In the February 1979 Kickshaws, the late R. Robinson Rowe proposed Word Ladders which successfully reverse the letters of a given word. To judge from the discussion there, he actually found only two examples of four-letter reversals:

- TRAM, team, teat, peat, pert, part, MART
- FLOG, flop, clop, coop, hoop, hoof, golf

I was immediately certain that there are a great deal more such four-letter reversals, and decided to exhume a few. To provide a logical challenge, I set two parameters for my efforts: all words in the Ladder must appear in the Merriam-Webster Pocket Dictionary, and all words used must appear fully spelled out (no inferred forms, however logical, allowed).

To begin with, I excluded as too simple all four-letter reversals with central doubled letters: deem-meed, deer-reed, doom-mood, door-rood, keel-leek, keep-peek, leer-reel, meet-teem, hoop-pooh, loop-pool, loot-tool, and moor-room. Even the most difficult of these can be accomplished in no more than three steps.

Certain of the remaining four-letter reversals are impossible to do because no continuous Word Ladder exists between them (see the article "Word Networks" in the May 1973 Word Ways for details) in the Pocket Webster: agar-raga, ajar-raja, Edam-made, edit-tide, liar-rail, ergo-ogre, evil-live, emir-rime, emit-time, gnus-sung, and nuts-stun.

Here are the shortest Word Ladders I was able to find; perhaps some one can better them:

- BARD, hard, herd, head, bead, brad, brag, drag, DRAB
- BRAG, brad, bead, head, herd, hard, bard, barb, GARb
- ABUT, abet, abéd, aped, sped, seed, send, sene, sane, dane, dunc, tune, tube, TUBA
- DIAL, dill, mill, mail, maid, LAID
- AVID, arid, grid, grin, gain, wain, warn, ware, wave, lave, live, dive, DIVA
- DUAL, dull, bull, ball, bald, band, land, LAUD
- DRAy, bray, brad, head, herd, hard, YARD
- GNAT, goat, goad, good, food, fond, bond, band, bang, TANG

A LANDMARK
Johnson Rowe provides a list of surnames of a given form and found only two

A LANDMARK BOOK ON ENGLISH SURNAMES

P. H. Reaney's *The Origin of English Surnames*, originally published in 1967, has been reissued in 1980 in paperback form by Routledge and Kegan Paul for $7.95. A companion to his earlier *A Dictionary of English Surnames*, this book can be regarded as a thesaurus of surname origins, with names grouped and discussed according to their mode of formation (nearly 6000 modern-day surnames are indexed).

Broadly speaking, surnames arose from a place of residence, from a relationship (as in Johnson = John's son), from an occupation or office, or from a nickname; however, there is considerable overlap in these categories, and many names have multiple origins.

The feature which distinguishes Reaney's book from most popular works on surnames is the extensive research that was carried out by the author; he backs up his conjectures with an immense mass of evidence gleaned from English tax and subsidy rolls, parish registers, wills, court records and the like, dating back to the Norman conquest. It is fascinating to see the slow but steady drift in the spelling of a surname traced back through the centuries, often to a word or place-name little resembling the modern form. The book is a classic in its field, and I unhesitatingly recommend it.

| LAIR, fair, fail, fall, fill, dll, dial, RIAL | PART, pert, peat, teat, team, tram, TRAP |
| SPAT, seat, sent, rent, rant, rapt, rape, tape, TAPS |
| SPOT, soot, loot, lost, loss, toss, TOPS |
| TROW, trot, toot, tort, WORT |
| SWAY, slay, slat, seat, beat, beet, been, seen, sewn, sown, yawm, YAWS |
| FLOW, flop, clop, hoop, hoof, goof, golf, WOLF |
| GIRT, gird, bird, bard, bald, ball, bail, bait, gait, grit, grim, trim, TRIG |
| GULP, gull, bull, bell, sell, seal, seam, slam, slum, plum, PLUG |