprisonment was rarely used; jails

were primarily holding places. Another major difference is that Native Americans and Blacks were considered outsiders and treated according to a different social logic. The strict attitude of the Puritans was well in place, but reforms began very early on the hands of the Quakers. In 1682, William Penn led an effort to introduce more humane criminal justice system that does not rely as much on corporal punishment. The American Revolution had its great impact on the criminal justice system—people then viewed the English penal code as harsh, and legislators opted to distance themselves from it. In this period, the modern tools of enforcing the law and applying punishments were introduced: police, prisons, probation, parole, and juvenile courts. In general, the Constitution marked a shift away from an emphasis on community order to an emphasis on individual liberty (Walker 1998:35-39).

Regionalism marked the character of law enforcement until late 18th century where considerable variation existed between the North, the South, and the West (Herbert 1988:189). By the end of the 18th century, the social fabric of America had significantly changed due to immigration, and breaking the law ceased to be the mark of the underclass. It was estimated that $\frac{3}{4}$ of the participants in 1836 Cincinnati riot were professionals. Most importantly, the issue of slavery became a major national issue and related violence polarized the nation (Walker 1998:50). The American criminal justice system adopted the London model of visible police force. However, the country of self-governance gave citizens direct control over its institutions as opposed to exclusive control at the national government level in England. Nevertheless, that put police under the control of local competing political factions (Palombo 1995:26).

Finally, the period between 1920 and 1960 witnessed important developments that largely affected the field of criminal justice. On one hand, World War I created fears of lawlessness, and in six years after 1915, twenty-three states created law enforcement agencies. Later on, there was a series of national crisis, defining moments, and social movements: from racial riots, to financial crises, to the Red Scare, to the forming of the ACLU and the National Popular Government League. On the other hand, a general mood in favor of anchoring the administration of justice to scientific knowledge had prevailed (Walker 1998:147-151). In 1927, the U.S. Treasury Department established a law enforcement training school. In 1928 the Federal Bureau of Investigation (FBI) established training programs (Calhoun 1996:179), and in 1932 the FBI's national Police Academy started training selected police officers (Walker 1998:160).

The Professionalization Process

Police professionalization took a long time, stretching from 1910 to 1960, a process that was energized by society-wide reform efforts since the Progressive era (Palombo 1995:30). According to Walker (1998), reform efforts “represented a complex mixture of humanitarianism and coercion, of optimism and fear” (pg.112). Cognizant that police departments were practically serving political interests, middle-class reformers sought to restrict police functions to fighting crime, instead of the wider claim of social service. The academic influence on police reform was marked by the sociological approach to crime, which flourished in 1920s. The idea that there are social determinants for criminal behavior became prevalent, and the impact of the University of Chicago urban sociologists was significant. In 1912, the Rockefeller Foundation funded a

Laboratory of Social Hygiene for the psychological study of women inmates, although it turned into a scandal of brutality. The first systematic study of the criminal justice system took place in 1922, known as the Cleveland Survey of Criminal Justice (Walker pg. 123-127). Academic influence remained marginal, and the principle of due process had difficulties in establishing itself. The criminal process in the colonial period was swift, and cases in 1880-1181 took an average of 2.7 days; in Alameda County, 80% of those who were persecuted between 1880 and 1910 remained in jail (pg. 73-74). It was the 1930s when due process was advocated by some reformers, although it did not yet become the dominant model (pg. 166).

The professionalization movement of police through awarding college credentials was marked by the celebrated career of Berkeley police chief August Vollmer, 1905-1932, who held the vision of policing as a non-partisan public service. He is known as the person who introduced bicycles and motorcycles to policing, and later automobile patrol. More importantly, as a believer in science, he adopted fingerprinting identification and solicited experts' help from the University of California (Calhoun 1996:9). A parallel development in police reform took place in Philadelphia in 1912-1916. Significantly, these movements produced the first body of literature on police administration (Walker 1998:131-134). However, mixing academics with professionalism had a hard time to become institutionalized. Palombo (1995) documents at length the legal battles over the idea of requiring educational credentials for public safety positions. Since 1971, many court decisions struggled with this issue, at the state as well as the federal levels (pg. 76-110). Furthermore, a flurry of studies researched the

“positive influence” and the “negative influence” of college education on law enforcement officers (pg.46-50).

The field of criminal justice is acutely interdependent with governmental decisions, which themselves are conditioned by the social temperament of the time. The 1960s were marked by the public’s sense of the breakdown of law and order: the assassination of a president, urban riots, campus unrest, and “crimes in the street.” In 1965, an executive order of President Johnson established the Commission on Law Enforcement and the Administration of Justice (Tenney 1971:44). This commission, known as the National Crime Commission, served as an impetus for several influential works, including drafting minimum standards for justice agencies by the American Bar Association in 1963, and the prearraignment code by the American Law Institute in 1974. In 1973, the National Advisory Commission on Criminal Justice Standard Goals produced a six-volume set of recommendations. In 1977, the American Correctional Association (ACA) published its first accreditation standards; the law enforcement community produced its own standards in 1983. However, it was the 1968 Omnibus Crime Control and Safe Street Act that had the most decisive effect on the field of criminal justice—this act established the Law Enforcement Assistance Administration (LEAA), which funded state and local agencies for planning. It also funded research programs, some of which were ill-conceived (Walker 1998:203-204). Another major federal effect on the field was the 1968 “Proposal for a Consolidated Federal Law Enforcement Training Center.” This idea faced opposition in Congress for the fear of ending up with a national police force (Calhoun 1996:25-33); nevertheless, in 1969 the

Congressional Public Works Committee approved an \$18,073,000 for this center (pg. 180).

Sherman (1978) reports that in 1916 Vollmer started the first college program for police officers at the University of California, Berkeley, although it was a noncredit summer institute. But by 1933, it became a full-fledged major under the department of political science (pg. 33). The number of community colleges offering police science programs increased from a single one in 1947 to 74 in 1970 (Myren 1970:I-2). San Jose State College had a police program since 1930, and Sacramento College had evening courses since 1949 (pg. V-1 to V2). In 1960, the heads of five California State Colleges organized a meeting with a consultant on State College curricula from the State Department of Education, along with a representative of the Law Enforcement Section of the Northern California Junior Colleges Association. The purpose of the meeting was the articulation of transfer policies for students in police science from colleges to state universities. A similar effort was taken by the city university system of New York (pg. V-7 to V-9). California was ahead in the efforts of professional training for police, but there were similar programs in other states. For example, since 1947, the University College, under the University of Maryland, conducted many seminars and conferences tailored for the needs of law enforcement personnel. In the 1970s the College received substantial grants from Federal funding agencies and foundations for conducting such programs, and some of those programs were conducted with the cooperation of the International Association of Chiefs of Police (Lijins 1970:4-5). Taking advantage of free tuition, the New York Police Department, in 1955, organized programs for police in the

City University (Herbert 1988:249-250). In addition, it should be mentioned, that beside the programs that were fully dedicated to police science, some elements of a criminal justice curriculum had already existed in undergraduate and graduate programs in the research universities of California. These programs operated under different departments, including public administration (Myren 1970:VI-1 to V-3).

Finally, one of the most consequential factors that influenced the field of criminal justice came as a result of the involvement of the Law Enforcement Assistance Administration (Walker 1998:204-205). The Law Enforcement Education Program (LEEP), operating under LEAA, generously sponsored programs of criminal justice programs across the nation. Sherman (1978), drawing on data from LEEP Participant Summary (see Table 15), showed how funds for university programs had increased dramatically in a nine-year period (pg. 36). In the fiscal year 1979, LEEP awarded a grand total of \$37,199,569 to nine hundred and sixty-five higher education institutions across the nation (Awards 1979:115).

However, it was acknowledged that “[m]any colleges seemed to have created police education programs only because federal funds were available for their support, and not because of any long-range plans to make police education a part of their mission” (Sherman 1978:93). The low quality of criminal justice programs was highlighted by the consultants of the 1978 report on the field prepared with the support of the Police Foundation. One consultant argued that “criminal justice is not a discipline and therefore should not be isolated in a separate department” (pg. 229). Another consultant noted that LEEP was created “without clear rationale or objectives” and that in its early years

“officials gave up on quality in order to ensure quantity of education” (pg. 237). These views are widely held by the departments of criminal justice (Erez 2001).

Table 15: LEEP’s funding to criminal justice programs, 1969-1977

<i>Fiscal Year</i>	<i>Appropriations (in millions)</i>	<i>Number of Recipient Programs</i>	<i>Total Students</i>
1969	6.50	485	20,602
1970	18.00	735	54,778
1971	21.25	890	73,953
1972	29.00	962	87,000
1973	40.00	993	95,600
1974	40.00	1,036	96,500
1975	40.00	1,065	100,000
1976	40.00	1,031	83,000
1977	40.00	993	76,086

Source: Sherman (1978)

At this point, it is appropriate to point to the distinction between the fields of criminal justice and criminology. Zalman (1981) devoted a whole monograph on this issue, noting that “[u]ntil the explosion of interest in criminal justice in the 1960s criminology was seen almost exclusively as a subdivision of academic sociology”(pg. 10). He agrees with Binder and Geis, 1979, that Sutherland’s textbook *Criminology* in 1924 could be accurately considered as the birth of contemporary criminology. The main thrust behind creating a new field of criminal justice was motivated by the desire “to move the practice of criminal justice toward professionalism” (pg. 11), seen as a solution to the problem of corruption despite the keen intent to leave space for the experiential discretion of practitioners. Yet, he asserts that the two fields constitute a broader enterprise that is interested in theories that explain deviant behavior and social control. Nevertheless, there is a clear demarcation between the two fields, where the primary focus of criminology is crime as a social phenomenon while the primary focus of criminal justice is the agencies concerned with crime. He further adds that the journal

articles of the two disciplines speak of their overlap and of their differences, although criminal justice suffers more from its well-observed fragmentation and ideological divisions. Moreover, he reminds us that the 1967 President's Commission effectively defined a framework for the criminal justice discipline, customarily referred to in the following chart: crime → police → prosecution → courts → corrections (pg. 16-21).

Admission to Academia

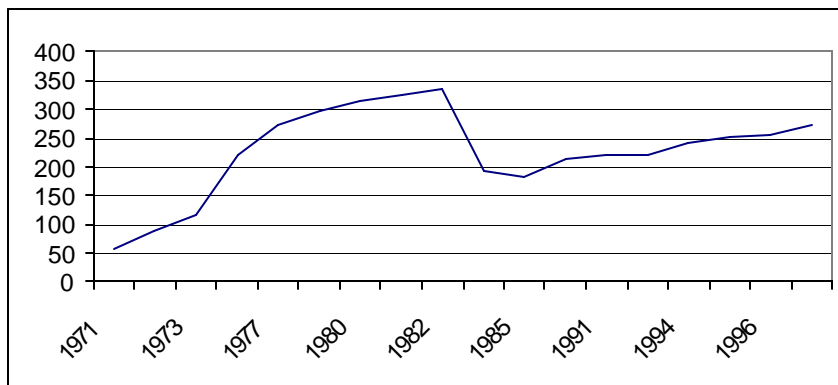
The story of criminal justice field was a story of upward mobility that replayed the career of its protagonist, August Vollmer. Chief Vollmer was an eighth grade graduate who became a professor at the University of Chicago and the University of California, Berkeley (Sherman 1978:31). The field of criminal justice started in the form of training programs, passed through two-year colleges, and made it to four-year universities in 1968. However, Michigan State University had offered a bachelor's science degree in Police Administration since 1935. By 1960, twenty-six institutions had fulltime higher education programs in law enforcement, 22 of which were in California (Tenney 1971:1), and most of them were below the bachelor's level, according to a major 1968 survey (pg. 50).

Growth Pattern

The growth of the field since its early semi-formal years was phenomenal; the NCES data show that 2,045 bachelor's degrees were conferred in 1971. The rate of growth for the following three years was 142, 150, and 227%, respectively. Fifty-seven institutions awarded bachelor's degrees in 1971, more than doubled in two years, and reached 315 in 1980 (see Figure 11). The growth of the field was steady from 1971 until

the early 1980s after which it experienced three years of significant decline. The recovery in the 1990s was gradual but steady. As expected, there were more male graduates than female ones. However, the growth rate of degrees conferred to females consistently outpaced that of males. The number of female graduates stayed smaller in absolute numbers, but they progressively constituted larger percentages than those of early years. Obviously, the general growth and decline in the number of conferred degrees are expected to have been related to the fluctuation in funding the departments of criminal justice.

Figure 11: Number of institutions awarding bachelor's degrees in criminal justice, 1971-1997



Source: NCES, HEGIS, and IPEDS files, selected years

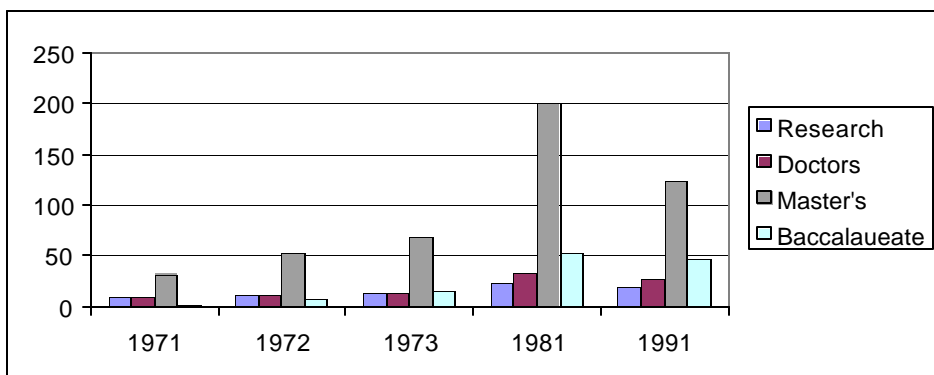
Institutional Characteristics

Seventy percent of the institutions that awarded bachelor's degrees in 1971 were public. The number of private institutions did not rise significantly until 1975 where they formed 41% of all institutions in the field, and it stayed around this rate until 1997. However, in terms of the number of conferred degrees, public institutions were decisively dominant: 90% of bachelor's degrees in 1971 were conferred by public institutions, compared to 66.5% for all fields aggregated. Publicly conferred bachelor's degrees

dropped to 76% in 1975, to 71% in 1984, and came back to 78% in 1997. In other words, public institutions always had larger departments.

Although that the University of California at Berkeley was one of the earliest institutions to offer programs in criminal justice, in 1971 most institutions that awarded degrees in this field were low on the Carnegie scale. Thirty out of the fifty-seven institutions awarding degrees in criminal justice in 1971 were at Master's-I level. Four institutions were at the Research-I level, and five were on each of the Research-II, Doctoral-I, and Doctoral-II levels. Noticeably, all of Research-I and Research-II universities were public institutions (see Figure 12).

Figure 12: Number of institutions awarding bachelor's degrees by Carnegie level



Source: NCES, HEGIS, and IPEDS files, selected years

Institutions that awarded degrees in criminal justice for the first year tended to be large in terms of student enrollment. Out of the fifty-seven awarding institutions of 1971, 20 were large institutions (10,000-19,999 students) and 14 were very large institutions (more than 20,000 students). In 1972, midsize institutions joined in larger numbers to form 23% of all institutions, and this percent remained stable until 1997. In general, smaller institutions began to offer criminal justice starting from 1973.

It is interesting to note that the schools that offered criminal justice programs were regionally concentrated. From its inception, thirty-one states had institutions offering undergraduate degrees in criminal justice (see Table 42 in Appendix C), but with concentration in the South East and the Great Lakes regions. However, in terms of the number of conferred degrees, California alone awarded 24% of bachelor's degrees in 1971, followed by Florida, 12%, and those ratios compare to 5% and 2.5% respectively for their shares in all fields combined in 1970 (American Council on Education 1987:152-153). California retreated slowly from its lead while Florida maintained a high rate, conferring 13% of bachelor's degrees in criminal justice 1997.

Summary

In the process of becoming a regular subject in universities, there were discussions on the proper location of law enforcement curriculum: Colleges of Arts and Sciences, Schools of Business and public Administration, Colleges of Continuing or Adult Education, or to stay independent (Lijins 1970:17). The field of criminal justice was highly affected by governmental decisions and public sentiments, and it had hard time to form its academic boundaries. In addition, the number of its clienteles and departments closely followed available federal funds. Public institutions dominated the field in terms of their numbers as well as the number of conferred degrees. The field started with a heavy representation of males (82%), but the number of females grew faster than that of males. Most of the programs were located in large and very large universities; however, smaller institutions started to join in large numbers since its second

year. Finally, institutions that offered criminal justice degrees were concentrated in the lower levels of the Carnegie scale.

Communication

The field of communication emerged as a synthesis of different intellectual heritages and research activities. It drew on Dewey's communication notions and communication research in the Chicago school, including the work of Cooley and Mead, Burgess, Park, and Blumer. Allport's social psychology and the commercially-focused research on advertising influenced the field, and Watson's behaviorism had the major impact. Lastly, Lasswell's propaganda analysis, Lippmann's public opinion research, and Lazarsfeld's applied research on communication effects formed the early nest of communication studies (Delia 1987). Thus, the basic material of the field had existed before it became a recognized discipline; the commonly used labels for communication studies research in its early days included propaganda and public opinion, radio research, print research, reading research, audience research, and motion picture research. The labels "mass communication" and "communications research" rarely appeared before the mid 1940s (pg. 57). The field moved slowly from practical and policy research to become more committed to the canons of social science disciplines, and by the end of the 1950s such orientation became the norm (pg. 59); the intellectual birth of the field had occurred, but only to be split between two orientations one of a liberal arts spirit and the other of a media production focus. Below I will summarize the major factors that led to the formal establishment of the field as departments in higher educational institutions, followed by the analysis of the institutions that first offered degrees in this field.

The Larger Social Context

World War II had a decisive impact over the development of the field of communication for two main reasons. First, the federal government felt that it is crucial to educate the public about the goal of the nation's war and to inform them about food, gas, and other consumer goods rationing; it supported communication research as the tool for achieving such a goal. Second, the great increase in the size of the federal civil service in 1941-1942, which employed people in this field. Washington then housed a large number of social scientists who mainly worked in three agencies: The Research Branch of the Division of Information and Education of the U.S. Army, the Survey Division of the Office of War Information (OWI), and the Division of Program Survey of the U.S. Department of Agriculture (USDA). What was spectacular about those research agencies is that they were linked by common consultants, such as Lazarsfeld. Schramm, the father of modern communication, was himself a wartime employee at the Office of Facts and Figures (OFF) and at the OWI. Washington had set a superb network of scientists in an environment that forced them to adopt an interdisciplinary approach (Rogers 1994:11-12).

Federal funds and private grants formed the backbone of communication studies research. The budget of the Bureau of Applied Social Research, under Lazarsfeld, reached about one million in several years. After WWII, the War Department sponsored evaluation research of military training films, paying half of the bureau's budget (Rogers 1994:293). Between 1947 and 1955, the Institute of Communication Research at the University of Illinois had a budget of \$200,000 to 300,000, and each year Schramm

brought another half a million dollars in research grants. The institute became a contracted consultant for the U.S. Air Force to study certain military problems. The U.S. State Department appointed that institute to evaluate the performance of what is today the U.S. Information Agency. Furthermore, the institute received funds from the National Institute of Mental Health to analyze the content of mass media messages about mental health. Ford Foundation provided the institute with grants to study how social science research findings were utilized, and when Schramm arrived Stanford in 1955, he had in his hands a \$75,000 grant from Ford Foundation (pg. 457). Between 1937 and 1955, the Rockefeller Foundation alone funded ten research projects and sponsored critical meeting in communication studies, some of which were sizable grants (pg. 143-144).

The Process of Discipline Formation

Before its formal entry to academia, the communication field went into an extensive process of professional development through applied research. Applied research on propaganda, radio research, interaction rituals, effects assessment, ineligibility, cultural analysis, egocentric speech, etc. have been taking place in several institutions before the mid 20th century (Delia 1987:22). However, three research centers were of special importance. One is the office of Radio Research in Princeton, which moved to Columbia in 1940. This research center was later headed by a main figure in communication research, Lazarsfeld, who arrived to the US in the 1932 under the sponsorship of the Rockefeller Foundation (pg. 50), and the center proved to be highly productive. Harvard had another applied research center in mass communication under the army's Information and Education Division (originally called Morale Division),

which was headed by Hovland who had connections with Lazarsfeld's group. Another important center was the War Communication Research for the Library of Congress, which was headed by a known figure in communication studies, Harold Lasswell (pg. 53-56). Those three centers functioned as the incubators of the discipline-to-be, communication.

The establishment of the first communication department in academia was the result of a vision that was fortunate to find a patron. George Stoddard was interested in communication research, and in 1920 he conducted a study on the effects of movies on children at the Payne Fund. He later became the president of University of Illinois which had a department of speech under the humanities, but which did not follow the "scientific" method. Stoddard invited his University of Iowa friend, Wilbur Schramm, to direct an Institution of Communication Research at the university, sidestepping an earlier proposal from a prominent researcher in the department of journalism to create a Bureau of Communications Research. Schramm is celebrated as the founder of the field of communication because he was the first to create a university unit under this name, the first to write a textbook in this field, and he awarded the first Ph.D. degrees in communication (Rogers 1994:448-449). Schramm envisioned an interdisciplinary program that brings together anthropologists, psychologist, sociologists, political scientists, economists, and media men (Delia 1987:72).

The most peculiar aspect of the communication field is that it developed with little connection to journalism, despite that journalism was exactly communication-in-practice. As we have seen, communication was connected to the *broadcast* division of

applied research in the field, not to the *print* division. However, some important figures in communication had connections to both fields. Schramm himself came to the University of Illinois from the department of journalism at the University of Iowa and had a Ph.D. degree in American Literature (Delia 1987:74). Schramm's vision emphasized the accepted methods in social sciences, and until recently the field is largely empirical, quantitative, and focused on studying the effects of communication. However, since the 1960 the field became open to all methodologies (Berger and Chaffee 1987:16)

The field of communication was helped by the discipline it was destined to overshadow, journalism. That is, higher education institutions in the post World War II period were largely driven by government grants and contracts, which encouraged them to emphasize research over teaching; journalism departments felt the need to become more anchored to mainstream academia. Therefore, journalism departments started requiring Ph.D. degrees for the heads of their departments, instead of having distinguished news career figures. The old established profession of journalism used communications as a surrogate field and started offering doctorate degrees in it; the graduates in communications would become communication professors, replacing the previous practice of having graduates from political science, sociology, psychology, or history. Schramm correctly observed "that graduate courses developed for journalism had to be subjects like the theory of communication, history of communication, research methods in communication, and the like" (Schramm 1985:208).

Wilbur Schramm founded the Institute of Communications Research in the University of Illinois in 1947; in 1955, he founded a similar institution in Stanford.

Several other universities followed the trend, including some higher educational institutions in Minnesota, Wisconsin, and Michigan State. Other influential programs existed in the Universities of Washington, North Carolina, Iowa, and Indiana; and it was this period when the labels “communication” or “communications” were added to “journalism” in the titles of many programs. However, the department of Stanford had a larger impact on the field than that of the University of Illinois. Stanford’s Ph.D. program in mass communication research became the model for other schools of journalism, emphasizing scientific methods (Rogers 1994:460). Speech departments followed the orientation of mass communication programs after the surrender of journalism, replacing rhetoric with the scientific analysis of interpersonal communication (pg. 477-478). In addition to Stanford, Michigan State University, which was a second year pioneer institution, had a unique influence on the field—it started its communication department from day one as such and did not develop from an older program. Doctoral classes in communication started in Michigan State University in 1957, and three out of the department’s four core faculty members were Schramm’s protégés (pg. 482). The Annenberg School of Communication at the University of Pennsylvania was not founded until 1964 (Delia 1987:74, Rogers 1994:478).

Admission to Academia

Before discussing the entry of the communication field into academia, it should be noted that journalism is a much older field than communication. In 1940, Albert Sutton conducted a study of four-year journalism schools, and his survey covered 901 of programs. According to him, the first program in journalism in higher educational

institutions was organized in 1869 at Washington College. The University of Missouri was also one of the pioneers in the field; however, the first comprehensive curriculum in journalism appeared in Wharton School of Business at the University of Pennsylvania. Since then, journalism included two orientations: the Missouri orientation that focused on literary style, and the Kansas State College and the Washington and Lee University orientation that focused on practical printing (Sutton 1968:2-11). Ironically, such division is not far from the division of communication studies fifty years later. The discussion below pertains the communication field; however, when appropriate, I will present some contrasts with the field journalism with which communication had an unusual historical relationship.

Growth Pattern

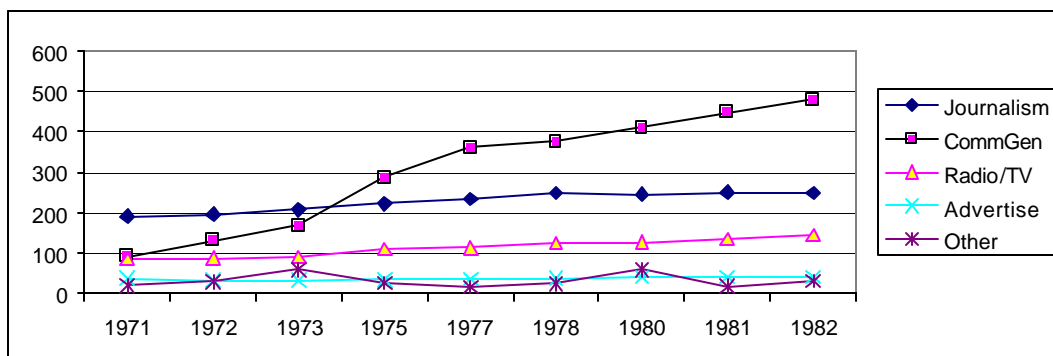
The sizes of the early programs in communication were small. The University of Illinois awarded six Ph.D. degrees in 1951 (Rogers 1994:453). The 1950s were the years of the field's early expansion, entering first to the universities of the Midwest in Wisconsin, Minnesota, and Illinois, and then to Stanford. Except for Stanford, prestigious research universities did not accept communication departments. This is despite that the forefathers of this field were at prestigious universities. The large increase in communication departments occurred in the 1960s (pg. 477-479), but not until the 1970s that it became popular at the *undergraduate* level.

The NCES started recognizing the field of communication separate from journalism in year 1970-1971, which is, approximately, ten years after its graduate studies had begun. In 1971, a sizable number of institutions, 184, conferred 5,180

bachelor's degrees in non-journalism communication; those figures include 20 institutions that conferred 353 degrees under the label "other." The delay in the NCES's recognition of a separate identity for the field is explained by the history of the field, and reflects its relative fluid boundaries and its interdisciplinary nature⁸. As for journalism, 191 schools conferred 5,144 undergraduate degrees in the same year. In other words, in 1971, the number of institutions that had departments of communication and the number of conferred bachelor's degrees in it came very close to the size of ancient journalism.

The communication field grew much more rapidly than journalism (see Figure 13). In the ten years between 1971 and 1980, the number of communication programs

Figure 13: Number of bachelor's degrees programs in communication, 1971-1982



Source: NCES, *Earned Degrees Conferred, selected years*

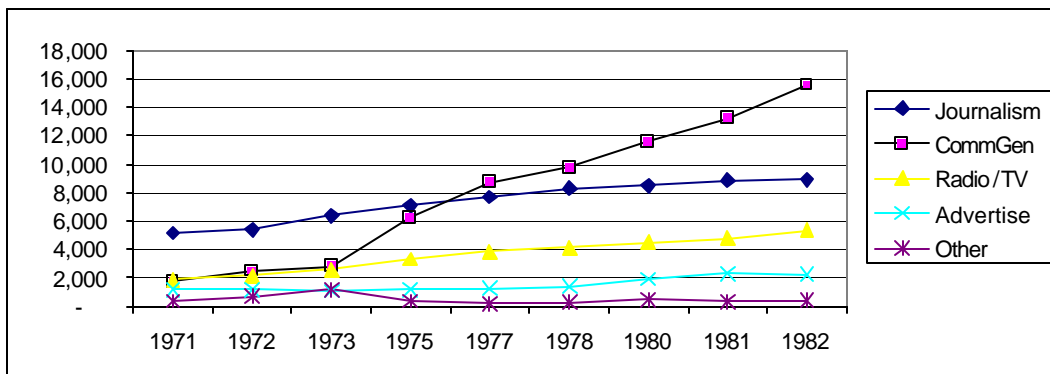
increased from 236 to 639, while the number of journalism programs increased from 191 to 246; this represents a 271% increase in communication departments versus 129% increase in journalism departments. Note that we are talking here about programs, not institutions. That is because the same institution might have both journalism and

⁸ For the ease of presentation, I will use the label "communication" to denote all the subfields of communication *excluding* journalism. Thus, "communication" in my usage denotes the four NCES's subfields: communication-general, radio/TV, advertising, and other.

communication programs or departments, and they might have different combinations of communication subfields. In the same period, the number of conferred degrees in communication grew from 5,180 to 18,470 (357% increase), compared to 5,144 and 8,490 (165% increase) in journalism.

However, not all institutions awarded degrees in all the subfields of communication. Within communication, 93 institutions awarded undergraduate degrees in communication-general, 85 institutions awarded degrees in radio/TV, 38 institutions awarded degrees in advertising, and 20 awarded degrees under an open-ended category of “other” (see Figure 14). Furthermore, it should be noted, institutions that had

Figure 14: Number of conferred bachelor’s degrees in communication, 1971-1982



Source: NCES, *Earned Degrees Conferred, selected years*

communication programs and institutions that had journalism programs were not mutually exclusive (refer to Table 43 in Appendix C). Few institutions have both journalism and communication-general departments. Among the 191 journalism schools and the 93 communication-general institutions, only 27 of them offered both programs. This is because communication-general departments are more likely to have been speech department, which either had more affinity with journalism (Bloom 2001) or were their

rivals; therefore, it was likely to have a department of each. On the other hand, there were considerable multiple offerings of journalism and the other subfields of communication: 80 out of the 191 institutions that had programs in journalism offered programs in one of the fields, radio/TV or advertising. But only 21 out of the 93 communication-general institutions had such programs. This division of labor goes along with the general orientation of the departments: Communication-general departments are more liberal arts oriented and may have been less inclined to have radio/TV and advertising programs, while the mass communication orientation of journalism departments may have inclined them to consider radio/TV programs as natural extensions. Nevertheless, the subfield communication-general was the largest within communication, and in 1971, it constituted 39% of communication departments. Radio/TV departments represented around 36% of institutions with communication departments, advertising 16%, and “other” 8%. Furthermore, the growth rates of the subfields of communication were not uniform and were led by communication-general.

Finally, in 1971 there was a considerable disparity in the number of degrees conferred to males and females in the field of communication, but not in journalism; only 27% of degrees were conferred to females in communication. Within communication, 62% of the degrees in communication-general departments, which were concentrated in the less complex institutions, went to females. Twenty-one percent of undergraduate degrees in radio/TV and 28% of advertising went to females. Thus, female students were concentrated in the liberal arts programs while male students were concentrated in

programs of media production. Those ratios of female degrees compare to the 1971 ratio of 43.4% in all fields aggregated.

Institutional Characteristics

Institutions with communication departments are more likely to be private schools than those with departments of journalism. In 1971, the first year communication was recognized by the NCES, 42% of institutions that had departments of communication were private institutions, compared to 30% for journalism. However, typically, public institutions had larger departments than private ones, and in this year they conferred 76% of communication and 82% of journalism undergraduate degrees. These ratios are higher than the ratio of public institutions for all fields aggregated, which was 66.5% in 1971. The ratio of private institutions with communication departments kept increasing from 42% in 1971 to 47% in 1973, and reached 51% in 1977; the ratio in 1982 became 57%.

Interestingly, the subdivisions within communication varied markedly in their type of control (see Table 16). Throughout the ten years from 1971 to 1980, the subfield of communication-general was dominated by private institutions while the subfields of radio/TV and advertising were dominated by public institutions. As we have seen before, institutions with journalism departments were more likely to have programs in radio/TV or in advertising than the institutions with communication-general departments; consequently, the public-private ratio of those two subfields resembled that of the departments of journalism.

Table 16: Number of conferred bachelor's degrees and number of awarding institutions in the subfields of communication, by type of control, 1971

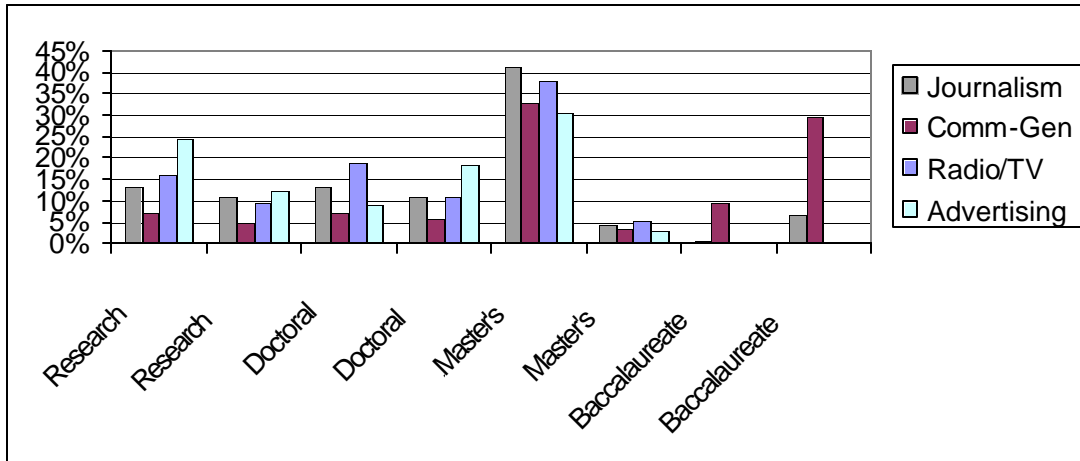
	<i>Control</i>	<i>Total degrees</i>	<i>Degree%</i>	<i>N-Institutions</i>	<i>N%</i>
Communication-General	Public	941	54%	37	40%
	Private	793	46%	56	60%
	Total	1,734	100%	93	100%
Advertising	Public	1,095	92%	27	71%
	Private	99	8%	11	29%
	Total	1,194	100%	38	100%
Radio/TV	Public	1,625	86%	66	78%
	Private	274	14%	19	22%
	Total	1,899	100%	85	100%
Other	Public	254	72%	13	65%
	Private	99	28%	7	35%
	Total	353	100%	20	100%

Source: NCES, Earned Degrees Conferred, 1970-1971

In terms of their academic complexity, institutions that offered communication in 1971 were closer to the lower ends of the Carnegie Classification scale. Institutions at the Research and the Doctoral levels represented only 22 and 23% of total institutions, respectively. Institutions at the Master's, the Baccalaureate, and the Specialized levels constituted 56% of all institutions, with the largest concentration (38%) at the Master's-I level.

