



Feminization and Professionalization of Pharmacies in Sweden

Maria Stanfors

In this article, I describe and explain the feminization of pharmacies and the pharmacist profession in twentieth-century Sweden, making use of both quantitative and qualitative data to investigate the economic, institutional, and cultural determinants of the process. Swedish pharmacies feminized both quantitatively and qualitatively, first at lower positions, then at higher ones. From the 1970s, even the top managerial positions underwent feminization, making the example of pharmacies somewhat different from other cases, where feminization has taken place mainly at lower levels of the occupational hierarchy. In making international comparisons, we find similarities with, for example, Anglo-Saxon cases, but also interesting specificities in the Swedish case in terms of institutional effects, the timing of the feminization process, and the relative attractiveness and financial rewards of pharmacy work to men and women.

Medications in their present form have existed for barely a century, but the structure surrounding their distribution was created several hundred years ago. For most of its long history, the pharmacy was a man's world, but it became feminized during the twentieth century. In contrast to many other professions that underwent the same process, during the latter part of the twentieth century the pharmacy's management function was also feminized. This makes it interesting to study the feminization of Swedish pharmacies and to discuss the historical roots and causes of the changes, which have taken place in parallel with the institutional changes affecting the distribution and production of medications.

In this paper, I describe the feminization of the Swedish pharmacy during the twentieth century and analyze the underlying economic, institutional, and cultural factors in this change process. I start with the assumption that there is a connection between the institutional framework surrounding the Swedish pharmacy and feminization, and also that there are economic explanations for feminization involving changed incentives, the emergence of alternative

Maria Stanfors <Maria.Stanfors@ekh.lu.se> is in the Department of Economic History at the University of Lund, Sweden.

labor markets, and changed opportunities for women to focus on the pharmacy as a labor market. I use quantitative data from various statistical sources—time series of the number of pharmacy students, the number of individuals belonging to different personal categories, and wages according to gender—as well as qualitative information from articles, statutes and ordinances, committee reports, and reports of government enquiries.

The history of these changes began in the distant past, although my focus is on the period from 1928 to 2000. In 1928, Agnes Hildegard Arvidson became the first woman in Sweden licensed by charter as a pharmacist. Women first received access to pharmaceutical training at the Karolinska Institute in Stockholm in 1890, but some became pharmacists even earlier by inheriting a deceased husband's charter and continuing the business. However, the 1928 change meant that the profession became a privilege available to women, and as more women applied to become pharmacists, they opened a sector of the professional labor market that laid the foundation for a changed gender coding of the pharmaceutical profession.

Historical Background

The first pharmacy in Sweden was established at the royal palace to serve the needs of the royal family for medications and sweetmeats. Pharmaceutical practice in Sweden during the sixteenth century was weak and undeveloped. Pharmacy was available only to a limited public in 1575, when part of the palace pharmacy moved to Stockholm city center, mainly because of repeated outbreaks of plague (and the related concern that the stock might be wasted). The introduction of chemical preparations gradually supplemented and replaced traditional herbal remedies, and the number of medications increased during the seventeenth century, mainly in unregulated forms.¹ The founding of the *Collegium Medicum* in 1663 occurred partly in response to this development. The *Collegium's* establishment was the first attempt to organize the Swedish medical profession to regulate the practice of physicians and other medical personnel, to bring medical care within reach of the public, and to control the trade in medications.² The *Sundhetskollegiet* (College of

¹ In 1635, a decision was reached that physicians should control all pharmacies on an annual basis. This decision severely limited pharmacists' autonomy, and indicated a higher degree of trust in the judgment of physicians in running pharmacies. One reason for this was probably the commercial interests of pharmacists. For an account of the situation during the seventeenth century, see Timoleon Wistrand, *Om Stockholms apotekares privilegier: Uppllysningar i frågan om apoteket Markattans flyttning* [On the Privileges of Pharmacists in Stockholm: Information Regarding the Relocation of the Markattan Pharmacy] (Stockholm, 1862). See also Edward Kremers and George Urdang, *History of Pharmacy* (Philadelphia, Pa., 1976), chap. 1; Deborah A. Savage, "The Professions in Theory and History: The Case of Pharmacy," *Business and Economic History* 23 (Winter 1994): 129-60, at 141.

² Christina Claesson, *Apotekaryrket i förändring: En socialfarmaceutisk studie av apotekarnas yrkesutveckling och professionella status* [The Changing Pharmacist Profession: A Social-Pharmaceutical Study of the Professionalization and Status of

Health) replaced the *Collegium Medicum* in 1813, followed by a *Medicinalstyrelsen* (Board of Medicine) in 1877.³ In 1913, the *Apoteksvarustadgan* (Statute of Pharmaceutical Products) drastically changed conditions for existing pharmaceutical organizations by permitting industrial manufacturing of pharmaceutical preparations.

Organization of Pharmacists

The organization of pharmacists as a profession took place through government initiative using chartering. Possession of a charter gave the pharmacist status and a monopoly of both manufacture and distribution of medications. In other words, we can regard the occupational class of pharmacists as including people in both trade and business. The monopoly they enjoyed brought them an economic profit and guaranteed the consumer a degree of quality.⁴ As time went on, pharmaceutical manufacturing methods and products were both improved and homogenized. Eventually, distribution policy arguments replaced economic profit arguments for creating a pharmaceutical monopoly.

From the start, the *Collegium Medicum* attempted to assert control over pharmacists, and it achieved an official supervisory role through statutes governing medications. Physicians formerly had a certain amount of control over pharmacists through pharmacy inspections, but the *Collegium Medicum* took over this function and also compiled a pharmacopoeia (an official handbook on the handling, preparation, and pricing of medications). Thus, the state supervised pharmacists in the exercise of their profession.⁵ In reaction, the *Apotekarsocieteten* (Society of Apothecaries), a body intended to watch over the rights and duties of pharmacists, formed in 1778. At first, the society organized only the Stockholm pharmacists, but from 1831 onward, provincial pharmacists became eligible for membership. Six years later, it became obligatory for all pharmacy proprietors to pay membership dues to

Pharmacists] (Uppsala, 1989); Klas Öberg, *Pharmacy Regulation in Sweden: A New Institutional Economic Perspective* (Stockholm, 2003).

³ There are many differences across countries between the economic and institutional forms of pharmacy, not least from a historical perspective. In Europe, pharmacists' roots in guilds are quite common; see Apotekskommittén [The Pharmacy Committee], *Betänkande och förslag. Angivet av den av Kungl. Maj:t den 22 september 1912 tillsatta kommittén för apoteksväsendets i riket ordnade vid 1920 års utgång*, [Report and suggestions from the royal committee of 22 September 1912 for the organization of pharmacies by 1920] (Stockholm, 1919); J. P. Gilmour, "The Origin of British Pharmacy," *Quarterly Journal of Pharmacy and Pharmacology* 5 (1932): 421-31, at 425.

