Since the title of this article sounds rather forbidding, perhaps we ought to start by explaining the terms involved.

Firstly, a tetragram is any sequence of four letters occurring in a word. For example, the word BRIDGE contains three tetragrams: BRID, RIDG, and IDGE. Theoretically, the number of possible tetragrams is $26^4$, or 456,976. However, only about 50,000 to 60,000 of these can actually be found in English words.

Secondly, a sequential tetragram is one composed of four consecutive letters in alphabetical order. For example, the sequential tetragram MNOP appears in the word LIMNOPHILE, and RSTU appears in UNDERSTUDY. There are 26 of these sequential tetragrams if the alphabet is considered as being wrapped round on itself -- that is, XYZA, YZAB and ZABC are all valid sequential tetragrams.

Thirdly, a sequential tetragram permutation is a tetragram which is any arrangement of four consecutive letters of the alphabet. For example, BDAC, CABD and CADB are all permutations of the sequential tetragram ABCD. As there are 26 sequential tetragrams, and 24 permutations of each one, there are $26 \times 24$, or 624, sequential tetragram permutations all told. For how many of these 624 permutations can actual words be found displaying one of the permutations? In attempting to answer this question, we have ignored the hyphens in hyphenated words, and considered them as being spelled solidly.

During the early research involved in the preparation of this article, great use was made of a computer-produced tetragram listing based mainly on Webster's Second Edition. This listing is furnished as Appendix D of a 1963 report issued jointly by the U.S. Army Electronics Research and Development Laboratory (Fort Monmouth, N.J.) and the R.C.A. Data Systems Center (Bethesda, Md.), entitled "Advanced Character Recognition Techniques Study", by R. B. Thomas, M. Kassler and G. Wooley. Unfortunately, this listing gives only the tetragrams, not the words corresponding to them. Thus, having determined that a particular tetragram exists in Webster's, the dictionary then has to be searched to find a word with that tetragram.

The tetragram listing does not include a number of tetragrams that can be found in words from other dictionaries; we have attempted to include these additional tetragrams in the list on the next page.
A few notes on the above list are in order. Two words on this list give more than was asked for: HIGH-FED actually contains a group of six consecutive letters, and THIRST-QUENCHING contains a group of five consecutive letters.

Asterisked words were found in sources other than Webster’s Second. Both STUVER and VUSTE are taken from the Oxford English Dictionary. Zyablovskaya is a Russian place name taken from the Times Index Gazetteer of the World. Thyba is a place in Sumner County, Kansas, taken from the 98th Edition of the Rand McNally Commercial Atlas and Marketing Guide. The tetragram listing does not include any of these four tetragrams. On the other hand, it does include the sequence LNOM which we were unable to fill with a single word (the best we could do was the phrase sine loco, anno vel nomine). Can Word Ways readers fill in this blank?

DMITRI A. DAYTON

In the very next issue I have an issue I have some interest thought, I meant was that of our

I didn’t give for readers of word ladder. than five years come forward.

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