Subfields within communication had varied positions at the Carnegie scale (see Figure 15). The institutions of the subfield communication-general were highly concentrated in the lower levels on the Carnegie scale (38% at the Baccalaureate levels), while institutions of the advertising subfield tilted toward the higher levels (36% at the Research levels). Interestingly, institutions at the Carnegie's two research levels conferred significantly higher rates of bachelor's degrees: 31% of communication-general, 43% of radio/TV subfield, and 62% of advertising subfield.

Figure 15: Institutions with communication or journalism departments, by Carnegie Classification level, 1971



Source: *Earned Degrees Conferred, 1970-1971, NCES*

In addition, institutions that had communication departments in 1971 tended to be large. Very-large institutions (20,000 enrollment and up) represented 19% of institutions, and large institutions (10,000-19,999 enrollment) represented 25% of institutions. Small institutions (1,000-2,499) represented 17% of institutions but conferred only 5.4% of total bachelor's degrees in the field.

Summary

Early research in communication took place in applied research centers connected to Columbia University, Harvard, and the War Communication Research for the Library of Congress. Later on, the University of Illinois and then Stanford University had the first and most influential departments of communication. The field grew independently from journalism, although it largely intersected with it and with speech departments, some of which later become communication converts. The field's fragmentation may

have been the reason for its delayed recognition by the NCES. However, the NCES did not recognize its independence until 1971. Federal and private funds played an important role in the development of this field, a field that moved slowly from the applied focus to a social science focus; nevertheless, some of its subfields turned back to the very applied emphasis. The bachelor's level education in the field came after the graduate level has been established, and conferring institutions tended to be large. For a description of today's communication departments, see Appendix A.

CHAPTER FOUR

**INSTITUTIONAL CHARACTERISTICS
AND GENERAL PATTERNS**

This chapter focuses on the modal characteristics of pioneer institutions. The previous chapter, Chapter 3, discussed in details the institutional characteristics of colleges that pioneered awarding bachelor's degrees in each of the eight growth fields. I have focused there on the pioneer institutions in the first three years, on those that awarded a significant number of degrees, and on the relationship between the number of institutions and the number of conferred degrees. The concern of that chapter was the *particularity* of the rising fields and their institutions. The analysis this chapter is *comparative*. Specifically, to achieve a fuller picture of the institutional characteristics of pioneer institutions, this chapter analyzes their characteristics according to two temporal schemas: a *within-field* comparison of the characteristics of two pioneering generations before the wide diffusion of the field had occurred; and an *across-fields* comparison of all pioneering institutions as they stood in one point of time.

The two types of comparisons sketch the picture of the typical innovative institution—the institution that is more likely to pioneer a new undergraduate field. The three institutional characteristics under consideration are size, control, and academic complexity, which are the variables used for forming this dissertation's hypotheses. Taking an institutional perspective of higher education growth, this work has hypothesized that mid-size, public, and mid-level academic complexity institutions are more likely to be the pioneer institutions (see Chapter 2). The indications that emerge from the growth fields' two types of comparison will be used to examine these hypotheses.

The three aforementioned institutional characteristics are observed in both types of comparison as follows: (1) the control of the institution, public vs. private; (2) the size of the awarding institutions, denoted by the number of student enrollment; and (3) the awarding level of the institution—whether the highest degree awarded in the institution, as a whole, is bachelor's and or professional degree, master's and or second professional degree, or doctorate degrees. As has been noted in Chapter 2, the size of institutions is denoted by current enrollment. The complexity level is denoted by the highest offered degree in the institution; for the fields that have started after 1970, the Carnegie Classification was used for this purpose because it represents a finer measure of academic complexity.

Some other variables are also accounted for when appropriate. The *within-field* comparison makes use of two additional variables: religious affiliation of the institution, if any; and student body, in terms of colleges exclusively for men or women. Religious affiliation helps in investigating if a certain category within the private sector specifically represents pioneering institutions. Knowing about the student body of institutions adds descriptive clarity to universities and colleges under investigation. The second section on the *cross-field* comparison considers another variable: the region of pioneering institutions. It would be instructive to know if institutions in a certain geographical area have been exceptionally forthcoming in pioneering new fields. That would be one indication of possible inter-organizational influence among higher education institutions.

The presentation of this chapter is divided into four sections. The first section examines the institutional characteristics of the pioneering institutions within a field. The

second section compares the institutional characteristics of the pioneers across fields. The third section briefly focuses on the institutions that pioneered more than two fields. The last section discusses the degree to which this work's hypotheses was supported, followed by pointing to three general patterns in the development of the eight high-growth fields.

Two Pioneering Generations

This section analyzes the pioneering institutions that awarded bachelor's degrees *before* the big rush occurred in the respective field. That is, for each field I selected a year in which the number of awarding institutions started to become relatively large—the field's popularity cutoff line. All awarding institutions before this point are considered "pioneer institutions." I examine the institutional characteristic of the pioneer institutions after dividing them into two groups, the *innovators* and the *imitators*. I did not force any fixed number of institutions to differentiate between those two generations of pioneers, nor did I choose any fixed number of years. Rather, the differentiation is based on the relative wide diffusion of awarding institutions in the particular field. Consequently, in the presentation below, each field has different cutoff line in the distinction between its two pioneering generations.

I note here that using the term *imitators* as one kind of pioneers was intentional in order to make a connection with the literature on organizations. An important topic in the literature on organizations is the existence of mimetic pressures among organizations, especially if they operate in the same field. Chapter 5 discusses the implications of this

dissertation's findings for organizational theory in terms of cross-organization pressures. Here, we need to think of the *innovators* as the early-bird-pioneers and the *imitators* as the early-adopter-pioneers.

It is positively important to pay attention to how the data will be presented in this first section. Tables will present the number of *joining* intuitions. As it has been just noted, for each field I will define an "innovating" period and an "imitating" period. Therefore, data will present those who join freshly each year. For example, let us assume that the innovating period for a field is three years. I will present the number of institutions in that first year, plus *only the newcomers* of the second and the third years. In other words, the numbers that appear in the tables of this section are the total number of institutions that once awarded degrees in the field, and not the total number of institutions that have been awarding degrees in each of those three years.

Finally, the institutional characteristics of the pioneers will be compared to the distribution of these characteristics in all United States higher education institutions that are at the bachelor's, the master's, and the doctorate levels⁹. I note here that the pre-1971 data on the number of higher education institutions report one figure for bachelor's degree *and* first-professional degree institutions. Also, the data collapse the master's level institutions with the second-professional degree institutions. Thus, the numbers of these two categories are inflated in relation to the specific fields to which I will be comparing.

⁹ The source of those figures is *Education Directory*, Office of Education, US Department of Health, Education, and Welfare.

Public Administration

The number of institutions awarding bachelor's degrees in public administration experienced modest growth for ten years followed by a decline. As has been mentioned in Chapter 4, the 1960s were a troubled time for the discipline, a period in which it became embroiled in politics (Mosher 1975). The difficulties of the field emanated, to a large extent, from the disagreement over the identity of the discipline and the proper content material for teaching. Such difficulties naturally affected the number of offered programs. In its first four years (1950-1953) there were around 27 institutions awarding bachelor's degrees in public administration. In the next six years (1954-1959), the average number of awarding institutions became 36. Then the trouble of the 1960s came and the field did not recover until 1975 when the number of awarding institutions reached 82. Therefore, the two above-mentioned periods will be considered the ten-year era of pioneering: those that awarded bachelor's degrees in public administration between 1950-1953 will be considered the *innovators*, and those that awarded bachelor's degrees in the years 1954-1959 will be considered the *imitators*.

In the first year of undergraduate public administration, two-thirds of the initiator institutions were public. However, private institutions formed 42% of the innovators. Among the imitators, public and private institutions of the imitators were joining in almost the same rates. Overall, 57.3% of the pioneers (the innovators and the imitators combined) were public institutions. This compares to 25.2% of U.S. institutions at the bachelor's or higher level that were public.

Furthermore, of the 84 institutions that awarded bachelor's degrees in public administration, 13 were affiliated with churches. Those institutions included five Roman Catholic and five Methodist institutions; three institutions from each group started in the early-pioneering period, in addition to two Baptist and one Presbyterian. Moreover, of the total awarding institutions, seven of them were exclusively for men and three were exclusively for women. Two of the men's colleges were Catholic and one was Baptist. One of the women-only institutions was Catholic and one was Baptist.

Innovator institutions tended to be large. In the first year, 40% of institutions had student enrollment between 5,000 and 9,999, and another 32% had more than 10,000 students. However, in the few following years, smaller institutions joined in larger numbers. Thus, more than half of the innovators became smaller institutions (less than 5,000 students). However, 74% of imitators had 5,000-student enrollment or more.

Table 17: The sizes of pioneering institutions in undergraduate public administration

Student Enrollment	<i>Innovators 1950-1953</i>		<i>Imitators 1954-1959</i>	
	Number of institutions	Percent of total	Number of institutions	Percent of total
1-199	2	3.8%		
200-499	1	1.9	2	6.5%
500-999	5	9.4	1	3.2
1,000-2,499	10	18.9	2	6.5
2,500-4,999	11	20.8	3	9.7
5,000-9,999	13	24.5	10	32.3
10,000-19,999	5	9.4	12	38.7
20,000 and up	6	11.3	1	3.2
<i>Total</i>	<i>53</i>	<i>100.0%</i>	<i>31</i>	<i>100.0%</i>

Source: NCES, HEGIS and Directory of Education, selected years

The innovators were relatively academically complex—47% of them were doctorate-awarding institutions, while 17% were terminal-bachelor's institutions. However, in the first year (1950), doctorate-granting institutions formed 64% of all

institutions. Thus, lower-level institutions joined in larger numbers during this period. In other words, among the innovators, more private and less academically complex institutions were joining in offering undergraduate programs in public administration. Finally, joining imitators were mostly doctorate-granting institutions. This level of institutions represented 47% of institutions in the early-pioneering period, but formed 74% of the new joiners in the late pioneering period. However, relative to the total number of institutions in the American higher education, pioneer lower level institutions represent a minority (see to Table 18). Overall, 50% of the pioneers (the innovators and the imitators combined) in public administration were at the bachelor's or the master's level. This compares to 87.4% of all U.S. institutions at those two levels in 1953.

Table 18: Academic complexity of pioneering institutions in public administration

Highest Offering Level	<i>Innovators 1950-1953</i>		<i>Imitators 1954-1959</i>		<i>All Bachelor's or Higher Level Institutions, 1953</i>
	Number of institutions	Percent of total	Number of institutions	Percent of total	Percent of total
Bachelor's	9	17.0%	3	9.7%	58.6%
Master's	19	35.8	5	16.1	28.8
Doctorate	25	47.2	23	74.2	12.6
<i>Total</i>	<i>53</i>	<i>100.0%</i>	<i>31</i>	<i>100.0%</i>	<i>100.0%</i>

Source: NCES, HEGIS and Directory of Education, selected years; and Education Directory, 1952-53

I would like to note that the numbers of innovator and imitator institutions presented in the tables of this section are for *joining* institutions. For example, the number 53 in the second column of Table 18 does not represent the total number of awarding institutions in any year between 1950 and 1953. Rather, it represents the total number of those that started in 1950 and those that joined in the following three years. Similarly, 31 new institutions joined between 1954 and 1959, in addition to the innovators. In other words, the same institution was counted only once. The numbers 31

and 53 (in the total field) do not represent the number of awarding institutions in any given year.

In summary, the growth pattern of public administration bachelor's degree programs in colleges and universities was as follows. The innovators were mid-to-large size, mostly public, and relatively academically complex institutions. The private sector joined in larger numbers in the early period, driving down the average size and academic complexity of the innovators. For the imitators, large public institutions, mostly doctoral granting, started to join in large numbers. Church affiliated institutions formed 16% of total pioneering institutions.

Health Administration

The number of institutions that first awarded bachelor's degrees in health administration was very small, and it stayed this way for many years. From 1956, the year it formally entered academia, and until 1960, there were around eight awarding institutions. The 1961 started with a sharp downturn where the number of awarding institutions ranged from two to five; the mode was three. The massive expansion of the field did not come until the late 1970s and the early 1980s, more than twenty years after its initial forming as an undergraduate field. Thus, I will consider that the *innovators* are those that awarded degrees in the five years between 1956-1960, and the *imitators* are those of the nine years covering 1961 to 1969.

Private institutions dominated the field of health administration. In the first year, there were twice as many private institutions awarding bachelor's degrees in the field

than public institutions. Then both sectors grew equally in the innovators period. Overall, public institutions formed 42% of the pioneers (the innovators and the imitators combined). This compares to 26.1% of all U.S. institutions at the bachelor's or higher level that were public in 1960. Not surprisingly, four of the first year's nine private institutions had church affiliation: two Roman Catholic, one Baptist, and one Southern Baptist. Finally, unlike the imitators, two of the innovators were men-only colleges.

Table 19: The sizes of pioneering institutions in health administration

Student Enrollment	<i>Innovators 1956-1960</i>		<i>Imitators 1961-1969</i>	
	Number of institutions	Percent of total	Number of institutions	Percent of total
500-999			1	16.7%
1,000-2,499	2	15.4%	2	33.3
2,500-4,999	1	7.7		
5,000-9,999	6	46.2		
10,000-19,999	3	23.1	1	16.7
20,000 and up	1	7.7	2	33.3
<i>Total</i>	<i>13</i>	<i>100.0%</i>	<i>6</i>	<i>100.0%</i>

Source: NCES, HEGIS, and Directory of Education, selected years

The institutions of the first year were mostly small to midsize institutions, and one-third of them had student enrollment equal to or more than 10,000 students. However, imitators were equally divided between large institutions and small institutions (see Table 19). In addition, they were equally divided between public and private institutions.

Noticeably, innovators in health administration were academically complex (see Table 20). Eight of year 1956 institutions were doctoral granting colleges. There was only one master's degree and one bachelor's degree institutions, among the innovators. In contrast, the imitators were equally divided between doctoral granting and non-

doctoral granting institutions. Specifically, the public colleges that joined in this late-pioneering period were doctoral granting institutions while the private ones were not.

Table 20: Academic complexity of pioneering institutions in health administration

Highest Offering Level	<i>Innovators 1956-1960</i>		<i>Imitators 1961-1969</i>		<i>All Bachelor's or Higher Level Institutions, 1960</i>
	Number of institutions	Percent of total	Number of institutions	Percent of total	Percent of total
Bachelor's	1	7.7%	1	16.7%	51.8%
Master's	1	7.7%	2	33.3	33.4
Doctorate	11	84.6	2	50	14.8
<i>Total</i>	<i>13</i>	<i>100.0%</i>	<i>6</i>	<i>100.0%</i>	<i>100.0%</i>

Source: NCES, HEGIS and Directory of Education, selected years; and Education Directory, 1959-60

Overall, only 26.3% of the pioneers in health administration (the innovators and the imitators combined) were at the bachelor's or the master's level. This compares to 85.2% for all U.S. institutions at those levels in 1960.

Recreation

The growth in the number of institutions awarding bachelor's degrees in recreation was relatively slow. The pioneering period stretched for eleven years. In the first seven years, between 1956 and 1962, there were an average of 53 awarding institutions. The following four years experienced modest growth, and the full diffusion did not occur until 1975 (close to the story of public administration). Thus, I will consider the 1956-1962 institutions as the *innovators*. The number of the 1963-1966 institutions averaged around 65; therefore, this period will be considered the phase of the *imitators*.

Less than one-quarter of the 1956 innovators were private institutions. However, in the innovators' period of 1956-1962, private institutions formed 31% of all awarding

institutions. In other words, since the second year private institutions started to join the innovators' list in larger numbers than public institutions. However, this trend was reversed in the late pioneering period (1963-1966): private institutions ratio dropped to 16.7% among the imitators. In 1966 alone, eleven public institutions freshly joined, but no private institution did. None of the imitators was church affiliated, but four of the innovators were: two Methodist, one Lutheran, and one Society of Friends. Also, only one institution was a women-only institution, and it appeared among the first year innovators. Compared to 26% of all U.S. institutions at the bachelor's or higher level that were public in 1962, the recreation field was overwhelmingly dominated by public institutions: 71.1% of the pioneers (the innovators and the imitators combined) were public institutions.

A significant number of the innovators were smaller institutions: around 37% of them had less than 2,500 student enrollments. The upper-middle range (5000-9,999 students) alone accounted for one quarter of the innovators (see Table 21). However,

Table 21: The sizes of pioneering institutions in recreational studies

Student Enrollment	<i>Innovators 1956-1962</i>		<i>Imitators 1963-1966</i>	
	Number of institutions	Percent of total	Number of institutions	Percent of total
1-199	1	1.0%		
200-499	3	2.9	1	4.2%
500-999	14	13.6	2	8.3
1,000-2,499	20	19.4	2	8.3
2,500-4,999	17	16.5	4	16.7
5,000-9,999	25	24.3	10	41.7
10,000-19,999	18	17.5	3	12.5
20,000 and up	5	4.9	2	8.3
<i>Total</i>	<i>103</i>	<i>100.0%</i>	<i>24</i>	<i>100.0%</i>

Source: NCES, HEGIS, and Directory of Education, selected years

smaller institutions among the imitators were less as they formed only 21% of the total for the second pioneering period. In particular, the middle size institutions (2,500 to 9,999 students) formed 58% of the imitators.

Most of the innovators in recreational studies were not doctorate-granting institutions (59%), but in 1962 this complexity level constituted only 15.5% of all US 4-year post-secondary institutions (see Table 22). The significant share of the master's and the baccalaureate levels was more evident among the imitators—62% of them were not doctorate-granting institutions, as compared to 84.5% of all U.S. institutions that are at the bachelor's of higher level. In addition, 37% of the first year innovator institutions were identified as teacher preparatory schools¹⁰. Overall, 59% of the pioneers in recreation (the innovators and the imitators combined) were institutions at the bachelor's or the master's level. This compares to 84.6% of all U.S. institutions that were at those levels in 1962.

Table 22: Academic complexity of pioneering institutions in recreational studies

Highest Offering Level	<i>Innovators 1956-1962</i>		<i>Imitators 1963-1966</i>		<i>All Bachelor's or Higher Level Institutions, 1962</i>
	Number of institutions	Percent of total	Number of institutions	Percent of total	Percent of total
Bachelor's	14	13.6%	7	29.2%	52.4%
Master's	46	44.7	8	33.3	32.2
Doctorate	43	41.7	9	37.5	15.5
<i>Total</i>	<i>103</i>	<i>100.0%</i>	<i>24</i>	<i>100.0%</i>	<i>100.0%</i>

Source: NCES, HEGIS, and Directory of Education, selected years; and Education Directory, 1961-62

¹⁰ According to the NCES data, one institution, Pasadena College of California, awarded one bachelor's degree in recreation in 1958. I ignored this entry.

Legal Studies

The field of undergraduate legal studies was mainly an additional program that was offered by institutions that were already conferring graduate degrees in law. However, in the inception year of 1962 a significant number of institutions that did not have law programs started awarding undergraduate degrees in legal studies: nine out of the twenty-seven initiator institutions conferred exclusively bachelor's degrees. For six years, the number of conferring institutions remained around twenty-nine. Starting in 1968, and for five years, the number of conferring institutions averaged around fifty-one. Thus, I will consider those two periods (1962-1967 and 1968-1973) as representatives of the innovators and the imitators.

There were almost equal numbers of public and private institutions conferring bachelor's degrees in legal studies in the first year of 1962. However, the public sector in the innovators' period was adding every year more institutions than the private sector was: of the 64 innovator institutions, 35 of them were public institutions. As for the imitators, 60% of the imitators were public institutions. Nine institutions of the 64 first period colleges were affiliated with churches, three of them were Roman Catholic and five were either Baptist or Southern Baptist institutions. In addition, the pioneer institutions were all coed colleges. Overall, 57.9% of the pioneers in legal studies (the innovators and the imitators combined) were public institutions. This compares to 25.5% of all U.S. institutions at the bachelor's or higher level that were public in 1967.

Pioneer institutions in legal studies tended to be large. Out of the 27 first year institutions, 18 were large having student enrollment between 10,000 and 19,999. The

initiators also included one very large institution (over 20,000 students) and one very small institution (200-499 student). However, in the next five years, innovators became smaller institutions. In 1963 alone, six small institutions joined (of 1,000-2,499 student enrollment). Table 23 below shows the ratios of institutions in each size category.

However, the imitators returned to be from the larger size institutions. For example, in

Table 23: The sizes of pioneering institutions in undergraduate legal studies

Student Enrollment	<i>Innovators 1962-1967</i>		<i>Imitators 1968-1973</i>	
	Number of institutions	Percent of total	Number of institutions	Percent of total
1-199			8	6.3%
200-499	2	3.1%	3	2.4
500-999	2	3.1	6	4.8
1,000-2,499	14	21.9	15	11.9
2,500-4,999	14	21.9	16	12.7
5,000-9,999	15	23.4	31	24.6
10,000-19,999	12	18.8	26	20.6
20,000 and up	5	7.8	21	16.7
<i>Total</i>	<i>64</i>	<i>100%</i>	<i>126</i>	<i>100%</i>

Source: NCES, HEGIS, and Directory of Education, selected years

1969 twenty new colleges joined awarding bachelor's degrees in legal studies, 11 of which had 5,000-19,999 student enrollments. In 1973, five out of the 12 new granting institutions were from the largest category. In other words, the large to very large institutions that were awarding undergraduate degrees in legal studies became specifically dominant (37% of total) in the late pioneering period. However, it is also true that some of the imitators were tiny institutions (under 500 student enrollment). This may indicate the late-pioneering period was a period of diffusion among different kinds of institutions, which laid the ground for the big rush after 1975.

Pioneering institutions in legal studies were relatively high in their academic complexity. Doctorate granting institutions formed 70% of institutions awarding

bachelor's degrees in legal studies in 1962. However, there was a decline in complexity level starting the second year: doctorate-granting institutions of the six-year innovators constituted only 44% of this period's institutions (see Table 24). Specifically, as early as the second year nine master's degree institutions joined, in addition to two of terminal-bachelor's degrees institutions.

Table 24: Academic complexity of pioneering institutions in undergraduate legal studies

Highest Offering Level	<i>Innovators 1962-1967</i>		<i>Imitators 1968-1973</i>		<i>All Bachelor's or Higher Level Institutions, 1967</i>
	Number of institutions	Percent of total	Number of institutions	Percent of total	Percent of total
Bachelor's	14	21.9%	13	16.3%	53.6%
Master's	22	34.4	19	23.8	31.2
Doctorate	28	43.8	48	60	15.2
<i>Total</i>	<i>64</i>	<i>100.0%</i>	<i>80</i>	<i>100.0%</i>	<i>100.0%</i>

Source: NCES, HEGIS, and Directory of Education, selected years; and Education Directory, 1966-67

The imitators differed from the innovators in that there was a significant increase in the number of doctorate-granting institutions that joined in offering undergraduate legal studies. Furthermore, there were few prestigious institutions among the innovators. They included the University of Southern California, the University of Chicago, and the University of Notre Dame; notably they were private institutions. The imitators also included some noted public institutions such as the University of Pennsylvania and the University of Michigan, Ann Arbor. However, the year 1973 passed and Yale, Harvard and Cornell did not join in conferring undergraduate degrees in legal studies. Overall, 46.9% of pioneer institutions in legal studies (the innovators and the imitators combined) were at the bachelor's or the master's levels. This compares to 84.8% of all U.S. institutions that were at those two levels in 1967.

Computer and Information System Science

Only six institutions awarded bachelor's degrees in computing in 1965. The following two years had 16 and 29 institutions, respectively. In 1968, the number of awarding institutions became 44, and it reached 67 in 1969. The growth of the new field was fast. By 1975, the field was adding an average of 44 institutions a year. Therefore, I will consider the 1965-1967 institutions as the *innovators* and the 1968-1969 institutions as the *imitators*.

Around sixty-five percent of the innovators in computer science were public institutions. The dominance of public institutions persisted in the imitator period to reach 68.4%. The imitators also included one institution that was church affiliated. Two institutions among the innovators were for men only, the church affiliated institution and another private institution. Overall, pioneer institutions in computer science (the innovators and the imitators combined) formed 67% of institutions. This compares to 25.5% of all U.S. institutions at the bachelor's or higher level that were public in 1967.

Around two thirds of the innovators in awarding bachelor's degrees in computing were public institutions, which was the same for the imitators. Size constituted the significant difference between the properties of those two generations. Sixty-one percent of the innovators were large institutions, compared to 30% for the imitators (see Table 25). The imitators were specifically middle size institutions with student enrollment of 5,000-9,999.

Sixty-one percent of the innovators were doctorate-granting institutions, compared to 52% of the imitators. The imitators included a significant number of

Table 25: The sizes of pioneering institutions in computer information systems

Student Enrollment	<i>Innovators 1965-1967</i>		<i>Imitators 1968-1969</i>	
	Number of institutions	Percent of total	Number of institutions	Percent of total
1-199			1	1.8%
500-999	1	3.2%	3	5.4
1,000-2,499	2	6.5	5	8.9
2,500-4,999	4	12.9	8	14.3
5,000-9,999	5	16.1	22	39.3
10,000-19,999	11	35.5	8	14.3
20,000 and up	8	25.8	9	16.1
<i>Total</i>	<i>31</i>	<i>100%</i>	<i>56</i>	<i>100%</i>

Source: NCES, HEGIS, and Directory of Education, selected years

“specialized” institutions (16.7%), such as the Air Force Institute of Technology. Among the imitators, private institutions were typically terminal master or bachelor’s degrees. Overall, 35% of the pioneers in computer science (the innovators and the imitators combined) were at the bachelor’s or the master’s level. This compare to 84.8% of all U.S. institutions that were at those two levels in 1967. In addition, around 10% of the pioneers in computer science were “Specialized” according to the Carnegie Classification (see Table 26).

Table 26: Academic complexity of pioneering institutions in computer information systems

Highest Offering Level	<i>Innovators 1965-1967</i>		<i>Imitators 1968-1969</i>		<i>All Bachelor’s or Higher Level Institutions, 1967</i>
	Number of institutions	Percent of total	Number of institutions	Percent of total	Percent of total
Bachelor’s	3	9.7%	22	52.2%	53.6%
Master’s	9	29.0	12	31.0	31.2
Doctorate	19	61.3	1	17.0	15.2
Specialized			7	17.0	N/A
<i>Total</i>	<i>31</i>	<i>100.0%</i>	<i>42</i>	<i>100.0%</i>	<i>100.0%</i>

Source: NCES, HEGIS and Directory of Education, selected years; and Education Directory, 1966-67

Mental Health

The undergraduate mental health field started small and remains as such until today. The largest number of institutions that ever awarded bachelor's degrees was 40. That was in 1995, and it shrank to 32 in 1997. Therefore, the thirty-institution line demarcates the threshold of the wider diffusion, although it is a low threshold. From 1971 and until 1975¹¹, the number of awarding institutions ranged from 5 to 10—these will be considered the *innovators* institutions. The number of awarding institutions between 1977 and 1980 ranged from 17 to 19—these will be considered as the *imitators*.

Public institutions were the majority of the innovator institutions. However, there were 14 private institutions among the imitators compared to 13 public institutions. Overall, 52.1% of the pioneers (the innovators and imitators combined) were public institutions. This compares to 27.3% of all U.S. bachelors' and higher level institutions that were public in 1971. Two of the nine innovator private institutions were church affiliated, and the rest were independent colleges. Church affiliated institutions appeared especially among the imitators. Of the fourteen private institutions of 1977-1980, six of them were affiliated with churches: four had Roman Catholic affiliation and two had affiliation with the United Church of Christ. The ratios of religiously affiliated institutions in that awarded undergraduate degrees in mental health do not come close to their national share. In 1971, forty-one percent of all American institutions at the bachelor's or higher level were denominationally affiliated.

¹¹ HEGIS files for 1974, 1976, and 1979 are not available. This omission should not greatly affect the analysis. Most likely, the institutions that awarded degrees in those years are picked up by the data in the following year.

The pioneer institutions in the mental health field were distinguished in their relative smaller sizes. One-third of the innovators were very-small institutions, having student enrollment between 500 and 999. There was only one very-large institution among the 21 innovators, and six of them were middle-size. In other words, only one-third of institutions had student enrollments of 5,000 or more (see Table 27). The imitators were generally larger than the innovators: six institutions from the 1977-1980 period were very-large, which constituted 22% of the joining institutions of this period. Compared to 1975 institutions that awarded bachelor's degrees in all fields combined, the middle-size level was over-represented in both generations of pioneers.

Table 27: The sizes of pioneering institutions in mental health

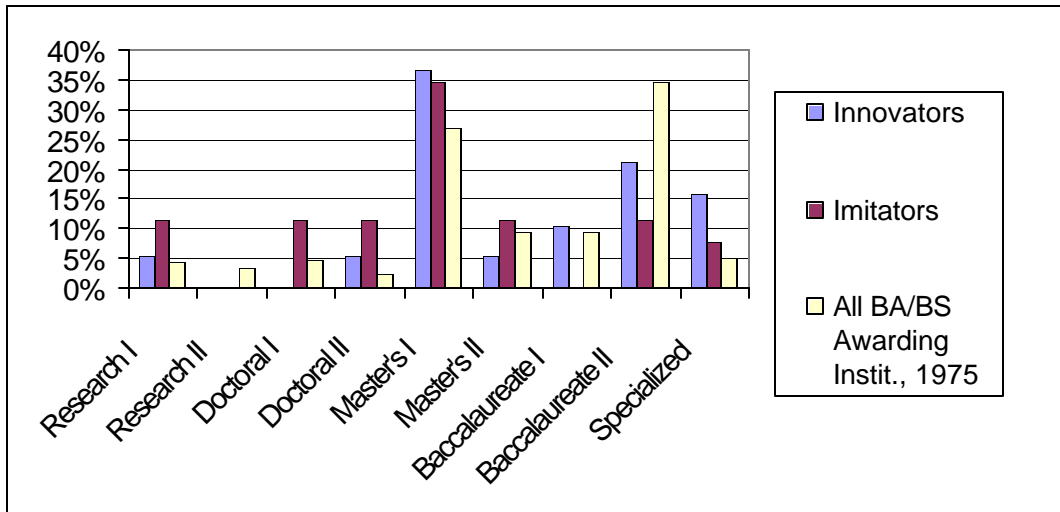
Student Enrollment	<i>Innovators 1971-1975</i>		<i>Imitators 1977-1980</i>		<i>All Bachelor's Degree awarding Institutions, 1975</i>
	Number of institutions	Percent of total	Number of institutions	Percent of total	Percent of total
1-199					1.2%
200-499					5.9
500-999	7	33.3%	2	7.4%	17.9
1,000-2,499	4	19.0	6	22.2	29.2
2,500-4,999	3	14.3	5	18.5	15.8
5,000-9,999	6	28.6	6	22.2	14.6
10,000-19,999			2	7.4	9.2
20,000 and up	1	4.8	6	22.2	6.1
<i>Total</i>	<i>21</i>	<i>100.0%</i>	<i>27</i>	<i>100.0%</i>	<i>100.0%</i>

Source: NCES, HEGIS, and Directory of Education, selected years

The pioneer institutions in mental health were average in their academic complexity. Only one institution among the innovators, and three institutions among the imitators were Research I institutions. Nevertheless, compared to 1975 institutions that awarded bachelor's degrees in all fields combined, smaller ratios of mental health pioneers were at the Baccalaureate II level as well as at the Master's I and Master II

levels (see Figure 16). However, a significant number of the innovators were “specialized” institutions (15.8%), according the Carnegie Classification. Those institutions could be academically complex, although not in terms of basic research.

Figure 16: Ratios of pioneering institutions in mental health by Carnegie Classification



Source: NCES, HEGIS data files, and Education Directory, 1974-1975

Criminal Justice

The growth of the criminal justice programs was unusual. As has been mentioned in Chapter 3, there was a great incentive to start formal undergraduate programs in this field because of the available federal funds at that time. Existing preparatory programs in criminal justice were converted to bachelor’s degrees programs, and in its year of inception the field had 50 awarding institutions. Forty more institutions joined in the following year and the number of awarding institutions reached 118 in 1973. The wide diffusion occurred in 1975 where the number surpassed 200 and 300 for several years to stabilize at around 250. Therefore, I will consider the 1971 institutions as the *innovators* group, and the 1972-1973 as the *imitators* group.

Institutions that pioneered awarding bachelor's degrees in criminal justice were overwhelmingly public. Seventy percent of the innovators and 63% of the imitators were public institutions. Overall, 65.7% of the pioneers (the innovators and the imitators combined) were public institutions. This compares to 27.3% of all U.S. institutions at the bachelor's or higher level that were public in 1971.

The innovators were markedly large institutions. Very-large institutions alone (those that had 20,000 student enrollment or more) constituted one-fourth of the innovators, and 60% of them had more than 10,000 students (see Table 28). However, there was a notable growth in the small and middle size institutions among the imitators where 55% of them had less than 4,999 student enrollments. Compared to all institutions that awarded bachelor's degree in 1971, middle-size institutions were over-represented among the imitators, but not the innovators. It was the large and very-large institutions that were over-represented among the innovators.