⁴ Klas Öberg, *Contracting for Pharmaceuticals—Sweden, 1575-1698* (Lund, 1998).

⁵ The same developments took place in other countries, but in some countries, such as the United States, which lacked traditional institutions, it happened much later, in the mid-1800s; see Kremers and Urdang, *History of Pharmacy*; Savage, "The Professions in Theory and History: The Case of Pharmacy," 143.

the society. This obligation undoubtedly strengthened the position of pharmacists vis-à-vis other parties.⁶

Pharmacy Ownership Licensed by Charter

Pharmacy ownership had been a licensed business since 1575. It carried with it permission to conduct a pharmacy as an administrative and distributive unit, as well as to produce medications.⁷ The fact that charters could be sold or inherited, however, caused uncertainty and problems as well as speculation. In 1873, charters became personal; they conferred the same rights as before, but were no longer sellable.⁸ This reform brought an assurance of quality and competence on the proprietor's part along with an enhancement of the state's influence over the business.

The 1913 Statute of Pharmaceutical Products drastically changed conditions for the pharmacists' organization by permitting industrial manufacturing of medications, thereby depriving pharmacists of their production monopoly. From production and distribution housed under the same roof (the pharmacist's), production became separated from distribution, and the era of the pharmacist's dominance over production of medicines began to move toward a close. From that time on, production was increasingly the province of pharmaceutical manufacturers, while pharmacies remained responsible for distribution of the product. Events moved quickly once industrially produced medicines appeared on the scene. In 1935, pharmacies produced about 60 percent by value of all pharmaceutical products sold in Sweden, but by the end of the 1950s, nearly 70 percent of pharmaceutical sales by value were produced by industries. By 1975, industrially produced medications were dominant, with the value of pharmacy-produced items at 3 percent; the situation has remained the same into the twenty-first century.⁹ We can observe a similar pattern internationally, with a large proportion of pharmacy-produced medications

⁶ Wolfram Kock, *Medicinalväsendet i Sverige 1813–1962* [The Organization of Medicine in Sweden, 1813-1962] (Stockholm, 1963); Klas Öberg, *Svensk läkemedelsförsörjning ur ett ekonomisk-historiskt perspektiv* [Provision of Drugs in Sweden: An Economic Historical Perspective] (Lund, 1996).

⁷ Karl Ahlberg, *Den svenska farmaciens historia* [A History of Swedish Pharmacy] (Stockholm, 1908).

⁸ The Society of Apothecaries decided in 1864 to change the situation slowly, avoided taking a stand on the compensation issue, and abolished sellable privileges in 1873. One could say that some won, others lost as a result of the reform. Those with lucrative businesses wanted to be able to sell the privileges, whereas countryside and lower-rank pharmacists wanted personal privileges. After the reform, skill and competence definitely became more important than economic assets and private fortunes. The personal privileges could, however, be leased.

⁹ Other countries followed a similar pattern. In the United States, 75 percent of all prescriptions required that pharmacists have compounding skills. By 1950, the equivalent share was about 25 percent and by 1973, it had reached less than one percent; see Kremers and Urdang, *History of Pharmacy*, 315.

in the early twentieth century gradually pushed out by industrially produced articles as the century progressed.¹⁰

Thus, there was a fundamental transformation in the production of medications from a handicraft or trade to industrial manufacturing over a period of several decades during the twentieth century. Pharmacists tried to counteract this development by forming jointly operated district laboratories to combat the gradual shift in favor of industry, but they were unable to prevent the move toward standard packaging of pharmaceutical specialties and large-scale industrial production.

There were also changes in pharmacy ownership licensed by charter during the early decades of the twentieth century. Pharmacies moved away from being private companies managed by independent entrepreneurs and took on the character of collective enterprises. Collectivization was initially a way of strengthening the position of pharmacists vis-à-vis other parties. However, the 1930s brought government initiatives for more equal distribution of pharmacies' profits (in 1931) and redistributive measures in favor of the economically less soundly based pharmacies (in 1936), which meant that a pharmacy's finances would not be the crucial factor in determining its geographical location because people everywhere need pharmaceutical products. The decision marked the inception of collectivization and socialization of private pharmacies for reasons of both business economics and distribution policy with the objective of giving the whole population effective access to pharmacies and pharmaceutical products. These policies fundamentally changed pharmacy ownership.

Nationalization of the pharmacists' collective occurred in conjunction with the formation of *Apoteksbolaget* (Pharmacy Company, Ltd.) in 1970. This reorganization signified a change from private to state ownership, with the former owners going from private entrepreneurship to the status of pharmacy managers who were state-employed like the rest of the staff.¹¹ With historical hindsight, the formation of *Apoteksbolaget* really signaled the accomplishment of an organizational change in the pharmaceutical profession that, in principle, had been under way throughout the twentieth century.¹²

¹⁰ Savage, "The Professions in Theory and History: The Case of Pharmacy," 130-60; Öberg, *Svensk läkemedelsförsörjning ur ett ekonomisk-historiskt perspektiv*.

¹¹ Lennart Isacson and Magnus Östenson, "Apotekens avgiftssystem," in *Apotekarsocieteten, Svensk Farmaci under 1900-talet* [Society of Apothecaries, Swedish Pharmacy during the Twentieth Century] (Stockholm, 1999).

¹² We could see this as an example of path dependency; Dopfer and North stress the importance of ideas as mental models and determinants of path dependency. See Kurt Dopfer, "Towards a Theory of Economic Institutions: Synergy and Path Dependency," *Journal of Economic Issues* 25 (June 1991): 535-50; and Douglass C. North, "The Historical Evolution of Politics," *International Review of Law and Economics* 14 (Dec. 1994): 381-91, quotation at p. 385.

Pharmacists' Training

Formalization of the skill requirements for practicing pharmacy occurred in 1688. Beginning in 1699, the medical ordinances giving pharmacists the right and opportunity to appoint pupils and authorizing the *Collegium Medicum* to control pharmacy examinations established rules relating to pharmacy training. The training, conducted at pharmacies, was practical for the most part, more like learning a manual trade or craft than acquiring a knowledge base. It would be fair to say, however, that the system was in line with a pharmacist's occupational duties, that is, production and distribution, which were mainly commercial.

In the initial stages, the requirements for acceptance as a pupil were low, but they became gradually more stringent, stipulating the possession of such attributes as a "good reputation" and "knowledge of Latin." During the eighteenth century, formalized pharmacy training included obligatory education in botany and compulsory examinations. Pharmacists were expanding their range of professional activity by gaining access to hospitals and acquiring greater influence over how they should perform their functions in practice.

