In my notebooks I have a large section called logological orthography. One heading under that section is labeled "Anagrams" and contains 28 items. Here are those items in a more or less logical order.

The word ANAGRAM may be from the Greek anagraphein, "to write back or anew". On the other hand, the Greek term might have been invented for the word anagram. In any event, an anagram is a word or phrase made by rearranging the letters of another word or phrase. The second word or phrase should have a direct relationship to the first in meaning or allusion.

Anagrams have an ancient heritage; they are almost as old as alphabetic writing. Lycophron (ca. 300 BC), a Greek writer, records two anagrams in his poem on the siege of Troy, called Cassandra. One is on the name of Ptolemy Philadelphius, in whose reign Lycophron lived:

\[
P\text{T}O\text{L}\text{E}M\text{A}I\text{O}S / A\text{P}O\text{M}E\text{L}I\text{T}O\text{S}
\]

The other anagrams the name of Ptolemy's queen, Arsinoe:

\[
A\text{R}\text{S}\text{I}N\text{O}E / E\text{R}\text{A}\text{S}\text{I}O\text{N}
\]

The earliest appearance in English seems to be in 1589 when one Puttenham published Of the Anagramme of Poesy Transposed. C. C. Bombaugh records many fine old anagrams in his book Oddities and Curiosities of Words and Literature (Dover reprint, 1961).

An example of ANAGRAMMIC VERSE was published in Word Ways in February 1969. More elaborate examples have been constructed by James Rambo on the bases "Fools rush in where angels fear to tread" in February 1976, and "Discretion is the better part of valor" and "Cigarette smoking is dangerous to your health" in August 1978.

A particularly apt anagram is known as an APTAGRAM: examples are revolution / love to ruin, and H. M. S. Pinafore / name for ship.

If the second part of an anagram is a synonym for the first part, one has what Murray Pearce in the August 1972 Word Ways called a SYN-ANAGRAM: examples are angered / enraged, statement / testament, and evil / vile.

If the derived word or phrase is opposite to the original, one has an
1) DillitriANTIGRAM: examples are infernos / non-fires, diplomacy / mad policy, and lemonade / demon rum.

And if the rearrangement of letters produces a new expression that is not related in meaning to the original, one has a MUTATION, a name proposed by the National Puzzlers' League: examples are integrity / tiny tiger and palindromes / April's demon. A particularly interesting mutation is one + twelve / two + eleven, which is both mathematically and logologically correct.

This brings us to the topic of the TRANSPOSAL or TRANSPOSITION. While an anagram is a rearrangement of the letters in a word or phrase into a related word or phrase, a transposal is the rearrangement of the letters of a single word (or, at most, a dictionary-sanctioned phrase) into another word. The two words need not have any meaningful relationship with each other.

Transposals are not as old as anagrams. Perhaps the earliest occurred in a puzzle in the July 16, 1796 issue of the Weekly Museum, a New York magazine, under the name "Matilda":

An insect of the smallest kind
If you transpose, you soon will find
That from all mortals I do quickly fly;
In vain will wish for my return,
Tho' now to kill me, ev'ry art they try.

The answer is mite / time.

The number of possible transposals for an n-letter word is n! - 2 for a two-letter word, 6 for a three-letter word, 24 for a four-letter word, etc. There are numerous complete two-letter transposals, of which the commonest are no / on and os / so. In the February 1971 Word Ways, Darryl Francis found all six transposals of the three letters AER, 13 out of 24 for the four letters AELS, and 31 out of 120 for the five letters AELST. (Elsewhere in this issue, Jeff Grant exhibits 16 transposals for AEST.) Dmitri Borgmann, stretching the concept of a word to its outer limits, listed 131 transposals of the eight letters AEGINRST in the November 1976 Word Ways.

The transposal cholestereillia / heteroecismal has a trigram TER in both words. Similarly, semipectorals / stereoplasmic has a bigram MI in both words. Murray Pearce's transposal nitromagnesite / regiments has no bigrams or trigrams in common. Ross Eckler calls this a WELL-MIXED TRANSPOSAL and discusses them in the February 1976 Word Ways.

There are 119 ways in which the five letters abcd are rearranged. Ross Eckler gives examples for each of the 119 possible transformations of five-letter words into other five-letter words in the February 1970 Word Ways, and extends this to six-letter words in the November 1977 Word Ways. Some of these transformations have been given names:
1) Dmitri Borgmann proposed METALLEGE for the transform of two non-adjacent letters, as in caret / cater. If the non-adjacency condition is waived, the National Puzzlers' League calls this a META-
THESIS, as in marital / martial or conversation / conservation.

