TYPEWRITER RECREATIONS

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The standard arrangement of the letters on a typewriter and the way the hands and fingers are used to type offer possibilities for a variety of linguistic investigations. We assume the typist uses the standard finger pattern given below:

LEF	T HA	AND			RI	GHT	HAND	
5	4	3	2		2	3	4	5
Q	W	E	R T	TOP ROW	ΥU	I	0	Р
Α	S	D	F G	MIDDLE ROW	НJ	K	L	
Z	X	C	VВ	BOTTOM ROW	N M			

Here, 2 stands for the index finger, 3 for the middle finger, 4 for the ring finger, and 5 for the little finger. (Incidentally, this is the notation used for piano or organ, but not for certain other instruments such as the violin or trumpet.)

It is often stated that TYPEWRITER is the longest word in English spelled entirely on the top row of the typewriter. Actually, there are a number of other ten-letter words, such as PROPRIETOR and REPERTOIRE. In Language on Vacation (Scribner's, 1965), Dmitri Borgmann notes the eleven-letter PROPRIETORY, PROTEROTYPE and RUPTUREWORT, and the usuall-hyphenated twelve-letter word PRETTY-PRETTY. He identifies FLAGFALLS and GALAGALAS as the longest words spelled entirely on the middle row.

Let us omit the rows in turn and see what the longest words then become:

No top row: savannahs, bacchanals, canvasbacks

No middle row: pronouncement, inconvenience, preconception, proprioceptive, interconnection

No bottom row: quadrilaterals, straightforwardly

Borgmann identifies AFTERCATARACTS and TESSERADECADES as the longest left-hand-only words, and PHYLOPHYLLIN as the longest right-hand-one; if hyphens are counted, he offers NIMINY-PIMINY and JOHNNY-JUMP-UP. The names of the three principal types of music as considered from the aspect of texture, POLYPHONY, MONO-PHONY and HOMOPHONY, are of special interest among right-hand-only words.

In Language on Vacation, Borgmann constructs the following sentence $\overline{\text{typed}}$ only with the right hand:

In July, oh my killjoy Johnny, I'll look in upon my jumpy polo

pony up in hilly Honolulu.

Not surprisingly, it is easier to construct sentences for the left hand only. The following essay was generated by Lawrence Cowan of Southfield, Michigan:

Trade was arrested as a base act after federated reserves regressed faster as extracted free trade was saved as extra reverted waste. Deserted as better fates were created, a few brave castes feared effects as excess stargazers were severed. Statecraft fretted, staggered, braced as steadfast braggarts beat state stewards, stewardesses. Tested as a great craze, trade traversed war; zest was dead as a few eager asses abated better treats, detested street fracases. Facts were effaced as we attested a great faded age.

Here is a paragraph in which the two hands alternate. If you like the rhythmic feeling of typing something in which the hands are always alternating, you may want to type this paragraph over and over to your heart's content, as it is a safe bet that you will not find another such alternating-hands paragraph of similar length in all the millions upon millions of lines written up until now:

The problem with antisocial sorority girls is men and pals. Such girls may wish for neurotic men to go with them for laughs. But male pals lend ornament, worn for handy visual flair. So the pals it is; they form an autnentic proxy when visible, and prudish girls may also dispel their own rigid neuroticism with such chaps.

In this paragraph, I have included punctuation in the alternation.

When we look at the ways in which the letters of words can alternate between the two hands, a number of possibilities arise:

LR pattern: zygosis, clansman, sorority, clemency, autogyro, vigoroso, dirigible, divisible, authenticity, shantytown, shamrocks, antisocial

RL pattern: prodigy, neurotic, pruriency, producible, proficiency, panduriform, neurotoxicity

LLRR pattern: wrongful, capitalist, exhorting

RRLL pattern: infringe, missiles, uncapitalize, hydropathic LLLRRR pattern: terminate, vacillate, responded, recollection

RRRLLL pattern: immersion, hyperbolized, impassionately

LLLLRRRR pattern: redeploy, rectilinear, recriminates

RRRRLLLL pattern: pioneers, pollster, imported, immodestly, illiberally

LLLLLRRRRR pattern: determining

RRRRRLLLLL pattern: unnumbered, polymeters, nonliterary

LLLLLRRRRRR pattern: sexdecillion

RRRRRRLLLLLL pattern:

LRRR... pattern: communion, aluminium

RLLL... pattern: perfected, predeceased, prestressed

...LLLR pattern: caesarean, strawberry

...RRRL pattern: homophonic, monophonic, polyphonic, Philip

pine, hypnopompic

LRR..RRL pattern: sphinx, alumina, communions

RLL..LLR pattern: yesterday

Let us now consider individual finger patterns. WERT, QUIP, WHIP and SCRIP are words whose letters move always from left to right; ASSERT never moves to the left, but it does repeat in one column. Similarly, LURES, LYRES, LUNGES, POINTS and PLUNGES always move from right to left; KITES and POLITE repeat.

Fifth-finger words: papa

Fourth-finger words: slows, wools, solos, lolls (right hand: loll)
Third-finger words: kicked, decided (left hand: deeded, ceded)
Second-finger words: rhythm, grubby, hubbub, unhung, furfur,
murmur, unhurt, hungry, untruth, unburnt (right hand: hymn,
mummy)

OWLS, SLEIGH and EIGHTY are words in which the fingers trace out an alternating pattern: the finger and row of one hand is followed by the corresponding finger and row in the other hand. KURD and LOWS have a mirror symmetry.

Two open questions: What is the longest word that uses only two (but any two) of the eight typewriter fingers? And what is the shortest word that uses all ten columns? (PALMISTRY is a nineletter word that uses nine columns.)

To give the reader a chance to explore typewriter recreations on his own, here are some questions based on the names of states:

- 1. Of the fifty state names, which one uses all eight of the typewriter fingers?
- 2. Uses only the right hand?
- 3. Uses only the left hand?
- 4. Uses no top row letter (three answers)?
- 5. Uses only middle row letters?
- 6. Is the longest RR..RRL word?
- 7. Is the longest RRLL... word?
- 8. Does not use letters from the middle row?
- 9. Is the longest state name not using fingers 4 or 5?
- 10. Is the longest LRR..RRL word?
- 11. Is the longest RLLL... word?

Here are some questions involving state capitals:

- 12. Which state capital uses only the right hand?
- 13. Uses only top row letters?
- 14. Is the longest ... RRRL word?
- 15. Uses only two of the eight typing fingers?
- 16. Is the longest word not using the bottom row?
- 17. Which state name along with the name of its capital city can all be typed without using the bottom row (two answers)?

Answers can be found in Answers and Solutions at the end of this issue.