The *Apotekarreglemente* [Pharmacists' Rules and Regulations] of 1799 brought regulation of pharmacy training and a state-sanctioned (if not yet academic) course of training.¹³ This training became obligatory for practicing the pharmacy trade. The *Apotekarreglemente* of 1799 also meant that the knowledge requirements became more rigorous, and a couple of decades into the nineteenth century, pupils' knowledge was equivalent to a year of secondary-school studies.¹⁴

Regional differences and gaps in the quality of training led to further regulation in 1819 and the founding of the institute of learning that became the Pharmaceutical Institute in 1837.¹⁵ However, the Institute lacked jurisdiction over examinations, which still lay with the *Collegium Medicum* and the Karolinska Institute. It was still a condition of acceptance for training that students gain some practical experience as an unpaid trainee in a pharmacy before taking part in theoretical studies. Training, however, was

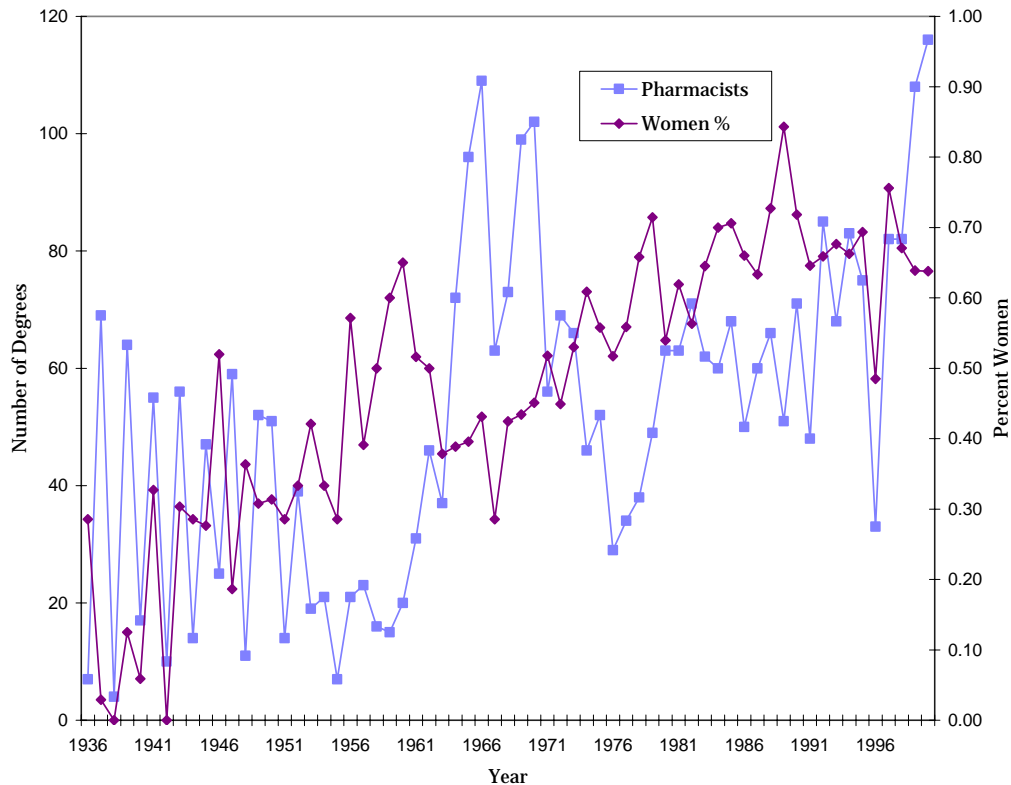
¹³ *Kungl. Maj:ts Nådiga Reglemente för Apothekare och dem som med Apothekarekonstens lörande och utöfning sig wilja befatta* [Regulations for Pharmacists and Those Who Wish to Enroll in Pharmacy] (Stockholm, 1799).

¹⁴ Claesson, *Apotekaryrket i förändring*; Stig Ekström and Bengt Danielsson, *Den farmaceutiska utbildningens historia i Sverige* [History of Pharmaceutical Education in Sweden] (Uppsala, 1987); Öberg, *Svensk läkemedelsförsörjning ur ett ekonomisk-historiskt perspektiv*.

¹⁵ There were, however, regional differences and significant differentials between cities and countryside when it came to the education and competence of pharmacists. In Stockholm and the university cities and surrounding areas, the educational level and theoretical competence of pharmacists were satisfactory; see Claesson, *Apotekaryrket i förändring*, 61.

formalized, and both admission and knowledge requirements gradually became more demanding, so that by the end of the nineteenth century the maturity examination (that is, higher certificate, upper secondary education) was a requirement and has remained so.¹⁶ Abolition of the last formal obstacles to female students at the Pharmaceutical Institute occurred in 1929. Little by little, women increased their proportionate participation in training courses during the twentieth century, achieving equal education (defined as at least 40 percent women students). During the second half of the twentieth century, the feminization of pharmaceutical training continued, and ever since 1971, women have constituted more than half of all examinees (see Figure 1).

FIGURE 1
Number of Pharmacists' Degrees and Percent of Women Examined,
1936–2000



Source: Statistics Sweden, *Statistiska Meddelanden U*; *Statistiska Meddelanden UF*; *Utbildningsstatistisk årsbok*. All volumes, on a yearly basis.

¹⁶ Ekström and Danielsson, *Den farmaceutiska utbildningens historia i Sverige*.

Gender and Competence in the Pharmacy World

Until the late nineteenth century, everything concerning the training and formal competence of pharmacists applied only to men. Formal obstacles to both training for and practicing the profession, including those embodied in the official regulatory code of the *Apotekarreglementet*, combined to prevent women from entering the pharmacy world, but there were also informal barriers in the shape of negative attitudes and prejudices toward women in the world of work generally and as pharmacy employees in particular. Above all, the preparation of medications was considered to require more strength and discipline than women were generally presumed to possess. One argument raised in the debate at that time, for example, was that rather than being comparable to preparing food and “grubbing about with kitchen tools,” the production of pharmaceutical preparations required considerably more physical strength. Women who might possess such strength belonged to the lower orders of society and therefore had insufficient formal education. Moreover, it was troublesome to have women in a pharmacy because they could distract male colleagues and demand courtesies to the detriment of the work.¹⁷

In 1890, three girls applied for pupil placements in pharmacies; no objections were raised as long as they met the formal knowledge requirements. Soon after came a legal enactment that women as well as men could gain acceptance as pharmacy pupils by passing a knowledge test at a state grammar school.¹⁸ The girls who opened the pharmacy door to women abandoned their studies, so Agnes Hildegard Arvidson became Sweden's first female pharmacist when she passed her pharmacy examination in 1897, and she later became a chartered pharmacist.¹⁹

Well into the twentieth century, education tended to be reserved for a small elite. Higher education was often associated with high income, social status, and power, thereby closely bound up with both gender and social class. However, the twentieth century brought both educational expansion (that is, more people being educated) and educational inflation (more people

¹⁷ A number of articles in newspapers and the popular press during the period from 1885 to 1895 give witness. Quotation from “Tankar angående kvinnas anställning på apotek” [Some Thoughts about the Position of Women in Pharmacies], *Svenska Dagbladet*, 15 Nov. 1890.

