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Some Influential Effects of the Typewriter on the American Economy

Working Paper No. 74

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Abstract: This inquiry seeks to establish that the introduction of the typewriter generated effects upon the American economy by promoting productivity increases, enhancing communications, and improving management. In addition, this inquiry seeks to illustrate how the typewriter affected American businesses by providing efficiency in time management and documents’ production.

Furthermore, this inquiry shall showcase how the typewriter affected women’s work in the American economy, especially with respect to inclusivity within the workplace as well as the enhancement of communications. Additionally, this inquiry shall analyze how the development of the QWERTY keyboard and its related “lock-in” generated effects on the American economy.

Journal of Economic Literature Classification Codes: N11, N31, O31

Key Words: American Economy, Communication, Productivity,
QWERTY, Remington Typewriter

This inquiry seeks to establish that the introduction of the typewriter generated effects upon the American economy by promoting productivity increases, enhancing communications, and improving management. Indeed, writing has a long history and is noted to have emerged almost 5000 years ago when scribes were engaged for carrying on communications. The introduction of the typewriter prior to the 1900s in America would mark this machine as integral as well as life-changing for businesses and job seekers. The typewriter rapidly spread throughout the late 1800s, solidifying its importance and position in the American economy.

With reference to author P. G. Hubert (1888, 1-2), because of the typewriter's extensive use, almost every facet of American culture could point to at least one significant step forward. One of the most revolutionizing developments that came about from the typewriter relates to how quickly women could enter the workforce as typists, and also establish themselves in various careers. Businessmen hailed the typewriter for increasing profits; kings and queens valued the typewriter for their own correspondence; teachers and students marveled at the significant improvement in their English grammar through use of the typewriter.

According to David (1985, 334-335), one way the typewriter revolutionized typing is through providing a foundation for the development of the famous and widely used QWERTY keyboard for typing. Like calligraphy, the typewriter has served as a catalyst for revolutionizing the way writing and typing have developed

into an array of outlets for expression. This would include marketing, designing, editing, and publishing.

Productivity Increases

The history of the typewriter roots itself in the perfecting of everyday tasks, somewhat like sewing clothes. Similar to the sewing machine, the typewriter would no longer be reliant on use of the writing pen. With the introduction of the typewriter, one could then produce many more documents within the same span of time needed for producing documents using the pen and paper. In *The Typewriter; Its Growth and Uses*, author P.G. Hubert (1888, 1) argues that at the time the typewriter was invented, businessmen were reluctant offer this machine the opportunity to integrate into a workplace. In short, early on, the typewriter was viewed as a diversion from what was deemed important. In short, the typewriter was viewed as a waste of time. However, Hubert (1888, 1) argues that people had to be persuaded to use the typewriter in order to recognize its vast benefits; of what this machine is indeed capable of producing. Hubert (1888, 1) goes on to elaborate that an operator working with the assistance of the typewriter would be able to complete more written communications in a single day than a half dozen clerks working with pens and paper, and the work that they turned out would be of a

higher quality. Quickly, the typewriter proved to be the most significant time and effort saving tool available to companies in the late 19th century.

According to Hubert (1888, 1-2), it is said that the typewriter was prophesied many years before it was actually invented. Ideas underlying the inventing of the the typewriter were scattered throughout the archives of the English Patent Office and, subsequently, those of the United States Patent Office. One could find primitive attempts at building a writing machine that was adequate according to key criteria. Hubert (1888, 2) argues that according to the records kept by the British Patent Office, a competent engineer named Henry Mill, who passed away around the year 1770, was awarded the first invention for a writing machine on January 7th, 1714. However, according to the records, no drawings of Mill's writing machine were to be found in the archives. According to Hubert (1888, 1), no writing machine in the English Patent Office proved to be optimal for commercial production and broad distribution.

Hubert (1888, 3) notes that it was not until Year 1867, and in Milwaukee, Wisconsin, that a typewriter was developed by one C. Latham Sholes, along with Samuel W. Soulé, and Carlos Glidden. Hubert (1888, 3) further elaborates on how Sholes and Soulé worked together with the aim of developing and perfecting a device for numbering the pages of blank books and for printing serial numbers. Hubert (1888, 3) emphasizes that Glidden took interest in the numbering device

and questioned why they were not able to develop a device that would aid them in writing. Hubert (1888, 3-4) states that every one of the twenty-five to thirty experimental typewriters that were produced proved marginally superior to the one that came before it. Methodically, screw by screw, innovations offering incremental advances to the writing machine continued until a suitable prototype was carried to the major gun manufacturer known as E. Remington and Sons, located in Ilion, New York. This was Year 1873. On this point Hubert (1888, 4) emphasizes that due to the great will and judgment of Philo Remington, the typewriter earned the focus of a number of talented machinists who put into feasible shape a significant portion of what had merely been recommended by the original inventors. These skilled machinists were responsible for the development what in the History of Technology would be known as the “Remington typewriter”—the typewriter that would help to revolutionize the American economy during the 20th century. Upon its release into the American market, Hubert (1888, 4) argues that professionals, such as as businessmen, clergymen, newspapermen, and lawyers made use of the Remington typewriter. However, and according to Hubert (1888, 4), it was not until 1882 that this machine’s true potential was fully realized; up until that point, the typewriter had been going through phases of trials and errors.