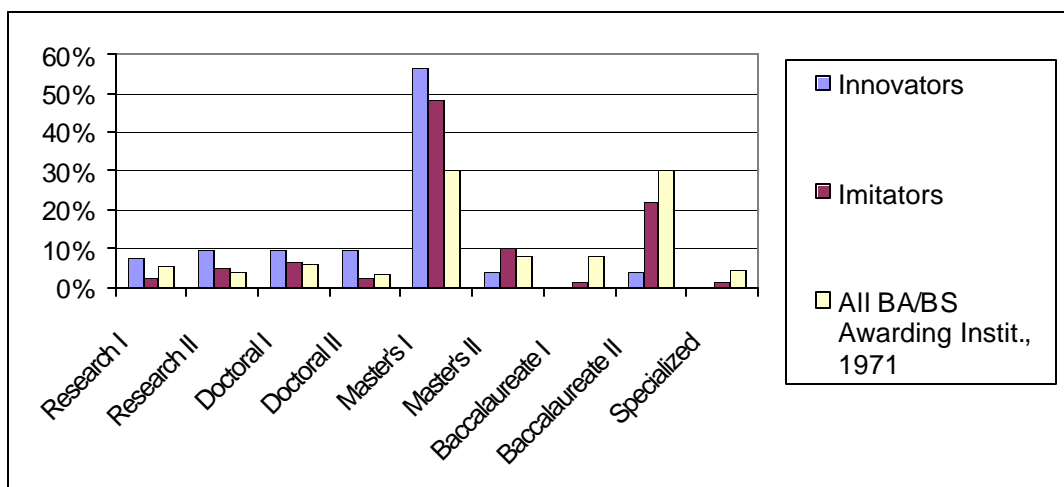
Table 28: The sizes of pioneering institutions in criminal justice

Student Enrollment	<i>Innovators 1971</i>		<i>Imitators 1972-1973</i>		<i>All Bachelor's Degree awarding Institutions, 1971</i>
	Number of institutions	Percent of total	Number of institutions	Percent of total	Percent of total
1-199					1.8%
200-499	1	1.8%			5.7
500-999			4	5.0%	17.5
1,000-2,499	4	7.0	20	25.0	25.3
2,500-4,999	9	15.8	20	25.0	14.7
5,000-9,999	9	15.8	17	21.3	16.7
10,000-19,999	20	35.1	11	13.8	12.1
20,000 and up	14	24.6	8	10.0	6.2
<i>Total</i>	<i>57</i>	<i>100%</i>	<i>80</i>	<i>100%</i>	<i>100.0%</i>

Source: NCES, HEGIS, and Directory of Education, selected years

Criminal justice programs overwhelmingly took place in institutions that were not academically complex. Thirty of the 53 innovators were at the Master's I level on the Carnegie Classification scale. Nevertheless, there were 9 institutions at the Research levels and 10 at the Doctorate levels. The downward drift along the Carnegie scale was more evident among the imitators (see Figure 17). Eighty-two percent of the imitators were at or below the Master's I level, which was caused by the joining of 8 Master's I and 17 Baccalaureate II institutions. The Master's I level remained the mode at which most pioneer institutions were classified. The ratio of the below Master's levels in the field criminal justice is larger than that of the 1971 bachelor's degree awarding institutions in all fields combined. For those levels, the national ratio was 77.2% in 1971. However, the Baccalaureate II level ration of the pioneers was 14.6%, less than half of the corresponding category ratio for the 1971 bachelor's degree awarding institutions in all fields combined.

Figure 17: Ratios of pioneering institutions in criminal justice by Carnegie Classification



Source: NCES, HEGIS data files, and Education Directory, 1970-1971

Communication

The recognition of the communication field independent from journalism came late. That is why in the first NCES listing of the field (1971) there were 184 awarding institutions. These institutions will be considered the *innovators*. The numbers of awarding institutions in the following two years were 220 and 275; these institutions will be considered the *imitators*. The year 1973 is a reasonable cutoff line because in the eight years following it the number of awarding institutions ranged from 432 to 573. In other words, the wide diffusion of institutions awarding bachelor's degrees in communication started after 1973.

Public institutions formed 57% of the innovators but only 43% of the imitators. Interestingly, a significant number of private innovator institutions had religious affiliation. Thirty-five of the 78 private institutions in 1971 were identified as having church affiliation. The percentage of institutions with religious affiliation increased among the imitators: 31% of them had religious affiliation compared to 19% for the innovators. In other words, most of the imitators were private institutions, and most of them had religious affiliation. But these high ratios were still smaller than the share of all American denominational institutions: in 1971, forty-one percent of institutions at the bachelor's or higher level were denominationally affiliated.

Furthermore, it is noticeable that many pioneer institutions were affiliated with Protestant churches. Out of the 70 institutions that were church affiliated, only 24 institutions were Catholic and the rest were Protestant. The Protestant group included relatively large churches such as the United Presbyterian (6 institutions), Seven-Day

Adventists (4 institutions), United Methodists (4 institutions), American Baptists (4 institutions), and Baptists (3 institutions). However, the Protestant group also included several smaller churches, some of which were evangelical, such as Christian and Missionary Alliance Church and Missionary Church Incorporated. Overall, half of the pioneer institutions (the innovators and the imitators combined) were public, one-quarter of them were private independent, and one-quarter of them were church affiliated. Around 93% of pioneer institutions were coed colleges. In addition, there were eight women-only institutions among the innovators, and four among the imitators. Out of the nine female-only colleges, three were church affiliated. In addition, there were four coordinate institutions among the pioneers—those colleges with separate arrangements for men and women.

The sizes of the innovator institutions were significantly large. Forty-three percent of them had student enrollment equal or more than 10,000 students (see Table 29). However, there was a significant number of institutions in almost each size

Table 29: The sizes of pioneering institutions in communication

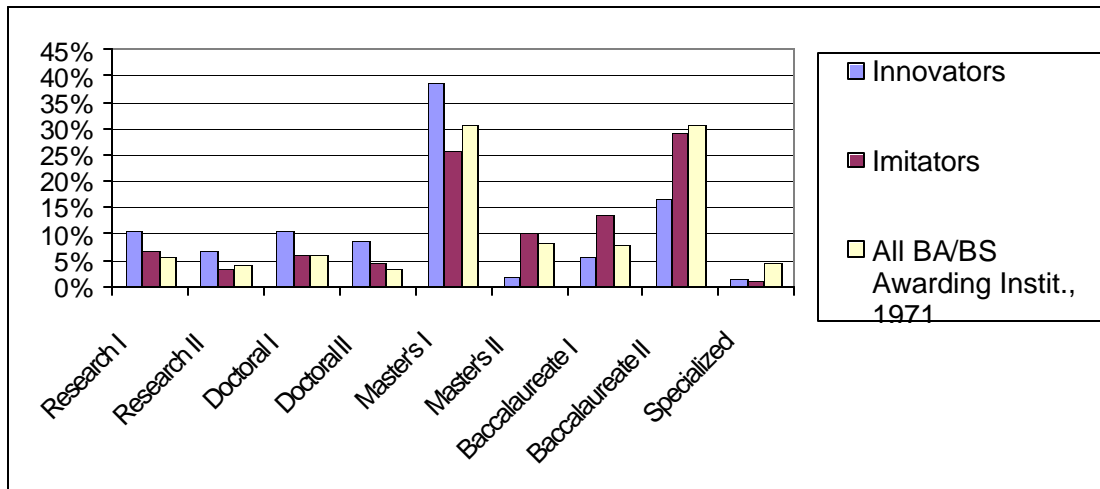
Student Enrollment	<i>Innovators 1971</i>		<i>Imitators 1972-1973</i>		<i>All Bachelor's Degree awarding Institutions, 1971</i>
	Number of institutions	Percent of total	Number of institutions	Percent of total	Percent of total
1-199					1.8%
200-499	3	1.6%	4	3.1%	5.7
500-999	12	6.6	22	16.9	17.5
1,000-2,499	33	18.0	40	30.8	25.3
2,500-4,999	20	10.9	12	9.0	14.7
5,000-9,999	37	12.2	21	16.2	16.7
10,000-19,999	42	23.0	23	17.7	12.1
20,000 and up	36	19.7	8	6.2	6.2
<i>Total</i>	<i>183</i>	<i>100.0%</i>	<i>130</i>	<i>100.0%</i>	<i>100.0%</i>

Source: NCES, HEGIS, and Directory of Education, selected years

category, including 15 institutions that had less than 1,000 students. The imitators differed markedly from the innovators in terms of size: 50% of the imitators were small institutions that had less than 2,500 student enrollments. This is consistent with the type control as discussed above. The imitators that joined in 1972-1973 were overwhelmingly private institutions, which were typically smaller than public institutions. The size ratios of pioneering institutions in communication come very close to those of the 1971 institutions that awarded bachelor's degrees in all fields combined.

The academic complexity of the institutions that awarded bachelor's degrees in communication was not high. Although 17% of the innovators were Research institutions, 64% of them were at or below the Master's I level, and 17% were at the Baccalaureate II level (see Figure 18). The imitators showed further downward shift in

Figure 18: Ratios of pioneering institutions in communication by Carnegie Classification



Source: NCES, HEGIS data files, and Education Directory, 1970-1971

terms of their level at the Carnegie scale. Eighty percent of the imitators were at the Master's I level or below, and 29% of them were at the Baccalaureate II level. Among the 1971 bachelor's degree awarding institutions in all fields combined, the Master's I

and below levels constituted 77.2%; the Baccalaureate II level constituted 30.5%.

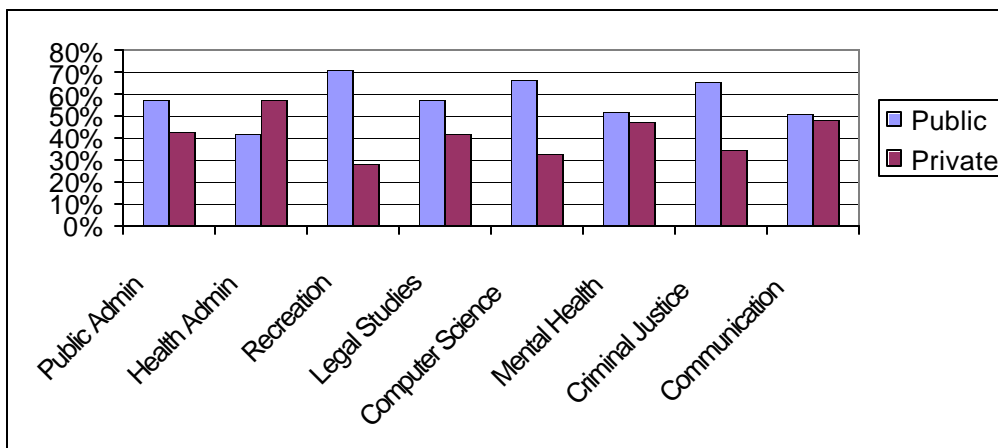
Therefore, in terms of their academic complexity, the ratios of the pioneering institutions in the communication field come very close to the national ones.

An Overall View of the Two Pioneering Generations

I summarize here the three main characteristics (control, size, and academic complexity) of *all* pioneer institutions. That is, in the beginning of this section, I contrasted between the two generations of pioneers in each field. Here, I will report about the characteristics of the *pioneers* after collapsing their two generations, the *innovators* and the *imitators*.

Public institutions were the majority of pioneer institutions for all fields except for health administration. The field of recreational studies was the top subject in which pioneers were overwhelmingly public institutions. Computer science comes next, followed by criminal justice (See Figure 19).

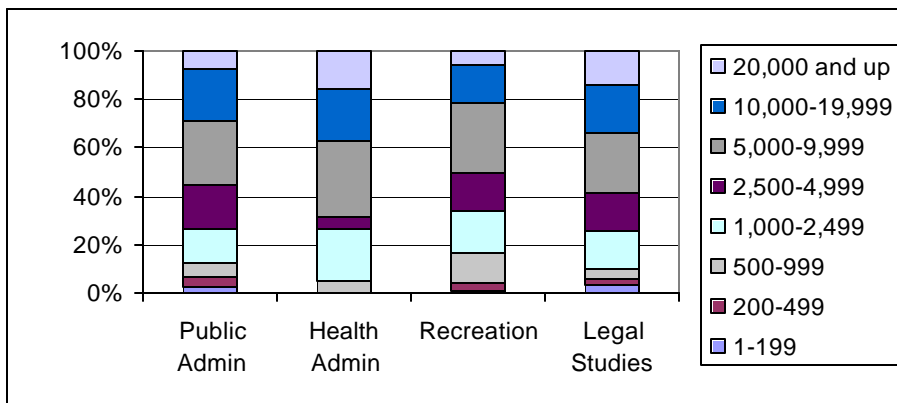
Figure 19: Pioneer institutions type of control



Source: Education Directory and HEGIS data files, selected years

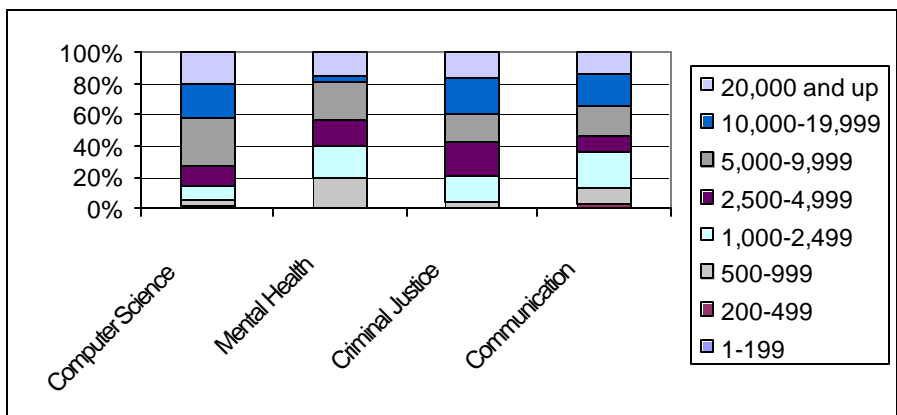
Two institutional size categories, the upper-middle (5,000-9,999 student enrollment) and the large institutions (10,000-19,999 student enrollments), were more prevalent among the pioneer institutions. Two fields, health administration and computer science had more than 50% of their institutions in those two modal size categories. In general, larger size institutions formed a significant portion of the total number of pioneer institutions (see Figure 20 and Figure 21). Except for public administration, recreation, and mental health, more than one-third of pioneer institutions were large or very large

Figure 20: Sizes of pioneer institutions, group-1



Source: Education Directory and HEGIS data files, selected years

Figure 21: Sizes of pioneer institutions, group-2

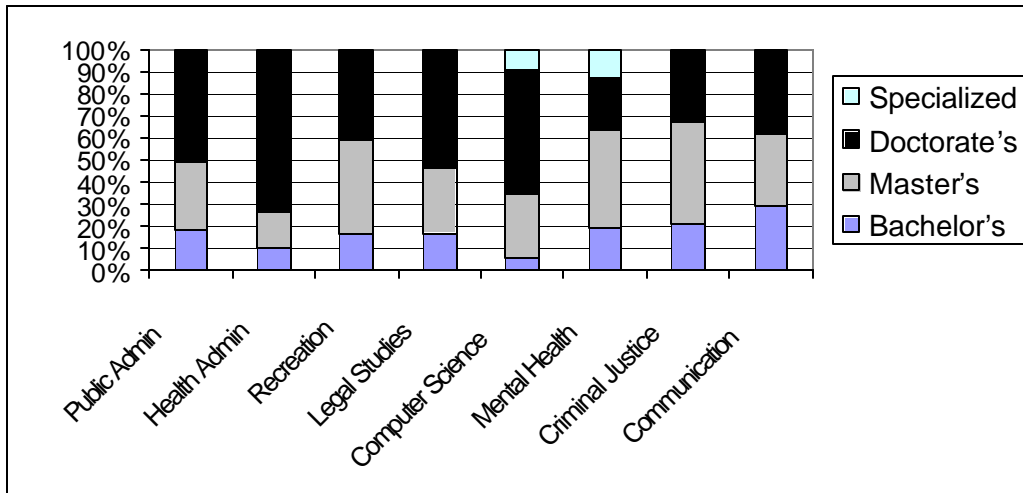


Source: Education Directory and HEGIS data files, selected years

institutions (10,000 or more student enrolments). The fields of mental health and recreational studies had significant number of small institutions, 20.8% and 23.3%, respectively, whose student enrollments were between 1,000 and 2,499.

Doctorate-granting institutions do not form the majority of pioneering institutions in four of the eight high-growth fields. Institutions of which the master's degree was their highest degree level formed a significant part of awarding institutions in most fields. Seven of the fields had one-third of their institutions in masters' level colleges (see Figure 22).

Figure 22: Highest degree level of pioneer institutions



Source: Education Directory and HEGIS data files, selected years

Cross-Comparison of the Initiator Institutions

In the preceding section, I compared pioneer institutions *within* each field. The aim of this section is to conduct comparisons *across* fields and at *one point of time*. The year 1971 was chosen because it was the first year when all of the eight fields of concern existed. This cross-sectional comparison increases our understanding of the general characteristics of the pioneering institutions and the general pattern of the rise of new growth fields for the following reasons (for more detailed discussion, see Chapter 3).

First, it adjusts for the size growth of pioneering institutions. The eight fields that I am studying had started at different years. The stretch of time between the earliest and the latest field is twenty-one years. For example, public administration started in 1950 and criminal justice started in 1971. Along those years, the NCES data used the *same* size categories (number of student enrollment). However, since there was a significant growth in the general college enrollments between those two distant years (1950 and 1971), an institution size of 5,000-9,999 should mean differently for these two years. Comparing the same institutions as they became at one point of time adjusts for this growth effect along years. Of course, this portrayal would not be perfect unless the growth rates in the size of *all* pioneering institutions were equal.

Second, comparing institutions in 1971 allows the use of the 1973 Carnegie Classification for checking the academic complexity of pioneering institutions. The Carnegie Classification is a more refined measure than the variable used in the longitudinal comparison (highest degree level). Third, the comparison in this section

takes into consideration the number of *programs* an institution had pioneered. I have used duplicate entries for institutions equal to the number of fields they have pioneered. Thus, this method does not treat equally those institutions that pioneered different number of fields. Instead, the institutional characteristics of pioneering institutions are considered relative to the number of fields they have pioneered. Therefore, I avoided inflating the institutional characteristics of the one-field pioneers, and avoided depreciating those of the multiple-fields pioneers by making the comparison among the characteristics of *programs*, not between institutions. In a sense, the institutional characteristics that are compared in this section represent a *weighted* measure.

In sum, this section compares the *initiator* institutions (the first year pioneering institutions) as they stood in 1971. Three main characteristics are examined: type of control, size, and academic complexity, in addition to regional distribution. The basis of comparison is the number of pioneered programs, not the number of pioneering institutions.

Control

Overall, fifty-seven percent of pioneer programs were publicly controlled. However, three fields existed overwhelmingly in public institutions: recreation (75%), criminal justice (70%), and public administration (68%). On the other hand, two fields were overwhelmingly housed in private institutions: health administration (75%), and computer science (67%). In addition, when we compare public and private intuitions in terms of conferred bachelor's degrees, programs in public intuitions standout as larger providers (see Table 30). The field of computer science in its first year was an anomaly:

67% of degrees were conferred by the private sector. However, this anomaly confirms the rule, since in the field's second year the public sector conferred 67% of bachelor's degrees and stayed dominant since then. Thus, if starting a new field entails responsibility, public institutions bore a larger share of it. In general, public institutions conferred 75% of degrees of the eight new fields aggregated, compared to 68% for all fields combined; this is a further indication that public institutions were leading the path of innovation.

Thus far, we can eliminate a prevalent view of innovative intuitions that is evident in the world of business. Pioneer institutions in the academia were not overwhelmingly private; rather in five out of the eight fields, public institutions were the early birds, and one field (undergraduate legal studies) was equally spilt between the public and the private.

Table 30: Pioneering institutions and type of control, by field

<i>Year</i>	<i>Field</i>	<i>Total Number of Programs</i>	<i>Number of Public Programs</i>	<i>Percent of Public Programs</i>	<i>Percent of Conferred Bachelor's Degrees in Public Programs</i>
1950	Public Administration	25	17	68%	71%
1956	Hospital Administration	9	3	30%	27%
1956	Recreation	40	30	75%	80%
1962	Legal Studies	27	14	52%	52%
1965	Computer Science	6	2	33%	4%
1971	Mental Health	5	3	60%	83%
1971	Criminal Justice	57	40	70%	90%
1971	Communication	183	106	58%	76%
	<i>Total Programs</i>	<i>407</i>	<i>233</i>	<i>57%</i>	<i>75%</i>

Source: Education Directory and HEGIS data files, selected years

Size

The data on the eight high-growth fields instruct us that pioneer institutions were rather large. In 1971, around one-quarter of pioneering programs were in *very-large* institutions (20,000 student enrollment or more), and another quarter were in *large* institutions (10,000-19,000 student enrolment). Sixty-six percent of programs were in institutions that had enrollment of 5,000 students or more, using the 1971 figures.

However, two fields totally do not fit this average picture. Both mental health and health administration were strictly housed in small institutions. Part of the reason for that is that they were offered as specialties associated with health institutions. For example, two of the five awarding institutions in mental health were “specialized” institutions, according to the Carnegie Classification.

Thus, the image of the pioneer institution as a small privately controlled university is not supported by data—innovation in academia is different from that of the silicon valleys and corridors. However, as I have alerted to, there is a time lag in the comparison that I am making, and it could be argued that some small innovative institutions at the time of a field’s inception became large in 1971.

Academic Complexity Level

The Carnegie level of an institution is another variable that changes with time, especially between two distant points. The 1973 Carnegie Classification should give reasonable reading of the three fields that started in 1971, and possibly of the two that started in 1965; but probably it is a poor indicator of the 1950 and the 1956 institutions.

Data on the eight fields show that pioneering institutions were not necessarily high on the 1973 Carnegie scale. Overall, most pioneering programs were at the Master's-I level (34%), while 15% and 11% were at the Research-I and Research-II level, respectively. However, these average values conceal important variations among the different high-growth fields. Criminal justices as well as communication were concentrated on the Master's-I level (57% and 39% respectively); recreation has a split concentration on the Master's-I level (26%) and on the two research levels (34%). The three fields of computer science, public administration, and hospital administration were concentrated at the two research levels (75%, 63% and 60% respectively). On the other hand, 40% of mental health programs were in institutions that were designated by the Carnegie Classification as "Specialized," and the rest sixty percent were divided equally among the Master's-I, Master's-II, and Baccalaureate-II levels. In short, most of new pioneer programs appeared in institutions that were not academically complex.

Regional Concentration

Regional concentration was not analyzed when discussing each of the eight fields. However, it is noteworthy to point that the geographical distribution of the pioneer programs differed significantly from that of all fields combined in 1971. The traditional home of old universities, the New England and the Mid East regions housed 7.1% and 17.5% of the institutions of all higher education fields combined, but housed only 4.3% and 10.8% of institutions that offered bachelor's degrees in the eight high-growth fields (see Table 31). Instead, the leading regions in pioneering were the Far West, the Great Lakes, and the Plains. Certainly, the center of gravity has shifted; the states of the Union

and the Confederate states were not in the new map of the American academic pioneering institutions.

Thus, local and regional effects seem to have been an enabling factor for some fields. The history of the fields' development covered in Chapter 3 included such indications. For example, in its early days, public administration was expected to provide Washington, D.C. with qualified civil servants, which should have prompted institutions in the region to fulfill such need. Nevertheless, pioneering and top awarding institutions were *not* confined to geographical areas that serve the applications of a field. The higher

Table 31: Regional distribution, pioneering programs versus all institutions, 1971

<i>Region¹²</i>	<i>Percent of Institutions, all fields</i>	<i>Percent of Programs, High-growth Fields</i>
New England	7.1	4.3
Mid East	17.5	10.8
Great Lakes	17.5	23.1
Plains	10.9	12.3
Southeast	22.2	19.0
Southwest	7.8	9.9
Rocky Mountains	3.6	3.8
Far West	12.6	16.6
Outlying Areas	0.6	0.2

Source: NCES and HEGIS data files, 1970-1971

educational system had become largely differentiated, and apparently fields were able to establish a degree of legitimacy without a direct connection to labor market needs in their proximity. Furthermore, the complexity of the American system of life became diffused

¹² Regions and their states according to the Bureau of Commerce are:
 New England: Connecticut, Main, Massachusetts, New Hampshire, Rhode Island, and Vermont
 Mid East: Delaware, Washington DC, Maryland, New Jersey, New York, and Pennsylvania
 Great Lakes: Illinois, Indiana, Michigan, Ohio, and Wisconsin
 Plains: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota
 Southeast: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia
 Southwest: Arizona, New Mexico, Oklahoma, and Texas.
 Rocky Mountains: Colorado, Idaho, Montana, Utah, and Wyoming
 Far West: Alaska, California, Hawaii, Nevada, Oregon, and Washington

in all geographical areas, especially after rural areas have been completely incorporated into the market system and small entrepreneurial activities became heavily regulated.

Multiple Pioneering Institutions

Some institutions were pioneers in more than one field. These institutions deserve a special look because they can hinder or strengthen the main argument. That is, we can look at the multiple pioneers as *model* innovators. Should those institutions do not conform to the characteristics of other single-field innovators, they would take out from the strength of the evidence. Interestingly, multiple pioneering institutions exhibited similar properties to those of single-field pioneers.

Multiple pioneering institutions were mostly public. There were three colleges that pioneered four fields, and all of them were public institutions (see Table 32). In terms of 1971 size they were fairly large: Wayne State University had 35,655 student enrollment, San Jose 33,632, and Florida State University 17,252 students. According to the Carnegie 1973 classification, Florida State University and Wayne State University were at the Research-II level, while San Jose State University was at the Master's-I level. The variation in the academic complexity level of these institutions suggests that innate institutional capacities were behind their innovative potential, and not their academic excellence, per se. The Carnegie level of those institutions did not change in 1976 Carnegie reporting.

It should be noted that most of the above institutions stand out for other reasons. In addition of being the only institution that pioneered five fields, Florida State

University standouts because its public administration program was established as such from the first day. Furthermore, Florida State University was from the top awarding institutions (in terms of the number of conferred bachelor’s degrees) in the field of recreational studies. San Jose standouts in that it was from the top awarding institutions in public administration, criminal justice, and recreation.

Table 32: Institutions that pioneered four fields

<i>Year</i>	<i>Institution</i>	<i>State</i>	<i>Pioneered Field</i>
1950	SAN JOSE STATE UNIVERSITY	CA	Public Administration
1956	SAN JOSE STATE UNIVERSITY	CA	Recreation
1971	SAN JOSE STATE UNIVERSITY	CA	Criminal Justice
1971	SAN JOSE STATE UNIVERSITY	CA	Communication
1950	FLORIDA STATE UNIVERSITY	FL	Public Administration
1956	FLORIDA STATE UNIVERSITY	FL	Recreation
1971	FLORIDA STATE UNIVERSITY	FL	Criminal Justice
1971	FLORIDA STATE UNIVERSITY	FL	Communication
1950	WAYNE STATE UNIVERSITY	MI	Public Administration
1956	WAYNE STATE UNIVERSITY	MI	Recreation
1965	WAYNE STATE UNIVERSITY	MI	Computer Science
1971	WAYNE STATE UNIVERSITY	MI	Criminal Justice

Other institutions also stand out: Michigan State University, a three-field pioneer, was a top awarding institute in public administration, criminal justice, and communication. Kent State University, also a three-field pioneer, is distinguished in conferring a relatively large number of degrees in communication in its first year. The University of Illinois is recognized in the number of bachelor’s degrees it awarded in recreation and communication. Finally, the University of Nebraska at Omaha was a top awarding institution in legal studies and in criminal justice. For a list of all pioneering institutions, see Table 37 in Appendix C.

Pioneering and the Pioneers—Hypotheses Testing

The rise of institutions conferring undergraduate degrees in the “practical-arts”, now a reality, was in process since the last four decades. The American higher education system was evolving along practical considerations powered by public demands and political decisions (cf. Rudolf 1962), in addition to the efforts of aspiring people fighting for the recognition of their fields and careers (cf. Brint 1994). This work investigated the institutional characteristics of universities that have pioneered the starting of new undergraduate fields. Adopting the institutional perspective of higher educational change, three hypotheses in relation to size, type of control, and academic complexity were put forth:

1. New fields are more likely to originate in mid-size institutions.
2. New fields are more likely to originate in public institutions.
3. New fields are more likely to originate in institutions of mid-level academic complexity.

The findings of this work support the above three hypotheses, but not without some qualifications. The different ways of cross-tabulating the data showed that neither very large nor small universities were the pioneers. However, the sizes of pioneering institutions appeared somewhat larger than expected. The larger mid-size institutions made a strong showing among the pioneers. That is especially true for the innovators, which were generally larger than the imitators. It was argued that large size might increase the load of coordination, putting negative pressure on the impetus to start new fields. While this argument still holds in the light of data, fairly large institutions

appeared more than expected. The organizational space in which institutions operate seems to be more elastic than suspected, and even relatively large institutions can push their boundaries further.

The second hypothesis was also supported by the experience of the institutions that pioneered growth fields. The common wisdom points to private (and small) institutions as more innovative. In higher education, this was not the case; the bold initiators were public institutions. Private institutions did show up among the pioneers, but they were less likely to be among the first year initiators.

The third hypothesis was also confirmed, and pioneering institutions were not at the top of academic complexity. However, the share of institutions that are relatively highly complex was more than expected. Thus, it seems that while the concerns about status expected from the more complex institutions could inhibit them from experimenting with new undergraduate fields, their organizational assets provide them with impetus for pioneering. Nevertheless, it was not prestigious institutions that set the agenda of starting new fields; and among the highly complex institutions, it was specifically the large ones that were among the pioneers. Thus, it could be argued that the effect of size takes precedence over that of academic complexity. Nevertheless, many institutions of lower levels of academic complexity did show up among the pioneers, although they were more likely to be among the imitators, the second-generation pioneers, not the initiators. More importantly, the nature of the content material of a field was found related to the complexity level of the pioneering institutions, a topic that I pursue further in the next chapter.

The strong showing of institutions of lower levels of academic complexity was true only relative the total number of pioneers. However, considering the large absolute number of lower level institutions, we can say that the majority of them were not among the pioneers. The number of institutions with terminal bachelor's degrees in the U.S. higher education system was always much larger than those conferring higher degrees; also, the number of institutions with terminal master's degrees was always larger than those that conferred doctorate degrees. For example, in 1950, the number of institutions with terminal bachelor's degrees was 763 compared to 289 for institutions with terminal master's degrees; the number of doctorate degrees institutions was half of that of the master's degree institutions. By 1962, the number of terminal master's degree institutions increased significantly to 455, and the number of doctorate degree granting institutions reached 219, while the number of terminal bachelor's degree institutions decreased to 741¹³. In 1971, 48.3% of institutions were terminal bachelor's degree institutions, compared to 33% for the master's level and 18.6% for the doctorate level¹⁴. Therefore, relative to the total number of lower complexity levels institutions, the pioneers among them were a minority.

In summary, the findings of this dissertation point to a "middle-class" theory of pioneering, although it is tilted toward the upper-middle class. The full theoretical

¹³ Note that the cited numbers for the years before 1971 includes professional degree institutions: the bachelor's degree category includes 1st professional degree institutions, and the master's category includes 2nd professional degree institutions.

¹⁴ Source of data: Education Directory, 1949-50, 1961-62, 1970-71.

implications of the findings will be discussed in Chapter 5. I conclude here with discussing three minor, but interesting, general patterns.

The discussion of the history of individual growth fields has shown that they came under diverse influences that shaped the trajectories of their development. Nevertheless, the different institutional responses highlighted three common patterns that all fields went through: first, in each and every field there were few dominant players; second, fields usually experience a rush in the second year of its existence; and third, there is an advantage of early startup in terms of future dominance.

The phenomenon of few dominant players is observed in all of the eight high-growth fields. For example, 25 institutions awarded bachelor's degrees in public administration in 1950, but five institutions conferred alone 61% of degrees. This phenomenon was in place regardless of the volume of the first year awarding institutions (see Table 33). In mental health, the number of the 1971 starter institutions was only five, and still a single institution conferred 64% of total bachelor's degrees. The field of communication is the opposite of the field of mental health in terms of the number of starter institutions; in the first year of 1971 there were 184 institutions, but ten of them conferred 33% of total bachelor's degrees, and Michigan State University alone conferred 7.3% of that total. Similarly, the field of criminal justice that received substantial amounts of federal funds did not show a more evenly spread number of degrees among institutions. Interestingly, the ratio of dominant providers was close to $1/5^{\text{th}}$ of the total number of institutions in the respective fields. The field of computer science exhibited a more extreme tendency and did not conform to such ratio: 2 out of 6 institutions

conferred 85% of degrees. It could be said that fields that require capital investment in equipment and laboratory are more likely to be dominated by fewer institutions. These large providers, as has been noted before, were more likely to be public institutions.

Table 33: The share of top awarding institutions of all degrees

<i>First Graduation Year</i>	<i>Field</i>	<i>Number of Awarding Institutions</i>	<i>Number of Top Awarding Institutions</i>	<i>Percent of Bachelor's Degrees Conferred by Top Institutions</i>
1950	Public Administration	25	5	61%
1956	Hospital Administration	9	2	50%
1956	Recreation	45	10	55%
1962	Legal Studies	27	5	43%
1965	Computer Science	6	2	85%
1971	Mental Health	5	1	64%
1971	Criminal Justice	57	7	56%
1971	Communication	183	28	55%

Source: NCES, Earned Degrees Conferred and HEGIS files, respective years

The second observation is that the second year in a field's life witnesses a rush in the number of institutions trying to offer the new study field. However, it is common that those institutions drop out of the market in the third or fourth year. Private institutions are more likely to show this sporadic offering. For example, in the field of recreation, which is predominantly public, 15 public institutions and 13 private institutions experienced sporadic offerings. Similarly, public administration is predominantly public, and there were 8 private and 6 public institutions with sporadic offering. Between 1962 and 1964, the field of legal studies, which started evenly divided between public and private institutions, six private institutions conferred degrees at the bachelor's level for only one year against two public institutions. Sporadic offerings could be interpreted as flexibility and economic responsiveness, especially that private institutions practiced it

more often. However, it could also indicate institutional instability and lack of responsibility toward students. Smaller public institutions were more prone to this behavior, which may indicate that such behavior is a function of size, and not a function of the type of control.

Third, there seems to be an *early bird effect* in terms of potential future growth. Early providers seem to be more able to stay providing large proportions of degrees for several years. For example, the computer science departments of 1965 and 1966 grew more rapidly by 1969 than those that came later: they represented 9% and 21% of the total number of the undergraduate awarding institutions, but they conferred 15% and 35% of total degrees, respectively. Similarly, in the field of recreation, several institutions that started in the first or second year kept their lead for 10 years. Other fields exhibited similar behavior, although the number of years in which early birds stayed large providers varied significantly.

The three general patterns point to a possible conclusion. What is crucial in academic innovation is not simply having the desire to do that; rather, it is having the capacity to act. Institutions that are just lured by mimetic pressures usually fail; the second-year frenzy rush is usually followed by withdrawal. It is reasonable to say that such institutions lose energy by overstretching themselves. Institutional capacities, however, are not necessarily equivalent to size or to academic complexity level. Institutional capacities are more related to the ability to (1) move early and (2) attract a large number of students, which raises the probability of the program's continuation. Patience here pays: some institutions stayed consistently conferring small number of

degrees until they eventually reached reasonable size departments. Successful organizations monitor their environment. However, it is unlikely that those who merely imitated have succeeded. Pioneer institutions should have been self-driven, for there was not enough time-lag for watching and then imitating. Rather, all of them were testing uncharted territories. Mimetic pressures positively serve institutions when they outwardly conform to the rituals of presentation, when they impress students with frills, and when they adhere to what enhances legitimacy in the eyes of funding agencies. Mimetic pressures work well for institutions when they motivate them to find their own niche, not when they push them to replicate. As we have seen, there was an internal division of labor within several fields in terms of academic emphasis. This allowed relatively small players to coexist with ones that are more powerful. The following chapter elaborates on the theoretical implications of the findings of my work, including a further discussion of the concept of organizational mimetic pressures.