¹⁸ This was a problem for girls enrolled in girls' schools, which did not provide them with the same competence as state grammar schools. They could, however, acquire this competence by passing the exams as external candidates.

¹⁹ She became the first woman pharmacist to run a pharmacy in her own right. Previously, there were widows who were chartered pharmacists, but only *de jure* without *de facto* responsibility, because they lacked formal competence.

at higher levels of the education system).²⁰ These trends applied to both men and women, although relatively speaking more to women, who had been under-represented in education at the beginning of the century. As can be seen in Figure 1, the pattern of educational expansion also applies to pharmaceutical training. The training courses at the Pharmaceutical Institute began to expand early in the twentieth century. There were two stages: after stage one the trainee became a candidate pharmacist and completed a period of practical experience before proceeding to stage two, with the final pharmacist examination as the objective. Even in the early twentieth century, women accounted for almost half the students at the first stage of training, but often dropped out on attaining candidate status so that fewer completed the final pharmacist examination.

Educational expansion came about as a response to increased demand for pharmaceutical skills. It may have happened a little too fast; the 1920s brought an awareness of problems involving both pupils and training. In 1924, the Pharmacists' Society took these problems so seriously that it warned all pharmacy managers against giving excessively one-sided training and called attention to their duty to train qualified pharmacists.²¹ In the same year, a committee was appointed to investigate and report on the issue of training. The committee's report in the following year not only demanded new training, but also showed that the presence of women in the profession was a source of problems.²²

From a modern gender perspective, women's incursion into the pharmacy profession upset the existing gender order and cultural codes pertaining to masculinity and femininity in the strongly "gendered" pharmacy organization.²³ One manifestation is one group's advantages over another based on

²⁰ Maria Stanfors, *Education, Labor Force Participation and Changing Fertility Patterns: A Study of Women and Socioeconomic Change in Twentieth-Century Sweden* (Stockholm, 2003).

²¹ Ekström and Danielsson, *Den farmaceutiska utbildningens historia i Sverige*, 103.

²² "Betänkande avgivet av kommitterade för utredning angående elevutbildningen" [Report from the Committee Investigating Practical Pharmacy Education], *Svensk Farmaceutisk Tidskrift* 32 (1927).

²³ A gender perspective involves describing, interpreting, and problematizing the meaning of gender as it concerns pharmacy and pharmacists. We use sex and gender interchangeably; sex has a somewhat broader definition and does not refer only to biological categories. Gender refers to masculinity and femininity as socially constructed categories that add meaning to different activities and phenomena. In order to understand the feminization of pharmacies and the pharmaceutical profession we have to consider the meaning of sex as well as of gender; see Cynthia Cockburn, *Machinery of Dominance: Women, Men and Technological Know-How* (London, 1985); Maud Eduards and Ulla Manns, "Om genus och genussystem" [On Gender and the Gender System], *Kvinnovetenskaplig tidskrift* 3 (1987): 29-41; Cynthia Fuchs Epstein, *Deceptive Distinctions: Sex, Gender, and the Social Order* (New York, 1988); Yvonne Hirdman, "Genussystemet—reflexioner kring kvinnors sociala underordning" [The Gender System—Reflections on the Subordination of

gender, and the ability to exercise control over (and, indeed, sometimes exploit) the other group and to create meaning and significance in the work, shaping the occupational group's identity.²⁴ There are numerous examples of this in the committee's report. The admissions criteria, which were heavily criticized and considered to have led to problems, were clothed in feminine terms: "The committee members feel that recruitment has tended to over-recruitment of women into the profession. This circumstance threatens to impair continuity of development of the profession, which is the necessary prerequisite to enable the profession of pharmacist to maintain in future the standing which it currently enjoys in our country."²⁵

The report's release occurred at a time when, generally speaking, gender relations in Swedish society were changing, and it reflected opinions typical of pressures for transformation.²⁶ The increased representation of women upset not just the training course, but also the profession's self-image, in which sex/gender is a key issue. More women trainees and pharmacists highlighted differences between men and women, not only with regard to life-cycle patterns, but also in the social norms pertaining to appropriate roles for men and women:

Experience shows that a very large number of women recruited to the profession soon leave the profession because of marriage or for other reasons. The secure conditions which the profession now offers to its appointed servants, however, justify the expectation that they will devote themselves to the profession with lasting interest.²⁷

Women], *Kvinnovetenskaplig tidskrift* 4 (1988): 49-63; Joan Wallace Scott, *Gender and the Politics of History* (New York, 1988). For analyses from a gender perspective of the medical profession, see Harriet Bradley, *Men's Work, Women's Work* (Minneapolis, Minn., 1989); Celia Davies, *Gender and the Professional Predicament in Nursing* (Philadelphia, Pa., 1995); Rosemary Pringle, *Sex and Medicine: Gender, Power and Authority in the Medical Profession* (Cambridge, U.K., 1998); Delese Wear, *Privilege in the Medical Academy: A Feminist Examines Gender, Race and Power* (New York, 1997). For a study on the feminization of pharmacies in the United States, with a focus on the 1970s and 1980s, see Polly A. Phipps, "Industrial and Occupational Change in Pharmacy: Prescription for Feminization," in *Job Queues, Gender Queues: Explaining Women's Inroads into Male Occupations*, ed. B. F. Reskin and P. A. Roos (Philadelphia, Pa., 1990), 111-28.

²⁴ Joan Acker, "Hierarchies, Jobs, Bodies: A Theory of Gendered Organizations," *Gender & Society* 4 (June 1990): 139-58, quotation at p. 146; Dorothy Smith, *The Everyday World as Problematic: A Feminist Sociology* (Boston, 1987).

²⁵ Quoted in "Betänkande avgivet av kommitterade för utredning angående elevutbildningen" [Report from the Committee Investigating Practical Pharmacy Education].

²⁶ Hirdman "Genussystemet—reflexioner kring kvinnors sociala underordning" [The Gender System—Reflections on the Subordination of Women]; Stanfors, *Education, Labor Force Participation and Changing Fertility Patterns: A Study of Women and Socioeconomic Change in Twentieth Century Sweden*.

²⁷ Quoted in "Betänkande avgivet av kommitterade för utredning angående elevutbildningen."

