8-LETTER AND 9-LETTER WORD NETWORKS

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My first contributions to Word Ways were on word ladders and networks. In "Word Network Spans in the OSPD" in Feb 1989, I analyzed 4-letter, 5-letter and 6-letter word lists; in "More Network Spans in the OSPD" in Aug 1990 I briefly studied 7-letter and 8-letter words. This was the limit of my computer capabilities at the time. Since then I have doubled the size of my lists, mostly with Webster’s Second words, but I have also upgraded my computer and DOS. Here is a new study of 8-letter and 9-letter words. Part of my objective was to find ideal ladders: ladders in which all eight letters of a word change in eight steps. One ideal ladder was known in 1990; many additional ones are identified below.

Of my 47,650 eight-letter words, 21,348 are isolanos (are connected to no other words by single-letter changes) and 13,409 are enders (connect to only one other word). 8,906 of the latter form pairs. The other 4,503 are in my working list of 17,396.

The largest net, MAIN, contains 2,899 words. The span is 73 steps, DEAFNESS to RURALITY, diagrammed below. Horizontal word sets connected by =, and vertical word sets in italics, share the same letter change; one can step from any word to any other word in such sets, ignoring intermediate words if necessary. Highly-connected words are SLATTERS (13), SPELLING (12) and SNACKING (12). Although MAIN contains a large group of -ing words, not all of the -ing words in the working list are there. Part of a second network containing 208 mostly -ing words is also depicted; its span is 22. Other -ing words are scattered among the smaller nets.

There are nine ideal ladders in MAIN, in three different groups:
chilling-shilling
crappoes-crappies-crappins-crapping-chapping-chirping-
chirking-shirking

RURALITY-ruralite-ruralise-ruralist-muralist-modalist-medalist-
metalist-metalise-metaline-metaling-meddling-middling-diddling-
daddling-dandling-dangling-dargling-gargling-garbling-warbling-warsling-
warsting-waisting-whisting-whisking---------+

flushing:
crappoes flashing:
crappies clashing whirking

crappins clasping whapping--whipping
trapping--crapping--clapping--chapping--chirping
tramping--cramping--clamping chimpling--chirking--shirking
trumping--crumping--clumping clamming chilling charking
thumping crimping plumping slaming shilling shackling
crispins
crispens

wormless-gormless-germless-termless-teamless-tramless-trampess--
tackless-tankless-tangleless-pangless-waneless-wandless-wordless-
willness-wildness-mildness-milkness-silkness-sickness-sackless-
DEAFNESS-dearness-nearness-neatness-featness-feltness-fellness-wellness-

relaying--belaying
resaying bellying
resawing bulkying
resolving sallying
resiling DALLYING
reviling--relieving
raveling

javelina==javeline==javelins ravening
havening
haveraging

SOGERING--sobering
taunting
sabering--taboring
taboring--tabooing

JABORINE--taborine TATOOING
TABORINS

The second largest network has 911 words. Most of the words have N in
the second and E in the seventh position. Highly-connected words are UNMAILED (14), UNSEARED (13), UNMASTED (12) and UNLOCKED (10). The span is 20, EXPENSES to UNRUINED. The ideal ladders are

uprushed-unrushed-unrusted-unrested-unvested-invested-invented-inventor
uprushed-unrushed-unrusted-unrested-unvested-inverted-inverter-invertor
untested-untended-untended-untender-entender-extend-extend-exponder-expander

unruined
unreined
EXPENSES
unlooked
unveiled
unlocked
unveined
uncooked
uncoiled
expander
expended
unbailed
unboiled
untended
untended
untender
ubelted
untested
untested
unseated
inflatus
unplated
unplated
unstated
emplaned
emplaned
emplaced
upstared
upstarts

The third largest network contains 336 words, almost all ending -iest. The span is 19, HEDGIEST to HAPPIEST. The only non-iest words are FOOTREST, HANDREST, HEADREST-HEADRENT, SOOTHEST, DOTTLEST, and TALKFEST. This net is not diagrammed here.

The fourth largest network has 311 words. The span is 20, HOLDINGS to OUTMODED. The ideal ladders are

carpings-carlings-catlings-cutlings-outlines-outlines-outlives-outloves-outloved
carlings-catlings-cutlings-outlines-outlives-outloves-outmoves-outmoved

Various other words such as CARTINGS and CARVINGS can be substituted for CARPINGS.
The net with the second longest span, 26, OVERBOWL to OVERSPIN or OVERSPUN, contains 245 words. All but OVENWISE-EVENWISE begin with the prefix over-. It is not diagrammed. Two highly connected words, BATTERED (13) and PATTERED (12), are found in a small net of 199. The span is 17, FILTERED to SAGGARED. All words in this net have E in seventh position. There are a few other nets with more than 200 words apiece.

Two small nets produced the following ideal ladders:

gestosis-gestoses-cestoses-cestuses-costuses-confutes-confuter (or confuted)
myringas-syringas-syringes-springes-springer-sprinter-splinter-splutter (or splatter)

The analysis of 9-letter words is not very productive. Of my 48,945 words, 28,054 are isolanos. Most of the remainder are in networks of two or three. There are a few networks with more than 100 words, but most contain all -ness or -iest or a similar suffix. The next page depicts the only fairly interesting net I found. It contains 161 words, and the span is 29, from UNPAUSING to UNDERLOUT. There are changes in each of the nine letter-positions, but there is no pair of non-crashing words, let alone an ideal ladder. In the places where N has changed to P, the P is always preceded by U. Are there any 9-letter words beginning op- or ap- that can be tied in? Are there any udderkind of words we can use?

O.J. Num

Martin G. identifi-
and Rona.
and if the
J = $;
protagon:

* a phot<
* when the
degrees
Martin Gardner reports that Irving Joshua Matrix has unambiguously identified O.J. Simpson with the murders of Nicole Brown Simpson and Ronald Goldman. The number on his football jersey, 32, is equal to the sum of the digits of the murder date: 6/12/1994. If A = 0, B = 1, ..., the sum of Nicole Brown Simpson’s initials add to 32, and if the alphabet with A = 1, B = 2, ... is written modulo 9 (A = J = S = 1, B = K = T = 2, ...) then the initials of all three protagonists (OJS, NBS, RG) again add to 32. Scot Morris posted the following on his America Online bulletin board of July 11 1995:

* a photo of O.J. taken at his daughter’s dance recital, hours before the murders, shows him smiling -- with exactly 32 teeth
* when the glove was dropped outside Kato’s window, it fell to the earth with an acceleration of 32 feet per second per second
* the temperature of the melting Ben ’n Jerry’s ice cream was 32 degrees Fahrenheit