MORE WORD NETWORK SPANS IN THE OSPD

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In the February 1989 Word Ways, I examined various word networks based on words from the Official Scrabble Players Dictionary (OSPD). To refresh the reader’s memory, a word network consists of a set of words of a given length that can be joined by word ladders (single-letter changes). Each pair of words in a word network can be connected by a minimum-length ladder (one which cannot be reduced by any alternative ladder). The span of a network is defined as the number of words in the longest such minimum-length ladder, considering all possible word-pairs in the network. For example, the minimum-length ladder connecting INCH to AMYL requires 14 steps (INCH-itch-etch-eath-eats-wats-wits-aits-ants-anis-anil-aril-aryl-AMYL), and there are no pairs of words in the network having a minimum-length ladder of 15 or more. In the earlier article, I ascertained that the spans of the main networks for 4-letter, 5-letter and 6-letter OSPD words are 14, 29, and 40 (see the correction in the November 1989 Colloquy), respectively.

In this article, I extend the study to 7-letter and 8-letter word networks. My OSPD dictionary has been augmented by approximately 1500 7-letter and 8-letter words from the WordPerfect Spelling Checker (WPSP) and Chambers Twentieth Century Dictionary. In all, there are 22,900 7-letter words in my database; the main network contains 7,413 of these. The span (all OSPD words) is 59:


Ross Eckler has suggested that networks contain loosely-connected “clouds” of words. I have not found that to be true for shorter words, but it may be true for 7-letter networks. Note that the span ladder does not include any words in what might be expected to be the densest part of the network: words ending in -ING. Checking for connections between -ING land and ROOKIES, I found JERKINS, BOBBINS, ROBBINS, BIGGINS, COGLINS and more; apparently -ING land is loosely connected but not so much that it can be readily identified.

One can characterize the main network by listing the number of words found 1, 2, ... steps from PARTING, one of the most high-
word net
<table>
<thead>
<tr>
<th>155</th>
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<tr>
<td>OSPD</td>
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<td>155</td>
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<tr>
<td>OSPD</td>
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</tbody>
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The word net-

consists
by word

which can-

a network

minimum-

of networks

and 40

tively.

letter word

proximate-

Spelling

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main net-

59:

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ly-connected in the network with 15 next-door neighbors:

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<tr>
<th>steps words</th>
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<th>steps words</th>
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<tr>
<td>7</td>
<td>153</td>
<td>14</td>
<td>304</td>
<td>21</td>
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</table>

There are 26,794 8-letter words in my database. The largest net-

contains only 982 of them, almost all ending in -ING; the second-

largest contains 438, all but four of which (SHIPPONS, STRI-

DORS, CRITTURS, CHANTORS) contain E in the sixth position. The

span is 25:

QUIRKing-quirting-quilting-quelling-duelling-dwelling-
swelling-stalling-stackking-sacking-clacking-
claching-coaching-poaching-peaching-perching-parching-patching-
batching-bitching-birthday-BERTING

Let us define minimal, ideal and complete word ladders as fol-

1m...·s. If L is the number of letters in a word, N the number of

letters changed in the ladder, and S the number of steps, then

a ladder is

minimal if S = N, N less than L

ideal if S = N, N = L

complete if S greater than L, N = L

Here are a number of minimal or ideal 7-letter ladders:

FELLOWS-felloes-fellies-fillies-GIRLIES

SINNERS-tinners-tonners-confers-CONFESS

BLOCKED-blacked-blanked-clanked-clanged-changed-CHANGES

KNOCKED-knacked-snacked-sharked-sharped-sharpey-SHARPLY

SETTLES-settees-setters-betters-beavers-bravers- BRAVERY

COSTARS-costers-coaters-craters-cravers-bravers-bravery-BRAVELY

CUSTARD-costard-costars-costers-copters-coppers-moppers-MOPPETS

POSTMEN-posteen-postern-pastern-pasters-basters-banters-BANKERS

BANKERS-banters-batters-setters-settees-settles-settled

PLAYERS-platers-slaters-seaters-settees-settles-settled

JUNKIES-punkies-punties-putties-puttees-putters-PATTERN

CONDOMS-condors-candors-cantors-canters-banters-batters-BATTERY

CUTLERY-cutlers-cutters-putters-puttees-patties-PARTIES

PISTOLS-pistils-pastils-pasties-parties-parried-MARRIED

snowrnan-showman-shopman-shipman shipped=whipped=chipped-clipped

snowmen-showmen-shopmen-shipmen-shippen-shipper=whipper=chipper-clipper

There are several ideal sequences in the above network. I have

not been able to find any 8-letter ideal ladders; Kyle Corbin re-

ported one in the May 1988 Word Ways using words from Webster's

Third. However, here are some minimum ones:
SNOBBERY-slobbery-slobbers-slubbers-slumbers-plumbers-plumpers-PLUMPENS
REVERSOS-reverses-reversed-revested-devested-divested-DIGESTED
DIGESTOR-digester-digested-devested-revested-reverted-REVERSED
REMITTOR-remitter-remitted-reminted-reminded-remanded-demanded-DESANDED

The following ladder is complete but far from ideal:

Finally, here are a number of ladders that are not complete, minimal, or ideal, but have interesting terminals:
CHICKEN-thicken-thicker-tricker-tricked-cricket-clicked-clicked-PLUCKED
KEISTER-heister-hoister-roister-roaster-coaster-chaster-chartered-charked-sharked-sparked-SPANKED
SOUTHERN-southers-soothers-smothers-smithery-slihtery-slihthers-slihthers-slashers-plasters-plasters-PLANTERS
WITCHERY-bitchery-butchery-butchers-batchers-patchers-pitchers-pinchers-punchers-luncheers-LYNCHEERS

A TOPICAL SLANG DICTIONARY
Slang!, by Paul Dickson, is a $9.95 Pocket Book paperback collection of some 5000 up-to-date slang terms, grouped in 24 categories from "Advertising and Public Relations" to "Yuppies, Dinks, and Other Moderns". Here can be found such goodies as Melody Hill anemia (drunk on cheap wine) and Bott's dots (raised reflective pavement markers).

The book is ideally designed to explore the cross-fertilization of slang; terms such as bug or zap are found in several subject areas. Consider the following list of terms from Dickson's book, in which each word or phrase on the right apparently goes with the next-lower category on the left (catcher's mitt a sports term, bomb war slang, etc.). In reality, each term is correctly placed (catcher's mitt is a diaphragm, bomb a long football pass, etc.).

<table>
<thead>
<tr>
<th>sex, body functions</th>
<th>catcher's mitt</th>
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<tbody>
<tr>
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<td>bomb</td>
</tr>
<tr>
<td>war slang</td>
<td>scrambled eggs</td>
</tr>
<tr>
<td>food and drink</td>
<td>open dating</td>
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<tr>
<td>teen slang</td>
<td>floppy disk</td>
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<td>virus</td>
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<tr>
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<td>organ recital</td>
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<td>points</td>
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<tr>
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<td>crank</td>
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<tr>
<td>automobile slang</td>
<td>submarine</td>
</tr>
<tr>
<td>nautical slang</td>
<td>screw</td>
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</tbody>
</table>