CHAPTER FIVE
THEORETICAL IMPLICATIONS

The general patterns that this dissertation has documented serve as a tool for checking on the plausibility of the theories of higher education change. In this chapter, I first discuss the extent to which the behaviors of growth fields appear to correspond to the theoretical leads that have been reviewed. In the second section, I synthesize elements from different perspectives showing their interactional effects and arguing that institutional responses vary depending on the academic nature of fields. I consider this point to be a major contribution of my work. The third section discusses one implication of this dissertation on organizational theory.

Explaining Change in Academic Fields

As has been covered in Chapter 1, the literature on American higher education attributes changes in the city of knowledge to one of three sets of factors: to faculty choices, to external factors with emphasis on social movements, and to institutional practices in response to labor market. In Chapter 1, I have suggested that the three perspectives would anticipate different trajectories in the development of new fields. Here, I will compare my extrapolations on the perspectives with the experiences of the eight high growth fields of this dissertation.

Faculty-as-Authors Perspective

The faculty-as-authors perspective gives priority to the actions of faculty as they write the present and the future of their fields. Consequently, this perspective does not adequately account for the influence of the government on academia. The perspective does recognize the importance of the departmental structure of the university as well as

the role of the administrators and students. However, it puts emphasis on the custodians of knowledge and their choices. Certainly, the biographical history of some of the growth fields points to the role of professional individuals who were instrumental in pushing their fields to higher grounds. However, we have also seen that their efforts were not the only relevant element, nor were they the most important factor. The impact of the state was considerable on most of the eight growth fields; the federal government passed laws and enacted regulations that had significant impact on the different fields. The faculty-as-authors perspective has no problem in acknowledging the role of the government, but it sees faculty as the final arbitrators. However, governmental interventions were often *independent* from faculty and from the university, and had their impact on more than one facet of life.

For example, in 1939 Franklin Roosevelt signed the Executive Order 8242, which established the divisions of the Executive Office of the President and defined their functions and duties (NARA 2002), and which resulted in asking the Bureau of Budget to conduct research in the area of administration (Egger 1975:70-75). The impact of such legislation came from *without* the academic world. It created a new structure of opportunities without which the field of public administration would have been different, or at least, it would have not grown in the way it did. Similarly, the Bureau of Outdoor Recreation adopted the concept that leisure is important for the normal life of citizens, which opened new avenues for the field of recreational studies (Murphy and Howard 1977:8-9). The field of communication benefited tremendously from the research done at governmental institutions after the war. Most interesting, Rogers (1994:11-12) notes, is

that the higher-ranking faculty members that gave life to the field of communication were themselves employees in the governmental information agencies. One crucial element in the government's intervention for the development of the field was that it availed an excellent network of scholars, although it was not consciously a planned action. The federal government heavily funded the field of criminal justice, and departments raced for the prize. Furthermore, the beginning of this field was not underwritten by any faculty; rather, it had very strong attachment to a mundane problem toward which professional improvements were sought. Similarly, public administration, health administration, recreation, and legal studies were all based and raised in apprentice structures; and apprenticeships have bosses, not faculty engaged in abstract systemized knowledge. Thus, the state was noticeably active in the development of "practical" fields, where the government furnished the necessary infrastructure, funds, or both. Faculty were just co-authors.

Second, I have suggested that if faculty members were the only protagonists in the academic theater, they would have the power to *demand* funds and the discretionary power to disburse them as they wish. The experiences of the eight fields tells that university departments were either just coping with governmental funding and its directions, as it was the case in criminal justice, or desperately soliciting funds, as the case was for public administration and communication.

Third, the faculty-as-author perspective stresses the importance of knowledge itself in shaping higher education institution. The experience of the eight growth fields does give credence to this notion. Not that knowledge is the only fuel in the academic

engine; rather, it seems that fields with a more crystallized core of knowledge had more negotiation power and control over their destiny. For example, the computer science field did not have to obey the dictates of the federal government as criminal justice did. Public administration naturally had weaker stature in front of external demands as it was struggling to settle its academic course that was oscillating between human planning, political science, and business emphases. As for the field of communication, to the extent it was written by different faculty members, they authored different versions of the discipline each of which was backed by a different institutional resource base. The case of the communication field, in other words, demonstrates the joint interactional action between knowledge and resources mediated by professional organizations.

Finally, the faculty-as-authors perspective let us anticipate a pyramidal branching of new fields. That is, as the research in a field accumulates, sub-areas grow forming their own identity and emphasis, and eventually go independent. This view partially applies to public administration, mental health, and communication. However, health administration, legal studies, computers, and criminal justice were fields driven by practical applications, and were not exactly heeding the directions of the scholars of a mother field.

External Forces Perspective

The argument of the external forces perspectives can be summarized in two main points: first, that the political economy of the country and the state dictates the fate of fields in the higher education system; second, that social movements force the acceptance of new subjects or emphasis in curricula (cf. Slaughter and Silva 1985; Slaughter 2001).

The experiences of the eight growth fields indicate that the influence of the political economy on the growth fields was evident. However, the influence was either indirect or was mediated through several social institutions. There is nothing in the social life that is not connected to political economy conditions, and the challenge is to describe the mechanisms through which such influences penetrated the academia.

The eight growth fields suggest that political economy conditions were consequential for aspiring fields. For example, the field of recreation witnessed its expansion after a period of national prosperity. It was also affected by the decisions of city managers regarding recreational facilities. However, it was as well affected by the shifting definitions in life style and the attitudes toward rural and foreign immigrants. Political economy conditions, as has been shown in Chapter 3, affected public administration, communication, and mental health. However, the fate of these fields was foremost decided by their institutional realities: (1) their struggle to crystallize a core identity, (2) their historically-based capacity to draw on intellectual heritage relevant to the field, (3) their successful effort to secure institutions that host their programs (note that although public administration is intimately involved in politics, its first and second cradles were furnished by private parties), and (4) their ability to carve a professional niche among close equivalents.

The overwhelming immersion of fields in their institutional environments was also evident in the fields of communication, criminal justice, hospital administration, and undergraduate legal studies. Chapter 3 showed, for example, that the founder of the Institute of Communications Research in the University of Illinois, the first of its kind,

also founded eight years later a similar institution in Stanford. However, Stanford became the model. Institutions in Minnesota, Wisconsin, and Michigan State followed the trend, and the labels “communication” and “communications” started to be added to “journalism” programs. These developments were purely institutional, and can hardly be explained in political economy terms. The case of criminal justice is usefully illustrative as well. The field depended on the massive federal funding initiative by LEEP. Yet, we have seen that it has choked with those funds because of its institutional and academic unreadiness, which rendered the field subject to wide criticism of its design and of the effectiveness of its programs (cf. Sherman 1978). Moreover, there were lengthy institutional disagreements on the advisability of requiring credentials for the police force. These disagreements were rooted in the prevailing professional practices of law enforcement personnel and institutions (cf. Palombo 1995; also Wilensky 1964:144). Obviously, in the case of hospital administration, the field has been highly affected by the increasing complexity of hospital operations; nevertheless, the field exactly struggled in developing appropriate institutional responses to such arising political-economy-connected developments.

In short, political-economy conditions are there, but they do *not* define the goals, content, or boundaries of academic field. The institutional responses out-weigh political economy considerations. More accurately put, political economy pressures get *processed* by institutions that are endowed with certain capacities and operating within certain constraining environments.

Second, the external forces perspective would forecast that fields that are connected to industry and to profitable operations are those which show on the list of high growth fields, or that they grow in larger magnitudes. Such argument does not fit any of this dissertation's high growth fields. Instead, these fields simply created profitable niches for themselves, which of course were part of the socio-econ development of the society. But that does not constitute a support for the political economy argument.

The third, overly-stressed argument of the external forces perspective is the role of social movements. The historical evidence on the rise of the high growth fields of this dissertation does not support this supposition. Even when defining the concept of social movement loosely, only the field of recreation was connected to a social movement. Yet, it is not clear at all that the Recreation and Parks Movement (although it represented a more concrete reality than Slaughter's concept of "diffused" social movement), had a decisive role in the shaping of the field the way social movements, presumably, affected women and ethnic studies. Mental health did experience social-movement-like activities. The Group for the Advancement of Psychiatry was, in a sense, a social movement that sought to integrate psychiatry with other social and behavioral sciences. However, it can be better conceptualized as a professional group with its own academically based institution, competing with the more institutionally established American Psychiatric Association (cf. Grob 1991). Similarly, community psychiatry approximates a social movement of professionals who served in the military and formed a vision on how psychiatric treatment should be (cf. Daniels 1969). To be sure, these two organized

collective efforts did leave some impact on the field of psychiatry (and we may question how lasting it was), but certainly, they explain only a fraction of the reality of the field and its development.

In summary, the developmental contexts of the eight growth fields are best captured by the institutional perspective that forecasts contingent developmental patterns in which the outcome is determined by the intersection of professional action, organizational resources, state interventions, and labor market opportunities. This is the view that this dissertation adopts, but before discussing its application on the studied growth fields, I visit some other partial explanations.

Alternative Explanations

Below I will review two theoretical orientations related to change in professional knowledge. Namely, I will visit the idea of credentialism and the idea that the post-industrial society knowledge is marked by a different kind of knowledge. I will try to see if they illuminate the stories of the eight growth fields, and I will point to some of their limitations.

The work of Daniel Bell (1973) *The Coming of Post-Industrial Society* is a reading in the nature of the future society and includes several points relevant to this dissertation. Bell theorizes that five major changes have occurred in the contemporary social systems. They are: a shift to the service economy in the economic sector, a change in the occupational distribution as reflected in the rise of a professional class, the increasing centrality of theoretical knowledge for innovation and policy setting, the

deployment of technology for control, and the creation of a new kind of “intellectual technology” (pg. 14). The changes brought by these five dimensions have created what Bell called the post-industrial society.

Bell explains that the majority of workers in this new society are employed in white-collar jobs, as apposed to agriculture and industrial sectors in the old industrial society. It is a society where the preformed work of many people has become based on professional knowledge that requires college education. The post-industrial society is distinctive in the expansive role that theoretical knowledge plays in all aspects of life. The increased ability to use technology for control and forecasting, especially in economic related matters, had empowered people and the society to plan. Lastly, the post-industrial society is marked by an increased ability to manage complexity through technology. In Bell’s words, *intellectual technology* “is the substitution of algorithms (problem-solving rules) for intuitive judgments” (pg. 29), that are usually machine or computer operated. Bell does not shy from stating that the goal of this new intellectual technology is exactly achieving the dream of “ordering” the *mass* everything society (pg. 33). The human race, Bell notes, has conquered the natural order and won; then it made strides in substituting it with a technical order. The challenge of the post-industrial society is to insert this new technologically driven order in every aspect of life (pg. 45).

Daniel Bell’s work extends much beyond the topic of this dissertation; therefore, I will specifically focus on his idea of the role of knowledge in contemporary society. Bell conceptualizes that one of the prime changes in the new system of knowledge is the convergence of theory and empiricism. This is evident in the marriage between science

and technology, he notes. For example, the development of the computer constitutes a bridging tool between theory and data. Although he warns against a technocratic view of society and recognizes that “knowledge has ... been necessary in the functioning of any society,” he nevertheless asserts that “[w]hat is distinctive about the post-industrial society is the change in the character of knowledge itself. What has become decisive for the organization of decisions and the direction of change is the centrality of *theoretical* knowledge—the primacy of theory over empiricism and the codification of knowledge into abstract systems of symbols that, as in any axiomatic system, can be used to illuminate many different and varied areas of experience” (Bell 1973: 20).

This conceptualization of Bell is directly challenged by Collins’s (1987) theory of technology. Collins notes that science and technology are not closely linked, and that they have “different genealogies.” Even he argues that new scientific knowledge is based on a process of trial and errors. Thus, it is not scientific rules that make modern knowledge different from the pre-scientific era; rather, the difference lies, according to Collins, in that research is carried in large and organized scale. However, Bell and Collins are not in total disagreement. Bell (1973) asserts that 20th century science-based industries “are primarily dependent on theoretical work *prior* to production” (pg. 25, my emphasis). I do not see that Collins’s thinking necessarily contradicts this point.

The eight growth fields may have something to say about Bell’s generalizations. Bell’s description overstates the scientific substance of the new forms of knowledge. With the exception of computer science field and, to some extent mental health, the rest of the fields are soft sciences. The fields of recreation, criminal justice, and

communication struggled even just to construct a modest scientific base. Public administration, health administration, recreation, and criminal justice are all rooted in practice and they do not fit Bell's conceptualization of the fusion between theory and empiricism. Rather, their theories are rooted in praxis. Similarly, the field of undergraduate legal studies has its own logic and rests on a largely nonscience base. Therefore, the credentialism argument of Collins (1979) constitutes a response to that of Bell. Collins convincingly demonstrated that many post-industrial jobs and functions require a minimum of knowledge and that specialized knowledge learned in higher educational institutions has remote relevance to the practical tasks required in the actual jobs.

Nevertheless, two of Bell's assertions seem to hold in relation to the eight growth fields. First is the rise of the service economy. While it is hard to accurately specify what a "service" field is without contrasting it to production, the service *dimension* is clear in most of the eight growth fields. It should be mentioned here that Brint (1994: Ch 3) provides a multifaceted template for classifying new types of "expert services" along the three following dimensions: "the distinct spheres of social purpose, the organizational location, and the market situations of professionals" (pg. 45). Brint notes that occupations are the best indicators of spheres and sectors, although they are not the only ones; the eight fields of this dissertation, therefore, can be reasonably mapped along this template.

In terms of their social purpose, and using Brint's (1997) typology, public administration, hospital administration, and criminology fall into the "civic regulation"

sphere. The professionals in this sphere are usually connected, directly or indirectly, with governmental institutions. Three fields, mental health, recreation, and legal studies belongs to the “human service” sphere in which, unlike the civic regulating sphere, service is focused on individuals. However, undergraduate legal studies may also be classified under the civic regulation sphere. Lastly, the field of communication falls under the “culture and communication” sphere, and computer science falls under the “applied science” sphere. Now these spheres, as Brint shows, can be located in three major forms of organizational sectors: governmental, private, or nonprofit. The third dimension of Brint’s typology is market situation, where the above spheres and sectors operate in different market opportunity structures. Taking into consideration Brint’s complex classification scheme, we can say that Bell’s notion of the service economy may not be incorrect but is too general.

The second plausible assertion of Bell is that of complexity. Certainly, public administration and health administration were highly triggered by the demands of complex environments. If we consider that new forms of crimes are more complex, and that new leisure patterns generate complexity because they respond to highly diversified tastes, then we can add the fields of criminal justice and recreation to the list. However, none of the eight fields approached Bell’s techno-scientific vision. Does the field of computer science correspond directly to Bell’s assertion? The answer is the affirmative insofar as we consider it a tool for managing complexity and for enabling the utilization of large data, both of which are crucial for a vital economy. However, if Bell’s projections were completely right, algorithms by now should have displaced all but top

computer science programmers; i.e., all of them would be now working as high-level language and algorithm designers.

In conclusion, the genre of Denial Bell's writings has its own merits and limitations. As futuristic retrospection, it carries the virtue of a systematic attempt at forecasting; but since it does not study actual processes, it is "prone to visionary overstatements" as Brint (2001:107-109) put it. Now I turn to idea of credentialism, which is highly critical of the technocratic vision.

Credentialism rests on the idea that academic degrees are not sought solely for their face-value utility, focusing instead on the symbolic dimension of knowledge, especially in higher education. The relationship between education and the elite culture is strongly argued by Bourdieu (1988): "Working as an ideology in a state of practice, producing logical effects which are inseparable from political effects, the academic taxonomy entails an implicit definition of excellence which, by constituting as excellent the qualities possessed by those who are socially dominant, consecrates their manner of being and their life style" (pg. 204). Randal Collins (1977) showed that education, throughout history, was largely connected to status building in a cultural market. Since leisure and consumption are the defining features of status groups, these groups tend to seek education in the form of a club that distinguishes between members and non-members. In addition, those groups exhibit disdain from practical education and stay away from materially productive skills as a social tactic to augment their status. This kind of education-with-closure creates a market of "cultural goods." The currency of this market is derived from the culture of the elite, the wealthy and the powerful, who try to

monopolize the symbols of status. It follows, then, that the supply of cultural goods becomes a major point of contention between stratified social groups. Such supply of goods is contingent on material conditions, including the availability of teachers and resources. On the other hand, the demand for those cultural goods is contingent on the potential payoffs from education as perceived by aspiring individuals. The demand is negatively affected by the level of legitimacy that the dominant class enjoys, and is positively related to the strength of the political opposition to class dominance. Those supply and demand dynamics produce an inflationary pressure on the educational system: more demand for educational currency coupled with the depreciation of the current value of educational degrees, ensuing a spiral of credential inflation.

Collins's 1979 work, *The Credential Society*, largely elaborates his original argument and connects it to a much larger scope of social processes. Collins (1979) combats the "myth" of technocracy, the idea that modern society has been marching ahead because it was developing alongside technology and science. Specifically, the technocratic vision assumes that education has become the equalizing mechanism for the American ethnically diversified society, and that the basis of social groupings has successfully been changed from *ascription* to *achievement*. Citing extensive research and examining the historical development of education in America, Collins asserts that educational credentials are themselves part of a stratification system. The challenge, he observes, is to explain the social processes that produce and maintain such "modern" system of stratification. In his words: "two themes become steadily more prominent: (a) the place of education as a cultural basis of group formation, especially for groups

struggling to shape their occupational positions and careers; and (b) the role of technology in setting the problems and material rewards around which these struggles hinge” (Collins 1979:11-12).

Skeptical of the received view, Collins (1979) notes that research does not show that educational attainment is connected to productiveness. Furthermore, the tasks of modern jobs do not necessarily require high levels of education; short sessions of training would suffice for most tasks. He argues that even leisure has been incorporated into the job itself, and that advanced technology has lessened the need for demanding training. The key to understanding these puzzles lies in that credentialed professions are more concerned with gaining control and assuming power than maximizing production through advanced skills. Collins theorizes the existence of two modes of labor, *productive* and *political*, which form a reinforcing mechanism: “Productive labor is responsible for the material production of wealth, but political labor sets the conditions under which the wealth is appropriated” (Collins 1979:50). He further argues that the distinction between these two types of labor is essential because it explains how the organization of work reproduces two social classes, a working social class and a dominate social class (pg. 50-55).

The conceptual node in Collins is that the system of education is a generator of *cultural market*, which, at best, has loose connection to skills and capabilities necessary for real life production. This market has gone into historical developments that heightened its differentiating effects. The educational credential system has slowly developed, starting by elementary then higher grade schools, and followed by requiring

compulsory education at the different levels. The American system is distinguished in that it follows a *contest mobility* design as apposed to a *sponsored mobility* system of the European countries. Ironically, the contest mobility system produced more fault lines of social differentiation. That is, since significant material resources have been invested in the specialized culture-producing organizations (formal education), different social groups have been able to acquire unequal levels of cultural capital and to capitalize on it differently. Furthermore, Collins argues, the structure of those cultural-producing organizations partially determines the societal outcome: “The more decentralized and competitive the organizations, the more competition there is in the realm of cultural consumptions, especially if at the same time culture is attached to stratification, by which economic and political domination are organized on the basis of cultural group membership” (Collins 1979:92).

Collins (1979) theorizes four possible effects of the “cultural currency” production. One is the expansion of material production because of the increased investment in cultural goods. The expansion of material production occurs because cultural goods formalize relationships among the different groups in the society and build larger networks of exchange, and because it could infuse trust in their interrelationships. A second scenario is that increasing investment in cultural goods intensifies domination. This is likely to occur when cultural resources are structured in a way that prevent distribution, as when, for example, investment is concentrated in luxury goods that are not conducive to wide diffusion or when it is concentrated in supporting a military superstructure. In this case, economic stagnation and political domination are the likely

outcomes. The third possibility is that some redistribution of material goods takes place because of middle class members becoming cultural producers (e.g., priests and teachers). In this scenario, Collins notes, educational credentials become a main currency in occupational closure, and overall inequality remain the same while the number of political laborers who are dependent on nonproductive work expands. Collins entertains a fourth possibility of wide expansion of cultural market that results in a deep redistribution of material goods. This could happen if a society-wide social movement, or a revolution, alters the basis of cultural currency. However, this is an unlikely outcome, Collins notes, because such a movement would necessarily create and monopolize new cultural symbols for its elite members (pg. 67-69).

In accounting for the processes that produced such kind of an educational system, Collins largely attributes its rise to the multiethnic conflict that took place in the American society after the middle 19th century (1979 Ch. 5). The overall effect of the prevalence of educational credentials was not the erosion of differences and social classes, rather, their fragmentation. The system of educational credentials has become the new mode of stratification, and its “cultural currency makes the conflict irreparably multisided, each occupational group against the other, and tends towards increasing fragmentation rather than towards consolidation into two opposing blocs” (pg. 72). The overall impact is that the significance of educational *content* gradually dissolved, giving way to a credential system in which the measurement as well as the value of education “have been stored almost entirely in the cryptic records of credits, grade-point averages, and degrees” (Collins 1979:130). Similarly, Dore (1976:72) points to the relationship between

knowledge content and the prevalence of certification: “the more widely education certificates are used for occupational selection, the faster the rate of qualification inflation, and the more examination-oriented schooling becomes at the expense of genuine education.”

In summary, status competition theorizing is a *soft* variant of a conflict theory. It stresses that education is a mark of status group competition. The educational system allows different classes to compete for occupational and social success, where curriculum is manipulated by the dominant group that infuses it with its own cultural values. The marked contribution of these arguments is their sharp examination of the forces behind the *inflation* of educational credentials. However, these arguments do not explain *all* of the elements of change in the educational system. Turner (1997) notes that the symbolic cultural argument stresses how education "colonizes" the minds by imposing middle-class values upon the working class. According to him, these approaches have some merit but they err in exaggerating the degree to which economic forces determine how education is structured. Mass education [and consequently the need for certification] began before full-scale industrialization was in place. Political pressure and religion are also crucial factors in determining the structure of education (pg. 229). Turner, however, acknowledges that once the connection between educational credentials and occupation is established for elites, then nonelites pressure the state to provide them (pg. : 231-232). In addition, it could be said that his theory of credentialism dissected every corner of the society except educational institutions themselves. Specifically, Collins's sophisticated argument reflects his mode of theorizing. His theory assumes that wide scale micro

phenomena form a macro order, or at least explain it. To his credit, he did present numerous linkages between those micro processes. Thus, to the extent these linkages are defensible, Collins theory is correct. Lastly, it seems that Collins engages in a continuous shifting of underlying causality, economics at one point, the actions of early religious communities at another, and ethnic conflict at different conjunctions.

In summary, the above reviewed alternative explanations share two prosperities. They are larger theories, theories on modern society, with some implications for higher education. Second, they generalize, or the academic end users do, beyond the precise goal for which they have been designed.

Points of Convergence

In this section, I will identify strong points in the different perspectives, points that I will utilize in my institutional model. Here, I will acknowledge what I see as significant contributions, trying to keep them close to their original formulations. However, I will appropriate these points in a certain way when I integrate them in my institutional model.

The main criticism of the faculty-as-authors perspective is that the higher education system operates in a complex environment. Relevant factors cannot be restricted to the in-house dynamics of knowledge or to its actors. The matter here is not that of accounting for agency versus neglecting it. Rather, agency is (1) hooked up to a network of actors, (2) who act in varying degrees according to evolving professional norms, and (3) who are located at the intersection of several organizational structures

with varying resource bases. Nevertheless, the faculty-as-authors perspective should be credited with one major idea—the centrality of knowledge itself. The importance of the content of knowledge should be a common sense idea, but it seems that it fell out of grace with the advent of postmodernism. The rationality dimension of a field of knowledge cannot be totally discarded, and its correspondence to social privileges does not negate every bit of its rationality. Furthermore, the rationality of a field does not have to be purely rational; it is good enough to be provisionally rational. A field of knowledge necessarily comprises rational elements, regardless of the extent of its inclusion of nonrational frills.

I claim that the centrality of knowledge content is an overlooked point of convergence. Larson (1977) has discussed how systems of knowledge try to scientifically legitimize themselves, stressing interest goals and hegemony in the society. Similarly, Slaughter (2001) examines the “dominant narratives” of linear curricular change, criticizing the adequacy of its three sources: the uncritical histories, the views of administrators who are part of the beneficiaries from the dominant narratives, and what she calls market forces to which she provides a mixed in favorability analysis. Collins (1979) debunks the relevance of formal education to actual work. Brint (2001) shows the inadequacy of the term “knowledge workers,” arguing that such a label overlooks that all types of work involve knowledge, including practical knowledge, and that such a label exaggerates the knowledge content of the so-called knowledge workers. He notes that in some cases knowledge workers “are clearly workers, however privileged they may be” (pg. 115). I argue that those valid criticisms confirm the bottom line of the academic

trade. Knowledge is the currency of the academia, and they differ in the extent to which they are backed up by gold or by contractual guarantees of fair exchange. It remains, however, that different currencies have different values, regardless of the degree of social construction and the “myth and ceremony” they weave around themselves. I suggest that recovering the idea of the existence of a rational core in the academia is important for the understanding of this world, and that without such acknowledgement we could not meaningfully speak of social construction. That is, we cannot speak of lamenting emptiness; there has to be something to be glossed over, regardless of the thickness of the core. Thus, when theorists of the critical bent, such as Larson and Slaughter, speak of knowledge systems that mirror social classes, or when Freidson and Brint (and Larson) speak of professional control, they all speak about bodies of knowledge, knowledge of different sizes and shapes, and most relevant to my concern, knowledge of different degrees of crystallization. Steven Brint (2001:114) theorizes that modern knowledge, which is connected to the economy, is best conceptualized as “scientific-professional knowledge.” According to him, this type of modern knowledge involves two basic elements (which in my scheme of perception are two irreducible realities):

1. principles and methods of analysis (in some cases, a scientific theory) that can be used to expand the knowledge base, to solve new problems, or to develop new applications; and
2. a continuous body of research aimed at advancing and utilizing these principles and methods.

The above consideration of knowledge content enters my model in what I will call “knowledge entrenchment,” which I will discuss in details in the following section. Now

I turn to another point of convergence around a basic idea from the external forces perspective.

I suggest that the external forces perspective is correct insofar as it adds a corrective measure to the self-sufficiency image of faculty-as-authors perspective, and insofar as it responds to pure market and student choice notions. I see that the political economy argument is valid in describing the macro determinants of power positions in the structure of higher education. However, I remind here with my position that one of the main reservations about the external forces perspective is its *analytical distance* from the subject being examined. Moreover, the social movement element in some of this perspective's strands is only relevant to the subject of inducing unwanted change—i.e., change that conflicts with the cultural prerogatives of the elites. Nevertheless, shedding off the exact formulations of this perspective allows us to acknowledge an important dimension at its core. This perspective reminds us that there is nothing benign about the differential power of different fields of knowledge, and that such differential advantageous positions align with power relations in the whole society. This basic idea would not be flatly rejected by the other perspectives. The degree to which such alignment is perfect is another matter that is certainly disputable. Therefore, I argue that Collins's (1979) idea of "political labor" addresses the spirit of the critical school idea, although at another level. Furthermore, Collins speaks of organizational resource base as a determinant of status. Ironically, his analysis of "cultural currency production" is termed as a political economy argument about status, although couched in a different vocabulary and anchored to different metatheoretical presumptions. Thus, Collins's

formulation could also be fairly accused of analytical distance. The institutional perspective, in its varying strands, also takes seriously some political economy factors. However, it chooses to analyze powerfulness and resourcefulness at the organizational level. Thus, I argue that the concerns of the external forces perspective are well accommodated in the institutional perspective in the form of organizational environments and professional *collective* interests.

A third point of convergence is the centrality of the labor market in understanding the presumably altruistically spirited academia. It is the institutional perspective that pays close attention to the connections between professions and the labor market. This main contribution of the institutional approach seems to be under-appreciated by the external forces perspective, although it acknowledges the latter's idea of the political economy centrality. Slaughter and Silva (1985:9) do note that university employees are equivalent to small capitalists who work in the public sector. However, there are two differences between those two perspectives in accounting for the labor market: one accounts for it at the meso level and the other at the macro level; one is ethically mute and the other has someone in mind to blame. From the perspective of this dissertation, the institutional approach has the advantage of accounting for the labor market in terms of clearly identified processes. For example, Wilensky (1964) describes the professionalization process in terms of verifiable steps. He also points to the importance of the internalization of the norm of service ideal for successful professionalization. The advantage of the institutional perspective is that it brings analysis into the heart of the organizations that are *doing* knowledge. For example, the institutional perspective

examines competition, internal conflict, the effects of increased bureaucratization, and the idea of labor market shelter (Freidson 1984, 1999), none of which is unrelated to political economy considerations. The connection between professionals and the labor market is most detailed in Brint (2001) as he identifies three sectors that are specifically “knowledge-centered” (pg. 116).

Finally, I add to the above three major points of convergence one additive element. I consider that the notions of credentialism, student choice, and demographic considerations as *partial* views that could be integrated within the other perspectives. I describe them as partial because it could be hardly argued that credentialism, for example, adequately speaks of the whole story of higher education. To the extent it is a valid argument, and despite of all its theoretical elegance and wit, it speaks of a single phenomenon that the modern system is experiencing. Demographic shifts are consequential for the system of higher education, but the outcome depends on how institutions choose to cope with it, and their capacity to do what they intend to do. Thus, I consider those views as complementary, which can further specify the explanations of an institutional perspective’s study.

As a closing remark, I discuss the link between two seemingly contradictory ideas: my claim of significance of the nature of knowledge to institutional processes on one hand, and the marketized nature of contemporary knowledge on the other. Knowledge is predisposed to differentiation, although change in knowledge does not take an S-shape, a view that necessarily assumes a closed-system view of the world (cf. Bell 1973:182-185). Knowledge carriers, even if they behave like custodians, operate in

continuously changing environment upon which they have limited control. The environment of knowledge is an *open system* that interacts with external input. Such input could be deliberately invited or could be forced upon the existing knowledge repertoire. What is distinctive about the different kinds of inputs is their unsystematicness, which consequently engenders multidimensional differentiation. The existing knowledge structure tries to systemize the fractions of input and to discipline their unruliness, but it does not do that alone. The *source* of systemization of the organizational environment has its contribution too. We can think of two ideal-type external systemizers: the state (e.g., the ministry of education) and the (regulated) market.

Market mechanisms may be thought of as clumsy systemizers that exhibit erratic behavior. In the case of the United States, market mechanisms operate along the side of a relatively friendly bureaucracy. Governmental bureaucracy, especially the federal one, has minimum *direct* intervention in the higher education system, and its interventions are often market spirited. That allows markets (1) to become efficient in amassing and processing huge amounts of knowledge bits, and (2) to provide a large space for credentialed workers to experiment with knowledge. The advantage of allowing for conducting experimentation in the form of laboratory play (cf. Latour and Woolgar 1986) in a democratic epistemological culture is that (a) it imposes on knowledge a minimum responsibility constraints and (b) it drives toward a maximum reduction of complexity through fragmentation. Simply put, Space + Market → Differentiation. However, we need to recognize here the importance of material resources and to rewrite the formula as: Resources x (Space + Market) → Differentiation. The quality of output in such a system

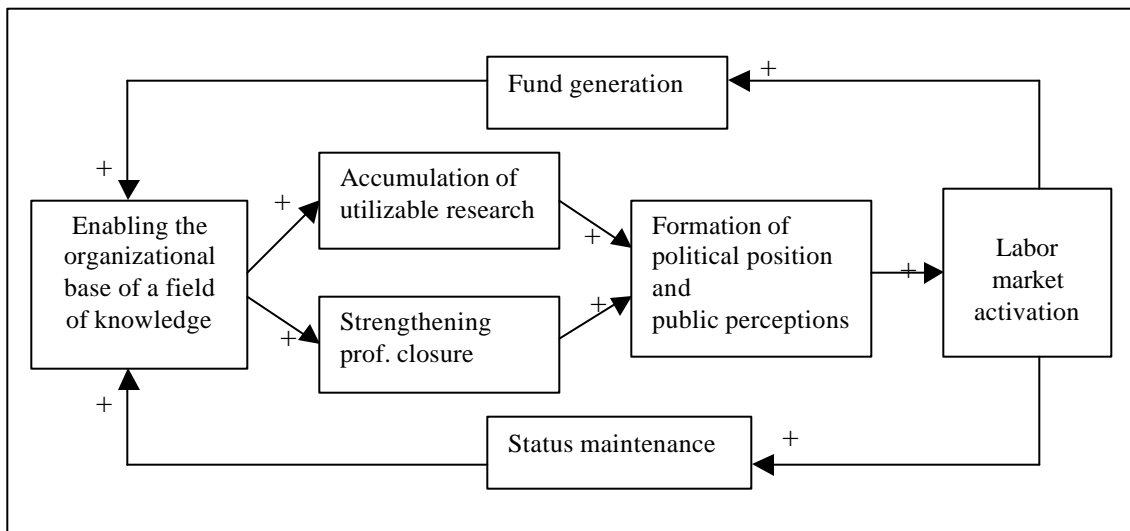
may not be guaranteed by the research process itself as much as by resourcefulness and the ability to replicate or to do near-replications.

In summary, saying that knowledge has innate potentials and that it is destined to differentiation does not negate its strong linkage to the market or the state. On the other hand, forgetting about the content of knowledge is forgetting about the material base of the complex process of knowledge generation.

An Institutional Model of Discipline Formation

The eight fields of high growth that this study has identified point to three avenues through which new fields enter the world of academia. Those avenues are not equally open to all fields. Rather, different fields have access to different opportunity structures, and different fields are differently endowed with innate growth elements. The opportunity structure has been discussed in the theoretical framework in Chapter 1. There, I have argued, that academic institutions are driven by four sets of factors: labor market, the state, professional action, and organizational assets. The model in Figure 23 restates these four-set of factors, conceptualizing them as interacting processes.

