

January 8, 1998

ON ONE-HAND TYPING

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Introduction

I had planned this evening to present a mathematical study of the effects of movies on real crime, based on a little-known 1989 publication on this subject by a doctoral student named Centerwall, in the American Journal of Epidemiology. But I concluded very late that Centerwall's study was very likely wrong. This meant a thorough-going redraft would be in order. I've put copies of my redraft around partly because errors it retains are now only minor.

Also, the redraft illustrates that my hand is shaky, the fingers slowed, and my skill at one-hand Keyboarding, today's name for typing, is reduced. And I thought you might find my adventures with one-hand typing more interesting than arguments about math.

High School without an Arm and a Leg

When I was ready for ninth grade, a collision with a backing freight train cost me my right arm and leg, and after recovery I spent my high school and college years experimenting with my left arm to explore what it could do, properly trained, and beginning with long hand, sports, and music.

In starting to plan for college I decided I would need typing, if for no other reason than that it couldn't be worse than a former right-hander faced with long assignments that required writing long hand as a 'leftie.' But I was also trying for high grades, having become convinced that I would have to rely on my brain rather than my brawn to earn a living. So I asked my brother Frank, how he thought a typing class would go--he'd taken the course.

"I wouldn't do it if I were you," he said. "There's no way you will be able to keep up with the others and your grade average will drop way down." With this 'encouragement' I went to Mr. Lawrence Thompson, the teacher. **He** said, "I'd like to have you in the class; and I promise fair warning so you can drop the course if you feel that is necessary."

So as a high school senior, I was one of about 60 who signed up for "Beginning Typing."

What System to Use

On the first day of class Mr. Thompson asked me to stay afterwards, and he made a simple suggestion. "Put your hand comfortably in the middle, so that your fingers rest on the keys d, g, h, and k, and let's assign the other keys within parallel lines, as with the 2-hand pattern. Your thumb can work the shift key." (See the Figure.) "Try this and come back with any problems you find.

Exploring at home I found two problems. First, the "m" key is natural to reach with the index finger, *not* with the middle finger. Secondly, the hand pivots naturally about "g" finger, and this enters mistakes -- extra "g" entries. Mr. Thompson went along with both the reassignment of the "m" and tightening the action of my typewriter on the "g."

I should add that there already was a continuing if small literature on one-hand typing (see the references). But among those publishing on the subject I have yet to see another approach that shows ideas from both teacher and student, nor one that promotes speed. At least one writer pushed the idea of a unique typewriter, with totally rearranged keyboard. Of course, this would severely limit the one-hand typist's ability to work in differing situations.

With this agreement on changes I was well started in class that first week; and Mr. Thompson's classwork was a mixture of practice sessions, appropriate capitalization and punctuation, manuscript forms, etc., taken from the then popular typewriting text that you may also have used. And after a few weeks there were speed tests. His weekend homework assignments had 10 exercises, graded according to the number handed in and the number of errors.

At home I had only a decades-old, slow, manual machine belonging to Dad. No matter, I settled into a two-part routine. First I worked until the homework was complete and error-free. Then I practiced for speed, speed, speed, with minimum errors, evenings and weekends, and with my brother's warning in mind.

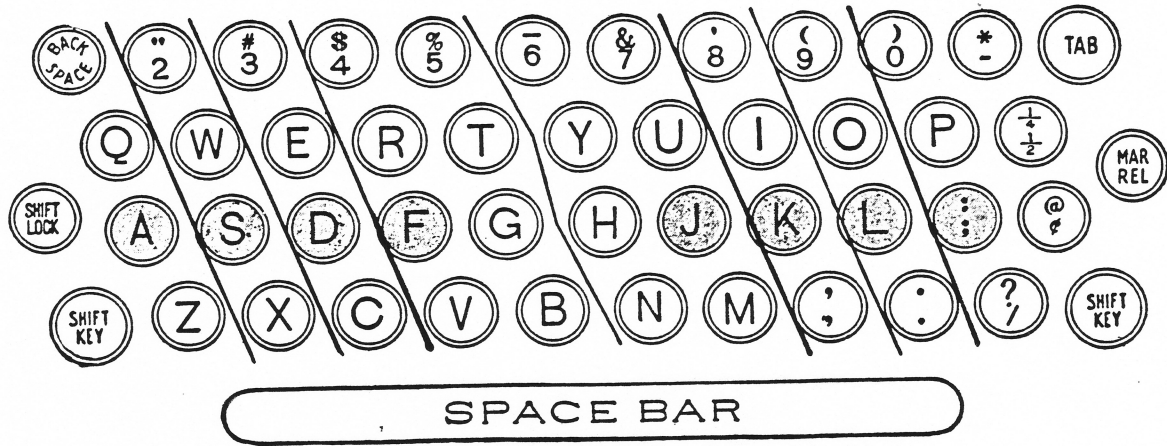
Progress?

