

'A kind of human machine'

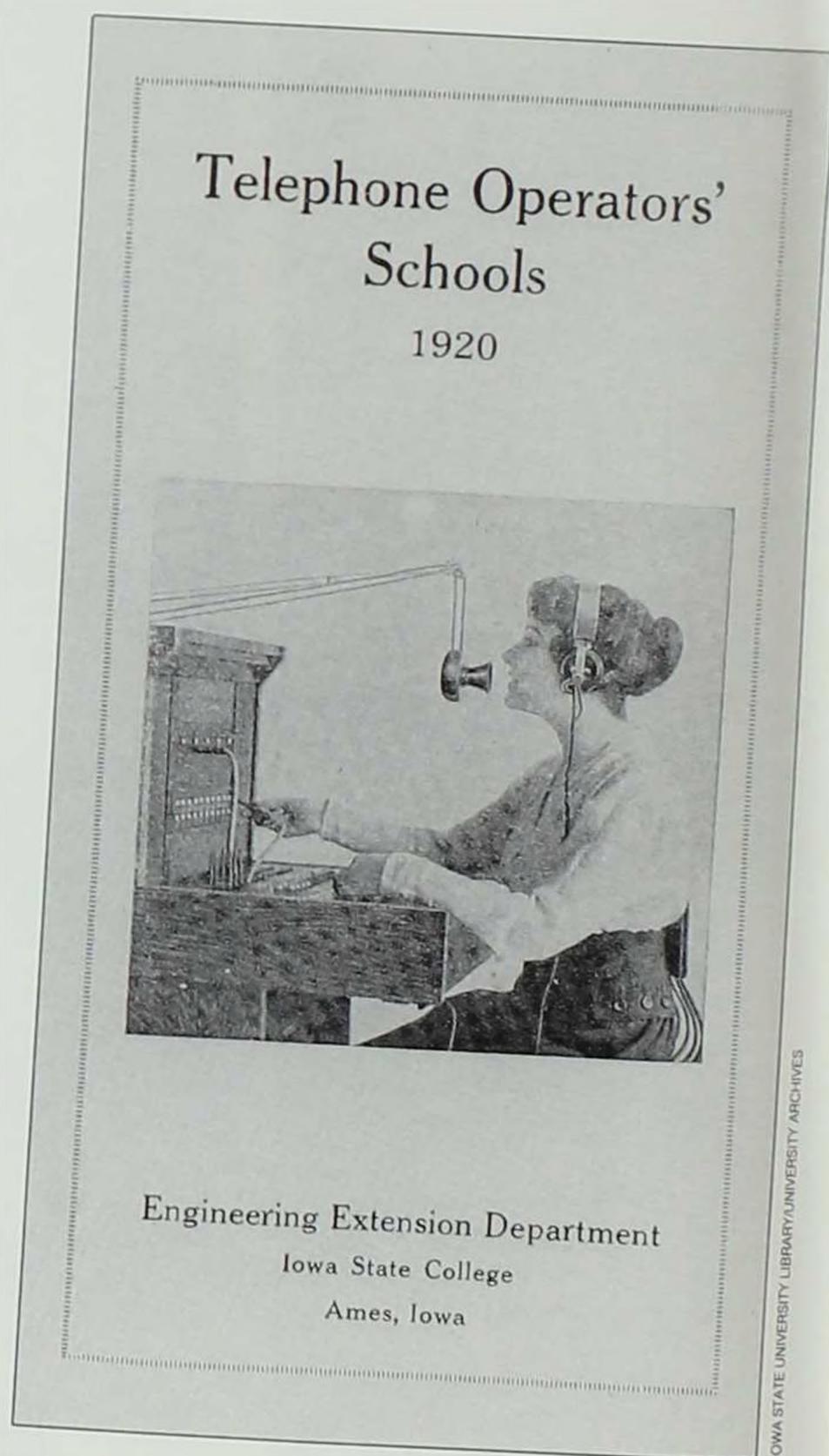
Women's Work at the Switchboard

by Marjorie Levine

IN 1915, the Engineering Extension Department of Iowa State College in Ames proclaimed the need for more skilled telephone operators throughout the state, "to save the time and temper of telephone patrons." With the expansion of telephone usage across the United States, punctuated by the first transcontinental line passing through Iowa in 1910, Iowa telephone companies had a high demand for properly trained switchboard operators. The first state-sponsored operators' school in the nation, which functioned through various short-courses throughout the state, was established in Iowa in 1915. The goal of these courses was the production of faster and more effective operating practices, but politeness was considered the "keynote of the codes" for the switchboard operator.

