DOUBLE PANGRAM LISTS

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The November 1971 Kickshaws introduced the problem of finding thirteen four-letter words which together contain each of the 26 letters twice. Leslie Card exhibited a list of fourteen four-letter words, with four extraneous letters. Dave Silverman commented "we don't expect anyone to come up with a 13-word list in the near future" -- and he was right.

Recently we reread the problem and decided to work on it. With only twelve vowels available (two each of A, E, I, O, U and Y) and thirteen words to be formed, at least one word must be without a vowel. We decided to allocate one vowel each to twelve different words, leaving only one vowelless word to locate. Two good ones to bear in mind are CRWD and CWMS. Since one cannot afford to use two vowels in words containing Q, some potentially useful single-vowel words containing Q are COQS, QATS, QRIS, QOPH, QUTB, SHOQ and WAQF.

Bearing these points in mind, we were quickly able to find several solutions, all variants of each other:

CHIV  CHIV  BERG  BERG  BUZZ  BRIC
CWMS  CWMS  CHIV  CHIV  CHIV  CHIV
DRUG  DRUG  DRUV  CWMS  CWMS  CWMS
FIZZ  FELL  FELL  DEBT  DERV  DERV
GELL  GIZZ  GIZZ  DRUV  FRIG  FUZZ
HADJ  HADJ  HADJ  FALL  GELL  GELL
JYNX  JYNX  JYNX  GIZZ  HADJ  HADJ
KONK  KONK  KONK  JUMP  JYNX  JYNX
POMP  POMP  POMP  JYNX  KONK  KONK
QUTB  QUTB  QUTB  KONK  POMP  POMP
VERB  VERB  CWMS  QOPH  QUTB  QUTB
WAQF  WAQF  WAQF  WAQF  WAQF  WAQF
XYST  XYST  XYST  XYST  XYST  XYST

The first and second lists differ in only two words; the same is true for lists two and three and lists five and six. The fourth list is the outlier, containing three words found on no other list. Nevertheless, six words are found on all six lists. All words but DERV can be found in Webster's Third; this can be found in the Oxford English Dictionary Supplement.