According to Hubert (1888, 4-6), the most notable accomplishment of the typewriter, as well as the primary cause for its prosperity and appeal, has naturally been the time savings that have been achieved in corporate offices as a result of its use. Hubert (1888, 6) notes that this is now such common knowledge that it hardly needs any dispute, and it explains the astounding growth in the sale of Remington typewriters, which went from 1,400 in 1882 to 14,000 in 1887.

According to Hubert (1888, 6), commercial establishments have shown that using a typewriter—such as the Remington typewriter—as opposed to writing with a pen, results in a time savings of forty minutes per hour, which, when converted to hours and minutes, equates to a time savings of five hours and twenty minutes per working day. In a country like America proved to be where time is money, the Remington typewriter is hailed as a valuable invention that revolutionized businesses.

Enhanced Communication

In *Women and the Typewriter during the First Fifty Years, 1873-1923*, author Robert A. Waller (1986, 39) seeks to determine how modern Americans understood the influence that the typewriter had upon women throughout the first half century after the introduction of commercial models; that is, while the nascent typewriter was transitioning from an inventor's dream to a societal requirement.

According to Waller (1986, 40), he envisioned that the composition of the workforce was going to look different later in the 20th century, as a direct consequence of the widespread adoption of the typewriter. According to the results of the 12th U.S. Census, Waller (1986, 40) claims that "stenographers and typists" were one of the eleven occupational categories in which women made up more than three quarters of all workers aged 16 and older. Waller notes that the data suggested a 305 percent rise in the number of women working as stenographers and typists between the years 1890 and 1900, making this the occupational category that exhibited the greatest degrees of change.

With the influence of the typewriter spreading like fire across working America, Waller (1986, 41) states that as an innovation the typewriter promoted a sense of well-being among many as its use boosted productivity levels. Waller (1986, 41) notes that given the American desire for speed and equating this phenomena with development, the typewriter's dissemination helped to optimize a feeling of well-being among many. Waller (1986, 41) claims that in a never-ending loop, future generations would benefit from what Sholes had fathered and what Remington had produced.

According to Waller (1986, 41), there emerged an aversion to the Remington typewriter that appears related to its price. The fact that one Remington typewriter could cost as much as \$125.00, while a pen could be had for a mere cent, generated

a broadly shared skepticism from potential purchasers of typewriters. Waller (1986, 41) notes that people took the Remington typewriter as a sculptural piece, certainly deserving of praise. However, as the price had risen so steeply, people shied away from making purchases. Waller (1986, 42) states that eventually sales slowed down and Remington actually withdrew from manufacturing typewriters. Waller (1986, 41) notes that rights to manufacture and sales were secured by the firm of Wyckoff, Seamans and Benedict. According to Waller (1986, 41-42), this new firm decided to roll out the typewriter under a marketing campaign that aimed to educate the public on the how to use the typewriter and at which tasks the typewriter could be applied successfully to carry out tasks. Waller (1986, 42) notes that it took some time, but eventually professional stenographers, legal professionals, and ultimately business groups were persuaded of the benefits of the machine's clear and succinct writing capacities for their businesses. These promotional efforts were helped along by simultaneous advancements in technology related to the typewriter.

According to Waller (1986, 42), in 1880 the Young Women's Christian Association of New York City started offering classes in phonography (also known as stenography). The practice of phonography was offered in conjunction with typewriting along with the statement that " some firms prefer typewriting to penmanship." Soon enough, commercial universities and private organizations

were adding typing lessons to their curricula, and typewriter manufacturers went about building training schools so that they could offer qualified craftspeople to complement the machine. Additionally, Waller (1986, 42-43) indicates that the country's secondary schools encouraged the development of the required abilities. In most cases, the instruction of shorthand and typing were coupled together as abilities that needed to be fortified.

According to Waller (1986, 45-46), women faced discriminatory remarks in the organizations that hired operators and typists. Men would single out women for their looks and seemed prone to make inappropriate comments. Waller (1986, 45-46) notes that the *New York Times* took note of what had been transpiring in the workplace between men and women, and put together a collection of letters and editorial statements regarding this issue, though the issue went unresolved.