Today, most people in Iowa and the United States take telephones and telephone operators for granted. For many, the completion of everyday tasks without the use of the telephone seems close to impossible, and operator assistance seems like just one more part of a great communication machine. From its invention in the 1870s through the early years of the twentieth century, however, the telephone's dependability was rather questionable. Until automated switching and direct dialing replaced manual operators around the middle of the twentieth century, good service relied much more heavily on people than on technology, and especially important in this role was the switchboard operator.

The persona of the telephone operator is part



1920 Iowa State College training manual

of our cultural mythology in the United States. Images of friendly "hello girls," promoted by telephone companies, were prominent in magazines, songs, and movies until the ascendancy of the dial phone in the 1940s, when more efficient technology displaced the need for a romantic image of the operator. Telephone

companies advertised the importance of personal service, depicting the "Voice with a Smile" — a "neat, proper young woman, blandly pretty," an image which appealed to public sentiment.

Alongside these cultural representations, however, are the real people who staffed the switchboards in extremely diverse circumstances and situations. Female labor has been the driving force behind the operation of the telephone industry for over a century, and the reality of the majority of operators' lives, especially in the early years of telephone history, has been one of hard work and little glamour.

Perhaps the only unqualified generalization that can be made concerning telephone operating in the United States is that it has been a historically female job. Differences in geographical regions, urban and rural areas, and size of telephone exchanges make other generalizations difficult to support. From the late nineteenth century to the present day, the role of the operator has varied considerably, but has always played a significant part in the communications networks of telephone exchanges, and produced job opportunities for women. By World War I, forty years after the telephone's invention, 99 percent of the nation's operators were women. It was not until 1973, when American Telephone and Telegraph (AT&T) signed a consent decree with the Equal Employment Opportunity Commission, that men were fully integrated into telephone operating — almost a century after the initial sex segregation of the operating workforce in the 1880s.

THE TELEPHONE came into being with the first transmission of the human voice over electric wire in 1876 in the workshop of Alexander Graham Bell. The first public telephone exchange was set up in New Haven, Connecticut in 1878. Initial reactions to the invention of the telephone were understandably skeptical; many people were suspicious of a voice seemingly floating through the air, and felt that the telephone

must be either fraudulent or dangerous. Quickly, however, the curiosity about the machine passed, and most people began to realize the telephone's potential benefits for both their professional and personal lives.

In the late nineteenth century, telephone technology spread rapidly across the United States, catching on to varying degrees in different localities. The first switchboard in Iowa was set up in Keokuk in 1878. By the middle of the following year, switchboard exchanges were also in operation in Burlington and Dubuque, while in other Iowa locations, some people desiring service even strung wires between housetops to connect telephones. The number of phones grew rapidly, and by 1902, Iowa was one of the national leaders in telephony.

ACCORDING to a federal census report, Iowa had about 138,000 "stations or telephones" in 1902, with the number climbing to around 333,000 in 1907. By contrast, the number in Wisconsin, another rural midwestern state, was less than half: 63,000 in 1902, and 159,000 in 1907. The general growth in the industry evidenced in these two states was mirrored throughout the nation, and as more and more switchboard exchanges opened, increasing numbers of women were hired to staff them. The Bell telephone system of the early twentieth century, in fact, became the largest employer of women in the United States.

Women entered the world of switchboard operating rather early in telephone history. In the initial years, teenage boys were hired to run the switchboards, carrying over from their work as transmitters and messengers in the telegraph industry. By the 1880s, however, girls and young women had almost universally replaced boy operators, who were thought to be too rowdy, rude, and inattentive to be able to deal satisfactorily with the customers on the other end of the line. The stereotypical "feminine" temperament, on the other hand, was regarded by telephone officials as ideally suited for the task of the operator: patience and courtesy were held to be universal female attributes



By 1902, when this photo in Davenport was taken, girls and young women predominated as switchboard operators. Boys had held these jobs in the early years, but the jobs soon fell to females, stereotyped as steady, courteous, and patient.

within Victorian society (or at least universal among the type of women who would be found suitable for the operator's job). In a centennial history of Northwestern Bell, a telephone official in Cleveland is cited as saying that "the service [of women] is very much superior to that of boys and men. They are steadier, do not drink beer and are always on hand."