A feminine action typical of that time, leaving the job in order to marry and raise a family, was held to be irresponsible, justifying disqualification of all women from practicing a profession. There is no mention that employers in those days were legally entitled to dismiss women on grounds of marriage or pregnancy. The male norm was also in evidence with repeated assertions such as “the profession’s in many respects unique nature requires a sufficient supply of male practitioners.”²⁸ Reaffirmation of the pharmacy profession’s masculinity occurred in demands for physical strength and discipline in the laboratory, and arguments that the public wanted male staff at the pharmacy counter, so that a pharmacy proprietor who employed female pharmacists was at risk of losing customers.²⁹

In 1929, the executive committee of the *Sveriges apotekarförbund* [Swedish Pharmacists Association] took over admissions to pharmacist training courses, and tightened the requirements to include a specific university entrance examination, but there was no reduction in the number of female pupils.³⁰ With increasing equality in Swedish society, there was more questioning of the male norm imbuing the pharmacists’ organization. A likely explanation was the great and growing need primarily for lower-trained pharmaceutical personnel—largely women during this period—to staff Sweden’s growing number of pharmacies. The solution that emerged was an expansion of training places and a reorganization of pharmaceutical training that differentiated between admission paths: some to an annual candidates’ course, some to a pharmacists’ course starting every other year (see the examination data in Figure 1).³¹ It also appears that although the number of trainees examined varied widely from year to year, the proportion of female pharmacists examined rose more steadily over time. If we study the corresponding trend in the case of pharmacy candidates or dispenser training (see Figure 2), we find smaller variations and a proportion of women that

²⁸ Quoted in *ibid.* See also Robert, J. Bolger, “The Professional Woman as Employee,” *American Journal of Hospital Pharmacy* 143 (1971): 136-40.

²⁹ The approach launched by Gary Becker in *The Economics of Discrimination* (Chicago, 1957) emphasizes that preference or a taste for discrimination rather than differentials in productivity explains why one group ends up in a less fortunate labor market situation. Discrimination can take place when hiring, promoting, or firing as a result of employer preferences, but also because of co-workers who do not want to work together with certain groups of people. Moreover, customers may discriminate, which means they want service only from a certain group and do not demand service from other groups. Moreover, all who discriminate are even willing to pay for it. Cynthia Fuchs Epstein documents this phenomenon in *Women in Law* (New York, 1981).

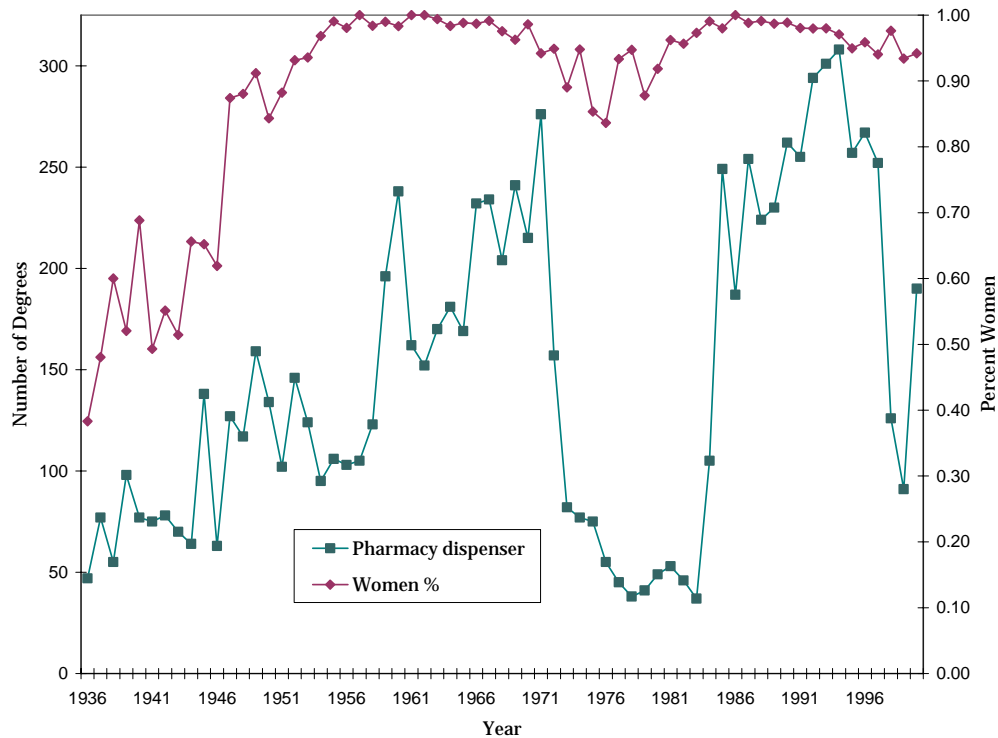
³⁰ The higher certificate examination required courses in biology, physics, math, and chemistry.

³¹ In 1952, there were two pharmaceutical training programs: one for pharmacists and one for pharmacy/dispensers. The two groups had different professional status, in part because of different competencies.

matches the number examined, indicating a large female element as early as 1936.

Until 1945, the pharmacist and pharmacy/dispenser training courses had about the same number of new entrants, but different gender distributions; women from an early stage dominated pharmacy candidates/dispenser courses. As with the prevailing gender distribution in the training system as a

FIGURE 2
Number of Pharmacy/Dispensers' Degrees and Percent of Women Examined 1936–2000.



Source: Statistics Sweden, *Statistiska Meddelanden U*; *Statistiska Meddelanden UF*; *Utbildningsstatistisk årsbok*. All volumes, on a yearly basis.

whole, women dominated the less comprehensive courses, those with lower knowledge requirements, and that led to lower-grade jobs in pharmacies.³² A pharmacy candidate/dispenser could not become a pharmacy proprietor, but there were career opportunities to become a branch pharmacy manager. Nevertheless, a manager was subordinate to a pharmacy proprietor and enjoyed neither the same salary nor the same status. Thus, the pharmacy labor market reflected the prevailing order of the labor market as a whole.

³² Stanfors, *Education, Labor Force Participation and Changing Fertility Patterns*, chap. 6.

The demand for low-trained pharmaceutical staff, which gained pace during the 1930s, continued to rise even after the Second World War, when the number of pharmacy establishments as well as the value of pharmacy business turnover increased, so that pharmacy candidate/dispenser training expanded. By 1950, pharmacy candidate/dispenser training had double the volume of pharmacist training. To the extent that the gender-segregated statistics allow, we see almost total female dominance over dispenser training save for a period in the 1970s, whereas for a long time pharmacist training recruited more men than women. The feminization of pharmacist training began after 1945; by about 1960, recruitment to the courses included roughly one-third women to two-thirds men, a ratio that during the next ten years settled at half-and-half. During the 1970s, further feminization of pharmacist training resulted in women dominating. The syllabus for 1977 altered neither the previous knowledge admission requirement nor the course duration, and the 1977 higher education reforms made no changes in pharmacist training, which had long been a university degree course.³³ However, the composition of the student body had changed, as increasing numbers of women had streamed in during the twentieth century. During the period from 1970 to 2000, women (as measured both by recruitment of new students and by numbers who took examinations) dominated both the pharmacist and the dispenser courses.