This regimen seemed to work. The first official 10-minute speed test was Nov. 7 and I earned a 30-word certificate that day, with only 2 errors -- up to 5 errors were allowed but each cost 50 strokes. A 6'th error negated the test.

I felt I could go faster than that, and 3 weeks later I earned my 40 word certificate. A newspaper account about this time reported I was the only boy to have won either a 30- or 40-word certificate. I wasn't aware of it, but In early December, Mr. Thompson was quoted as saying "the boy, using his left hand-- and he was right handed before the accident--has achieved a degree of

Left Hand

Right Hand



LITTLE FINGER

INDEX FINGER



THUMB ON THE SPACE BAR

proficiency in 12 weeks that usually takes the normal two-handed student typist 36 weeks to reach."

Then 10 days into January, 1941, I had another good test and earned a 50 words/minute certificate with 5 errors. And on April 18 I earned my 60 words/minute certificate, with only a single error. And it was evident to me that my physical limitations were still no problem although my machine at home was near its limit.

How Were Others Doing

By early 1941 it was clear that another classmate, Frances, but no one else, was winning certificates ahead of mine. She would get hers and then one or two weeks later I would get mine. But when Mr. Thompson formed teams to compete with other schools he formed not one 3-person team but two, a 1st team consisting of Frances Wasson, a bright and steady girl named Julia Demaree, and myself **as** first team, **and** a 2nd team.

Years later another classmate, who I think was on the 2nd team said that others including herself felt heavy pressure to work harder than in other classes to match with both hands these one-handed successes.

State Contests

Our warm-up contest was against other schools in the same county. Our first team won it, and Frances, myself, and Julia individually placed 1st, 2nd, 3rd. We guessed that our 2nd team placed 4th, 5th, and 6th.

Next was a regional contest which surprised not only us but Mr. Thompson with its unexpected requirements--I no longer remember them. We were greatly impressed and gratified when our **2nd** team won this contest over all schools that entered it.

Finally came the Indiana state contest, held at Central Normal College, a business school. There were more than 100 schools competing, with several hundred beginning typists. It was much like the county contest. When results were announced, Frances, Julia, and I were state champions, in first place, with individual ratings Frances 2nd, mine at 5th, and Julia at 10th of the several hundred competing. Francis and I both won small scholarships to the college. (A college student who competed in one branch of this tournament became the state director for Kansas School Board Convention and we discussed the tournament with him occasionally in Kansas 20 years later.)

Early Consequences

There quickly resulted a lot of publicity, not only locally but in the Indianapolis newspapers. Those competing had all used manual typewriters. So the Indianapolis representative for IBM was much interested because Electromatic writing machines, as IBM termed their electric typewriters, were brand new, and he saw an opportunity to sell his product all across the state. With encouragement from the President of that Division of IBM, the Indianapolis man contacted Dad to explore the possibility of a reduced cost machine for me.

Dad's income was modest and he already had my four older brothers either in college or graduate school. His response to all of this was that he simply couldn't afford any money for a new typewriter.