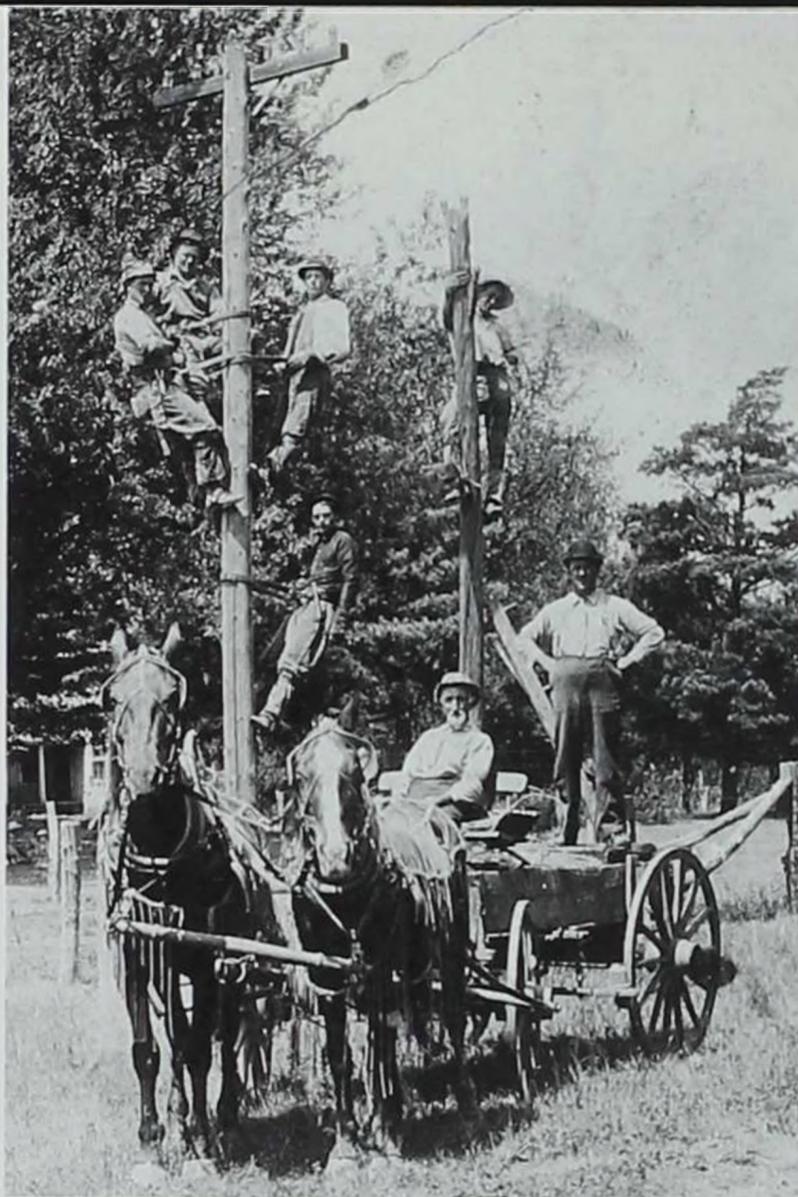
According to Stephen Norwood in his study of telephone operators' unionism, *Labor's Flaming Youth*, the idea of women operators initially met with resistance from managerial personnel in larger exchanges "who feared that [women] would prove inefficient because of an alleged tendency to engage in prolonged conversations and that male supervisory personnel, who predominated in the telephone exchanges until at least 1890, would 'form pref-

erences' on the basis of sexual attraction rather than merit." Additionally, there was some question about women's ability to operate mechanical instruments like switchboards, but in the end, the ideal of female politeness and gentleness won out over perceptions of female flightiness and incompetence.

An important factor in this decision was that management in larger urban telephone companies (which predominated in the early years) assumed that women, eager to enter the expanding white-collar workforce in the late nineteenth century, would be more likely to tolerate the poor working conditions and low wages that went along with the operator's job. By the late 1880s, women covered almost all daytime operating shifts within the Bell telephone exchanges, while men and boys

remained on night shifts — which were regarded as inappropriate hours for women to work. Nevertheless, by the early 1900s, women began to take over night work also, presumably willing to sacrifice Victorian notions of “respectability” for the higher wages. Despite this moral questionability of female night work, switchboard operating was emerging as a field of “proper” work for young Victorian middle-class women, as they were generally shielded from the public gaze and under the paternalistic eye of the telephone companies.