Figure 23: Major mechanisms of discipline survival



At this point, I extend the argument to account for the role of knowledge content, which I claimed is essential to the world of academia. The blossoming of fields and the different growth trajectories they take are partially dependent on elements intrinsic to knowledge itself. That is, the above-mentioned processes are *conditioned* by the innate

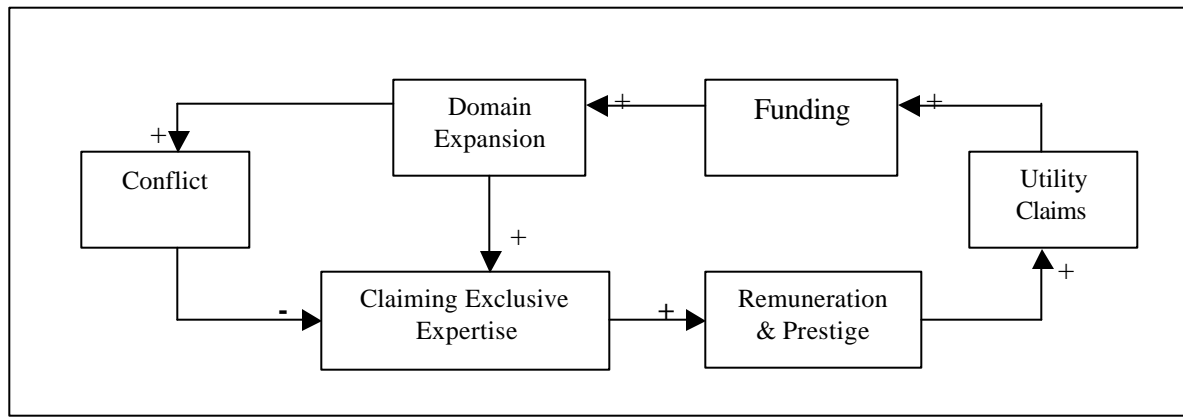
properties of the field and by its potentiality. The eight growth fields have shown that they followed one of three strategies in their rise: (1) some drew on the field's high prestige and accumulated knowledge, (2) some reached out to their academic next-of-kin, and (3) some capitalized on political and public pressures. These three strategies were selected depending on the field's *academic entrenchment*. Academic entrenchment is defined as the field's level of academic *generative capacity* interacting with the volume of *academic network* available to it.

The academic generative capacity of a field is the ability to draw on a vast amount of research that has a high measure of utility, but which is cast in a high level of abstraction. The mixture of utility and abstraction augments the field's ability to practice closure. Closure puts in motion four reinforcing mechanisms: (1) it delimits the domain of research in the field, allowing it to assume exclusive expertise; (2) it allows for high remuneration for the practice in the field, which in turn enhances its prestige; (3) it allows for claiming high social utility of research output; and (4) it raises the field's ability to solicit research funding, which augments the above processes 1 to 3. The iteration of those reinforcing processes allows, or pushes, the field to expand its domain. Domain expansion, at once, empowers a field and puts it in conflict with other fields. Conflict over turfs ensues among fields, a process that puts limits to expansion and prevents knowledge domains from becoming monopolized by a single field (see Figure 24).

Prestige could be thought of as an important ingredient in academic entrenchment. However, prestige is itself partially dependent on the *generative capacity* of a field. The prestige of early collegiate institutions did not stem simply from their resourcefulness.

Collegiate colleges were generally poorly funded (Lucas 1994). Resourcefulness was the result of being worthy of respect, which was in part based on teaching what was deemed worthy by the society and its main figures. The classical heritage at that time fits the definition of generative capacity that I have mentioned.

Figure 24: The process of closure and its limits



The second element in the formula of academic entrenchment is the volume of the academic network available for a field. Network volume is largely determined by faculty size and the number of associations in a field. First, the size of knowledge-entrepreneurs in an area of knowledge is a de facto element in the process of knowledge production. Size can directly translate into potential for more knowledge production and the mobilization of interests in favor of a specific field. Furthermore, size has an effect on *generative capacity* since it allows for the multiple applications of theoretical principles in many areas of human activities. However, size has varied significance for different fields. I suggest that size is less crucial in philosophically oriented knowledge because such type of knowledge tends to force a limited number of stances in any given problem. Insight and sophistication are more crucial for esoteric knowledge than for applied

knowledge, thus low-applied fields are less dependent on size. In contrast, applied knowledge thrives on making educated guessing that depends on experimentation in concrete situations; and the frequency of experimentations is affected by size. That is also generally true for *scientific* applied knowledge. That is, the high complexity level to which applied knowledge had reached warrants that experimentation produces a defensible output. Coupled with the legitimization of theoretical empiricism, applied research has always surprises in its cloaks (cf. Latour and Woolgar 1986).

The size of an academic network partially determines the potential of interest mobilization. The mobilization of interests comes, in part, through the mechanisms of democratic representation in different decision-making bodies. However, the effect of knowledge-entrepreneurs size is most critical in increasing the capability of producing what supports the field's claims: the development of workable ideas in the field and the construction of illusions about the social importance of the endeavors of its practitioners. However, size alone is not sufficient; interaction among those knowledge-entrepreneurs is a necessary condition. The existence of associations in a field is crucial for its members, allowing them to interact and to develop a common language upon which accumulation of knowledge becomes possible. Associations also solidify the interests of a field's members and allow them to work toward common goals for the discipline. In short, network volume is a function of the number of faculty members in a field and the number of associations in that field.

The analysis of individual fields allows for assigning entrenchment levels for the eight growth fields, based on the historical trend that each field has exhibited. To further

support such classification, I used a simple measure: the ratio of graduate to undergraduate degrees (see Table 34). The justification for using such a measure lies in that it directly taps the potential of *generative capacity*, although it is a poor measure in capturing the network strength of fields.

Table 34: Ratio of graduate to undergraduate degrees in the first awarding year

<i>First Graduation Year</i>	<i>Field</i>	<i>Number of Undergraduate Degrees</i>	<i>Number of Graduate Degrees</i>	<i>Ratio of Graduate to Undergraduate Degrees</i>
1950	Public Administration	273	204	0.75
1956	Hospital Administration	128	-	0.00
1956	Recreation	245	111	0.45
1962	Legal studies	193	631	3.27
1965	Computer Science	67	172	2.57
1971	Mental Health	36	311	8.64
1971	Criminal Justice	2,045	195	0.10
1971	Communication	5,180	1,047	0.20

Source: NCES, Earned Degrees Conferred, HEGIS data files, selected years

Based on the qualitative evidence, the fields of computer science and legal studies were assigned to the high-entrenchment group, criminal justice and recreation to the low-entrenchment group, and the rest to what I will call a split-entrenchment group (defined below). The graduate ratio measure supports this distribution except for the fields of communication and mental health. The rest of the discussion will show that the deviation of those two fields is well explained.

The presentation of the remainder of this section will be organized as follows. I start by discussing the high-entrenchment group, and then contrast it to the low-entrenchment group; I discuss the split-entrenchment group last because it combines

characteristics from both groups. The discussion examines how the different factors that drive higher education play differently according to the academic entrenchment of a field.

High-Entrenchment Fields

The fields of legal studies and computer science were classified as high-entrenchment fields because of their knowledge and networks potentials. The field of legal studies is an old established profession that has access to treatises that have developed along many centuries. Computer science does not have such history in itself, but it draws on resourceful mathematics; in addition, it is perceived to be a part of the technical miracle of the modern age, computers. Moreover, the close connection between computer science applications and computer hardware provides the former extra resource and enabling factors. That is, advancement in the hardware design can relief computer science from bottleneck problems and can stimulate innovation in directions that were previously inconceivable.

Fields of high academic entrenchment typically have a large number of graduate degrees from day one. In the case of the field of legal studies, graduate degrees predated undergraduate degrees, and in 1962, the programs of legal studies awarded 631 Master's and Ph.D. degrees against 193 bachelor's degrees, not counting the 9,434 first-professional degrees. In computer science, the ratio of 2.57 graduate to undergraduate degrees is one indication of its knowledge-based prestige. We should bear in mind that the focus here is on the prestige of a field and not on the prestige of institutions, although there is some correlation between the two dimensions. For example, in the field of legal studies Stanford, the University of Southern California, Emory University, the University

of Chicago, and the College of William and Mary were among the prestigious institutions that awarded bachelor's degrees in 1962. However, they were not the only awarding institutions, nor were they from the top awarding institutions in the first three years, except for Emory University. The 1965 pioneer institutions in computer science were not generally prestigious; Stanford and UC Berkeley were awarding graduate degrees only in this year.

High-entrenchment fields possess large amounts of knowledge-capital that provides two necessary ingredients for undergraduate education. First, it provides the field with a canonized core of knowledge that can claim legitimacy and a repertoire of research findings that can be presented as undisputed facts—they secure the basic teaching material of introductory textbooks and lower level courses. Second, it supplies the field with extensions that function as practical applications, lowering the threshold of complexity to a level suitable for undergraduate education on one hand, and convincing students that the field has some utility in the “real life,” on the other hand. Typically, the material of a high-entrenchment field has a high capacity for differentiation—a generative capacity of its basic principles to be applied in a wide range of phenomena. This property enables the field to produce more research output, to attract more funds, and to present innovative ideas (although trendy at times). In addition, it allows for the recycling and repackaging of old ideas, all of which enlarge the edifice of the field and allow for locating suitable areas for undergraduate education. Again, the focus here is the importance of the resourcefulness of a field, not its crystallization or the absence of internal divergent views. The field of legal studies, as has been motioned before, was

riddled by disputes on what constitute proper legal knowledge, and until recently there was a question if computer science is a science in the first place (Hoare 1984). Disputes delegitimize a field only when they successfully destroy its core or shrink it to a minimum, leaving a small area of consensus. Otherwise, paradigmatic eruptions could provide the field with new layers of compound ideas that were nonexistent before.

The resourcefulness of a field is not separate from its faculty members—they are the producers of one of its biggest assets. That is why faculty members in high-entrenchment fields have more say in its fate compared with low-entrenchment fields. The relative lack of knowledge fragmentation empowers the faculty members to speak with certainty. High-entrenchment fields enjoy a high degree of immunity from external challenges because of the perceived incomprehensibility of their science to outsiders. Ironically, it is mainly a *perceived* incomprehensibility. For example, underneath the seemingly complex legal studies lays a simple binary logic that has been applied in iteration to the fragments of a case; take the legal jargon out, and complexity vanishes. Similarly, the basic logic of programming is simple consisting mainly of execution commands distributed among subroutines, and complexity comes from the large number of iterations. Alternatively put, these are horizontally-complex, not vertically-complex, sciences. Nevertheless, and regardless of the source of complexity, perceived incomprehensibility augments the role of its practitioners.

The institutions that house fields of high academic entrenchment also have considerable negotiation power in dealing with the demands of the labor market. High-entrenchment fields have an elevated entry-point to undergraduate teaching. That is

because the claim to expertise has been already established by the academic content of the field. The field then appears as making a favor to the labor market by its acceptance to supply it with workers (students) who are trained in a simplified and more practical body of knowledge. Fields of high-entrenchment respond to the general need of the labor market, not to its details. The labor market, in the first place, does not have the capacity to define precise “specifications” of the product that it hopes to get from high-entrenchment fields. This gives the high-entrenchment fields enough space for maneuverability, where it tries to satisfy the labor market’s needs without compromising their academic standards. In other words, the labor market merely signals the need for a certain expertise; the high-entrenchment field responds, with confidence, by revising the request and *advising* the labor market with what they should look for. To the extent that the managerial staff of the labor market does not think of themselves capable of comprehending the language of a field, the field creates its own job description.

High-entrenchment fields are more likely to be housed in higher status institutions, as has been mentioned before. When higher status institutions offer an undergraduate level, they do so cautiously, trying to maintain the dignity of the field by the weight of the graduate level. Less selective institutions here benefit from the sheltering effect of the pragmatic selective institutions that did venture into the undergraduate level. High-entrenchment fields, especially when they are housed in selective institutions, *listen* to market demands but they do not obey its whims. Selective institutions can ignore market demands because they operate in a market of higher values and payoffs—that of symbols and status. In general, institutions take their time in

responding to market forces: they only partially respond and they modify the incoming demands. Furthermore, we can say that the more prestigious an institution is the less it feels the job market's pressure and the more it tries to guard its dignity, delving carefully into the undergraduate level. On the other hand, low prestige institutions find labor market demands a window of opportunity for enhancing their lot.

External factors have little *direct* impact on high-entrenchment fields. In the case of computer science, federal funds did help the early development of computer languages, as projects, but it did not fund educational programs in that field. Similarly, legal studies education is highly protected from public demands although its practice is affected by social trends. In other words, the status of high-entrenchment fields put them above the demands of the populace. High-entrenchment fields take the posture of the benevolent provider that deserves gratitude. A field becomes highly shielded from public demands when its output is perceived to be imbued with morality. High-entrenchment fields range in their providence status between bounty-givers and pleasure-givers. The bounty-giver status is best exemplified by medicine, and pleasure-giver status is best exemplified by computer games and entertainment applications. Therefore, when social trends see a need for change in high-entrenchment fields, they *petition* rather than pressure them. Sophisticated social movements (those that are sociologically informed) quickly learn that they have to demystify the status of a field before pressing their demands. Finally, when high-entrenchment fields become exposed to a degree that convinces them that they have to attend to public demands, they have a larger ability for maneuvering. Simply, because of the complexity of the extensiveness of their knowledge

and network structures, demands dissipate in the mazes of those structures. Complexity here is not sophistication; I do not mean here that high-entrenchment fields are necessarily endowed with dignified knowledge. Rather, the extensive structure of their networks, the strength of their organizations, and the expansive and multifaceted nature of their knowledge give them higher abilities to maneuver.

Low-Entrenchment Fields

Low-entrenchment fields are those that lack the generative capacity of their academic core and lack a cohesive network of knowledge-entrepreneurs whose interests could converge on a manageable area of research action. Two of our eight high-growth fields fit under this category: criminal justice and recreation.

The most defining feature of the rise of this type of fields is that they are highly dependent on external forces. The rise of the field of criminal justice was largely the result of two societal factors that had only scant relationship to academia: the public's sense of lawlessness and order breakdown, including President Kennedy's assassination, and the government's response to such fears (in addition to its own interest in expanding its controlling mechanisms). These were major factors behind the passing of several key acts and executive orders, which earmarked substantial amounts of funds for the undergraduate teaching criminal justice. The close relation between the LEEP's funding to educational programs in criminal justice and the number of institutions awarding bachelor's degrees in this field cannot be clearer. LEEP's appropriations were \$21.25 millions in 1971, increased to \$29 millions in 1972, and reached \$40 millions in 1973, and the number of awarding institutions in this field mirrored funding increases: 57, 90,

and 118, in those three years respectively; and note that the increase rates of funding and of programs were close to each other (around 140%). However, we cannot claim a perfect association between funding and the number of programs: the 1975 funds remained at 40 million but the number of institutions awarding bachelor degrees increased to 222 (this is a 188% increase). We can say that, by then, the field has developed inertia of its own.

The lack of perfect association between funding and programs does not lessen the crucial role that funding plays for low-entrenchment fields. To the contrary, it points to two perpetuating mechanisms of early funding. First, funding initiates in the field a momentum that becomes partially independent from its original source, mainly by creating structures that have interest in the continuation of the new field. Second, at the advent of generous federal funding, institutions that harbor low-entrenchment fields cannot shield itself from anticipatory socialization, which might prove an illusion. Typically, these institutions assume that funding will continue and will grow—an erroneous managerial belief that draws more institutions toward offering the new field of study. Thus, funding, and the prospect of funding, simulates an organizational environment receptive to offering new fields of study. Moreover, the longer a program manages to survive its early days the less important external forces, including funding, become. This point ties back to the discussion on the early bird effect: simply, institutions that start early are less likely to experience the dry out of funds, or that they experience it after they have reasonably rooted their young field. Conversely, the lack of

early funding could stunt the growth of a low-entrenchment field because it makes institutions miss the opportunity to ride the social trend of the time.

The field of recreation exhibited a similar dependence on external factors. The concrete material of this field, physical parks, was created as a remedy for social ailments. That was especially true in urban areas at the turn of the 20th century and in military bases after World War I. As has been covered in Chapter 3, major cities, like Chicago and New York, moved toward creating professional training programs for these public facilities. The external factors in terms of funding, unlike the extreme case of criminal justice, came gradual and indirect through state and city political decisions. Consequently, the growth of the field was not spectacular for many years; the first awarded degrees in recreation came in 1956, but the significant growth came in 1966 and lasted until 1977.¹⁵ These growth years arrived after public demands mounted and after the Recreation and Parks Movement espoused a new ideology regarding lifestyle quality. It should be recalled here that leisure activities are largely funded by its participants, and thus, it is sensitive to popular social trends and to prosperity. The second period of significant growth in the number of bachelor's degrees arrived in 1992, apparently powered by economic prosperity.

The convergence of government regulations, funding, and social trends creates excellent conditions for businesses. Thus, it is expected that the labor-market shifts

¹⁵ There was a significant increase (140%) in the number of conferred bachelor's degrees in the second year, 1957, coupled with seven new awarding institutions. However, I took those numbers with skepticism. The field of recreation then was just a subfield of physical education, and the increase in numbers may have been a reflection of departmental choices in labeling the conferred degrees. Such discretionary decision becomes less likely in later years.

favorably in support of new fields that came as a response to social trends, availing positions for graduates of those new fields. Obviously, businesses are often partners in making social trends. The influence of businesses in the early days of a social trend is likely to be limited, while it significantly shapes social trends in their middle and later stages. Market mechanisms *are* the vehicle through which the issues of a modest social movement could become a generalized social trend. Tastes in modern societies are highly differentiated, and only market mechanisms are capable of making a particularistic issue appeals to larger segments of the society.

Generally, low-entrenchment fields are highly sensitive to labor market shifts because of two reasons. First, the job market of low-intensity fields is often unreceptive to a new field because the operation in those fields are highly structured around experience. Not only training takes place through apprenticeship, but also status and promotion are largely based on field experience. In other words, low-entrenchment fields are less penetrated by credentialism. Anecdotal evidence tells how some police officers were hiding their educational pursues in criminal justice from their superiors (Zalman 2001). Such narratives explain the rather strange academic debate that took place in the field of criminal justice about the “positive influence” and “negative influence” that university teaching has on legal studies enforcement officers (Palombo 1995:46-50). Second, the novelty of a new undergraduate field plays differently in high and low-entrenchment fields. Job positions of high-entrenchment fields are accustomed to college graduates; resistance to low-level offerings would be expected from universities not from the job place. The market expects that undergraduate degree-holders perform the less

sophisticated tasks, relieving the graduate-degree holders from drudgery work and reducing the cost of operation. Thus, it is conceivable that the employers' staff and administration would be receptive to undergraduate newcomers. These conditions are very different from the entry conditions of the low-entrenchment fields. Typically, college graduates in low-entrenchment fields enter the job place *from above*, as holders of a missing type of knowledge. Depending on the nature of the programs they have attended, they may very well have had espoused views that diametrically oppose long-held conventions in the real practice of the profession (cf. Tenney 1971). Such conflict is more likely to occur if the curricula of such a new field were hastily developed. That is because in its zeal to prove itself, an immature curriculum tends to lack consistency and to drift toward scientism, all of which make graduates more likely to behave according to fixed classroom pronouncements that are void of contextual understanding.

The above discussion stresses that for low-entrenchment fields, external factors *condition* institutional responses, probably sometimes to the level of hypnosis or daydreaming. However, since institutions in this case operate in an environment of high uncertainty, it is every bit rational to exploit the moment and participate in the lottery pool; i.e., to offer a new field. We need to recall here that the low-entrenchment fields were offered in institutions that are relatively low on the Carnegie scale. Sixty-five percent of criminal justice departments and 50% of recreation departments were at the Master's-I level or lower. Neither the field nor the institutions would suffer prestige loss from offering undergraduate level, even if they were of questionable academic standing. To the contrary, if such a field manages to grow fast, growth would enhance its status.

That is because growth, especially for a sustained period, could not continue without advantageous job opportunities for graduates. The growth of a field serves as a status booster, although it is a status that lacks the touch of class and is based on remuneration, not on academic esotericism. Therefore, low-status institutions do not usually operate under high mimetic pressure, nor do they rigorously compete over a niche. Rather, conscious of their status, they crave to *create* a safe niche for themselves, and no better opportunity for that than to exploit a promising moment. Low-entrenchment fields are vagabonds who look for shelter—vagabonds who have wandered for a long time in search of recognition and sponsorship. That is why they settle with any suitor. As we have seen, criminal justice education took place under several departments; recreation stayed under education departments for many years, and the first year of its recognition was concurrent with an unacknowledged rival: hospitality administration field (then, hotel and restaurant administration, which largely draws on business administration).

So far it seems that role of the faculty in low-entrenchment fields is minimal. However, one of the biggest challenges of the new low-entrenchment fields is to find qualified instructors and appropriate material. The role of faculty members in low-entrenchment fields is highly entrepreneurial, on the administrative *and* the academic levels. On the administrative level, they have to mobilize professional associations of divergent perspectives into a unitary goal of creating a home in academia. While the goal may be equally appealing to all constituents, the specifications of such a shelter are likely to reward some groups more than the other, putting them in conflict from day one. On the academic level, faculty members have to assemble fragmented pieces of knowledge

and put them in a comprehensible manner that form a respectable program—a process that is likely to be contentious.

Split-Entrenchment Fields

Four fields in this study do not fit the profile of high or low-entrenchment fields: public administration, mental health, hospital administration, and communication. These fields are distinguished in that they have high access to a vast knowledge repertoire and extensive academic networks, but an access that is coupled with deep fissures within their claimed field. That is why I called them split-entrenchment fields. The strategic connections of those fields make them eligible to enter prestigious universities but prevent them from developing crystallized identities.

The fields of split-entrenchment are located at the intersections of several bodies of knowledge that retard their *generative capacity*. For example, when public administration tries to raise its abstract level, it finds itself in the hands of political science (and sociology); without theoretical principles, the field is reduced to a science of bureaucratic maneuvering. The field is highly fragmented despite that it has an extensive knowledge base that goes back to the 18 and 19th centuries. The status of the field was eloquently expressed by Waldo (1975:182):

In accepting—and emphasizing—an instrumentalist role it denied itself philosophy. Thus it was handicapped in trying to devise or adapt a “theory of politics,” in dealing with problems of formulating public policy, in coming to grips with problems of ethics, in devising a theory (theories) of change appropriate to its tasks, in developing a rationale for having and exercising influence and power, and in developing a realistic and inspiring self-image.

The fragmentation of these fields does not merely stem from theoretical divisions; it is often fragmentation on the level of practice above and beyond the fragmentation on the philosophical level. For example, the field of communication represents specialties that are joined together despite that they have little in common. Communication-general and communication-media (TV/radio and advertisement) are the daughters of a mother (journalism) whom they shun. The split between these two main branches is not restricted to the content of the field but includes its structure: communication-general and communication-media have different departments with different heads and budgets. Furthermore, some departments center around speech and others have faculty from remote specialties such as fine arts (Bloom 2001). Communication-general, by its very design, is little more than borrow-ups from social sciences (especially sociology, including system theory and cybernetics). It is difficult for communication-general to prove the utility of its abstraction, for it is preempted by social sciences whose fate is also hanging on showing their social utility. Communication-media, the applied part of communication, has direct high utility that is based on a limited level of abstraction. After all, the graduates of this branch find themselves in apprenticeship job structure looking for marginal roles in studios and the like.

Mental health is a highly contested field, and when federal funds poured to address the national need, the funds were divided among seventeen fields and specialties, most of which do not belong to mental health proper. Finally, hospital administration (later health administration) is a field that was stuck between two powerful contenders, medicine and business. Hospital administration could not develop any practical

abstraction without finding itself in the rank-and-file of one of those two specialties. In short, split-entrenchment fields have access to knowledge, but they are structurally inhibited from claiming closure on any demarcated body of knowledge.

The entry points of the split-entrenchment fields correspond to their realities. These fields had to use their “connections” to get into academic institutions, but after assuming the character of their host. Not surprisingly, a large proportion of public administration departments, the Washington science, existed in institutions that were high on the 1973 Carnegie scale. Hospital administration, the science serving the workplace of the prestigious field of medicine, was also concentrated in high-level institutions. Communication ended up in different positions on the Carnegie scale depending on the type of departments with which different branches were associated. Ironically, the departments of communication-general, which draws heavily on social sciences and its abstract knowledge, were primarily located in lower level institutions, while radio/TV and advertising specialties were primarily located in higher-level institutions.

Split-entrenchment fields are likely to operate under high level of public pressure. Public administration was always seen as the science of governance, and nothing less than a President (Woodrow Wilson) is considered an early authority in the field. This “lucky” position has its mixed blessings, where polity has *direct* influence on the field. Mental health is a highly contentious area, and operated under pressures that included the federal government, insurance companies, and patients’ advocacy groups. Finally, the labor market for these fields has little independence from public demands and governmental responses to those public demands. That is, the federal government that

passes laws affecting the hiring of public administration graduates is itself the larger recruiter. Health is a major item on the priority list of congress and politicians, and their decisions intersect with the complex regulations of hospitals and insurance companies.

Faculty in split-entrenchment fields is likely to be in continuous struggle to define the boundaries of the field and its core. Located at the intersection of large planets of high magnitudes of gravity, the balance of the split-entrenchment fields is precarious. Insignificant eruptions in the field may slightly shift their orbits, only to find themselves dragged toward another powerful center of gravity. Changes in surrounding fields also affect them significantly; lacking clear boundaries, they cannot shield themselves from the authoritarian advisements of their powerful neighbors. Faculty members in high-entrenchment fields are sole authors and have great discretion on what to say about their fields; in low-entrenchment fields, the faculty role centers on legitimizing specific strands of knowledge that only recently departed from its pure practitioner basis. In contrast, faculty of the split-entrenchment fields are protagonists of synthesis and compromise. Their impact on the field is highly significant, although they enjoy only circumscribed freedom.

The institutional processes of the split-entrenchment fields are conditioned by the nature of their knowledge. The fluidity of the fields pressures the departments to be highly responsive to the shifts of the labor market. All fields are affected by the demands of the labor market in their specialized area. However, split-entrenchment fields are sensitive to the shifts of multiple labor markets, and have to adjust accordingly. Low-entrenchment fields are closely connected to clear labor market positions; drought in such

a market means suffering for them. The connection to labor market position in high-entrenchment fields is at least blurred, and they can always claim relevance through their complex comprehensiveness. Split-entrenchment fields frequently find themselves on the negotiation table with many contenders, requiring from them maximum adaptability.

In short, split-entrenchment fields are highly contested academic specialties that draw on extensive knowledge repertoire and network structure which prevent them from forming a distinctive and stable identity. Therefore, they are likely to live under simultaneous rotating influences of the three factors that affect higher education: faculty, societal intervention, and institutional responses to labor market. If high-entrenchment fields are the academic yuppies and low-entrenchment fields the vagabonds, then split-entrenchment fields are Simmel's *stranger*.

Organizational Environments

In this section, I will discuss two issues related to the environment in which higher education institutions function. First, I will try to discern the most salient factors that enable new fields to rise. The second section examines the topic of mimetic pressures, which is debated in organizational theory and which is relevant to higher education institutions.

Favorable Conditions for the Rise

The analysis up to this point has focused on the patterns that different fields have taken depending on the nature of the field and the circumstances of their departments. I now extend the discussion by pointing to favorable conditions that appeared to be

favorable to the rise of new fields. Based on the experiences of the eight growth fields, the evidence indicates that new fields ascended *after* other circumstances came into place. Specifically, when we think in terms of *necessary* conditions, federal intervention appears to be more central than academic readiness (see Table 35). Obviously, federal

Table 35: Facilitative conditions for the rise of new fields

<i>Field</i>	<i>Academic Readiness</i>	<i>Federal Intervention</i>	<i>Context of Governmental Support</i>
Public Administration	Medium	Indirect	Reorganization Act, 1939; Civil Service Commission requirements; Roosevelt's Executive Order 8248 for the Bureau of Budget to conduct research
Recreation	Low	Indirect	War Camp Community Service; Bureau of Outdoor Recreation; City managers associations
Mental Health	Medium	Direct	Creating the Division of Mental Health Hygiene under the Department of Public Health Service; 1946 Act created the National Institute of Mental Health; Presidents Kenney and Johnson initiatives
Criminal Justice	Low	Direct	President Johnson Executive Order; 1968 Omnibus Crime Control and Safe Street Act/LEAA
Communication	Medium/low	Mixed	Research Branch of the Division of Information and Education of the U.S. Army; the Survey Division of the Office of War Information; the Division of Program Survey of the U.S. Department of Agriculture; the Office of Fact and Figures

intervention is not a necessary *and* sufficient condition, and the lack of academic readiness does have its consequences. However, the lack of academic readiness does not block the startup of a field; rather, it largely affects the trajectory of its development. In other words, federal intervention is a more deciding factor in the initial stages of a field's life, but academic readiness is a more deciding factor in its subsequent stages.

It is important to note that governmental support for the fields listed in the above table, with the exception of criminal justice, was targeted to the field in general, and not specifically to undergraduate instructions in the field. The nature of governmental involvement suggests that undergraduate mental health education was the least affected by it. In addition, I did not consider that the role of the government was crucial in the rise of the field of computer science, although the government was responsible for the development COBOL (Department of Defense in 1959) and BASIC (National Science Foundation in 1965). In addition, the government's role was significant in the development of artificial intelligence. Of course, the government was highly influential in the development of hardware, which heightened the need for software.

It should be noted here that computer science is the "hardest" science among the studied eight high-growth fields. I suggest that, apart from their academic entrenchment, hard sciences do not have problems in legitimization their undergraduate level as much as softer fields. The connection between harder sciences and the labor market is clearer, which makes the decision to offer an undergraduate level easier. Academic fields that are not directly connected to material production have a greater need to be shielded with esotericism, making them more hesitant to construct undergraduate levels. Nevertheless, even the field computer science had to practice a division of labor that kept prestige markers in place, similar to what the field of legal studies did. As has been mentioned before, undergraduate teaching in legal studies was supposed to focus on the social context of law, not legal reasoning, and several top universities that had law programs opted not to offer undergraduate legal studies. The undergraduate institutions in

computer science dared to teach only data processing while institutions that had graduate programs taught system analysis at the undergraduate level.

At this point, I will advance the argument and construct a typology of new fields' ascendance in relation to the three sets of factors that dictate the fate of the higher education system: (1) faculty and their academic activities, orientations, and the resultant accumulated knowledge; (2) external pressures, including societal demands, social movements, legal intervention at the federal or state levels, and federal and private funding; and (3) the institutional responses to the development of the labor market and the perceived availability of job and career positions for graduates in a certain field. The detailed description of the eight fields in Chapter 3 shows that they approximated the expected outcomes indicated in Table 36 below.

Table 36: Facilitative conditions for the rise of new fields and the expected outcome

<i>Solid Academic Core</i>	<i>External Pressures</i>	<i>Potentials in the Labor Market</i>	<i>Expected Outcome</i>	<i>Fields That Approximated Expected Outcome</i>
Y	Y	Y	Strong and sustained growth	Computer science; Legal studies
	Y	Y	Fluctuating growth; merger with other departments	Public administration; Criminal justice
	Y		Modest growth; identity crisis; departmental fissures and fusions	Recreation; Communication
Y			No growth; appeal to eccentric tastes	None
Y	Y		Delayed but sharp growth	None
		Y	Apprenticeship preparation; pressures academia to provide credentials	None

It is interesting to note that the last two possibilities are not likely to have happened in the United States. That is because the fifth case is unlikely to occur in a

market economy—the labor market is highly responsive, and it would not let the excellent opportunity of the convergence between academic potentials and societal or governmental pressures pass without exploiting. Similarly, the last scenario is unlikely to occur in an entrepreneurial-democracy system—the labor market potential would easily translate into external pressures.

Mimetic Pressures

The notion that organizations operate under mimetic pressures is a major idea in the new institutional school of organization. This perspective is rooted in the work of Meyer and Rowan (1977) who have argued that the rationality of organizations is a myth, and that organizations perpetuate themselves utilizing their symbolic significance. DiMaggio and Powell (1983) built on Meyer and Rowan's work stressing that an organizational field operates under a high pressure of isomorphism. The empirical cases of this study provide an opportunity to qualitatively examine how mimetic pressures may operate specifically in the academic world. Those cases suggest that the prevalence of mimetic pressures is exaggerated, and that they may be better perceived as heavenly gifts of low cost. I suggest that the prevalence of mimetic pressures in academic institutions: (1) varies depending on the prestige level of institutions, (2) is related to specific domains in which influence operate, (3) is related to the network of interaction among institutions, and (4) differs significantly depending on the type of industry.

First, offering an undergraduate level in a field is facilitated by the actions of prestigious institutions. Once prestigious institutions offer an undergraduate level of study, they provide a *shelter* for others who are less prestigious to do so. The so-called

imitating institutions were not pressured; instead, they welcomed a development that they longed to. In the cases of this study, prestigious institutions were not often the pioneers; however, when pioneer institutions include prestigious ones, they create a blessed situation for others. Prestigious institutions function as *legitimizers*; they legitimize offering degrees at the bachelor's level, helping the cause of the less known institutions who, ironically, may have a greater ability to attract undergraduate students. This picture is different from saying that prestigious institutions function as role models and that other institutions are coerced to copy them. In the cases of this study, many lower level institutions did award bachelor's degrees from the *first* year. In the second and the third year specifically, some institutions became attracted to the trend and offered degrees in the new field. However, such rush often worked against their interests, forcing them to abandon the program in the following year. Typically, those institutions were private institutions of a much lower academic complexity than those that initiated the new programs. The question here is whether those institutions behaved as such because of mimetic pressures or because of the lack of decision-making capacity. The latter explanation is more plausible because equivalent institutions did not choose to follow that route; if it were a matter of mimetic pressures, they would have applied equally across the board. Other factors could have been made some institutions subject to those mimetic pressures while others were saved. In short, what is called *mimetic pressures* is better conceived as *attraction forces*.

Second, regardless of how we conceptualize influence, the logic of imitation poses an analytical problem if applied without taking into consideration the relevant

realm of influence. That is, there is a need for defining the relevant area in which the forces of influence are operative. In the realm of higher education, no influence should be assumed if the new offered field has no connection to the type of specialties offered by an institution. Only when the new offering by an institution is related to the *genre* of offered specialties of other institutions can we speak of influence. In this case, the new offering constitutes a challenge: if the institute does not offer the new specialty it becomes less attractive to students; but if it does offer it, it risks failing to deliver a quality program. The work of Meyer and Powell (1983) does recognize that mimetic pressures operate within an organizational field, which represents “those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumer, regulatory agencies, and other organizations that produce similar services or products” (148). What I am suggesting is that they demarcated the domain of influence too broadly, and that refinement is possible *within* the same “area of institutional life.”

The previous point leads us to a third point of inquiry: do forces of influence operate among all institutions regardless if they are connected to the same network or not? I suggest that, at least in higher educational institutions, *mimetic pressures* operate among institutions of the same prestige level, while *attractive forces* operate among institutions of different prestige levels, and in the direction of the higher status. Thus, if only prestigious institutions innovate in an area, they would form *mimetic pressures* for institutions of their class and *attractive forces* for institutions of lower status. However, if only low-prestige institutions innovate in an area, they would form mimetic pressures

for low status institutions and not for high status institutions. Brint and Karabel (1991) have pointed out that the relative power position of interacting institutions affects their imitative behavior, and that “anticipatory subordination” takes place when an institution deals with a more powerful one (pg. 348). In this case, prestigious institutions can ignore offering such a new specialty even if it is related to a genre in which they offer degrees. Furthermore, prestigious institutions might take this opportunity to underline their exclusiveness and refuse to offer what lower status institutions had innovated. Nevertheless, high prestige institutions may not be able to ignore innovation for long. If the new field offering proved to be successful in terms of job opportunities, prestigious institutions would start offering the field after they package it in a program that is more academically rooted—more connected to science or more theoretically informed.