2) If all the letters of a word except the first and last are transposed, one has an ANCHORED TRANSPOSAL, as in peals / pales / pleas.

3) A word in which the first letter can be moved to the end forming another word is called a SHIFTWORD, as in on / no, tea / eat, rave / aver, drape / raped, stripe / tripe s, and emanate / manatee. If this operation can be performed a second time, one has a DOUBLE SHIFT-
WOR D, as Levi / evil / vile. Continuing, one eventually returns to the original word; words of this kind form a CYCLIC TRANSPOSAL, as in ate / tea / eat or els a / lase / asel.

4) If the letters of a word are written in reverse order to form another word, this is known as a REVERSAL or SEMORDNILAP (the latter first appearing in Martin Gardner's appendix to Bombaugh's book). Some examples are animal / lamina, desserts / stressed, leper / repel, rewarder / redrawer, stinker / reknits. (If the word and its reverse are identical, one has a palindrome.) If the word spelled in reverse is a synonym of the original, one has a SYNONYM REVERSAL: tap / pat. A pseudonym consisting of a real name spelled backwards is an ANA-
NYM, as in Elberp / Preble.

Among the miscellaneous recreations associated with anagrams are REVERSIBLE TAU TONY MS: tom-tom / mot-mot. Two words are hom-
onyms if they have the same pronunciation but different spellings. MATCHED HOMONYMS are homonyms with the property that their ana-
grams are also homonyms: (meet, meat) / (teem, team) and (dear, deer) / (read, reed). ANAGRAMMATIC ALTERNADES are alternades that can be anagrammed into other alternades. This one is a reverse anagrammatic alternate: SteAr (RES + at) / TeArS (SAT + re). AP-
POSITE ANAGRAMS are anagrams whose words are explanatory equi-
valents: eatings (successive acts of consuming food) / ingesta (food).

While discussing the combinatorial topic of road map folding in his May 1971 Scientific American column, Martin Gardner proposed the following problem: letter a six-letter word on a 2 x 3 map from left to right, up to down, then fold it into a packet so it spells an anagram of the original word reading from the top down. He gives the examples:

- fill fed / filled
- squire / risque
- ill fed / filled and squire / risque

I call these ROAD MAP ANAGRAMS.

DOUBLE ANAGRAMS is a game in which the answer to a clue is given by two words which are transposals (Games & Puzzles, September 1975, p. 36):

1. hidden promise
2. seagoing craft
3. object in outer space
4. bring back the visitor
5. barefoot dogs

lat ent talent
ocean canoe
remote meteor
recall caller
unshod hounds
WORD GIRDERS are two words that can be converted to two different words by interchanging every second letter between the two words; these were discussed in the August 1976 Word Ways. Two examples of girders are (crone, blast) / (close, brant) and (method, caprin) / (matron, cephid). The UNICYCLE is a name coined by Faith Eckler in the February 1970 Word Ways for a two-syllable word in which the syllables can be reversed to form another two-syllable word. Some examples are calmer / mercal, torten / tentor, pantry / trypan, and minter / termin.

It might seem that all the possibilities of anagrams are exhausted, but such is not the case. A few months ago, I proposed toot / Otto to the editor as an ANAGRAMATIC PALINDROME. Within a week, he came back with two better ones: kassak / sakkas and retter / terrer.

There are always new avenues to explore.

NICKNAMES

Nicknames: Their Origins and Social Consequences (Routledge and Kegan Paul, 1979; $14.25) by Jane Morgan, Christopher O'Neill and Rom Harre, is a short but interesting book on nicknaming practices, primarily as observed among British school-children. Noticing that nicknames are especially rich and diverse in a self-contained environment like a boarding-school, the authors develop an elaborate theory of nicknaming as a way for the peer-group to define what it regards as normal appearance and behavior, by labeling individuals according to their deviations. Nicknames which involve plays on words, either in sound or meaning, are probably more interesting to the Word Ways reader. Sometimes, a whole chain of nicknames evolves, each link having its own logic, like 'pear-shaped' (from the shape of head and chin) to 'Persia' (by similarity of sound) to 'Tran' (by meaning) to 'Irene' (again by sound) to 'Irenebus' and finally 'Bus'. Sometimes, inversions occur, like 'Southcott' to 'Eastbed', or 'Sharples' to 'Bluntles'. One anagram was cited: A. W. J. S. was nicknamed 'Jaws'. Good puns like 'Dusty' Rhodes are rather rare among school-children, but a one-page appendix of adult nicknames in a shipyard is priceless, with examples like 'Haversack' (a foreman 'always on your back') and 'Balloon' (who was addicted to the phrase 'Don't let me down').