Telephones were mainly an urban phenomenon until the Bell patents expired in 1894. At this point, people outside the Bell system began to organize independent and mutual telephone companies or cooperatives. Many of these companies provided service for small-town and rural regions, which were less lucrative territory for the Bell system and consequently had not been targeted for earlier phone service.



A Jackson County crew of troubleshooters checks telephone lines near Maquoketa. Rural lines were often fragile and needed frequent repair.

IOWA, a predominantly rural state, became the national leader in independent telephony in the late nineteenth and early twentieth centuries. Providing telephone service for farms became a priority for Iowans, as the electrification of Iowa towns in the 1890s exacerbated the differences between rural and town life. By 1917, over 86 percent of rural Iowa households had at least one phone, which was a national high, but reflected general mid-western trends. Much of this success was due to farmers who would form a group to establish a cooperative telephone company, buying the telephones and setting up lines to a local exchange. Rural telephone lines were often very fragile, easily damaged in storms, and frequently in need of repairs. Operators on these lines had to be especially careful at the switchboard, as lightning could easily carry over the damaged wires.

In the late nineteenth century, most switchboards were not set up in buildings designed specifically to be telephone exchanges. Rather, operators would be housed in the back rooms

or attics of homes or offices. The most basic telephone service came from family-owned systems, in which the women were responsible for running the switchboard, usually from the kitchen, and the men took care of installation and repairs. Only gradually did switchboard exchanges come to be accommodated in buildings of their own.

Most late-nineteenth-century exchanges — Bell and independent — employed between one and four operators, and customer service was very personal. Early operators generally possessed a good deal of autonomy in the way they handled their jobs. There were often no standard procedures for talking with subscribers, and frequently operators would converse freely with their customers. This was especially the case on party lines, where ten to twenty subscribers were connected on the same line. “Listening in” to a neighbor’s calls was a common pastime for both subscribers and operators. As one Iowa party-line subscriber put it, “Despite the many jokes about ‘Central’ knowing the business of everyone in the community,



Model of attentiveness: an operator at Iowa Light and Power in Iowa City.

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It's easy! With a first-class telephone line from home to town you and your neighbors can talk direct to crop buyers every day without driving over those long miles. You can watch the market for top prices—ask the railroad station if your freight has come—order supplies from the store—find out what's doing at the stock yards—set a time with the grist mill for grinding your grain—get the doctor *quick* when you need him. Besides all this, you can talk business or pleasure without leaving your own doors.

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EQUIPMENT FOR EVERY ELECTRICAL NEED

Although this 1914 *Successful Farming* ad promises that a farmer with a telephone can "talk direct" with crop buyers or "get the doctor *quick*," it fails to acknowledge the role of the local switchboard operator in connecting parties, handling emergencies, and sometimes even tracking down the town physician.

she was the one upon whom we all depended when an emergency arose."

In fact, the role of the operator in the context of the early small-town or rural exchange was central to the information network of the community. The operator's social position gave her a certain amount of status and power, as she provided news of local interest, informing neighbors of such events as the birth of a baby or the need for help in putting up an outbuilding. A Cedar County, Iowa, man recalled that operators in the early twentieth century gave daily weather and market reports to any who asked. Additionally, the operator was essential in emergencies, such as calling the community to fires, doctors to sickbeds, and notifying people of dangerous road or weather conditions.

In most cases, "Central" — as many switchboard operators were known, for their central

position in connecting telephones — knew all her subscribers by name. In many small-town communities, subscribers often requested connections by the name of the party they wanted to reach rather than by number. In these cases, it was the operator's responsibility to know her entire community by the names of its members. In areas that were slower to receive technological advances in telephony, this personal service lasted well into the twentieth century.

The contact with people that the job provided, as well as the relative autonomy in the work environment, was of prime importance in attracting and keeping women in the early years of switchboard operation, for there were significant drawbacks to the job. For one thing, early headsets weighed as much as six pounds, and the operator's day often lasted as long as

eleven hours. In states such as Iowa — where there were no limits to the number of hours women could work, no restrictions on women's night work, and no minimum-wage legislation — the operator's life could be potentially exhausting and unrewarding. Early operators were also in physical danger from potentially faulty electrical lines and thunderstorms until telephone technology advanced to the point where wiring was dependable. Additionally, unpleasant subscribers were a constant source of anxiety, especially in larger exchanges.