Finally, the forces of influence, I suggest, have relationship to the type of industry. Pure market industries that largely rely on consumer’s taste are more prone to mimetic pressures. The neoinstitutional perspective assumes that higher education institutions are highly subject to mimetic pressures because they do not have tangible products and because there are no clear criteria for the evaluation of their product. Brint and Karabel (1991) recognize that the nonprofit sector, such as community colleges, is an institutional sphere “par excellence” (pg. 342). They also note that new institutionalism tells more about “forms” than the “functioning” of organizations. I build on this point to suggest that nonprofit institutions come under mimetic pressures at the level of *forms* more than the level of *functioning*. It is true that their legitimacy hangs on the myth of serving society, but their functioning follows efficiency consideration to a considerable

extent. All what they need is to find *benevolence justification* for their efficiency behavior. Brint and Karabel (1991) showed that junior colleges went into vocationalization as a realistic market niche available for them (pg. 349). Thus, their *functioning* was less subject to mere institutional pressures, although their *forms* might have been converging (cf. Kerr 1994:85-99). Similarly, the actions of the lower-level institutions in the eight fields that I have studied point more to *safe niche-searching* behavior than to *leader-following* behavior. Thus, I suggest that education and nonprofit institutions that do not offer commodities under the pretext of immediate satisfaction and utilitarian use do not experience the same urge or need to imitate. Moreover, their appeal may lie in emphasizing their uniqueness and unconformity; prestigious consumer goods may operate on the same logic.

The four proviso discussed above can be presented in formal propositions regarding the relation of mimetic pressures to the type of output and institutions:

1. The more the declared value of a product is *not* based on its utility the less it is subject to *functioning* mimetic pressures:
 - a. The more a product promises enrichment (vs. satisfaction) the less it is subject to mimetic pressures.
 - b. The more the use of a product is complex the less it is subject to mimetic pressures.
 - c. The more the evaluating criterion of a product is disputable the less it is subject to mimetic pressures.
2. The more there is a status gap between the provider and the user the less it is subject to mimetic pressures:
 - a. The more a product is delivered by authoritative agents the less it is subject to mimetic pressures.

- b. The more a product challenges the presumptions of its user the less it is subject to mimetic pressures.
3. The more a product addresses tastes the more it is subject to mimetic pressures:
- a. The more the specifications of a product are comparable the more it is subject to mimetic pressures.
 - b. The more a product can be individually assessed the more it is subject to mimetic pressures.

The aforementioned propositions suggest that academic institutions are less likely to come under pure mimetic pressures. Mimetic pressures are not entirely absent from the world of academia, but *attraction forces* are more relevant to their operations. Interestingly, the above conclusions are more congruent with Brint and Karabel's (1991) conclusions, which partly support the "old institutionalism" views. Nevertheless, my argument maintained the original insight of Meyer and Rowan in acknowledging the relevance of status as a legitimizing myth in the world of academia. It also recognized DiMaggio and Powell's assumptions that there are interactive pressures among organizations, but after conceiving them differently.

CHAPTER SIX

CONCLUSION

As any other social institution, the system of American higher education was in flux since its early days of the late 17th century. The received wisdom contends that the masters of this world, the professors and the scholars, are those who mold the academia and chart its future. On the other hand, the popular wisdom fantasizes that, in a market system, consumers drive the increasingly entrepreneurial university. In contrast to such views, this work has shown that curricular change in the academia is driven by institutional dynamics that operate in a complex environment of governmental interventions, professional interests, and opportunities in the labor market. Postsecondary institutions that conferred bachelor's degrees were the object of this study, and eight growth fields since 1950 were selected for analysis. Using data from the National Center for Educational Statistics, the institutions that pioneered awarding bachelor's degrees in the new growth fields were identified, and their institutional characteristics were studied. In addition, the different patterns of the rise of those young fields were analyzed. Below I will summarize the major findings of this work, followed by implications for higher education institutions. The chapter concludes with implications for the academia as a system of knowledge.

Major Findings and Theoretical Points

The question of who leads the American higher education is a puzzle that has been awaiting an answer. The received wisdom is that elite universities set the standard. Certainly, that was the case in the 1800s and early 1900s (Lucas 1994). However, since the World Wars, leadership from the top has been giving way to multiple centers of influential action. The new trendsetters did not come from the bottom; rather, pockets of

significant influence came from the middle. This study hypothesized that pioneer institutions are public, middle size, and at the mid level of academic complexity. These three hypotheses were generally supported; a middle-class view of pioneer institutions was sought, but an upper-middle-class portrait emerged.

Data show that pioneering institutions were average. They were fairly large, and they were for the most part public institutions. Private institutions and small institutions did show up on the roster of pioneering institutions. However, as expected, their share of total conferred degrees was small or very small. Furthermore, many of them, especially private institutions, showed significant fluctuation in offering the new fields compared to an impressive stability in the mid and large size public institutions programs. In addition, the pioneers in undergraduate higher education were not specifically prestigious institutions, and they were not uniformly high in their academic complexity.

In terms of institutional control, all of the pioneers in the eight growth fields were overrepresented by public institutions. That was especially true for the fields of recreational studies, criminal justice, and computer science. Compared to the distribution of public-private bachelor's degree granting institutions in all fields, public institutions were overwhelmingly present among the pioneers. Thus, the image of pioneering institutions as private universities and colleges finds no support in this dissertation's data and scope.

The pioneers tended to be large institutions, although that was not the case for the field of mental health. Also, the fields of health administration, computer science, and criminal justice were specifically housed in larger institutions. The overall size

distribution of bachelor's degree awarding institutions in all fields were generally close that of the pioneers. Smaller size is usually thought of to be advantageous for innovation, but this image was not found to be true for pioneering academic institutions.

The complexity level of pioneering institutions was relatively high, although the majority were institutions at the master's level or below. Three out of the eight fields were largely housed in doctorate granting institutions: health administration, computer science, and public administration. However, compared to the overall distribution of American higher education institutions, institutions at the higher level of complexity were far more represented among the pioneers. That is because there are a huge number of institutions at the bachelor's degree level. From a theoretical point of view, such institutions may be considered marginal and less consequential for higher education system as a whole. In other words, there are many higher education institutions that serve targeted segments of the population. While their services might be indispensable for their respective clients and while their contribution could be of quality, they nevertheless are likely to have less effect on the development and the future direction of higher education. Thus, among the more active institutions, the highest level of complexity did not define the character of pioneer institutions.

Lastly, the behavior of pioneer institutions and the trajectory of the development of a field were found to be related to what I have called the level of "academic entrenchment." I defined academic entrenchment as a function of the generating capacity of a field interacting with the extensiveness of the network to which it is connected. The fields of computer science and undergraduate legal studies were considered high

entrenchment fields; criminal justice and recreation represented low-entrenchment fields. Public administration, hospital administration, mental health and communication were characterized as split-entrenchment fields. Split-entrenchment fields combine characteristics of both the high and low-entrenchment, and their fate hangs on the nesting movement between the two levels.

I have shown that higher entrenchment fields were more capable in negotiating the demands of their environments. I argued that higher levels of entrenchment allowed for the effective resistance of unwanted external influences. Their academic structural position ensures enough say for faculty members and allows the field to maintain a relative protection from the arbitrary demands of the labor market. Not that they totally ignore the realities of the labor market, rather they listen to its demands and respond on their own terms.

On the other hands, lower levels of entrenchment, to a large extent, put the field under the mercy of the external sources of funding as they struggle to maintain a fragile academic status. The availability of funds are specifically crucial in the early days of a low-entrenchment field, and the conditions of those early years define to a significant extent its future path of development. Naturally, low-entrenchment fields are sensitive to the labor market shifts and have to follow it closely; moreover, their very survival rests on their ability to cater to the demands of the labor market and its prerogatives. Housed mainly in institutions of lower levels of complexity and lacking the status of esoteric knowledge, they have little negotiating power. Therefore, low-entrenchment fields fall

under a significant level of influence from below, public demands in the forms of social movements and trends, and influence from above, in the form of legislation.

Split-entrenchment fields hold on a contested, but respected, core of knowledge that is unusually in a flux of reconstruction. The fragmentation of the field on the academic level is likely to become reflected on the structural level two. Split-entrenchment fields experience significant level of external influence, although it is more likely to come from above, not from below. The labor market simultaneously constitutes a challenge and an opportunity to the split-entrenchment fields. That is because such fields could be relevant to several segments of the labor market. On one hand this feature makes their job harder, but on the other, it provides them with outlets that rescue them from suffocating bottlenecks. Challenging as it is, the masters of synthesis would not have problem to negotiate what fulfills the needs of the labor market as they creatively recast their specialties—altering its boundaries, incorporating new areas of knowledge and expertise and shedding-off unwanted loads.

The Paths of Ascendance

The growth of the eight fields that this dissertation has examined followed one of three trajectories depending on the academic generative capacity of the field. One trajectory is *descending from heaven* in which the fields were characterized by clear demarcated boundaries; those fields were the closest to a normal science with a mature paradigm. Another trajectory is *nesting in the middle* where a new field tried to weave a discipline out of several other disciplines; those fields are characterized by maximum

fluidity in their boundaries. The third trajectory is *ascending from the ashes*; those fields were for the most part empowered by political decisions.

The three paths of field development connect to two kinds of institutional evolution, the Durkheimian/Darwinian and the Spencerian. In Durkheimian differentiation, competition among organizations leads them to struggle over *existing* niches. In contrast, pressures in the Spencerian differentiation (or “functional differentiation”) drive social structures to meet the new needs; that is, organizations seek *new* niches to escape from throttling competition (Turner 1995:16). Although the eight growth fields followed different trajectories, it seems that all of them were operating according to the functional differentiation model of Spencer. This seems to be a special quality of higher education institutions, since a modest success of an institution from one’s class should help the equivalent beginner and those contemplating a similar move. Moreover, struggling on a niche is counter-productive in the world of academia because it is not easy to discredit a rival product. On one hand, there is no agreed upon criteria of evaluation; on the other, there is a delay in the evaluative statement of educational programs, which makes fighting on a niche irrational. Status plays an important role in such a race, and in terms of pioneering new fields; selective institutions remained basking in their high status while middle-class institutions aspired to experiment with the novel.

The Impetus of Growth

The discovered institutional characteristics of pioneering institutions were a surprise, and a welcomed one. The challenge, however, is to identify the forces behind innovation. The image of American higher education as self-propelled appeared to be the

least credible. The absence of national planning does not translate into an image of autonomous higher educational institutions in which the faculty and the curriculum stamp the fate of institutions. Similarly, social movements did not have the most important influence on the eight growth fields. Evidence suggests that the action lies in institutional processes that mitigate pressures from without and influences from within. The rise of new fields was part of professional growth that exploited political interest at heightened times.

The role of the federal government was significant for the rise of most of the eight fields. Historically speaking, several important governmental involvements have had enduring impact on higher education. The Land Grant of 1862 and the G.I. Bill Act stand out as major events. The Morrill Act was passed by the Congress, offering support for states that include agriculture and mechanical instructions in college curricula (Veysey 1965:15). It represented a conscious effort on the level of national politics to orient the production of knowledge toward the applied, although Rudolph (1981) sees in it an effort to get rid of land as well (pg. 8). Nevertheless, this “political will” was naturally sensed by all universities, and not only by the targeted departments. Indeed, the 1828 Yale Report empathetically defended the traditional order of knowledge (Rudolph 1961:132; Rudolph 1981:13). This very act by a prominent institution exactly indicates that the push toward the practical was felt by the whole academia. In addition, private foundations and state governments contributed to the growth of more practical studies in both public and private schools.

Although the calls favoring a more practical curriculum were old, it did not pick up until several societal conditions were met. First, technology became widely applied for the average consumer use, which made the connection between the labor market and credentials more relevant. Second, the basis of status shifted along with cultural shifts. From a historical perspective, it could not have been a mere coincidence that most new practical disciplines came in line with the late 1960s and early 1970s generation. Similarly, the cultural foundations of the practical became strong at the same time the classics had abated. University professors who were students in the early 1900s were gone by the late 1960s; the professors of the 1960s were more likely to have been the World War generation, a generation that is much more attuned to the practical and its marvelous applications.

It is interesting to note that the line of governmental funding paralleled that of increasing practicality of curriculum. Governmental funding gradually and consistently increased along the years since the early days of the American higher education. In 1879-80, governmental sources formed only 7.9% of the grand total income of higher education in 1879-80, compared to 36.6% in 1939-1940 and to 59.3% in 1947-48. The Federal Government's share of those funding were around one-third for several years (American University and Colleges 1960:23).

The most recent change in the direction of practical curricula is evident in the increased collaboration between academia and industry. Powell and Owen-Smith (1998) note that the traditional division of labor between academic and industry was reflected in the differentiation between basic and applied research. It was assumed that basic

research attains a fuller realization of knowledge and a deeper understanding of it. On the other hand, applied research is focused on “shorter term problem solving” (pg. 254). Nowadays, industry is increasingly funding research in universities, especially in science and medical fields. Business enterprises that finance academic research in universities grew from \$305 million in 1980 to \$816 million in 1988 (in 1985 prices); moreover, the collaborative links between academia and industry are becoming stronger and denser (Etzkowitz and Webster 1998:28).

Status and Prestige

In the early days of American higher education there used to be few prestigious colleges and universities that were looked upon as the role models. Collins (1977, 1979) theorized the existence of a cultural market of educational status symbols. This market heightens the drive to seek educational degrees, deflating their relative value. Therefore, it is important to remember that culture changes and develops. That is, the basis upon which status rests shifts with the evolution of the society and culture. With the dismantling of aristocracy, the rise of participative democracy, and the transformation of the economy from an agricultural to an industrial economy, academic legitimacy shifted from the pure esoteric toward the practical. The deconstruction of aristocracy was in the process for centuries, and it took place both in the realm of values and on the structural level of economy and polity. The incorporation of previously disfranchised groups introduced new validity claims about social organization and went hand-in-hand with shifting democratic sensibilities from the rule of representation to the principle of participation. On one hand, the claim to exclusivity started to become less socially

acceptable; on the other hand, the labor market positions of middle and lower classes' members sought to gain more recognition. Lastly, the agriculture-based economic system did not require many diversified specialties and was satisfied with an indentured service type in its relationship with workers. In contrast, the industry-based economy required a wide range of specialties and specific skills.

However, the practical cannot maintain legitimacy solely on its utility for several reasons. One reason is that traditionally prestigious institutions had achieved a high level of immanence, backed-up with huge endowments, that allows them to maintain, to a degree, their traditional basis of fame. The history of the academia is another reason. The academia has defined its character and built its legitimacy on the image of rendering knowledge that is beyond average. Moreover, knowledge entrepreneurs themselves, to varying degrees, value abstraction and acknowledge its relative importance. A third and more imperative reason is that practical knowledge poses problems that are theory impregnated. No field, even if highly applied, can escape the occasional engagement in theory to resolve some of its practical problems.

Therefore, I suggest that the combinational outcome of these forces does not produce crass utilitarian scientism, but *theoretical empiricism*. Theoretical empiricism became the basis of academic prestige because it represented the optimum resolution of the advantages of abstraction and the advantages of the applied. Such new basis is consequential for academic institutions since it allows less than prestigious institutions to become visible. However, traditionally prestigious institutions can also adapt to the new realities and maintain their status at the same time. Morgan (1998) shows that today's

universities cluster around different kinds of offerings and program choices and suggests “that some schools are able to sell prestige while other sell specific job skills” (pg. 53). As far as the subjects of knowledge is concerned, Lucas (1994) suggests that there was an inversion in field statuses where the “hard-core” sciences occupy the highest prestige, followed by social sciences and business- related subject, leaving humanities at the bottom of the status hierarchy (pg. 313).

Prestigious institutions continue to capitalize on their status, but after molding it in a more democratic spirit. For example, the introductory article in Cornell’s catalog sent to prospective undergraduate students is titled “Cornell University: Elite. Not Elitist” (Big Red Book 2002). Selective institutions also use their image in a direct business-like behavior. The medical center of the University of California at San Diego has two hospitals, one in La Jolla and the other in downtown San Diego. While the same physicians work in both hospitals, patients in the former facility pay lofty price for assumed medical quality packaged in the form of a nice location and fancier amenities* .

Initial Conditions

Contemplating the histories of the growth fields also teaches us about the power of the initial conditions. Governmental responses occurred within a certain context in which the seeds of a new field were planted. These conditions put the process of field building on a specific track that is hard to escape. For example, the governmental track on which the field of mental health was put is conspicuous. The federal government specifically funded certain specialties within psychiatry, allocating different amounts of

* Anonymous physician who works in both hospitals.

funds for each. As we have seen in Chapter 3, not all professionals in the field were happy with such allocation. Similarly, the parks and recreation movement came as a response to certain societal conditions related to urbanism and immigration policies at the time. The programs necessarily focused on the needs of the general public, compared to the field of hospitality management that focused on profitable operations. Computer science, which was energized by the war efforts, did not feel the importance of user-friendly applications until the late stages of its development.

I suggest that the effect of initial conditions should last longer in low-generative fields compared to high-generative fields. For example, computer science managed to acquire consumer base and the demand for civil applications in all occupations. In contrast, the fields of criminal justice remained more constrained by the dictates of its early years; it was even somewhat un-amenable to reform, as has been mentioned before.

Agency and Historical Contingencies

Stressing that institutional dynamics played a major role in the rise of new fields by taking advantage of the federal government's initial critical push does not negate recognizing agency. Indeed, the historical sketch of the fields before they entered the academia clearly shows that there were influential people that made a difference. Schramm and Lazarsfeld are two names that were central to the development of the field of communication. Similarly, the field of public administration owes much to Maxwell, and to Mosher before him. Interestingly, Luther Gulick was a pivotal figure in public administration, but his role was also crucial in the development of the parks and

recreation movement (Blazy 2001). Similarly, health administration and criminology owe much to a few personalities.

However, the decorated names of few people should not let us lose sight that they were at the center of effective networks. Some of them were specifically influential because of interlocking memberships in several networks, some of which included governmental agencies. Specifically, the proximity to Washington and the access to decision-making bodies were highly consequential for the development of some fields. That is not to say that such proximity necessarily enables unchecked influence. Rather, the main blessing of access lies in sensitizing academicians to the political-business logic of important decision-makers. The assumed importance of few personalities should be taken with a grain of doubt for another reason: we may attribute the very documentation of individual efforts to historical methods more than to the efficacy of such people. Ashton (1964) reminds us that the “accounts of the industrial revolution are misleading because they present discovery as the achievement of individual genius, and not as a social process. ‘Invention’, as a distinguished modern scientist, Michael Polanyi, has remarked, ‘is a drama enacted on a crowded stage’. The applause tends to be given to those who happen to be on the board in the final act, but the success of the performance depends on the close co-operation of many players, and of those behind the scenes” (pg. 12).

Two fields, however, showed a very quiet birth: law and computer science. This should be of no surprise since the field of legal studies was for the most part a watered-down version of graduate studies of the law. Computer science, on the other hand,

should have had its heroes but whom were probably overshadowed by the relative secrecy of military institutions and watchful industries.

Institutional Implications

I will argue below that the findings of this dissertation hint to some policy relevant implications on institutions most worthy of support and on how the average institution could present themselves. Also, it carries some implications for the American higher education system viewed in an international context.

What Institutions Should be Supported

The findings of this dissertation have uncovered the institutional location of innovation in higher education. As has been discussed before, pioneering institutions in general, and multiple pioneering institutions in particular, were public, fairly large, and belong to the middle bracket of academic complexity. It could be argued then that such combinations of institutional traits are optimum for innovation for the following reasons. First, a mid-level of academic complexity should be available for an institution to be able to handle constructing a new field from nothing or from the fragments of other fields. Second, there is a need for a large student body from which a small percentage would be attracted to the newly emerging field. Lastly, if we assume that public institutions have a lower level of obsession with the bottom line, then they would be more likely to start new programs for reasons other than financial. We have seen that many *private* pioneering institutions showed erratic behavior in terms of offering new fields. This could be explained by their eagerness for immediate profit, lack in the management's vision, or

simply shallow financial resources upon which they can draw. We need to remember that private institutions draw substantial percentage of their income from students, which make experimentation costly for them (Biller 2001). That is, when private institutions pioneer a field, they run under double contingencies: one relates to the objective conditions of the program, and the second relates to the perceptions of students (and their paying parents) about it. This double contingency heightens the *allowable time for success* factor. That is, for private institutions, new programs have to succeed in a short time, or even from the first time. Prestige constrains institutions in a similar fashion.

Prestigious institutions have less incentive, or are more reluctant, to engage in risky innovations, such as starting a new field. It is safer for them to capitalize on cosmetic improvements and set up marginal innovative projects. It is also more prudent for them to let other innovate and learn from them. One of the dilemmas of prestigious institutions is expectations. They are expected to provide impressive output from the outset. Higher expectations may increase the startup cost of projects. Trying the novel is a risky business—recasting the old in a new fashion that looks like innovation carries more guaranteed results.

Thus, a bit counter-intuitive, institutions that are most worthy of support for starting new fields are the semi-periphery, not the core, institutions—to use the vocabulary, *and the logic*, of World System Theory. Semi-peripheral institutions enjoy the best of the two worlds: they have just enough capacity for innovation and they are presumably less constrained by stricter institutional standards of the core. Such a conclusion makes more sense when we bear in mind the difference between innovation in

research and innovation in pioneering a new *undergraduate* field. Research depends heavily on verified academic capacity and on preexisting infrastructure. Starting new fields might need more institutional laxity and less academic stringency.

Middle-Class Academia and State Sympathy

If “middle-class” academic institutions develop an awareness of their innovative potential, and if they succeed in presenting such an image to the public, then they may affect voting behavior, especially at the state level. The issue here is not attracting research funding, since research institutions have a definite edge there. Rather, if middle-class universities successfully establish their image as pioneers that best respond to the labor market needs and the needs of new areas of expertise, then their chance of attracting general funds would increase. Eventually, they may influence voting behavior on state propositions for the funding of public higher education. This can become a reinforcing mechanism: it frees funds for pure academic purposes and enhances the chance of new programs to become successful.

Moreover, if this dream becomes true, it may prove consequential for the democratic ideals of the American society. The trend of brand name education could be restrained. Recovering the value of a more equally leveled higher educational system would reduce the academically-rationalized inequality that exacerbates overall social inequality. Therefore, the average university should continue to pay special attention to the way it forms its public discourse and how it fashions its ceremonial activities, and should try to reflect an image of confidence and mastery.

International Competition

Finally, the trend toward vocationalization, well justified within the American context, may put the United States' universities at a disadvantage. European universities may follow the American trend, or they may opt to maintain, at least in their upper-tier institutions, a more traditional view of academic knowledge—highly-generative abstract principles that have the potential for application in many different settings. The need for general knowledge depends partially on the future of economic globalization. Specifically, it depends on the types of sectors in which there is a high global demand for skills. The particular ways in which global markets distribute production operations influence the kind of needed credentials. So far, many tasks in the industrial sector have moved out of industrialized countries. The service sector in those affluent societies expanded significantly, and it was also able to become global. Advanced technological applications might allow significant outsourcing in the service sector, already underway in computer programming and secretarial transcribing. Adding to that the expected increase in the concentration of innovation in industrialized democracies lead us to say that the need for broad academic education would arise again. That is, of course, is based on the premise that innovation requires broad and somewhat abstract, education. An alternative view is that “applied innovation” does not rest on abstract knowledge; rather it rests on smart manipulation of existing knowledge. Nevertheless, broad education remains significant for paradigm-shifting innovations. If that is true, broad education then still has a function and a future.

Implications for Academic Knowledge

Below I will touch on the idea of academic autonomy and contemplate about intellectual growth and paradigmatic change. I will close with a tribute to sociology for its energizing effect in the rise of new fields.

Academic Autonomy and Quality

Postmodernists argued forcefully that power is vested in modern knowledge and in privileged representations (cf. Lyotard 1984). Habermas (1970) sees that today's rationality is flawed because its very structure makes purposive rational-action an exercise of control. That is why the rationalization "of the conditions of life is synonymous with the institutionalization of a form of domination whose political character becomes unrecognizable" (pg. 82). This dissertation does not analyze the political nature of discourses. However, it sheds light on the forces of influence in the process of new field creation.

The evidence clearly shows that neither the academia nor the supporting agencies have created new creatures in their own image. Rather, new fields rose in a process of negotiation between the internal dynamics of academic differentiation and the external forces of facilitative support. In addition, the intensity of influence was not uniform across disciplines. Rather, the forces of mutual influence on a field are contingent on the nature of the academic content of that field. Therefore, I suggest, the potency of academic content largely determines its academic autonomy, or at least the lower boundaries of such autonomy. Departments of radiative subjects glean status, gain power positions, and construct persuasive arguments. Wrestling with them is harder should the

courage to challenge their guarded “facts” meet favorable circumstances. The vision and the will of sponsoring agencies have to be processed by the mazes of academia—typically, a well constructed world of fortresses of which the intruder has little knowledge. Thus, I suggest, the autonomy of knowledge is not likely to completely dissolve. External factors affect the shape and color of new disciplines more than their substance.

I would like here to extend a metaphor from physics to highlight the importance of knowledge content. The academic core density of a field both heightens its inertia and enables it to absorb more of energy. The laws of mechanics and of magnetism are operational here. The heavy core faces the external forces (the state and the labor market) with more resistance; and when it eventually moves in the direction of that force, it runs utilizing its own inertia, depending less on the external forces. The laws of electromagnetism also apply here. The heavy core absorbs more of the external electric current, generating a stronger magnetic field; moreover, the strength of the magnetic fields is more related to the density of the core than on the strength of the electric current.

Nevertheless, the recent blurring of the boundaries between the university and industry would not be costless. The legitimacy of the university as the house of sophisticated knowledge becomes harder to maintain. Some suggest that blurring those boundaries could compromise scientific impartiality prompted by motives for profits and conflict between faculty interests. It may also endanger the university’s distinctive reward system (Powell and Owen-Smith 1998:267-268). Lucas (1994) perceptively notes that the threat to academic freedom in the past came presumably from the

interference of the church or the state, and that it is now replaced by the industry (Lucas 1994:306-307). A new model of an *entrepreneurial* university has been certainly in the making for decades with new functions and different priorities^{*}. Moreover, the new functions require an elaborate managerial apparatus, which increasingly shifts away from focusing on academic concerns toward the profitability of programs.

Ironically, some of the major concerns that today's university faces are not new. Lucas (1994) notes that “[m]uch of the curricular history of higher learning in America between the 1920s and the 1940s in fact turned on the issue of how colleges and universities attempted to avoid the intellectual anarchy of excessive specialization” (pg. 214). Indeed, some narrowly specialized programs are carefully offered under more encompassing degree labels. Golf management degrees are being offered as business administration degrees, and specialization in real estate planning is being offered under public administration (Biller 2001). I do not expect to see those specialties as stand alone fields, at least in the near future.

Paradigm Eruptions

The stories of the rise of new high-growth fields affirm one known element in the sociology of knowledge. Paradigm eruptions may not come only from the magna pressure underneath but also from the engulfing atmosphere above. The implication in Kuhn (1970) is that knowledge and knowledge development are immune from outside influence. His conceptualization reinforces the image of solitary researchers

^{*} Consider the success of California State University, Dominguez Hills in financing building a stadium for the neighborhood on its vacant land, hoping to become their “Rose Bowl” (National Public Radio, 6-5-2001).

meticulously verifying their findings. If the paradigm is a puzzle, scientists try to coherently fit together its pieces. Anomalies keep hammering the heads of old paradigms until the consensus breakdowns and a new paradigm emerges. This image fits well with the faculty-as-authors perspective.

However, the findings of this dissertation suggest that the gaps and leaps in the development of knowledge are precipitated by non-scientific institutional and societal factors (cf. Fuchs 1993). Nevertheless, congruent with Kuhn's argument, a normal science would have a higher ability to shelter itself from arbitrary non-academic decisions, and the more "normal" it is the more it can resist the intruders. Knowledge entrepreneurs gloss over anomalies, ignore them, and rationalize them, exactly because they are cognizant of the institutional realities in which they work. Debunking a paradigm has painful consequences for its beholders, and a mature science would not easily acknowledge that the reality of applications have belied its paradigm. Thus, in a bit strange way, an undergraduate field functions as a verifier of knowledge, although it is a crude and not an unbiased instrument. That is, the undergraduate level is obliged to connect the field to practical applications, forcing some testing of the larger and more abstract premises.

I have to note here that my argument is not one of *resource dependency*—that paradigms are solely dependent on the political and economic consideration. Rather, my argument is that the cognitive conceptualization of paradigms is *activated* by some other material conditions. As Latuor and Wooglar (1986) argue, experimental discussions are often devoid of objective statements. What goes on is rather a process of negotiation

over facts. Scientists speak of the transformation of facts through a continuum of “facts-artifacts.” Moreover, once the process of factualization reaches its zenith, Latuor and Wooglar argue, the fact becomes difficult if not impossible to be reconstructed. What is specifically interesting is that most of our high growth fields were not hardcore sciences that are developed in laboratories, except probably for computer science. Mental health does lean on biological facts, but it is far from being a clear-cut experimental science. Even computer science, or parts of the field, is highly engaged studying the flow of information, which is also not pure experimental. Thus, I argue, growth fields that this dissertation has analyzed were prone to the dynamics that were elaborated by Latuor Wooglar. The detailed discussion of the development of fields clearly shows how the “scientific” material of a field went into prolonged process of negotiation and required forming associations, conducting administrative meetings, etc... Moreover, since several of the high-growth fields may be thought of as peripheral subjects of dependent substance, Latuor and Wooglar’s approach allows us to appreciate the difficulty that low-entrenchment fields go through in negotiating external factors.

The Sociology Factor

I like to conclude with a note of pride. The role of sociological knowledge in the maturation of several new high-growth fields is well observable. As we have seen, law did not offer undergraduate degrees until it was penetrated by social sciences, especially by the critical examination of sociology. Luhmann and Habermas were actively writing on the law, and the translation of their works to English appeared in the late 1960s and the 1970s. The sheer interest of the field of law, as any other field, would have preferred

to stay shielded from academic peer review. Some social sciences succeeded in striking a limited partnership with the law, as to use their experts in court proceedings. However, sociology challenged its foundational assumptions. The field of communication was also highly influenced by sociology. Specifically, the non-production part of the field of communication is but sociology in disguise, save for rhetoric and persuasion that came from literature studies. One of the most important books on the history of communication by Everett M. Rogers could be easily assigned in a sociology department for the study of its contemporary masters. Without sociology, criminal justice would have remained “police science” focusing merely on corrections and procedures. Sociology forced criminal justice to rediscover society. Public administration benefited from sociology since Weber and up to Simon; modern public administration is not possible without the theory of organization that was mostly developed in sociology. Sociological thinking was also a main critic of psychiatric mental health (cf. Foucault 1977; Good and Good 1981; Pfifferling 1981; Singer 1989).

The most impressive aspect of the sociological impact does not simply lie in lending ideas but in challenging the underpinnings of other sciences, inviting them to widen their perspective and to add missing elements to their rather eccentric views. Sociology was able to do that exactly because it is a non-paradigmatic or a multi-paradigmatic science, as Ritzer (1992) puts it. The enlightening effect of sociology was at both the epistemological level as well as the applied level. The unpopularity of this idea does not dent its soundness.

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APPENDICES

Appendix A

Legal Studies Today

It is rather important to investigate the nature of the legal studies field, since it, as we will see, shares a little with its graduate counterpart, the study of law. The American Bar Association lists 63 institutions that offer undergraduate degrees in legal studies. Thirty-two of these programs are identified as a “major” or a “department.” The programs run under a variety of titles, mostly law and society, legal studies, and justice studies (American Bar Association 2002). I summarize below the central features of those 32 programs, focusing on their statements of intellectual structure and the core courses that they require. In addition, I will note if a program has a practical bent or if it presents itself as a pre-law program.

The overwhelming majority of the thirty-two programs in legal studies come from the liberal arts tradition. Fourteen programs explicitly state that they are rooted in social sciences or the humanities. They mention that studying the law draws from sociology, political science, psychology, philosophy, or that social forces define the law. In their intellectual structure, ten programs state that they are interdisciplinary or multidisciplinary, and three programs emphasize their comparative nature. One institution has two tracks, applied and general (The University of Central Florida), and one describes the program as “a combination of business education and law mentoring” (Bentley College). John Jay College has two programs; one is called justice studies and the other called legal studies.

The thirty-two programs differ markedly in the number of required courses. For example, the University of California at Berkeley, New Mexico State University, and Oberlin College have no core courses while Methodist College has nine. Most institutions have three or less core courses, while six institutions have 6 to 9 core courses. Core courses converge at few subjects, and the most frequently stated is law and society followed by research in justice studies and legal writing. However, some programs require only general subjects. The University of Chicago, Frostburg State University, and the University of Baltimore respectively require the following core courses: legal reasoning, research methods and technical writing, and ethics and logic of language.

Conspicuously then, most programs do not include law-proper courses in their requirements. However, eight programs do have pure legal courses in their core courses. For example, law and the Constitution is a core course in the American University, the University of Illinois at Springfield, Hood College, John Jay College of criminal justice, Texas Woman's University, the University of Wisconsin, Superior, and the United States Air Force Academy. Nevertheless, most of those programs require such a course among a combination of liberal arts and social science courses. The most legalistic program is that of Texas Woman's University, where, in addition to constitutional law, the core courses include criminal evidence and procedure, and civil litigation; the University of Chicago's program has also a sharp legal bent.

One would expect that electives in the field of legal studies would be pure legal, but that is not the case. With the exception of the University of Chicago, most institutions have only one or two electives that are pure legal courses, such as criminal

procedure and jurisprudence. Otherwise, the majority of electives focus on substantive areas, such as family law, woman and the law, medicine and law, environment and law, or the law in some historical epochs.

Thus, the courses in legal studies are not geared toward preparing students to become lawyers. Interestingly, several programs expressly note that they are not pre-law majors. Similarly, not many programs mention the issue of “career” in their description. Naturally, those programs that require legal-like courses are more likely to mention careers in government service and law. Finally, ten institutions have “experiential component” in their program, such as serving in a prosecutor’s office or women’s legal defense organizations. Only Ramapo College of New Jersey makes the experiential component mandatory, and three other institutions *strongly* suggest it.