What caused these changes? Of course, removing the formal barriers to admission of women to pharmaceutical training was crucial. However, it was also significant that informal obstacles such as negative attitudes and general stereotyped views about women were losing their grip, a development exemplified by the decision to ignore the 1925 committee report. Thus, being a woman came to be perceived as less of a hindrance to working in a pharmacy. The functioning of pharmacies had also changed, as the heavy and disciplined toil involved in making up prescriptions shifted from the pharmacies to the pharmaceutical manufacturing industry; distribution of medications was much like other sales and services. Polly Phipps argues in her study on the feminization of pharmacy in the United States that this routinization of work lessened men's attraction to retail pharmacy.³⁴ After a period of personnel shortages, women took over the profession. Another explanation was that pharmacies needed to employ more women as the number and business volume of pharmacies increased. Demand was especially high for less-skilled pharmaceutical personnel, rather than pharmacist positions. This demand-driven development in the pharmacy labor market resembles events in other branches of Swedish manufacturing industry that periodically featured a high demand for labor, largely female.

³³ In 1977, higher education was reformed and several programs integrated into the university system. Many of these programs, such as nursing and teaching, were female-dominated.

³⁴ Phipps, "Industrial and Occupational Change in Pharmacy: Prescription for Feminization."

Just as in the manufacturing industry, the demand for female labor periodically led to an equalization of wages between the genders in pharmacies as well.³⁵

As more women moved into pharmacies, the quantitative distribution of the genders changed (see Figure 3). At the same time, the gendered organization had already changed its character, thus illustrating the fact that feminization as a process can be both quantitative and qualitative. It has been possible to identify the phenomenon in several feminization processes and in some less commonly occurring cases of masculinization, which leads us to go further by studying the feminization of pharmacies' staff in general and pharmacy proprietors in particular.³⁶

Pharmacy as a Labor Market

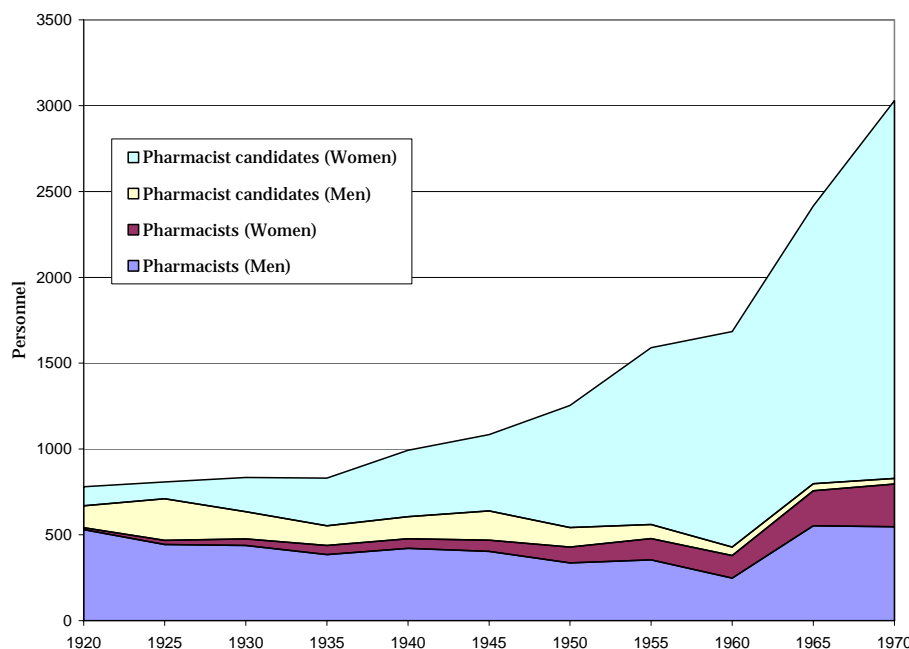
Pharmacy is a well-defined labor sub-market. Before the pharmaceutical industry expanded, the pharmacy was the only real labor market that existed for pharmacists and other pharmaceutical personnel. The link between training and job was strong because to have passed the pharmacist examination was a necessary qualification for managing a pharmacy business as proprietor. Pharmacy was a typical profession and its concomitant labor market was highly professionalized.³⁷ Pharmacy work was clean, yielded a relatively good income, and conferred a certain amount of status. There were good opportunities, with training and experience, to become proprietor of a lucrative hospital pharmacy or of an urban pharmacy with a chain of branches. During the postwar period, pharmacies as a labor market changed because of changing labor organizational and technological change, and the new duties and roles associated with those changes. At the same time as staffing became feminized, the gender coding of the work was changing.

³⁵ Lars Svensson, *Closing the Gender Gap: Determinants of Change in the Female-to-Male Blue Collar Wage Ratio in Swedish Manufacturing 1913–1990* (Lund, 1995). See Phipps, "Industrial and Occupational Change in Pharmacy: Prescription for Feminization," for a study on a similar development at a later point in time (the 1970s and 1980) in the United States.

³⁶ See Elyce Rotella, *From Home to Office: U.S. Women at Work, 1870–1930* (Ann Arbor, Mich., 1981); Myra Strober, "Towards a Theory of Occupational Sex Segregation," in *Sex Segregation in the Workplace: Trends, Explanations, Remedies*, ed. B. F. Reskin (Washington D.C., 1984), 144-56; Myra Strober and Carolyn Arnold, "The Dynamics of Occupational Segregation of Bank Tellers," in *Gender in the Workplace*, ed. Clair Brown and Joseph Pechman (Washington D.C., 1987), 107-48. See, for example, Lena Sommestad, *Från mejerska till mejerist* [From Milkmaid to Dairyman] (Lund, 1992).

³⁷ Savage, "The Professions in Theory and History: The Case of Pharmacy."

FIGURE 3
Pharmaceutical Personnel Working in Swedish Pharmacies, 1920–1970



Source: Svensk farmaceutisk matrikel.

The pharmaceutical products industry rose to prominence during the twentieth century, changing the organization of pharmacy work. Pharmacy service was formerly part of the manufacture and sale of pharmaceutical preparations. After the *Apoteksvarustadga* (Statute of Pharmaceutical Products) of 1913, and particularly after 1950, thanks to medical discoveries and technological progress, the situation changed with the production of pharmaceutical preparations gradually passing into the hands of the pharmaceutical products industry and sales of pharmacy-produced medications falling away, to be replaced by sales of industrially-produced goods and the furnishing of information. Claesson summarizes these developments by saying that pharmacy service changed from the complex selling of an article to the selling of a service simultaneously, as the article (that is, medicine) that the pharmacist dealt in and gave information about itself became more complex and less and less under the pharmacist's control.³⁸ Despite the pharmacies' loss of their monopoly of pharmaceutical manufacturing in 1913, they retained their distribution monopoly.³⁹ This changed the pharmacies as a labor market, particularly the incentive

³⁸ Claesson, *Apotekaryrket i förändring: En socialfarmaceutisk studie av apotekarnas yrkesutveckling och professionella status*, 91.

³⁹ There is debate about monopoly of distribution for medications, not only in Sweden but also in the European Union.

structure. Pharmacy staffs received new roles in the new structure at the same time as the pharmaceuticals industry was becoming an expansive and more lucrative alternative labor market, especially for pharmacists.