THE MOVE toward standardized operating procedures in the early twentieth century took away many of the aspects of the job that had been attractive to young women: freedom to converse, lack of rigid supervision, and the personal relationship with subscribers that often resulted in gifts at holiday time. As telephones became more and more popular throughout America, and as demand for telephone service increased, rules of telephone operating became increasingly strict — first in larger urban exchanges, then spreading to small-town and rural systems. The goal of telephone companies in the early twentieth century — whether rural or urban, Bell or independent — was the standardization of operating procedures to provide better, more efficient service. This emphasis on standardization had different effects on large and small exchanges: whereas small-town operators retained some measure of freedom in their jobs, the expectations for young city women seeking positions as operators became increasingly rigid.

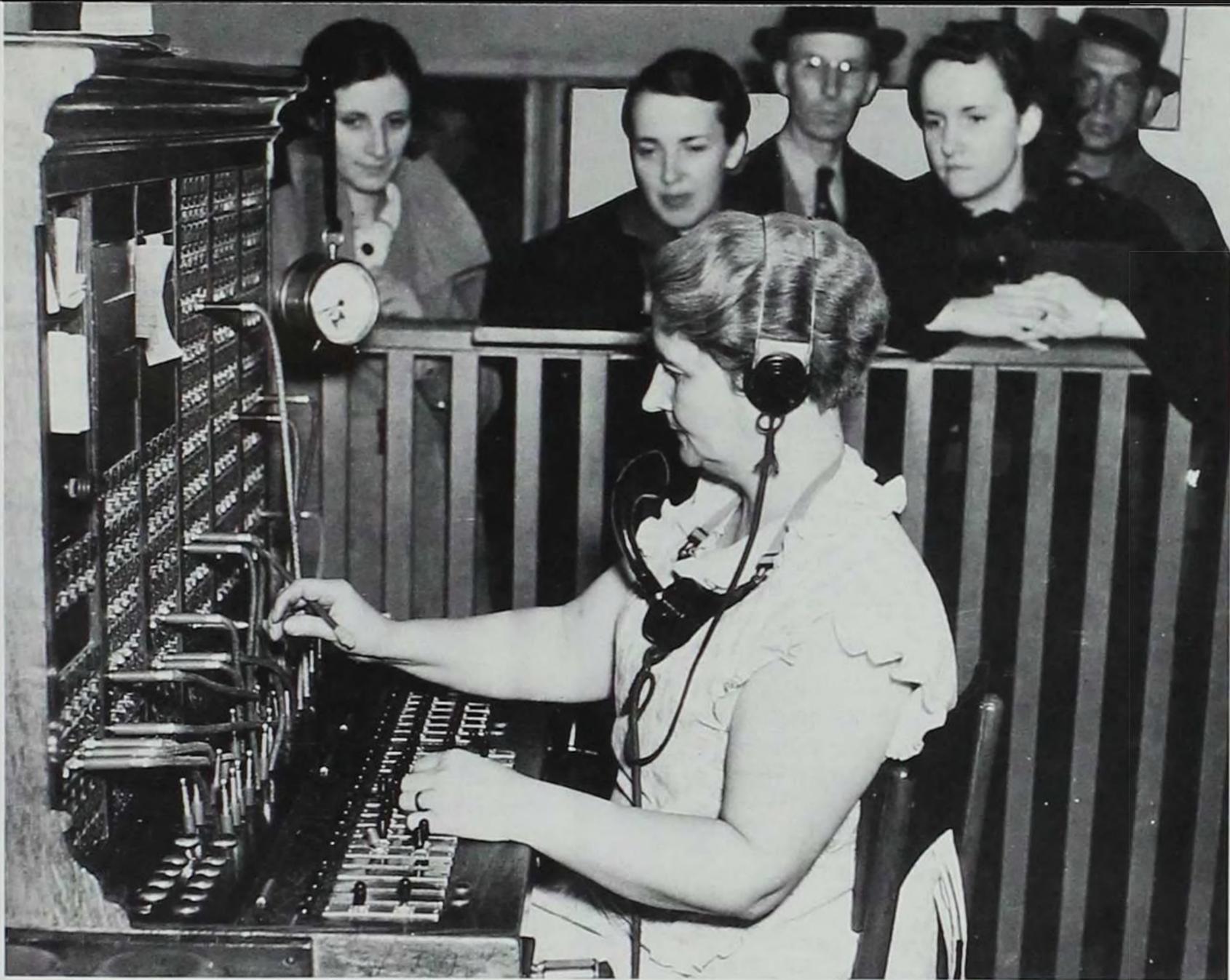
From the first decade of the twentieth century, with the exception of small and rural exchanges, standards came to include definite age qualifications, as well as very exacting expectations for the physical and educational suitability of women applying for operating positions. Most operators were young (a 1916 study found that 65 percent of operators in Iowa were between the ages of sixteen and twenty-one) and unmarried. Telephone management expected young women to leave their jobs if they did marry, which was considered

the natural thing for a woman to do: women were generally regarded as a temporary workforce — their time on the job simply occupying them until they married.