In summary, the field of undergraduate legal studies is highly interdisciplinary and is rooted in the liberal tradition. Its subjects draw heavily on criminal justice, sociology, and political science, focusing on the law as an outcome of social forces and as an institution located at the intersection of societal influences.

The Field of Communication Today

As we have seen, historically speaking, communication was a diverse field that comprised several specialties. It would be instructive to try to paint a picture of the field as it stands today and to see whether it remains diverse or it has converged on a common core. Twenty large bachelor’s degree providers in the field of communication were selected for examination. Specifically, I will check if the program has a clear liberal arts

orientation, and I will focus on the core and required courses. Based on the 20-institution selection, it seems that the field still retain a degree of diversity. In addition, it appears that there is a thin common ground between the different programs in terms of their organization, the way they assemble the program, and required courses.

There are three major subfields that are found in most of the surveyed communication departments: advertisement, communication-general, and public relations. TV-Radio production is another frequent subfield and some programs have it under the title: film and media production. Noticeably, several schools have journalism under the communication department, and few of the departments are still called communication and journalism department. Also, a significant number of schools have speech programs or departments, which are at times a mirror of the public relations programs. Within my selection, there was no communication school that has both public relation department speech departments. In addition, two of the selected communication departments have a telecommunication subfield, which blends TV-radio production courses with a requirement of technical courses from outside the field. Lastly, it is rather clear that some communication departments try to be creative, offering special foci not commonly available.

More than one categorization scheme could be utilized in describing the different departments of communication. However, because of their internal diversity, grouping the departments in terms of the subfields they offer would not help much in highlighting their special character. Therefore, I will look for three specific qualities, although they are not mutually exclusive, describing the nature of courses a program offers and

commenting on its uniqueness. The three qualities or orientations are: core-and-track, liberal arts, and singular focus.

Liberal Arts Orientation

The liberal arts oriented department typically requires a large number of courses in social science, humanities, or even natural science. The communication department of Michigan State University represents this orientation, where its advertising program requires that the student take three-fourth of his or her classes from outside the department. The other one-fourth consists of classes in advertising. Interestingly, the classes in advertising include management, consumer research, copy writing, and media planning—i.e., they are not advertising-specific courses. However, the communication program does require communication-specific courses, such as methods of communication inquiry, introduction to personal communication, organizational communication, and effects of mass communication (Michigan State University 2002).

The communication department of Drake University is another example of this orientation, operating under the school of journalism and mass communication and conferring a bachelor's of arts with such a title. Drake's department is unique in that it offers the following varieties of programs: advertising, organization, electronic media, Internet, public relations, journalism/law, and magazine. Except for the magazine program, all the others require that students take at least 90 of the 124 required hours in non-communication courses. The magazine program is a highly vocational program, which is supported by Meredith Corporation, a Des Moines-based magazine publisher.

The student interns with and freelances for the Meredith magazines (Drake University 2002). Similarly, Syracuse University has a very flexible program in communication in which students tailor their program according to their interests (Syracuse University 2002).

Core-and-Track Orientation

Most surveyed universities come close to this orientation. This type of program is similar to the requirement structure of most academic programs where there is a definite course requirement for the major in addition to courses within specialties. The communications department of California State University at Fullerton is an example of such a type. Three core courses are required from all students, which include mass communications in modern society, communications law, and history and philosophy of American mass communications. Student chooses to specialize in advertising, journalism, public relations, photocommunications, or entertainment studies. Both entertainment studies and photocommunications require student to take writing for the media course, which is also required in journalism and in public relations programs (California State University- Fullerton 2002)

The programs of the University of Illinois at Urbana-Champaign follow a similar structure with few required core courses for any of its three departments: advertising, journalism, and media studies (University of Illinois 2002). The same could be said for the programs of Kent State University, the University of Minnesota, and Southern Illinois University at Carbondale.

An interesting case in this category is the school of communication of the California State University at San Diego. It could be described as a structured mix-and-match program. The school brings together three former departments: department of journalism, speech communication, and telecommunication and film. The fusion of these departments is now divided into two types of fissions: emphasis and specialty. The difference between the two is that the emphasis area would appear on the graduate diploma of the student while specialization does not. The four emphases are focused subjects that include advertising, media management, public relations, and telecommunication and film telecommunications. In contrast, the five specializations are more liberal arts spirited and include applied communications studies, critical-cultural studies, interaction studies, intercultural and international studies, and new media studies. Interestingly, and within this liberal arts group, the specialty of applied communication studies stresses its professional nature as preparing for careers such as sales, management, and human resources. Similarly, the specialization of new media studies focuses on new technology (California State University-San Diego 2002).

One variation within the core-and-track orientation is those programs that do not have one common set of core courses for all communication areas. Rather, each specialty has core courses of its own. The University of Florida, Ohio University-Main Campus, Bowling Green State University, the University of Washington, and the University of Texas-Austin are example of such type. However, the University of Texas requires a “culture” requirement—a course in communication concerning a minority or a nondominant group (University of Texas-Austin 2002).

Single-Focused

This orientation is typified by a focus on one aspect of communication, in spite of its liberal arts spirit. The communication program of the University of Kansas is an example of such a program where it specifically focuses on speech, the only compulsory course. In addition, the student is required to choose courses in research methods, communication theory, communication skills, and some other electives (University of Kansas 2002). The department of speech and communication at the University of Georgia is another example of this type where it requires courses like communication in human society, introduction to public speaking, and introduction to interpersonal communication (University of Georgia 2002).

San Francisco University has a communication program that runs under a speech department, which could be considered narrowly focused. The program has three concentrations: concentration in individual major in communication studies, concentration in intercultural communication, and concentration in organizational communication. These three concentrations share the same core courses: communication theory, verbal and nonverbal symbols, rhetorical theory, public speaking, and one of four diversity courses in communication. Yet, despite such separate emphasis, the courses within each track are largely speech courses (San Francisco University 2002a). Thus, the communication program of San Francisco University is singularly focused, although it is trying to resemble a diversified core-and-track type. Furthermore, the university has a separate broadcast and electronic arts program, which focuses on TV and radio production (San Francisco University 2002b).

Comprehensive *Unintegrated*

We can add this fourth orientation, which may soon join the core-and-track one. This orientation exemplifies diversity in programs but with some overlap and apparent lack of standardization. For example, Temple University has extensive programs in the field of communication and journalism that are offered under the school of communication theater. In addition to offering a bachelor of arts degree in theater, it offers five other programs: broadcasting, film and media arts, speech communications, communications, and journalism, public relations, and advertising. Interestingly, the last department comprises specialties that are usually independent from journalism. This department requires four core courses: introduction to mass media, writing for the mass media, mass media writing lab, and law and ethics of mass media (Temple University 2002).

California State University at Northridge is another example of this type of programs. It maintains three departments relevant to communication: communication studies, cinema and television arts, and journalism. However, the journalism department has programs that are considered “communication” specialties in most universities; it has programs in public relations, broadcast, photojournalism, magazine, newspaper, and general. On the other hand, the department of cinema and television arts includes seven specialties: media theory and criticism, film production, radio production, television production, multimedia production, screenwriting, and media management. Courses in this department include foundations of media writing, fundamentals of film production,

and new directions in electronic media systems (California State University-Northridge 2002).

In summary, the field of communication seems to have continued its historical pattern of having multiple roots and creatively forming a working synthesis. As I have argued, it seems that many programs have been standardized into regular general core courses in addition to additional required courses in respective specialties. Specialties typically include concentrations related to modern media, such as TV, radio, and film production. However, some of those seemingly stabilized programs have maintained parallel lines where each specialty has its own core and other required courses. In addition, journalism in such departments tends to be one program within the larger department. A second variation was those interdisciplinary programs that maintained their liberal arts traditions with maximum flexibility. Few programs remained focused on one type of communication, namely speech. However, some of these programs extended their specialty to serve some rising needs, such as speech in organizations. Lastly, it seems that some programs have yet failed to integrate, maintaining the historical divisions of the field with uneven growth within each of its specialties.

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Appendix B

Carnegie Foundation Classification Codes

The 1994 classification system created by the Carnegie Foundation for the Advancement of Teaching is included in the IPEDS data files to help users of this information further delineate institutions by type. This classification, which dates back to 1970, currently includes approximately 3,600 colleges and universities in the United States that are degree-granting and accredited by an agency recognized by the Secretary, U.S. Department of Education. The 10 categories that make up the new classification scheme are based largely on academic mission and are **not** intended to measure quality. Institutions are classified according to their highest level of offering, the number of degrees conferred by discipline, and the amount of federal support for research received by the institution. Some categories also rely on the selectivity of the institution's admissions. Information provided by the Carnegie Foundation was matched against the IPEDS "Institutional Characteristics" file and the codes are indicated in the institutional listings where matches were certain. It is important for users to note that IPEDS includes separate listings for all branches of an institution, whereas, in some instances, Carnegie lists only one campus (which encompasses the main campus and all branches). Each of the categories, and the coding scheme used in this file, are explained below:

11 - RESEARCH UNIVERSITIES I

These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research. They award 50 or more doctoral degrees each year. In addition, they receive annually \$40 million or more in federal support.

12 - RESEARCH UNIVERSITIES II

These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research. They award 50 or more doctoral degrees each year. In addition, they receive annually between \$15.5 million and \$40 million in federal support.

13 - DOCTORAL UNIVERSITIES I

These institutions offer a full range of baccalaureate programs and are committed to graduate education through the doctorate. They award at least 40 doctoral degrees annually in five or more disciplines.

14 - DOCTORAL UNIVERSITIES II

These institutions offer a full range of baccalaureate programs and are committed to graduate education through the doctorate. They award annually at least 10 doctoral degrees (in three or more disciplines), or 20 or more doctoral degrees in one or more disciplines.

21 - MASTER'S (COMPREHENSIVE) UNIVERSITIES AND COLLEGES I

These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 40 or more master's degrees annually in three or more disciplines.

22 - MASTER'S (COMPREHENSIVE) UNIVERSITIES AND COLLEGES II

These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 20 or more master's degrees annually in one or more disciplines.

31 - BACCALAUREATE (LIBERAL ARTS) COLLEGES I

These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award 40 percent or more of their baccalaureate degrees in liberal arts fields and are restrictive in admissions.

32 - BACCALAUREATE COLLEGES II

These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award less than 40 percent of their baccalaureate degrees in liberal arts fields or are less restrictive in admissions.

40 - ASSOCIATE OF ARTS COLLEGES

These institutions offer associate of arts certificate or degree programs and, with few exceptions, offer no baccalaureate degrees.

Source:

U.S. Department of Education. 1998. *National Center for Education Statistics (NCES). Integrated Postsecondary Education Data System (IPEDS): Institutional Characteristics, 1995–1996*. List 7. United States Department of Education, ICPSR 2153, <http://www.icpsr.umich.edu/>

Appendix C

Table 37: Institutions that pioneered more than one of the eight high-growth fields

<i>Field</i>	<i>First Graduation Year</i>	<i>Institution Name</i>	<i>State</i>	<i>Control</i>	<i>#</i>
PubAdmin	1950	UNIVERSITY OF ARIZONA	AZ	Public	2
CrimJust	1971	UNIVERSITY OF ARIZONA	AZ	Public	2
Recreation	1956	CALIF STATE COL LONG BEACH	CA	Public	2
Comm	1971	CALIF STATE COL LONG BEACH	CA	Public	2
Recreation	1956	LA ST COL APP ARTS & SCI	CA	Public	2
Legal	1962	LA ST COL APP ARTS & SCI	CA	Public	2
PubAdmin	1950	SAN JOSE STATE COLLEGE	CA	Public	4
Recreation	1956	SAN JOSE STATE COLLEGE	CA	Public	4
Comm	1971	SAN JOSE STATE COLLEGE	CA	Public	4
CrimJust	1971	SAN JOSE STATE UNIVERSITY	CA	Public	4
Legal	1962	STANFORD UNIVERSITY	CA	Private	2
CompSci	1965	STANFORD UNIVERSITY	CA	Private	2
PubAdmin	1950	UNIVERSITY OF CALIFORNIA—ALL CAMPUSES	CA	Public	3
Recreation	1956	UNIVERSITY OF CALIFORNIA—ALL CAMPUSES	CA	Public	3
MntlHlth	1971	UNIVERSITY OF CALIFORNIA—SAN FRANCISCO	CA	Public	3
PubAdmin	1950	UNIVERSITY OF SOUTHERN CALIFORNIA	CA	Private	2
Legal	1962	UNIVERSITY OF SOUTHERN CALIFORNIA	CA	Private	2
PubAdmin	1950	AMERICAN UNIVERSITY	DC	Private	2
CrimJust	1971	AMERICAN UNIVERSITY	DC	Private	2
PubAdmin	1950	FLORIDA STATE UNIVERSITY	FL	Public	4
Recreation	1956	FLORIDA STATE UNIVERSITY	FL	Public	4
Comm	1971	FLORIDA STATE UNIVERSITY	FL	Public	4
CrimJust	1971	FLORIDA STATE UNIVERSITY	FL	Public	4
PubAdmin	1950	UNIVERSITY OF FLORIDA	FL	Public	3
Recreation	1956	UNIVERSITY OF FLORIDA	FL	Public	3
Comm	1971	UNIVERSITY OF FLORIDA	FL	Public	3
Recreation	1956	UNIVERSITY OF GEORGIA	GA	Public	2
Comm	1971	UNIVERSITY OF GEORGIA	GA	Public	2
HlthAdmin	1956	NORTHWESTERN UNIVERSITY	IL	Private	2
Comm	1971	NORTHWESTERN UNIVERSITY	IL	Private	2
PubAdmin	1950	ROOSEVELT UNIVERSITY	IL	Private	2
Comm	1971	ROOSEVELT UNIVERSITY	IL	Private	2
Legal	1962	UNIVERSITY OF CHICAGO	IL	Private	2
CompSci	1965	UNIVERSITY OF CHICAGO	IL	Private	2
PubAdmin	1950	INDIANA UNIVERSITY-BLOOMINGTON	IN	Public	3
Comm	1971	INDIANA UNIVERSITY-BLOOMINGTON	IN	Public	3
CrimJust	1971	INDIANA UNIVERSITY-BLOOMINGTON	IN	Public	3

<i>Field</i>	<i>First Graduation Year</i>	<i>Institution Name</i>	<i>State</i>	<i>Control</i>	<i>#</i>
PubAdmin	1950	UNIVERSITY OF KANSAS	KS	Public	2
Comm	1971	UNIVERSITY OF KANSAS	KS	Public	2
Legal	1962	UNIVERSITY OF LOUISVILLE	KY	Public	2
CrimJust	1971	UNIVERSITY OF LOUISVILLE	KY	Public	2
Recreation	1956	UNIVERSITY OF MARYLAND MAIN CAMPUS	MD	Public	2
Comm	1971	UNIVERSITY OF MARYLAND MAIN CAMPUS	MD	Public	2
PubAdmin	1950	MICHIGAN STATE UNIVERSITY	MI	Public	3
Comm	1971	MICHIGAN STATE UNIVERSITY	MI	Public	3
CrimJust	1971	MICHIGAN STATE UNIVERSITY	MI	Public	3
PubAdmin	1950	UNIVERSITY OF MICHIGAN	MI	Public	2
CompSci	1965	UNIVERSITY OF MICHIGAN	MI	Public	2
PubAdmin	1950	WAYNE STATE UNIVERSITY	MI	Public	4
Recreation	1956	WAYNE STATE UNIVERSITY	MI	Public	4
CompSci	1965	WAYNE STATE UNIVERSITY	MI	Public	4
CrimJust	1971	WAYNE STATE UNIVERSITY	MI	Public	4
HlthAdmin	1956	UNIVERSITY OF MINN ALL CAMPUSES	MN	Public	3
PubAdmin	1950	UNIVERSITY OF MINNESOTA-TWIN CITIES	MN	Public	2
Legal	1962	UNIVERSITY OF MINNESOTA-TWIN CITIES	MN	Public	2
PubAdmin	1950	UNIVERSITY OF MISSOURI AT COLUMBIA	MO	Public	2
Comm	1971	UNIVERSITY OF MISSOURI AT COLUMBIA	MO	Public	2
HlthAdmin	1956	WASHINGTON UNIVERSITY	MO	Private	2
PubAdmin	1950	MISSISSIPPI STATE UNIVERSITY	MS	Public	2
CompSci	1965	MISSISSIPPI STATE UNIVERSITY	MS	Public	2
PubAdmin	1950	NEW YORK UNIVERSITY	NY	Private	3
Recreation	1956	NEW YORK UNIVERSITY	NY	Private	3
CompSci	1965	NEW YORK UNIVERSITY	NY	Private	3
Comm	1971	SYRACUSE UNIVERSITY	NY	Private	3
PubAdmin	1950	SYRACUSE UNIVERSITY MAIN CAMPUS	NY	Private	3
CompSci	1965	SYRACUSE UNIVERSITY MAIN CAMPUS	NY	Private	3
Legal	1962	KENT STATE UNIVERSITY-MAIN CAMPUS	OH	Public	3
Comm	1971	KENT STATE UNIVERSITY-MAIN CAMPUS	OH	Public	3
CrimJust	1971	KENT STATE UNIVERSITY-MAIN CAMPUS	OH	Public	3
Recreation	1956	OHIO WESLEYAN UNIVERSITY	OH	Private	2
Legal	1962	OHIO WESLEYAN UNIVERSITY	OH	Private	2
Comm	1971	YOUNGSTOWN STATE UNIVERSITY	OH	Public	2
CrimJust	1971	YOUNGSTOWN STATE UNIVERSITY	OH	Public	2
Comm	1971	UNIVERSITY OF TULSA	OK	Private	2
CrimJust	1971	UNIVERSITY OF TULSA	OK	Private	2
Recreation	1956	PA STATE U MAIN CAMPUS	PA	Public	3
Comm	1971	PA STATE U MAIN CAMPUS	PA	Public	3
CrimJust	1971	PA STATE U MAIN CAMPUS	PA	Public	3
Recreation	1956	NORTH TEXAS STATE UNIVERSITY	TX	Public	2

<i>Field</i>	<i>First Graduation Year</i>	<i>Institution Name</i>	<i>State</i>	<i>Control</i>	<i>#</i>
Comm	1971	NORTH TEXAS STATE UNIVERSITY	TX	Public	2
PubAdmin	1950	UNIVERSITY OF HOUSTON	TX	Public	2
Legal	1962	UNIVERSITY OF HOUSTON	TX	Public	2
PubAdmin	1950	BRIGHAM YOUNG UNIVERSITY	UT	Private	2
CrimJust	1971	BRIGHAM YOUNG UNIVERSITY	UT	Private	2
Comm	1971	VIRGINIA COMMONWEALTH UNIVERSITY	VA	Public	2
CrimJust	1971	VIRGINIA COMMONWEALTH UNIVERSITY	VA	Public	2
PubAdmin	1950	WASHINGTON STATE UNIVERSITY	WA	Public	2
CrimJust	1971	WASHINGTON STATE UNIVERSITY	WA	Public	2

Public Administration

Table 38: Institutions offering undergraduate and/or graduate degrees in public administration, 1950-1959

#	NAME	STATE	Control	1950	1951	1952	1953	1955	1956	1959
1	UNIV ARK MAIN CAMPUS	AR	Public	Y	Y				Y	Y
2	ARIZ STATE UNIV	AZ	Public							
3	UNIVERSITY OF ARIZONA	AZ	Public	Y	Y	Y	Y	Y		
4	CALIF STATE COL LONG BCH	CA	Public							
5	CLAREMONT COL SYSTEM	CA	Private				Y			
6	FRESNO STATE COLLEGE	CA	Public					Y		
7	GOLDEN GATE COLLEGE	CA	Private							
8	LOS ANG ST COL APPL A&S	CA	Public			Y	Y	Y		
9	SACRAMENTO STATE COLLEGE	CA	Public		Y	Y	Y	Y	Y	Y
10	SAN DIEGO ST COL MAIN CAM	CA	Public				Y	Y	Y	Y
11	SAN FRANCISCO COL WOMEN	CA	Private			Y				
12	SAN FRANCISCO STATE COL	CA	Public					Y	Y	Y
13	SAN JOSE STATE COLLEGE	CA	Public	Y	Y	Y	Y	Y	Y	Y
14	SONOMA STATE UNIVERSITY	CA	Public							
15	ST MARYS COL CALIFORNIA	CA	Private							
18	UNIV CALIF ALL CAMPUSES	CA	Public	Y	Y			Y	Y	Y
16	UNIV OF CAL BERKELEY	CA	Public							
17	UNIV OF CAL LOS ANGELES	CA	Public							
19	UNIV OF STHRN CALIFORNIA	CA	Private	Y	Y	Y	Y	Y	Y	Y
20	UNIVERSITY OF COLORADO AT BO	CO	Public	Y	Y		Y	Y	Y	Y
21	UNIVERSITY OF DENVER	CO	Private	Y			Y	Y	Y	Y
22	NEW HAVEN COLLEGE	CT	Private							
23	UNIVERSITY OF CONNECTICUT	CT	Public							
24	UNIVERSITY OF HARTFORD	CT	Private							
25	WESLEYAN UNIVERSITY	CT	Private			Y				
26	YALE UNIVERSITY	CT	Private			Y		Y	Y	Y
27	AMERICAN UNIVERSITY	DC	Private	Y	Y	Y	Y	Y	Y	Y
28	CATHOLIC UNIV OF AMERICA	DC	Private					Y		
29	GEORGE WASHINGTON UNIV	DC	Private	Y	Y	Y	Y	Y	Y	Y
30	GEORGETOWN UNIVERSITY	DC	Private		Y	Y				
31	FLORIDA STATE UNIVERSITY	FL	Public	Y	Y	Y	Y	Y	Y	Y
32	UNIVERSITY OF FLORIDA	FL	Public	Y		Y	Y	Y		
33	GA INST TECH MAIN CAMPUS	GA	Public					Y	Y	Y
34	UNIVERSITY OF GEORGIA	GA	Public					Y		
35	JACKSON COL	HI	Public							Y
36	UNIV HAWAII ALL CAMPUSES	HI	Public							Y
37	ILLINOIS INST OF TECH	IL	Private	Y			Y			Y

#	NAME	STATE	Control	1950	1951	1952	1953	1955	1956	1959
38	ROOSEVELT UNIVERSITY	IL	Private	Y		Y	Y		Y	
39	STHRN ILL U EDWARDSVL CAM	IL	Public							
40	UNIV OF ILL ALL CAMPUSES	IL	Public							
41	UNIVERSITY OF CHICAGO	IL	Private			Y	Y	Y	Y	
42	INDIANA U AT BLOOMINGTON	IN	Public	Y	Y		Y	Y	Y	
43	KANSAS ST U AG & APP SCI	KS	Public							
44	UNIVERSITY OF KANSAS	KS	Public	Y	Y	Y	Y	Y	Y	Y
45	LOUISIANA STATE UNIVERSITY A	LA	Public							
46	TULANE UNIV OF LOUISIANA	LA	Private					Y	Y	Y
47	HARVARD UNIVERSITY	MA	Private	Y	Y	Y	Y	Y	Y	Y
48	MASS INST OF TECHNOLOGY	MA	Private							
49	SIMMONS COLLEGE	MA	Private						Y	
50	WILLIAMS COLLEGE	MA	Private			Y				
51	UNIV MD MAIN CAMPUS	MD	Public		Y	Y			Y	Y
52	UNIVERSITY OF MAINE AT ORONO	ME	Public	Y	Y	Y		Y	Y	Y
53	MICH ST U AGRI & APP SCI	MI	Public					Y		
54	MICHIGAN STATE UNIVERSITY	MI	Public	Y	Y	Y	Y			
55	UNIVERSITY OF DETROIT	MI	Private				Y			
56	UNIVERSITY OF MICHIGAN	MI	Public	Y	Y	Y	Y	Y	Y	Y
57	WAYNE STATE UNIVERSITY	MI	Public	Y	Y	Y	Y	Y	Y	Y
58	WESTERN MICHIGAN UNIV	MI	Public							
59	UNIV OF MINN MNPLS ST PAUL	MN	Public	Y	Y	Y	Y	Y	Y	Y
60	SOUTHWEST MISSOURI ST COL	MO	Public							
61	ST LOUIS U ALL CAMPUSES	MO	Private					Y	Y	Y
62	UNIV MISSOURI AT COLUMBIA	MO	Public	Y	Y	Y		Y	Y	Y
63	WASHINGTON UNIV	MO	Private	Y				Y		
64	MISSISSIPPI STATE UNIVERSITY	MS	Public	Y	Y	Y	Y			Y
65	UNIV OF MISS MAIN CAMPUS	MS	Public			Y	Y	Y		
66	UNIV OF STHR N MISSISSIPPI	MS	Public		Y					
67	EAST CAROLINA UNIVERSITY	NC	Public	Y		Y				
68	UNIV OF NC AT CHAPEL HILL	NC	Public			Y		Y	Y	Y
69	WAKE FOREST UNIVERSITY	NC	Private							
70	UNIV N DAK MAIN CAMPUS	ND	Public	Y		Y	Y	Y		
71	UNIV NEBRASKA MAIN CAMPUS	NE	Public				Y			
72	DARTMOUTH COLLEGE	NH	Private				Y	Y	Y	Y
73	UNIVERSITY OF NEW HAMPSHIRE-	NH	Public							
74	UNIVERSITY OF NEW HAMPSHIRE-	NH	Public							
75	EASTERN NEW MEXICO UNIVERSIT	NM	Public		Y					
76	UNIVERSITY OF NEVADA -RENO	NV	Public							
77	COLGATE UNIVERSITY	NY	Private		Y					
78	CORNELL UNIV ALL CAMPUSES	NY	Private	Y	Y	Y		Y	Y	Y
79	CUNY CITY COLLEGE	NY	Public			Y	Y	Y	Y	Y

#	NAME	STATE	Control	1950	1951	1952	1953	1955	1956	1959
80	INST PUBLIC ADMIN	NY	Private	Y						
81	LONG ISLAND UNIV	NY	Private							
82	NEW YORK UNIVERSITY	NY	Private	Y	Y	Y	Y	Y	Y	Y
83	PRATT INSTITUTE	NY	Private							
84	SUNY GRAD SCH PUB AFF	NY	Public							
85	SUNY STATE UNIV ALBANY	NY	Public							
86	SYRACUSE U MAIN CAMPUS	NY	Private	Y	Y	Y	Y	Y	Y	Y
87	JOHN CARROLL UNIVERSITY	OH	Private	Y						Y
88	KENT ST UNIV ALL CAMPUSES	OH	Public							Y
89	OHIO STATE UNIVERSITY-MAIN C	OH	Public	Y			Y		Y	
90	OHIO WESLEYAN UNIVERSITY	OH	Private		Y		Y			
91	U CINCINNATI ALL CAMPUSES	OH	Public							
92	UNIVERSITY OF TOLEDO	OH	Public			Y				
93	YOUNGSTOWN ST UNIVERSITY	OH	Public							
94	OKLA A&M COL	OK	Public			Y				
95	UNIV OKLA ALL CAMPUSES	OK	Public					Y	Y	
96	WILLAMETTE UNIVERSITY	OR	Private		Y			Y	Y	
97	PENN ST UNIV ALL CAMPUSES	PA	Public							Y
98	TEMPLE UNIVERSITY	PA	Public						Y	Y
99	UNIV OF PENNSYLVANIA	PA	Private		Y	Y		Y	Y	Y
100	UNIV PITTSBG ALL CAMPUSES	PA	Public							Y
101	POLY INST PRTO RICO	PR				Y				
102	UNIV PUERTO RICO ALL CAMPUSES	PR	Public	Y				Y		Y
103	UNIV R I ALL CAMPUSES	RI	Public							
104	UNIV OF TENN ALL CAMPUSES	TN	Public						Y	Y
105	SOUTHERN METHODIST UNIV	TX	Private							Y
106	TEXAS TECHNOLOGICAL COL	TX	Public							Y
107	TRINITY UNIVERSITY	TX	Private		Y					
108	UNIV TEXAS AT AUSTIN	TX	Public							Y
109	UNIVERSITY OF HOUSTON	TX	Public	Y	Y	Y	Y	Y	Y	Y
110	BRIGHAM YOUNG UNIVERSITY	UT	Private	Y						
111	MEDICAL COL OF VA	VA						Y		
112	VIRGINIA POLY INSTITUTE	VA	Public	Y	Y	Y	Y	Y	Y	Y
113	WASHINGTON & LEE UNIV	VA	Private			Y	Y		Y	Y
114	GODDARD COLLEGE	VT	Private	Y						
115	UNIVERSITY OF WASHINGTON	WA	Public		Y	Y	Y	Y	Y	Y
116	WASHINGTON STATE	WA	Public	Y	Y	Y	Y	Y		
117	WHITMAN COLLEGE	WA	Private	Y	Y	Y				
118	UNIV OF WIS MADISON	WI	Public			Y		Y	Y	Y
	Count			39	37	45	39	50	45	50

Source: NCES, Earned Degrees Conferred, selected years

Hospital Administration

Table 39: Institutions awarding degrees in hospital administration, 1956-1967

NAME ¹	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
BAYLOR UNIVERSITY MAIN CAMPUS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CATHOLIC UNIVERSITY OF AMERICA	Y	Y	Y	Y	Y							
COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK (+GRAD)										Y	Y	Y
CORNELL UNIVERSITY ALL CAMPUSES (GRAD)						Y	Y	Y	Y	Y	Y	Y
DUKE UNIVERSITY (+GRAD)									Y	Y	Y	Y
GEORGE WASHINGTON UNIVERSITY							Y	Y	Y	Y	Y	Y
GEORGIA STATE COLLEGE			Y				Y	Y	Y	Y	Y	Y
MICHIGAN STATE UNIV AGRI & APP SCI							Y	Y	Y			
MICHIGAN STATE UNIVERSITY										Y	Y	Y
NORTHWESTERN UNIVERSITY	Y	Y	Y	Y	Y	Y	Y					
OKLAHOMA BAPTIST UNIVERSITY	Y			Y		Y	Y				Y	Y
SAINT LOUIS UNIVERSITY MAIN CAMPUS	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y
STATE UNIVERSITY OF IOWA	Y	Y	Y	Y	Y	Y	Y	Y	Y			
UNIVERSITY OF CHICAGO						Y	Y	Y	Y	Y	Y	Y
UNIVERSITY OF IOWA (+GRAD)										Y	Y	Y
UNIVERSITY OF KANSAS MAIN CAMPUS (+GRAD)												Y
UNIVERSITY OF MICHIGAN		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
UNIVERSITY OF MINNESOTA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
UNIVERSITY OF PITTSBURGH MAIN CAMPUS		Y	Y			Y	Y	Y	Y	Y	Y	Y
VA COMMONWEALTH U MED COL VA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WASHINGTON UNIVERSITY	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
XAVIER UNIVERSITY (+GRAD)					Y	Y	Y	Y	Y	Y	Y	Y
YALE UNIVERSITY					Y							

¹ The word (grad) after the institution name denotes that it offers only graduate degrees; (+grad) denotes offerings at the both levels

Source: NCES, Earned Degrees conferred, relevant years

Recreational Studies

Table 40: Institutions awarding bachelor's degrees in recreational studies, 1956-1966

NAME	STATE	CONTROL	YR56	Y57	YR58	YR59	YR61	YR63	YR66
THE UNIVERSITY OF ALABAMA	AL	Public	Y	Y	Y	Y	Y	Y	
ARKANSAS TECH UNIVERSITY	AR	Public							Y
ARIZONA STATE UNIVERSITY-MAIN CAMPUS	AZ	Public			Y		Y	Y	Y
UNIVERSITY OF ARIZONA	AZ	Public						Y	Y
CALIFORNIA STATE UNIVERSITY-FRESNO	CA	Public					Y	Y	Y
CALIFORNIA STATE UNIVERSITY-HAYWARD	CA	Public							Y
CALIFORNIA STATE UNIVERSITY-LONG BEACH	CA	Public	Y	Y	Y		Y	Y	Y
CALIFORNIA STATE UNIVERSITY-LOS ANGELES	CA	Public							Y
CALIFORNIA STATE UNIVERSITY-SACRAMENTO	CA	Public		Y	Y	Y	Y	Y	Y
CHICO STATE COLLEGE	CA	Public	Y		Y	Y	Y	Y	Y
COLLEGE OF ALAMEDA	CA	Public						Y	
LA ST COL APP ARTS & SCI	CA	Public	Y		Y	Y		Y	
PEPPERDINE COLLEGE	CA	Private		Y					
SAN DIEGO STATE UNIVERSITY	CA	Public		Y			Y	Y	Y
SAN FERNANDO VALLEY ST COL	CA	Public					Y	Y	Y
SAN FRANCISCO STATE UNIVERSITY	CA	Public	Y	Y	Y	Y	Y	Y	Y
SAN JOSE STATE UNIVERSITY	CA	Public	Y	Y	Y	Y	Y	Y	Y
UNIV OF CALIF ALL CAMPUSES	CA	Public	Y	Y	Y				
UNIV OF SOUTHERN CALIFORNIA	CA	Private		Y	Y				Y
UNIVERSITY OF THE PACIFIC	CA	Private		Y			Y		Y
COLORADO STATE COLLEGE	CO	Public							Y
UNIVERSITY OF DENVER	CO	Private				Y			
WESTERN STATE COLLEGE COLORADO	CO	Public		Y		Y	Y	Y	
UNIV CONN ALL CAMPUSES	CT	Public	Y	Y					
FLORIDA STATE UNIVERSITY	FL	Public	Y	Y	Y	Y	Y	Y	Y
UNIVERSITY OF FLORIDA	FL	Public	Y	Y	Y	Y	Y	Y	Y
UNIVERSITY OF MIAMI	FL	Private					Y		
GEORGIA SOUTHERN UNIVERSITY	GA	Public					Y	Y	Y
PIEDMONT COLLEGE	GA	Private	Y						
UNIVERSITY OF GEORGIA	GA	Public	Y	Y	Y	Y	Y	Y	Y
UNIVERSITY OF HAWAII AT MANOA	HI	Public	Y	Y	Y	Y	Y	Y	Y
UNIVERSITY OF IOWA	IA	Public							Y
IDAHO STATE UNIVERSITY	ID	Public							Y
AUGUSTANA COLLEGE	IL	Private			Y				
GEORGE WILLIAMS COLLEGE	IL	Private	Y	Y			Y	Y	Y
MILLIKIN UNIVERSITY	IL	Private				Y			