Finally the President of the Electromatic Division authorized the presentation of an Electromatic typewriter to me as a gift. Further, they would pay my expenses for a trip to Chicago to compete at the International Typing Contest. This was the 9'th such competition sponsored by IBM. All competitors in Chicago would be using the new electric typewriters, and that meant in a matter of a few days familiarizing myself with this much faster machine. It was clear at once that my 60 to 70 words/minute would have⁴ rise, error free and in a few days, to 90 to 100 words/minute.

Otherwise this meant an opportunity to travel alone, taking a Pullman to the big city. Once in the contest room where 100 or more typists were practicing, it was clear that the speed limit for my one hand system was nearer 100 words/minute than 60 on an electric machine.

I wasn't really successful in making this transition so quickly and placed well in no contest; but I received a small "special award." And the best turned out to be that electric typewriter. That it was an early production model is attested to by its serial number of under 500,000. It served well in college, and IBM paid to have it shipped first to graduate school at Northwestern U. and later to NBS, where it produced drafts of research papers at the National Bureau of Standards in Washington, D. C., not much different from the technical draft distributed here this evening.. In 1965 the venerable machine was finally burned up in a fire which devastated my office while I was teaching at a small college in Kansas.

Another Attempt to Promote the One-Hand System

Later that summer of 1941 I listened to the old CBS show, "Hobby Lobby," on the radio, and when Dave Elman, its Master of Ceremonies advertised for oddball hobbies it occurred to me that one-hand typing had been my "hobby" for the preceding year. So I wrote a letter describing what I had been doing.

The result was another all-expenses-paid trip, this time to New York City, again a 16-year-old riding solo in a sleeping car. In this radio program Dave Elman knew I was nervous and was prepared to grab my paper sheet and destroy it as he announced proudly, "No Sir, not a single error."

This program produced some interest in my system by a few teachers scattered across the country, but not much else except a trip to Radio City Music Hall, an excursion up the Empire State Building, and an opportunity to watch the 1941 Yankees win a doubleheader.

While in graduate school at Northwestern University north of Chicago I was several times invited to present demonstrations for returning veterans, many wounded, at Percy Jones and Vaughn military hospitals. I also had an opportunity, with the support of Northwestern's School of Business, to conduct a brief course in one-hand typing on Northwestern's Chicago campus. This was attended by some wounded veterans, so I was able to try out how right-handers might succeed using my method. It showed great promise for use by either hand.

One day towards the end of my 3rd year studying physics at Northwestern there was a knock on my door. It was an elderly gentleman who gave his name as Lou Sabella. He had a newspaper account of one of my demonstrations; and he told me he didn't believe a word of it. After convincing him that the story wasn't phony he got very excited. He turned out to be a Chicago lawyer working with a Chicago organization for amputees called the Conquerors Association. Members of this organization were variously employed, but most were socially at ease only with other amputees, hence this organization placed heavy emphasis on social events. By one device or another I found out from Lou one day that I had been elected President of this small organization, and I remained so through my last year of graduate study. This was no great strain, because Lou did all the work.

After getting well enough acquainted with my future wife Elizabeth, I took her to a couple of these meetings. But dancing wasn't for her, so we sat out the best parts.

Later Attempts to Promote My System

Much later, in the early 1980s, I took an adult education course in typing to explore higher speed possibilities, with Elizabeth helping lug my own electric typewriter to class with me with its modified pressure on the letter g. At that time I earned a U.S. Civil Service Commission "Certificate of Proficiency," with a 5 minute test a little over 85 words/minute, no more than 1 error/minute.

On a chance, I sent this as a world record submission to the Guinness organization. The Guinness Book of World Records for years had listed as the world's fastest typist for a one-hour trial Margaret Hamma, the lady who had set her record at that same 1941 Chicago contest in which I was given an award. Nothing ever came of it -- computer keyboard speeds had by then made typing records obsolete.

I think this is unfortunate. To this day, papers continue to be published on one-hand keyboarding. Writers of such publications all consider 40 words/minute as the goal for their flawed systems, many requiring special machines. My simple system could be described in less than a 1 page addition to student workbooks, with no special machines or worksheets. Beyond this all that is needed to remove expected limits to either speed or accuracy is some attention to resistance of the "g" key.

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