In many places, young women interested in switchboard jobs had to undergo physical examinations, which included specific attention paid to arm reach and height in relation to the size of the switchboard. Schools began to be set up around 1900, and once a woman was accepted as a potential operator, she had to go through a training period — sometimes paid, sometimes not — where she was drilled in the rules of operating. These rules included special vocal training for diction and inflection, instruction in the rote responses she was allowed to use with subscribers, and lectures concerning the proper morality that she was expected to exhibit as a member of the telephone family. For example, the 1916 Bureau of Labor Statistics report in Iowa noted that “in many exchanges after an application for work is made, an experienced woman is sent into the home of the applicant to make an investigation of cleanliness, to trace infectious or contagious diseases and to find general living conditions. The assumption is that where living conditions of the home are good and cleanly the girl from that home is cleanly in habits and person.” Clearly, a woman's technical ability at the switchboard was not sufficient evidence of her acceptability for the job.

TELEPHONE COMPANIES expected a lot from their young operators. As the first female supervisor in the national Bell system explained at the end of her career in 1930, the ideal operator of the twentieth century “must now be made as nearly as possible a paragon of perfection, a kind of human machine.” Officials at large, often urban exchanges sought to demonstrate to the public the proper life of their female operators, as well as their machine-like efficiency. The dehumanization that accompanied this exhibition of propriety and productivity was thus experienced more intensely by the numerous women employed at the larger exchanges.

In addition to the rigorous training period,



A Renwick, Iowa, switchboard operator handles calls as onlookers wait for news about a Mason City collision involving a bus and train. During emergencies, a local operator was a vital link in the community.

which usually lasted three to four weeks, operators had to undergo strict supervision once they officially started work at the switchboard. Mistakes were carefully recorded by a supervisor, who paced behind the operators, and a monitor, who could listen in on operators' lines undetected. This expectation of maintaining a constant level of perfection put extreme pressure on the operators, many of them young women ages sixteen to eighteen. A 1910 United States Senate investigation into the telephone industry declared switchboard operating "unsuitable" for the "nervous woman." Six years later, the Iowa Bureau of Labor Statistics report described operating as "a severely nervous strain occupation" because of the "strict surveillance and rigid adherence to rules laid down by the company, together with the impatience and fault-finding of unreasonable subscribers."

In larger exchanges, operators were not allowed to say a word outside of the scripted

responses. If a customer insisted on conversation, he or she was referred to the special information operator created for that purpose, further depriving the regular operator of personal contact. Moreover, women could not expect to advance beyond chief operator or operator supervisor in telephone companies, as all the higher-level, well-paying jobs were reserved for men. It is not surprising that turnover rates in bigger exchanges were quite high. Although operators went out on strike in Des Moines in 1902 asking for higher wages, it was not until the later 1910s that women operators were well enough organized throughout the United States to successfully achieve their demands.

Small-town and rural operating underwent a different sort of standardization procedure than larger, urban exchanges, partially because many more small exchanges were part of independent or mutual companies. Despite the honorable goals of management, supervision

and training in these markets were fairly sporadic. Although emphasis on proper standards became a growing concern in small as well as large exchanges, operators in small-town and rural areas maintained much more freedom on the job than did their counterparts in large cities. Companies were more flexible in their smaller exchanges and many of these exchanges were independently owned, so there was very little regional training or standard practice in the early years. As a result of the prevalence of independent exchanges in states such as Iowa, and the many and various ways in which operators approached their jobs, the need for general standards to improve efficiency regionally and statewide became increasingly pressing. Large training schools with prolonged training periods were impractical in areas where exchanges were not concentrated, so other methods were devised to standardize operating procedures.

THROUGH THE extension service at Ames, the state of Iowa supported operator short-courses and district meetings that met for two or three days in a variety of places throughout the state, and which were the first of their kind in the nation. Anne Barnes, who was appointed traveling chief operator by the State Association of Independent Telephone Companies in 1915, served as instructor in many of these courses. Her job as traveling chief operator was to routinize the procedures of both Bell and Independent Association operators, and to create a statewide operating method for all telephone systems. Barnes was assigned to assemble a manual for operating practices directed at small- and medium-sized offices. She was also responsible for traveling throughout the state of Iowa in order to oversee the training sessions of regional groups of operators. Barnes worked in this position for nearly thirty years, until her retirement in 1942.