The work organization changed again with the 1970s reorganization of pharmacies that nationalized privately owned enterprises; all personnel became state employees. This nationalization made pharmacies a labor sub-market with labor conditions characteristic of the public sector, including regular working hours and opportunities for part-time work. Working in a pharmacy became a service occupation in an increasingly woman-dominated environment. Many today express surprise that pharmacy was once a man-dominated world.

Feminization of Pharmacies

The primary meaning of feminization is that the gender-composition of an occupation changes from male domination to one in which female employees outnumber male employees and in which women may even dominate. Historically speaking, feminization is considerably more common than masculinization because men have very seldom taken over women's work. This is not entirely surprising because women's work has paid less than men's and has usually been less attractive or less imbued with status. Moreover, men have always had more occupational alternatives to choose from than women.

In other words, feminization has both a quantitative and a qualitative dimension. The quantitative dimension is such that the number/proportion of women increases in an occupation previously dominated by men (see Figure 3). The proportion of women in an occupation may increase as an accompaniment to technical or organizational change, but that increase may only happen in work areas or levels regarded as appropriate for women. Viewed historically, with the traditional gender division of labor, women have ended up at lower levels in the labor force.⁴⁰ The fact that feminization of pharmacy as a labor market was at first limited in principle to pharmacists exemplifies this.

The qualitative dimension of feminization involves some gender coding, and implies that certain work tasks are regarded as more suitable for women and others as more suitable for men. When we divide work duties, those

⁴⁰ See Mats Alvesson and Ann-Sofie Köping, *Med känslan som ledstjärna. En studie av reklamarbete och reklambyråer* [A Study on Public Relations and Advertising Bureaus] (Lund, 1993); Margareta Bertilsson, "Juristerna i välfärdsstaten" [Lawyers in the Swedish Welfare Society], in *Kampen om yrkesutövning, status och kunskap. Professionaliseringens sociala grund* [Power, Status and Competence: Social Aspects of Professionalization], ed. Staffan Selander (Lund, 1989), 147-66; Mats Greiff, *Kontoristen—från chefens högra hand till proletär: Proletarisering, feminisering och facklig organisering bland svenska industritjänstemän* [Clerical Workers: Proletarianization, Feminization and Union Organization among Industrial White-Collar Workers] (Ystad, 1992).

allotted to women are feminized and those work tasks, knowledge, dexterity, and qualities associated with practice are labeled feminine. Traditionally, jobs requiring physical strength and employing advanced techniques or costly equipment were associated with men, whereas jobs requiring finger-dexterity and qualities such as thoughtfulness and helpfulness were associated with women. The more lucrative a job was financially, the more its practitioners were men, while women often performed monotonous and standardized duties. Typical female jobs were also often associated with the home and/or caring for others.⁴¹

Decreasing entrepreneurship and increasingly routinized work affected the professional image and status of pharmacists, but probably also helped reduce the wage gap between men and women. Wages had been the same since the 1940s, but gender differences in earnings continued because of higher salaries for mostly male owners and managers; women were more likely to be employees rather than owners and to work part-time. Over time, the wage gap narrowed, and women could expect compensation more similar to that of men than in many other professions, increasing the relative attractiveness of pharmacy to women.

Women in pharmacy experienced only a 9.9 percent deterioration in real income from 1970 to 1990, compared with 36.4 percent for men. Many professions had a drop in real income during this period, with male medical doctors and dentists experiencing a deterioration of almost 40 percent and female medical doctors and dentists experiencing a deterioration of about 35 and 29 percent, respectively. Feminization of these professions accompanied this negative trend.⁴²

The proportion of women in pharmacy jobs increased with the departure of production from the pharmacy to the pharmaceutical manufacturing industry. As tasks demanding physical strength and advanced and costly techniques vanished, distribution of medications replaced them. The institutional changes and the collectivization of the profit margins of individual pharmacies and pharmacists in the 1930s were occurring at the same time financial incentives to seek employment in pharmacies were weakening. After 1945, the pharmaceutical manufacturing industry was emerging as an increasingly lucrative alternative. In accordance with Myra

⁴¹ See Bradley, *Men's Work, Women's Work*; Cynthia Cockburn, *Brother: Male Dominance and Technological Change* (London, 1983); Alice Kessler-Harris, *Out to Work: A History of Wage-Earning Women in the United States* (New York, 1982); Ruth Milkman, *Gender at Work: The Dynamics of Job Segregation by Sex during World War II* (Urbana, Ill., 1987); Irene Padavic and Barbara Reskin, *Women and Men at Work* (Thousand Oaks, Calif., 2002).

⁴² Between 1970 and 1990, the pharmaceutical professions (pharmacists and pharmacy dispensers) feminized from 78 to 91 percent women. During the same period, the percentage of women medical doctors increased from 18 to 34 percent, and of women dentists from 28 to 41 percent.

Strober's thesis, male pharmacists increasingly sought jobs in the pharmaceutical industry and women gradually took over the pharmacies.

The qualitative dimension of feminization also imbues a job with gender symbolism. The ascription of words, attributes, and actions involved with such symbolism takes on greater significance and depth than in gender coding because of the cultural logic on which gender coding is based. We all have opinions about the gender of different jobs and assign to them some form of femininity or masculinity based on their practitioners' gender, what the job involves, and what qualities we associate with performance of the job's duties. Examples of occupations that carry a feminine symbolism are nursing, secretarial work, and dressmaking, whereas firefighting, surgery, and the military are associated with various kinds of masculinity.⁴³ In many cases, the job design is in masculine or feminine terms to shut out would-be practitioners of the "other" gender. If we systematize jobs and occupations in twentieth-century Sweden according to gender, many socially important jobs with high salaries and professional status had a masculine image, while lower-paid care-giving and service-oriented occupations were feminine. By degrees matters changed with the feminization of jobs, notably during the postwar period. Pharmacy clearly fills the definition of a profession.⁴⁴ In the early years of the twentieth century, pharmacy had a clearly masculine image falling within Camille Stivers's framework for professional expertise.⁴⁵ A profession is often associated with both knowledge and occupational monopoly, but professions create their own hierarchies, specific objectivity, and an internal logic of fraternity aimed at shutting out competing groups. We should emphasize, however, that it is not self-evident that professions are masculine.

The social pattern of femininity and masculinity, involving education, skills, and jobs, changes over time, partly through the activities of the protagonists and partly because professionalization is a process in a social context that changes as it interacts with economic, institutional, and social change.⁴⁶ Naturally, the gender division of labor is important in this social context. Because education and jobs change with respect to masculinity and femininity, the ways in which men and women find their way into diverse employments also change. The result is desegregation, usually through feminization, but sometimes by masculinization.

In the pharmacy world, gender symbolism changed during the twentieth century. The old-time apothecary (the traditional title) in his capacity as

⁴³ It is important to note that multiple masculinities and femininities may exist simultaneously. Moreover, we should understand and interpret sex as well as gender with respect to the historical and social context.