NAME	STATE	CONTROL	YR56	Y57	YR58	YR59	YR61	YR63	YR66
NORTHERN ILLINOIS UNIV	IL	Public							Y
ROCKFORD COLLEGE	IL	Private	Y		Y	Y			
SOUTHERN ILLINOIS UNIVERSITY-CARBONDALE	IL	Public				Y	Y	Y	Y
UNIV OF ILL	IL	Public	Y	Y	Y	Y	Y	Y	Y
WHEATON COLLEGE	IL	Private	Y	Y	Y		Y		
EARLHAM COLLEGE	IN	Private	Y		Y	Y			
INDIANA STATE UNIVERSITY	IN	Public			Y				
INDIANA UNIV ALL CAMPUSES	IN	Public	Y	Y		Y	Y	Y	Y
PURDUE UNIVERSITY-MAIN CAMPUS	IN	Public				Y		Y	
UNIVERSITY OF EVANSVILLE	IN	Private							Y
KANS ST COL OF PITTSBURG	KS	Public							Y
EASTERN KENTUCKY UNIVERSITY	KY	Public			Y	Y			
TRANSYLVANIA UNIVERSITY	KY	Private	Y						
UNIVERSITY OF KENTUCKY MAIN CAMPUS	KY	Public		Y				Y	
SOUTHERN UNIV & A & M COL	LA	Public				Y	Y	Y	Y
BOSTON UNIVERSITY	MA	Private		Y	Y	Y		Y	Y
SPRINGFIELD COLLEGE	MA	Private	Y	Y	Y	Y	Y		Y
UNIVERSITY OF MASSACHUSETTS-AMHERST	MA	Public	Y	Y	Y	Y	Y	Y	Y
UNIVERSITY OF MARYLAND MAIN CAMPUS	MD	Public	Y	Y	Y	Y	Y	Y	Y
WESTERN MARYLAND COLLEGE	MD	Private			Y				
CENTRAL MICHIGAN UNIVERSITY	MI	Public						Y	Y
EASTERN MICHIGAN UNIVERSITY	MI	Public		Y	Y	Y	Y	Y	Y
MARYGROVE COLLEGE	MI	Private			Y				
MICH ST U AGRIC & APP SCI	MI	Public	Y	Y	Y	Y	Y	Y	Y
MICH STATE NORMAL COL	MI	Public	Y						Y
WAYNE STATE UNIVERSITY	MI	Public	Y	Y	Y	Y	Y	Y	Y
WESTERN MICHIGAN UNIVERSITY	MI	Public		Y	Y				
AUGSBURG COLLEGE	MN	Private		Y					
MANKATO STATE UNIVERSITY	MN	Public							Y
UNIVERSITY OF MINNESOTA-TWIN CITIES	MN	Public		Y	Y	Y	Y	Y	Y
NORTHEAST MISSOURI ST COL	MO	Public	Y						
SOUTHWEST MISSOURI STATE UNIVERSITY	MO	Public							Y
MISS SOUTHERN COL	MS				Y	Y	Y		
MISSISSIPPI COLLEGE	MS	Private			Y	Y			
UNIVERSITY OF SOUTHERN MISSISSIPPI	MS	Public						Y	Y
EAST CAROLINA UNIVERSITY	NC	Public		Y					
N C COLLEGE AT DURHAM	NC	Public							Y
NORTH CAROLINA STATE UNIVERSITY AT RALEIGH	NC	Public	Y	Y	Y	Y	Y	Y	Y
UNIV OF N C WOMANS COL	NC	Private	Y	Y		Y			

NAME	STATE	CONTROL	YR56	Y57	YR58	YR59	YR61	YR63	YR66
UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	NC	Public			Y		Y	Y	Y
NEBR WESLEYAN UNIVERSITY	NE	Private		Y					
UNIVERSITY OF NEBRASKA AT OMAHA	NE	Public							Y
UNIV OF NEW HAMPSHIRE	NH	Public				Y			
EASTERN NEW MEX U ALL CAM	NM	Public		Y					Y
NEW MEXICO HIGHLANDS UNIVERSITY	NM	Public			Y	Y			
UNIVERSITY OF NEW MEXICO	NM	Public						Y	Y
COLUMBIA UNIV TCHRS COL	NY	Private	Y	Y	Y	Y			Y
CUNY BROOKLYN COLLEGE	NY	Public			Y	Y			
ITHACA COLLEGE	NY	Private				Y			
NEW YORK UNIVERSITY	NY	Private	Y	Y	Y	Y	Y	Y	Y
SUNY COLLEGE AT CORTLAND	NY	Public		Y	Y	Y	Y	Y	Y
SYRACUSE U MAIN CAMPUS	NY	Private			Y		Y	Y	Y
ANTIOCH COLLEGE	OH	Private	Y						
CENTRAL STATE UNIVERSITY	OH	Public	Y	Y	Y	Y		Y	Y
KENT ST UNIV MAIN CAMPUS	OH	Public					Y	Y	Y
OHIO STATE UNIVERSITY-MAIN CAMPUS	OH	Public						Y	Y
OHIO WESLEYAN UNIVERSITY	OH	Private	Y	Y		Y	Y	Y	
OKLAHOMA BAPTIST UNIVERSITY	OK	Private			Y				
OREGON STATE UNIVERSITY	OR	Public	Y				Y	Y	
PENNSYLVANIA STATE UNIV MAIN CAMPUS	PA	Public	Y	Y	Y	Y	Y	Y	Y
TEMPLE UNIVERSITY	PA	Public	Y		Y	Y	Y	Y	
LANDER COLLEGE	SC	Public		Y					
SOUTHERN STATE COLLEGE	SD								Y
BELMONT UNIVERSITY	TN	Private							Y
UNIV OF TENN ALL CAMPUSES	TN	Public			Y		Y		Y
BAYLOR UNIV MAIN CAMPUS	TX	Private						Y	Y
NORTH TEXAS STATE UNIV	TX	Public	Y	Y	Y		Y	Y	Y
TEXAS TECH UNIVERSITY	TX	Public		Y				Y	Y
TEXAS WOMANS UNIVERSITY	TX	Public	Y			Y	Y	Y	Y
UNIV OF TEX	TX	Public		Y					
BRIGHAM YOUNG UNIVERSITY	UT	Private		Y	Y	Y	Y	Y	Y
UNIV OF UTAH	UT	Public	Y	Y	Y	Y	Y	Y	Y
UTAH ST U AGRIC & APP SCI	UT	Public						Y	
UTAH ST UNIV MAIN CAMPUS	UT	Public							Y
COL OF WILLIAM & MARY MAIN CAM	VA	Public	Y	Y	Y	Y			
RICHMOND PROF INST	VA	Private					Y	Y	Y
VA STATE COL MAIN CAMPUS	VA	Public	Y	Y	Y	Y	Y		
CENTRAL WASHINGTON UNIVERSITY	WA	Public		Y		Y		Y	Y
STATE COL OF WASH	WA	Public	Y	Y	Y	Y			
UNIVERSITY OF WASHINGTON	WA	Public	Y	Y	Y				
WASHINGTON STATE UNIVERSITY	WA	Public					Y		
WESTERN WASHINGTON UNIVERSITY	WA	Public		Y	Y				

<i>NAME</i>	<i>STATE</i>	<i>CONTROL</i>	<i>YR56</i>	<i>Y57</i>	<i>YR58</i>	<i>YR59</i>	<i>YR61</i>	<i>YR63</i>	<i>YR66</i>
WHITWORTH COLLEGE	WA	Private			Y	Y			
U OF WISCONSON	WI	Public		Y	Y		Y	Y	Y
UNIVERSITY OF WISCONSIN-MADISON	WI	Public	Y			Y			
UNIVERSITY OF WISCONSIN-MILWAUKEE	WI	Public							Y
WIS STATE COL MILWAUKEE	WI	Public	Y						
FAIRMONT STATE COLLEGE	WV	Public	Y	Y	Y	Y	Y		Y
SHEPHERD COLLEGE	WV	Public			Y				
WEST VIRGINIA UNIVERSITY	WV	Public	Y	Y	Y	Y	Y	Y	Y
UNIVERSITY OF WYOMING	WY	Public		Y			Y	Y	Y

Undergraduate Legal Studies

Table 41: Institutions awarding undergraduate degrees in legal studies, 1962-1964

<i>INSTITUTION NAME</i>	<i>STATE</i>	<i>CONTROL</i>	<i>1962</i>	<i>1963</i>	<i>1964</i>
HOWARD COLLEGE	AL	Private		Y	Y
UNIVERSITY OF ARKANSAS AT FAYETTEVILLE	AR	Public	Y		Y
LA ST COL APP ARTS & SCI	CA	Public	Y		
SAN FRANCISCO STATE UNIVERSITY	CA	Public	Y	Y	
SANTA CLARA UNIVERSITY	CA	Private		Y	
STANFORD UNIVERSITY	CA	Private	Y	Y	Y
UNIVERSITY OF SOUTHERN CALIFORNIA	CA	Private	Y	Y	Y
UNIVERSITY OF DENVER	CO	Private	Y		Y
UNIVERSITY OF CONNECTICUT	CT	Public			Y
EMORY UNIVERSITY	GA	Private	Y	Y	Y
MERCER UNIVERSITY	GA	Private		Y	Y
UNIVERSITY OF GEORGIA	GA	Public		Y	Y
PARSONS COLLEGE	IA	Private		Y	
SIMPSON COLLEGE	IA	Private	Y		
AUGUSTANA COLLEGE	IL	Private		Y	
UNIVERSITY OF CHICAGO	IL	Private	Y		
INDIANA STATE UNIVERSITY	IN	Public		Y	Y
UNIVERSITY OF NOTRE DAME	IN	Private	Y	Y	Y
KANSAS STATE UNIVERSITY OF AGRICULTURE AND APP SCI	KS	Public	Y	Y	
CENTRE COLLEGE	KY	Private	Y		
UNIVERSITY OF KENTUCKY	KY	Public	Y	Y	Y
UNIVERSITY OF LOUISVILLE	KY	Public	Y	Y	Y
LA STATE UNIV & A & M COL	LA	Private			Y
LOUISIANA POLY INSTITUTE	LA	Public		Y	
MCNEESE STATE UNIVERSITY	LA	Public	Y	Y	
NORTHEAST LOUISIANA UNIVERSITY	LA	Public		Y	
UNIVERSITY OF MICHIGAN-ANN ARBOR	MI	Public		Y	Y
UNIVERSITY OF MINNESOTA-TWIN CITIES	MN	Public	Y	Y	Y
WASHINGTON UNIVERSITY	MO	Private			Y
WAKE FOREST UNIVERSITY	NC	Private	Y	Y	Y
UNIVERSITY OF NORTH DAKOTA-MAIN CAMPUS	ND	Public		Y	Y
UNIVERSITY OF NEBRASKA AT LINCOLN	NE	Public	Y	Y	Y
SUNY HARPUR COLLEGE	NY	Public		Y	
KENT STATE UNIVERSITY-MAIN CAMPUS	OH	Public	Y		
OHIO WESLEYAN UNIVERSITY	OH	Private	Y		
UNIVERSITY OF TULSA	OK	Private		Y	
UNIVERSITY OF OREGON	OR	Public	Y	Y	Y
LA SALLE UNIVERSITY	PA	Private	Y		
SOUTH CAROLINA STATE COLLEGE	SC	Public		Y	Y

<i>INSTITUTION NAME</i>	<i>STATE</i>	<i>CONTROL</i>	<i>1962</i>	<i>1963</i>	<i>1964</i>
DAVID LIPSCOMB UNIVERSITY	TN	Private			Y
TENNESSEE POLYTECHNICH INST	TN	Private		Y	
SOUTHERN METHODIST UNIVERSITY	TX	Private	Y	Y	Y
TEXAS SOUTHERN UNIVERSITY	TX	Public	Y		Y
UNIVERSITY OF HOUSTON-UNIVERSITY PARK	TX	Public	Y	Y	Y
UNIVERSITY OF UTAH	UT	Public	Y		
COLLEGE OF WILLIAM AND MARY	VA	Public		Y	Y
GONZAGA UNIVERSITY	WA	Private		Y	Y
MARQUETTE UNIVERSITY	WI	Private	Y	Y	
UNIVERSITY OF WYOMING	WY	Public			Y

Source: NCES, Earned Degrees Conferred, selected years

Criminal Justice

Table 42: Institutions awarding bachelor degrees in criminal justice, 1971

<i>NAME</i>	<i>STATE</i>	<i>MEN</i>	<i>WOMEN</i>	<i>TOTAL</i>
AUBURN UNIVERSITY MAIN CAMPUS	AL	1	0	1
SAMFORD UNIVERSITY	AL	2	0	2
NORTHERN ARIZONA UNIVERSITY	AZ	38	1	39
UNIVERSITY OF ARIZONA	AZ	21	9	30
CALIFORNIA STATE UNIVERSITY-LOS ANGELES	CA	188	15	203
CALIFORNIA STATE UNIVERSITY-SACRAMENTO	CA	144	19	163
JOHN F KENNEDY UNIVERSITY	CA	9	0	9
SAN DIEGO STATE UNIVERSITY	CA	25	2	27
SAN JOSE STATE UNIVERSITY	CA	82	11	93
METROPOLITAN STATE COLLEGE OF DENVER	CO	21	2	23
UNIVERSITY OF HARTFORD	CT	3	0	3
UNIVERSITY OF NEW HAVEN	CT	25	1	26
AMERICAN UNIVERSITY	DC	54	2	56
FLORIDA ATLANTIC UNIVERSITY-BOCA RATON	FL	4	0	4
FLORIDA STATE UNIVERSITY	FL	189	39	228
ROLLINS COLLEGE	FL	1	0	1
UNIVERSITY OF CENTRAL FLORIDA	FL	3	0	3
GEORGIA STATE UNIVERSITY	GA	25	5	30
WESTERN ILLINOIS UNIVERSITY	IL	8	0	8
INDIANA UNIVERSITY-BLOOMINGTON	IN	29	4	33
INDIANA UNIVERSITY-PURDUE UNIVERSITY	IN	3	0	3
UNIVERSITY OF EVANSVILLE	IN	1	0	1
EASTERN KENTUCKY UNIVERSITY	KY	50	2	52
UNIVERSITY OF LOUISVILLE	KY	1	0	1
NORTHEASTERN UNIVERSITY	MA	34	0	34
UNIVERSITY OF BALTIMORE	MD	4	0	4
UNIVERSITY OF MARYLAND-COLLEGE PARK	MD	2	1	3
MICHIGAN STATE UNIVERSITY	MI	144	21	165
WAYNE STATE UNIVERSITY	MI	31	1	32
MANKATO STATE UNIVERSITY	MN	17	17	34
CENTRAL MISSOURI STATE UNIVERSITY	MO	68	1	69
DRURY COLLEGE	MO	1	0	1
UNIVERSITY OF MISSOURI-ST LOUIS	MO	12	1	13
UNIVERSITY OF NEBRASKA AT OMAHA	NE	112	2	114
NM STATE U ALL CAMPUSES	NM	6	1	7
CUNY JOHN JAY COLLEGE CRIMINAL JUSTICE	NY	178	3	181
SUNY COLLEGE AT BUFFALO	NY	26	0	26
KENT STATE UNIVERSITY-MAIN CAMPUS	OH	12	0	12
UNIVERSITY OF DAYTON	OH	23	0	23
YOUNGSTOWN STATE UNIVERSITY	OH	17	1	18

UNIVERSITY OF TULSA	OK	6	1	7
SOUTHERN OREGON UNIVERSITY	OR	28	4	32
KINGS COLLEGE	PA	3	0	3
PA STATE U MAIN CAMPUS	PA	47	9	56
UNIVERSITY OF PITTSBURGH-MAIN CAMPUS	PA	1	0	1
SALVE REGINA UNIVERSITY	RI	3	0	3
UNIVERSITY OF MEMPHIS	TN	0	1	1
ABILENE CHRISTIAN UNIVERSITY	TX	1	0	1
HARDIN-SIMMONS UNIVERSITY	TX	4	0	4
SOUTHWEST TEXAS STATE UNIVERSITY	TX	16	0	16
BRIGHAM YOUNG UNIVERSITY	UT	26	3	29
WEBER STATE UNIVERSITY	UT	14	1	15
VIRGINIA COMMONWEALTH UNIVERSITY	VA	18	2	20
WASHINGTON STATE UNIVERSITY	WA	27	5	32
UNIVERSITY OF WISCONSIN-MILWAUKEE	WI	12	1	13
UNIVERSITY OF WISCONSIN-PLATTEVILLE	WI	30	1	31
WEST VIRGINIA STATE COLLEGE	WV	6	0	6
<i>Total</i>		<i>1,856</i>	<i>189</i>	<i>2,045</i>

Source: NCES, HEGIS files, 1970-1971

Communications

Table 43: Institutions offering programs in journalism and communications, 1971

NAME	JRNL	GEN	TV	ADV	OTHR	TV+ ADV	JRNL+ GEN	JRNL+ TV	JRNL+ (TV/ADV)	GEN+ (TV/ADV)	GEN+ OTHR
Total	191	93	85	38	20	29	28	71	81	22	19
ABILENE CHRISTIAN COLLEGE		Y	Y							Y	
AMERICAN UNIVERSITY	Y	Y	Y		Y		Y	Y	Y	Y	Y
ANGELO STATE UNIVERSITY	Y										
ANTIOCH COLLEGE MAIN CAM		Y									
ARIZONA STATE UNIVERSITY	Y		Y					Y	Y		
ARKANSAS STATE U MAIN CAM	Y		Y		Y			Y	Y		Y
ASHLAND COLLEGE		Y	Y							Y	
AUBURN U MAIN CAMPUS	Y	Y					Y				
BAKER UNIVERSITY	Y										
BALL STATE UNIVERSITY	Y		Y		Y			Y	Y		Y
BAYLOR U MAIN CAMPUS	Y	Y	Y				Y	Y	Y	Y	
BELLARMINE-URSLNE COLLEGE		Y									
BETHANY COLLEGE		Y									
BETHEL COLLEGE		Y									
BISHOP COLLEGE	Y										
BLACK HILLS STATE COLLEGE		Y									
BOB JONES UNIVERSITY			Y		Y						
BOISE STATE COLLEGE				Y							
BOSTON UNIVERSITY	Y										
BOWLING GRN ST U MAIN CAM	Y		Y					Y	Y		
BRADLEY UNIVERSITY	Y										
BRIGHAM YOUNG UNIVERSITY		Y									
BUTLER UNIVERSITY	Y		Y					Y	Y		
CAL ST COLLEGE FULLERTON		Y									
CAL ST COLLEGE LONG BEACH	Y		Y					Y	Y		
CAL ST COLLEGE LOS ANG	Y		Y	Y		Y		Y	Y		
CAL STATE POLY C POMONA		Y									
CAL STATE POLY SN LUIS OB	Y										
CARNEGIE-MELLON U		Y									
CENTRAL MICH UNIVERSITY	Y										
CENTRAL MO STATE COLLEGE	Y	Y	Y		Y		Y	Y	Y	Y	Y
CENTRAL STATE COLLEGE	Y		Y					Y	Y		
CHICO STATE COLLEGE		Y									
COLLEGE OF EMPORIA		Y									
COLLEGE OF SAINT THOMAS	Y										
COLLEGE OF SNT CATHERINE	Y										
COLORADO STATE UNIVERSITY	Y										

NAME	JRNL	GEN	TV	ADV	OTHR	TV+ ADV	JRNL+ GEN	JRNL+ TV	JRNL+ (TV/ADV)	GEN+ (TV/ADV)	GEN+ OTHR
COLUMBIA COLLEGE	Y	Y	Y	Y		Y	Y	Y	Y	Y	
CREIGHTON UNIVERSITY	Y										
CUNY CITY COLLEGE		Y									
CUNY HUNTER COLLEGE		Y									
CURRY COLLEGE		Y									
D'YOUVILLE COLLEGE					Y						
DALLAS BAPTIST COLLEGE		Y									
DEFIANCE COLLEGE		Y									
DEPAUW UNIVERSITY				Y							
DRAKE UNIVERSITY	Y		Y	Y	Y	Y		Y	Y		Y
DUQUESNE UNIVERSITY	Y										
DYKE COLLEGE				Y							
EAST TENN ST UNIVERSITY	Y										
EAST TEXAS ST UNIVERSITY	Y										
EASTERN ILL UNIVERSITY		Y									
EASTERN KY UNIVERSITY	Y										
EASTERN NM U MAIN CAMPUS	Y		Y					Y	Y		
EASTERN WASH ST COLLEGE	Y		Y					Y	Y		
FEDERAL CITY COLLEGE					Y						
FERRIS STATE COLLEGE				Y							
FLORIDA SOUTHERN COLLEGE	Y										
FLORIDA STATE UNIVERSITY		Y		Y						Y	
FLORIDA TECHNOLOGICAL U		Y									
FORDHAM UNIVERSITY		Y									
FRANKLIN COLLEGE INDIANA	Y										
FRESNO STATE COLLEGE	Y		Y					Y	Y		
GEORGE WASH UNIVERSITY	Y										
GEORGIA STATE UNIVERSITY	Y	Y					Y				
GONZAGA UNIVERSITY		Y									
GOOD COUNSEL COLLEGE	Y										
GRINNELL COLLEGE		Y									
HARDIN-SIMMONS UNIVERSITY	Y										
HARDING COLLEGE	Y			Y					Y		
HENDERSON STATE COLLEGE	Y										
HOFSTRA UNIVERSITY	Y	Y					Y				
HOPE COLLEGE		Y									
HUMBOLDT STATE COLLEGE	Y										
IDAHO STATE UNIVERSITY	Y										
INDIANA STATE U MAIN CAM	Y	Y	Y		Y		Y	Y	Y	Y	Y
INDIANA U AT BLOOMINGTON	Y		Y	Y		Y		Y	Y		
IOWA STATE U SCI & TECHN	Y										
ITHACA COLLEGE			Y								
JOHN BROWN UNIVERSITY			Y								
JONES COLLEGE MAIN			Y								

NAME	JRNL	GEN	TV	ADV	OTHR	TV+ ADV	JRNL+ GEN	JRNL+ TV	JRNL+ (TV/ADV)	GEN+ (TV/ADV)	GEN+ OTHR
CAMPUS											
JUDSON COLLEGE	Y										
KANSAS ST U AGR & APP SCI	Y		Y					Y	Y		
KEARNEY STATE COLLEGE	Y		Y					Y	Y		
KENT STATE U MAIN CAMPUS	Y		Y	Y	Y	Y		Y	Y		Y
LA STATE U BATON ROUGE	Y										
LEHIGH UNIVERSITY	Y										
LEWIS AND CLARK COLLEGE	Y	Y					Y				
LINCOLN UNIVERSITY	Y										
LINFIELD COLLEGE	Y	Y					Y				
LOMA LINDA UNIVERSITY	Y										
LONE MOUNTAIN COLLEGE		Y									
LONG IS U BROOKLYN CENTER	Y										
LOUISIANA TECHNOLOGICAL U	Y										
LOYOLA U OF LOS ANGELES		Y									
LOYOLA UNIVERSITY	Y	Y					Y				
MADONNA COLLEGE		Y									
MANKATO STATE COLLEGE	Y		Y					Y	Y		
MARQUETTE UNIVERSITY	Y										
MARSHALL U ALL CAMPUSES	Y		Y	Y		Y		Y	Y		
MARYMOUNT COLLEGE		Y									
MARYMOUNT MANHATTAN C		Y									
MARYWOOD COLLEGE		Y									
MCNEESE STATE COLLEGE			Y								
MEMPHIS STATE UNIVERSITY	Y		Y	Y		Y		Y	Y		
MERCY COLLEGE		Y									
MIAMI UNIVERSITY ALL CAM			Y								
MICHIGAN STATE UNIVERSITY	Y	Y	Y	Y		Y	Y	Y	Y	Y	
MIDLAND LUTHERAN COLLEGE	Y										
MISS ST COLLEGE FOR WOMEN	Y										
MONMOUTH COLLEGE		Y									
MONTANA STATE UNIVERSITY			Y								
MOORHEAD STATE COLLEGE		Y									
MOREHEAD STATE UNIVERSITY			Y								
MOUNT MARTY COLLEGE		Y									
MURRAY STATE UNIVERSITY	Y										
NEW MEXICO HIGHLANDS U	Y										
NEW YORK UNIVERSITY	Y										
NM STATE U ALL CAMPUSES	Y										
NORTH TEXAS ST UNIVERSITY	Y		Y	Y		Y		Y	Y		
NORTHEAST LOUISIANA U	Y										
NORTHEASTERN ST COLLEGE	Y										
NORTHEASTERN UNIVERSITY	Y										

NAME	JRNL	GEN	TV	ADV	OTHR	TV+ ADV	JRNL+ GEN	JRNL+ TV	JRNL+ (TV/ADV)	GEN+ (TV/ADV)	GEN+ OTHR
NORTHERN ARIZ UNIVERSITY	Y	Y	Y				Y	Y	Y	Y	
NORTHERN ILL UNIVERSITY	Y										
NORTHWEST MO ST COLLEGE	Y		Y					Y	Y		
NORTHWESTERN UNIVERSITY	Y		Y	Y		Y		Y	Y		
NTHWSTN ST COLLEGE OF LA	Y				Y						Y
NY INST TECHN MAIN CAMPUS					Y						
NY INST TECHN NY CTY CAM					Y						
OBERLIN COLLEGE		Y									
OHIO STATE U MAIN CAMPUS	Y		Y					Y	Y		
OHIO U MAIN CAMPUS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
OHIO WESLEYAN UNIVERSITY	Y										
OKLA STATE U MAIN CAMPUS	Y		Y					Y	Y		
OKLAHOMA BAPT UNIVERSITY	Y										
OKLAHOMA CITY UNIVERSITY	Y										
ORAL ROBERTS UNIVERSITY		Y									
OREGON STATE UNIVERSITY	Y										
OUACHITA BAPT UNIVERSITY	Y										
PA STATE U MAIN CAMPUS	Y		Y	Y		Y		Y	Y		
PACIFIC UNION COLLEGE		Y									
PACIFIC UNIVERSITY		Y									
PEPPERDINE COLLEGE	Y										
POINT PARK COLLEGE	Y										
PURDUE U MAIN CAMPUS	Y		Y					Y	Y		
RADFORD COLLEGE	Y										
RI SCHOOL OF DESIGN		Y		Y						Y	
RIDER COLLEGE	Y										
ROOSEVELT UNIVERSITY				Y							
RUTGERS THE ST U ALL CAM	Y										
SACRAMENTO STATE COLLEGE	Y										
SAINT BONAVENTURE U	Y										
SAINT CLOUD STATE COLLEGE	Y		Y					Y	Y		
SAINT MARY'S COLLEGE		Y									
SAINT MARY'S COLLEGE		Y									
SAINT MARY-OF-THE-WOODS C		Y									
SAINT NORBERT COLLEGE		Y									
SAM HOUSTON ST UNIVERSITY	Y				Y						Y
SAMFORD UNIVERSITY	Y										
SAN DIEGO STATE COLLEGE	Y		Y					Y	Y		
SAN FERNANDO VLY STATE C	Y		Y					Y	Y		
SAN FRANCISCO ST COLLEGE	Y		Y					Y	Y		
SAN JOSE STATE COLLEGE	Y		Y	Y		Y		Y	Y		
SD STATE UNIVERSITY	Y				Y						Y
SEATTLE UNIVERSITY	Y										

NAME	JRNL	GEN	TV	ADV	OTHR	TV+ ADV	JRNL+ GEN	JRNL+ TV	JRNL+ (TV/ADV)	GEN+ (TV/ADV)	GEN+ OTHR
SETON HALL UNIVERSITY					Y						
SHAW UNIVERSITY			Y								
SIMMONS COLLEGE		Y									
SNT JOS COLLEGE MAIN CAM		Y									
SOUTHERN COLO ST COLLEGE	Y										
SOUTHERN METH UNIVERSITY	Y										
SOUTHERN UTAH ST COLLEGE		Y									
SOUTHWEST MINN ST COLLEGE		Y									
SOUTHWEST TEX ST COLLEGE	Y										
SOUTHWESTERN AT MEMPHIS		Y									
STANFORD UNIVERSITY		Y									
STEPHEN F AUSTIN STATE U	Y										
STEPHENS COLLEGE		Y	Y							Y	
STHN ILLINOIS U EDWARDSVL	Y										
STHN ILLINOIS U MAIN CAM	Y		Y					Y	Y		
STHN MISSIONARY COLLEGE		Y									
SUFFOLK UNIVERSITY	Y										
SUNY C OF AGR AT CRNL U		Y									
SYRACUSE UNIVERSITY	Y		Y	Y		Y		Y	Y		
TEMPLE UNIVERSITY	Y		Y					Y	Y		
TEXAS A&I UNIVERSITY	Y										
TEXAS A&M UNIVERSITY	Y										
TEXAS CHRISTIAN U	Y		Y					Y	Y		
TEXAS SOUTHERN UNIVERSITY	Y										
TEXAS TECHNL UNIVERSITY	Y			Y					Y		
TEXAS WOMAN'S UNIVERSITY	Y		Y					Y	Y		
THE LINDENWOOD COLLEGES		Y									
TRINITY UNIVERSITY	Y										
U MICHIGAN MAIN CAMPUS	Y										
U OF ALABAMA TUSCALOOSA	Y		Y					Y	Y		
U OF ALASKA MAIN CAMPUS	Y										
U OF ARK AT LITTLE ROCK	Y			Y					Y		
U OF ARKANSAS MAIN CAMPUS	Y										
U OF CAL BERKELEY	Y				Y						Y
U OF CAL SANTA CRUZ		Y									
U OF CINCINNATI MAIN CAM			Y								
U OF COLO ALL CAMPUSES	Y		Y	Y		Y		Y	Y		
U OF HAWAII MAIN CAMPUS	Y										
U OF ILL CHICAGO CIRCLE	Y										
U OF ILL URBANA CAMPUS	Y	Y	Y	Y		Y	Y	Y	Y	Y	
U OF KENTUCKY MAIN CAMPUS	Y	Y			Y		Y				Y
U OF MAINE AT ORONO	Y										

NAME	JRNL	GEN	TV	ADV	OTHR	TV+ ADV	JRNL+ GEN	JRNL+ TV	JRNL+ (TV/ADV)	GEN+ (TV/ADV)	GEN+ OTHR
U OF MASS AMHERST CAMPUS	Y		Y					Y	Y		
U OF MD MAIN CAMPUS	Y		Y	Y		Y		Y	Y		
U OF MINN MNPLS SNT PAUL	Y	Y					Y				
U OF MISSISSIPPI MAIN CAM	Y		Y	Y		Y		Y	Y		
U OF MISSOURI COLUMBIA	Y		Y	Y		Y		Y	Y		
U OF NC AT CHAPEL HILL	Y		Y					Y	Y		
U OF ND MAIN CAMPUS	Y		Y					Y	Y		
U OF NEBRASKA AT OMAHA	Y		Y					Y	Y		
U OF NEBRASKA MAIN CAMPUS	Y										
U OF NEVADA RENO	Y										
U OF NORTHERN COLORADO	Y										
U OF OKLAHOMA MAIN CAMPUS	Y		Y					Y	Y		
U OF OREGON MAIN CAMPUS	Y										
U OF RHODE ISLAND	Y										
U OF SC MAIN CAMPUS	Y										
U OF SOUTH DAKOTA	Y	Y					Y				
U OF SOUTH FLORIDA	Y	Y					Y				
U OF SOUTHERN CALIFORNIA	Y		Y					Y	Y		
U OF SOUTHERN MISSISSIPPI	Y	Y	Y				Y	Y	Y	Y	
U OF STHWSTN LOUISIANA			Y								
U OF TENNESSEE KNOXVILLE	Y		Y	Y		Y		Y	Y		
U OF TEXAS AT AUSTIN	Y		Y					Y	Y		
U OF TEXAS AT EL PASO	Y		Y					Y	Y		
U OF WEST FLORIDA		Y									
U OF WISCONSIN MADISON	Y										
U OF WISCONSIN MILWAUKEE	Y	Y	Y				Y	Y	Y	Y	
U OF WISCONSIN PARKSIDE		Y									
UNIVERSITY OF ARIZONA	Y										
UNIVERSITY OF BRIDGEPORT	Y										
UNIVERSITY OF DAYTON		Y									
UNIVERSITY OF DETROIT	Y		Y					Y	Y		
UNIVERSITY OF EVANSVILLE	Y										
UNIVERSITY OF FLORIDA	Y		Y	Y		Y		Y	Y		
UNIVERSITY OF GEORGIA	Y		Y	Y	Y	Y		Y	Y		Y
UNIVERSITY OF HOUSTON	Y		Y					Y	Y		
UNIVERSITY OF IDAHO	Y		Y					Y	Y		
UNIVERSITY OF IOWA	Y										
UNIVERSITY OF KANSAS	Y		Y	Y		Y		Y	Y		
UNIVERSITY OF MONTANA	Y		Y					Y	Y		
UNIVERSITY OF NEW MEXICO	Y										
UNIVERSITY OF NOTRE DAME		Y									
UNIVERSITY OF PORTLAND		Y									
UNIVERSITY OF RICHMOND	Y										

NAME	JRNL	GEN	TV	ADV	OTHR	TV+ ADV	JRNL+ GEN	JRNL+ TV	JRNL+ (TV/ADV)	GEN+ (TV/ADV)	GEN+ OTHR
UNIVERSITY OF THE PACIFIC		Y									
UNIVERSITY OF TOLEDO	Y										
UNIVERSITY OF TULSA	Y		Y	Y		Y		Y	Y		
UNIVERSITY OF UTAH	Y										
UNIVERSITY OF WASHINGTON	Y	Y					Y				
UNIVERSITY OF WYOMING	Y		Y					Y	Y		
UTAH STATE UNIVERSITY	Y										
UTICA COLLEGE	Y										
VIRGINIA COMMONWEALTH U	Y			Y					Y		
WALLA WALLA COLLEGE	Y										
WASHINGTON-LEE UNIVERSITY		Y									
WASHINGTON ST UNIVERSITY		Y									
WAYNE STATE COLLEGE		Y									
WAYNE STATE UNIVERSITY	Y										
WEBER STATE COLLEGE	Y										
WEST TEXAS ST UNIVERSITY	Y										
WEST VIRGINIA U MAIN CAM	Y										
WESTERN KY UNIVERSITY		Y									
WESTERN MICH UNIVERSITY		Y		Y						Y	
WESTMONT COLLEGE		Y									
WHITWORTH COLLEGE	Y										
WICHITA STATE UNIVERSITY	Y		Y					Y	Y		
WILLIAM JEWELL COLLEGE		Y									
WINTHROP COLLEGE	Y	Y					Y				
WIS ST U STEVENS PNT-MAIN		Y									
WIS STATE U AT EAU CLAIRE	Y										
WIS STATE U AT LA CROSSE		Y									
WIS STATE U AT OSHKOSH	Y										
WIS STATE U RIVER FALLS	Y										
WIS STATE U WHITEWATER	Y										
WOODBURY COLLEGE	Y			Y					Y		
YOUNGSTOWN ST UNIVERSITY				Y							

Source: NCES, HEGIS, 1970-1971, selected years