In her manual *The Opportunity at the Switchboard*, Barnes advocated submissiveness and "forgetfulness of self" as excellent qualities in an operator. She advised her students: "Girls, use the voice with the smile,"

stressing the importance of an operator's cheerfulness. Barnes emphasized the operator's heroic sacrifice in the performance of her duties, and explained how the lack of appreciation operators received was simply to be expected due to the generally impersonal nature of the job.

It is clear from Barnes's manuals that there was a definite connection drawn between the morals and behavior of a woman and the quality

A 1915 training manual emphasizes service in its text, despite the title's focus on "opportunity."

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**The Opportunity at the
Switchboard**



**The Vocation of Telephone
Operating**

BY

MISS T. ANNE BARNES

Instructor In Telephone Operating
Engineering Extension Department.

BULLETIN NO. 18

Published tri-monthly. Entered as second class matter at the post office at Ames, Iowa, under the act of Congress of August 24, 1912.

of the service she provided. As Barnes explained, "Courtesy is very essential as impressions over the telephone are often formed more from our manner of speaking than what we say. We should therefore, convey alertness and interest in our voices as well as in what we say." Throughout the early twentieth century, women were still held much more accountable by society for a display of proper morals and manners than men were.

ALTHOUGH THERE were certain expectations for small-town and rural exchanges, the striking anonymity of the operator's job in twentieth-century big cities did not exist for the majority of women; they still maintained a degree of control over their positions, especially in rural areas. Personal service and dedication to the community were qualities admired in small exchanges. As Brenda Maddox explains in her

vice daily more pleasant and accommodating.

An operator in speaking of her vocation said she was so tired of the work and wished she were fitted for work of an entirely different nature. She said it seemed so hard to feel that your service was not appreciated—and it surely was not appreciated as people generally spoke in such cold, hard tones. They also were so quick to censure you for any little failure in service.

Girls, you see this operator judged the patron's lack of sympathy because of his impersonality, just as he could not feel her interest over the telephone. Remember, every lamp signal represents a home or place of business. Few of them are free from care, vexations, troubles, or sadness. As the patron looks toward you for help in case of fire, sickness, or emergency, as well as the ordinary affairs of life, let him look to you as something dependable, cheerful, and always ready to serve. Then it will not matter to you, how impersonal you may seem to him as a being. It is not the material that counts, but the spirit embodied within. And our greatest happiness consists in what we contribute to others, not in gifts, but service.

There comes to me the memory of a small office which I visited recently, in which I met the dearest girl. She had served faithfully for years, and she said in her little corner of the world there seemed no chance to grow. But I could see how changing could not better her particular case, and what a big loss her leaving would make, and so I advised her to stay, telling her how well she was fitting her position. Whenever I think of her, I think of this little poem:

Oh, the little red bush, it was brave,
it was gay,
On the hilltop so dreary and bare!
When summer was over and skies were
dull gray,
And the cold winds were fighting for
victory there,
In the midst of the stone
And the stubble alone,
Flamed the little red bush.

Thought the little red bush, "Down below
where it's green
May be easier living than here:
'Twould be pleasant to grow there
where one must be seen
And not have to make every bit of
good cheer
For yourself all alone
In the midst of rough stone
Just one little red bush.

"But it's here I've been set by the planter,
who knew
Where a little red bush ought to be;
So instead of complaining, the best thing
to do
Is to flame, oh so brightly! that some
one may see,
And be glad that alone
With the stubble and stone
Grows one little red bush."

article "Women and the Switchboard," these qualities were not the ones most sought out in urban areas. In fact, in the 1930s "the Bell system, in large cities, rejected two out of three applicants because they did not meet the qualifications for health, intelligence, eyesight, and temperament."

Much more attention from both public consumers and telephone company management was focused on the efficiency of large telephone exchanges and their employees than on small-town and rural exchanges. Although this scrutiny resulted in the stricter standards described above, it also brought improved technology to cities, while town and especially rural exchanges lagged behind. Telephone technology was constantly undergoing changes in order to improve service. More advanced

A Malvern, Iowa, parade float decked in bunting pays tribute to the telephone's role in small-town Iowa.



switchboards and headsets replaced older models in an effort to increase automation and thus reduce "human" error. The most significant change in the history of operating was probably the development of the dial telephone, which allowed a subscriber to connect directly to another line without the mediation of the operator; the first all-automatic exchange was opened in 1921.