⁴⁴ Savage, "The Professions in Theory and History: The Case of Pharmacy."

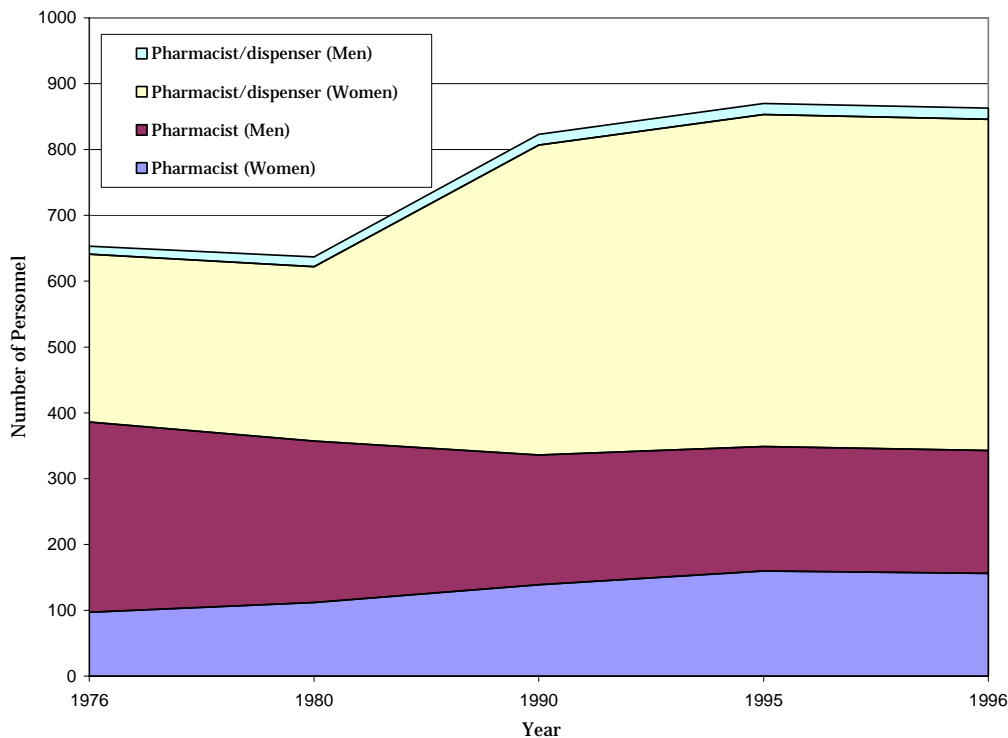
⁴⁵ Camilla Stivers, *Gender Images in Public Administration* (Newbury Park, Calif., 1993).

⁴⁶ Bradley, *Men's Work, Women's Work*; Magali Sarfatti-Larsen, *The Rise of Professionalism: A Sociological Analysis* (Berkeley, Calif., 1977).

master of a time-honored trade, preparing his medicines, and curing the sick, became a sales representative dispensing information about standardized products. The masculine features of the apothecary's trade became more in tune with femininity, as selling and giving information about medications have greater affinity with caring than with cure. In addition, the change from independent business proprietor to state employee brought a loss of prestige and status such that, as with many other occupations in the public sector, working in a pharmacy became "woman-friendly."

During the postwar period, the pharmacy as a labor market changed fundamentally along with changed work organization, technology, and work tasks and roles. At the same time the work force became feminized, gender coding of the work changed, as did gender symbolism. Continued feminization accompanied nationalization in 1970, and women came to dominate pharmacy in both higher and lower job grades (see Figure 4).

FIGURE 4
Number of Pharmacy Managers by Gender and Educational Background, 1976–1996



Source: Statistics Sweden.

Nationalization changed career opportunities so that both pharmacists and dispensers could become pharmacy managers. From the 1970s, the proportion of women as pharmacy managers increased, and by the early

twenty-first century, women dominated managerial posts in Sweden's pharmacies. It is interesting to note that female dispensers are responsible for most of the increase in pharmacy managers. This of course results in part from formalizing the possibility of dispensers becoming managers, but may also result from increases since 1990 in female pharmacists opting for a career in the pharmaceutical industry. Obviously, Swedish pharmacies are still changing.

Final Remarks

My objective has been to describe and explain the feminization of the pharmacy business and the changed gender division of labor in pharmacies in Sweden during the twentieth century. An analysis of underlying economic, institutional, and cultural factors shows that there are economic explanations for feminization coinciding with a clear connection between changes in the institutional framework surrounding the Swedish pharmacy business. These economic explanations concern changing economic incentives for both women and men to apply for pharmacy jobs because of a lower average income for pharmacists relative to alternative occupations, equalization of gender wage-differentials, and changed terms of employment. Regarding institutional change, there have been fundamental shifts in pharmacy organization and far-reaching changes with respect to gender and pharmacy jobs. In addition, removal of formal barriers made it possible for women to enter pharmacies. Of particular importance were opportunities for formal education and pharmacy practice for women during the late 1920s. As the work organization changed, so did the gender coding of jobs and gender symbolism. Feminization of the pharmacy business occurred both quantitatively and qualitatively, first in the lower positions of female pharmacy candidates/dispensers, later on for female pharmacists, and finally, in the late 1970s, even in the highest posts and management.

It is a common supposition that feminization of an occupation leads to its becoming downgraded and weakened. My study challenges this supposition with respect to Swedish pharmacy during the twentieth century. Exactly as Margreth Nordgren showed in her study of the feminization of the Swedish medical profession, it is obvious that a series of changes contributed to the feminization of pharmacies.⁴⁷

Both the pharmacy and medical professions experienced changes in the labor market, the expansion of health care and treatment of illness, opening of education opportunities, and women's propensity to seek jobs in the public sector. Also in both cases, institutional reforms were introduced that resulted in the loss of the charter system, with its ancient historical roots, in the pharmacy and medical professions. For pharmacists this meant the abolition

⁴⁷ Margreth Nordgren, *Läkarprofessionens feminisering—ett köns- och makt-perspektiv* [The Feminization of the Medical Profession in Sweden—A Gender Perspective] (Stockholm, 2000).

of licensing of pharmacy ownership by charter, while for physicians it entailed the loss of private hospital beds. Both pharmacists and physicians lost their autonomy and hard-won high positions within the bureaucracy and their power over their professional practice when the state and *Socialstyrelsen* [National Board of Health and Welfare] took on overall responsibility. This supports Nordgren's conclusions that for pharmacists as well as physicians, it is not a simple matter of the status of the profession diminishing with the admission of women.

The feminization of pharmacies in Sweden during the twentieth century demonstrates the importance of a historical and gender-theoretical perspective in deepening our understanding of the division of labor and gender segregation. It also helps us understand what underlying factors determine these relationships today, both in Sweden and internationally.