According to Waller (1986, 46), the Historical Society of Herkimer County in which Ilion is located published a commemorative volume on *The Story of the Typewriter*. Chapter Eight, titled "How Women Achieve Economic Emancipation Through the Writing Machine," placed special emphasis upon the financial autonomy of women as a means for lowering the threshold for their participation in the commercial sector. Waller (1986, 46) notes that the author pointed out that a simultaneous trend was the progression of feminism, which included the expansion of voting rights, a broader involvement in public life, and a larger degree of

personal liberty. Waller (1986, 46) notes that in spite of the fact that this aspect of the typewriter's influence may have received less attention in the present than one would anticipate based upon retrospect, it is difficult for people who are living through significant change to comprehend all of the repercussions of that shift.

Waller (1986, 47) notes that as early users of the typewriter saw it, it is hard to give a short summary of how it changed society. People at the time thought that the writing machine and its many offspring—such as the adding machine, the linotype, the dictaphone, and the mimeograph—changed the role of women in society, especially in the business world.

Improvements in Management

In the journal article “Clio and the Economics of QWERTY,” author Paul A. David (1985, 332) seeks to establish why institutions and even culture offered resistance to altering or developing further the keyboard’s format. David (1985, 332) places emphasis on a “path-dependent” sequence, in which the events that happened a long time ago or that were mostly based on chance and not on systematic forces might wield large and measurable effects of outcomes. David (1985, 332) notes that people making use of the keyboard layout that one August Dvorak and W. L. Dealey patented in 1932 have held most of the world records for how fast they could generate words within a given timeframe. Furthermore, David

(1985, 332) indicates that when Dvorak died in 1975, he no longer had to deal with the world's stubborn refusal to accept his work of converting the QWERTY to a DSK format. David (1985, 332) states that Dvorak's death came too soon for him to be comforted by the Apple IIC computer's built-in switch, which instantly changed the keyboard from QWERTY to virtual DSK, or to be made even more upset by the misgivings that the switch to DSK would not be made very often.

According to David (1985, 334), for economists to understand what went wrong in the 1890s, they must pay attention to the fact that typewriters were starting to become part of a larger, more complex system of production that was technically linked. David (1985, 334) notes that touch typing came out late in the 1880s. It was a big improvement over the four-finger hunt-and-peck method, and it also proved important because it was made to work with the Remington QWERTY keyboard from the start. With reference to David (1985, 334), touch-typing led to three changes in the production system that were very important in making QWERTY the most common keyboard layout. These changes were technical interdependence, economies of scale, and investments that were almost impossible to take back.

David (1985, 334) notes that technical interdependence intended that the anticipated current value of a typewriter as a production tool depended on the presence of suitable software created by typists' decisions about which keyboard to

learn. According to David (1985, 335), the economies of scale generated consequences; the most significant of which was without a doubt the propensity for the method of interference competition to lead towards de facto uniformity through the strong influence of a single keyboard design. According to David (1985, 335), this would indeed make intuitive sense as expectations would have generate effects on the result if decisions were made with a forward-looking mindset rather than shortsightedly on the premise of comparison between the present prices of various systems. Simply because the buyers of the software and/or hardware anticipated it to succeed, a certain system might lead to the defeat of competitors.

According to David (1985, 336), the initial advantage that QWERTY gained through its affiliation with Remington proved to be numerically small; however, when expectations became amplified, it may have been more than enough to ensure that the industry would finally lock into a de facto QWERTY standard. David (1985, 336) notes that the high costs of software conversion and the resultant quasi-irreversibility of investments in specialized touch-typing talent do indeed seem to have contributed to the incidence of this lock-in as early as the mid-1890s.

In David's understanding (1985, 336), regardless of the existence of externalities that normal research predicts would conflict with achieving the socially optimum degree of system compatibility, competitiveness in the absence

of flawless futures markets forced the industry early on towards standardizing on a system thought to be suboptimal. David (1985, 336) notes that given the significant technological interdependencies, scale economies, and irreversibility brought on by learning and habit, it seems all too likely that standardization would tend to occur and this could include the standardization of suboptimal technologies.

Conclusion

This inquiry has sought to establish that indeed the invention of the typewriter influenced the American economy by increasing productivity, enhancing communication, and providing improvements in management. The historical nature of the typewriter as a revolutionizing force would hold true for its long journey of contributing towards the advancement of the American economy through its adoption by businesses, as well as a wide range of institutions and organizations. The typewriter—just like penmanship and calligraphy—served as a trigger point for numerous future innovations in areas such as graphic design and digital typography. Clearly, the typewriter aided in radicalizing the workplace especially for female workers, and mainly through offering jobs with tasks that promoted their inclusivity in the workforce. The development of the typewriter serves as a reminder regarding how the American economy started with rudimentary foundations and worked its way towards becoming a global

powerhouse, famous for cranking out innovative tools and methodologies that have and continue to wield influence.

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