As the implementation of dial telephones and automatic exchanges increased, the role of the operator underwent further depersonalization. Even though the Bell system stressed its "personalized service" to its customers, this promise increasingly became empty rhetoric: operators' interaction with the public steadily decreased, reduced today to brief contact in person-to-person or collect calls. By the mid-twentieth century, with the predominance of automated switching systems, the old operator era of personal service had ended. Some rural and small-town exchanges, however, retained manual service into the 1960s and '70s, such as in Bennett, Iowa, where direct dial service was not in operation until 1972.

TODAY, with the advanced state of telephone technology, it is hard for younger generations to imagine the important role operators played for both the telephone companies and the communities they served. The idea of personal telephone service grows ever more distant as a call for assistance is answered as often by a machine as by a human being. Even with all the assets of computerized communications, memoirs and local histories often mention the feeling that something vital to a community was lost with the end of manual operating.

As dial systems were implemented, the women who had worked as operators also lost something important: an integral role in community relations, and control over and pride in one's work. The strict training requirements and the proper moral standards expected of operators are evidence that switchboard operating was looked upon as significant, skilled work, requiring a certain type of person. It was



Equipment for the dial phone system in Strawberry Point in 1956 is checked over by Leland Carpenter and Robert Homewood. As dial systems were implemented, switchboard operators were phased out.

also one of the few occupations considered acceptable for middle-class women.

The experiences of switchboard operators in Iowa — an early national leader in telephone usage — are representative of the occupation as it developed and changed. Although standards and working conditions varied nationally, the job became increasingly impersonal while the emphasis on the service dimension remained universal. As Anne Barnes put it in one of her Iowa State College training manuals for operators, “As the patron looks toward you for help in case of fire, sickness, or emergency, as well as the ordinary affairs of life, let him look to you as something dependable, cheerful, and always ready to serve. Then it will not matter to you, how impersonal you may seem to him as a being. It is not the material that counts, but the spirit embodied within.” Perhaps women’s work at the switchboard was neither the genteel nor glamorous job that it was marketed to be, but manual switchboard operators have an important place in the history of telephone communications. □

NOTE ON SOURCES

The primary sources consulted include census materials and newspapers; Department of Commerce and Labor, Bureau of the Census Special Reports, *Telephones: 1907* (Washington, D. C., 1910); State of Iowa, *Report of the Bureau of Labor Statistics for the Biennial Period Ending June 30, 1916* (Des Moines, 1916); U.S. Department of Labor Bulletin of the Women’s Bureau #19, *Iowa Women in Industry* (Washington, D.C., 1922); 61st Congress, 2nd session, *Senate Investigation of Telephone Companies*, Doc. 380, 1910; and reminiscences in the 1973 *Cedar County Historical Review*. I am especially grateful to Becky S. Jordan of the Iowa State University Special Collections/Archives for uncovering and sending me Anne Barnes’s manuals: *The Opportunity at the Switchboard*, Bulletin #18 (Ames, Iowa, 1915); and *Local and Long Distance Operating Instructions for Small Telephone Exchanges* (Ames, Iowa, 1920). Other sources include Don F. Hadwiger and Clay Cochran, “Rural Telephones in the United States,” *Agricultural History* 58 (1984): 221-38; Roy Alden Atwood, “Interlocking Newspaper and Telephone Directorates in Southeastern Iowa, 1900-1917,” *Annals of Iowa* 47:3 (Winter 1984): 255-69; *The Telephone in Iowa: The Story of the Northwestern Bell Telephone Company in Iowa* (no author, no date); “History of Independent Telephone Companies in Iowa” (manuscript, State Historical Society of Iowa archives: no author, no date); Brenda Maddox, “Women and the Switchboard,” in Ithiel de Sola Pool, ed., *The Social Impact of the Telephone* (Cambridge, Mass., 1977); Stephen Norwood, *Labor’s Flaming Youth: Telephone Operators and Worker Militancy, 1878-1923* (Chicago, 1990); Arthur W. Page, *The Bell Telephone System* (New York, 1941); James Crockett Rippey, *Good-Bye, Central; Hello, World — A Centennial History of Northwestern Bell* (1975); and the entry on “Telephone Operators” by Lana F. Rakow in Angela Howard Zophy with Francis M. Kavenik, *Handbook of American Women’s History* (Vol. 696, 1990).