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Over the years, Word Ways has presented several articles on word chains and networks. It was obvious that the networks could be developed into mazes, but I, for one, did nothing about it because I considered mazes kid stuff. However, John Harris sent me a copy of a maze by Robert Abbott that appeared in the May 1991 Discover magazine which is not kid stuff. This prompted me to create a maze in Abbott's style using word chains instead of colors; ana-gram-mar chains seemed most appropriate. In Abbott's mazes there are no dead ends. Instead, the traveler must obey certain rules in going from point to point, or else stay trapped in endless loops (hence his name, Gridlock). I forgot about my maze until, by coincidence, the February 1994 Games magazine published two mazes. One, by Abbott, is simpler than the one in Discover but uses the same principle. Here is my Logomaze:

- hair
- off
- turn
- over
- pipe
- dream
- land
- lady
- love
- rock
- spring
- cast
- stock
- stand
day
scape
ship
chair
some

- trap
- hare
- foot
- gun
- hand
- work
- yard
- arm
- load
- door
- man
- up
- shot
- boat
- pay
- grass
- stick
- pit
- some

- watch
- flower
- pot
- shell
- fish
- head
- pin
- under
- where
- stop
- fire
- crack
- hole
- bill
- way
- block
tail
fall
some

- back
- side
- wise
- wash
- board
- side
- long
- horse
- play
- water
- kick
- point
- woman
down
walk
road
cock
hide
how
- ball
- country
- country
- come
- wind
- storm
- away
- wheel
top
up
power
down
out
room
bird
fly
ever

- house
- clean
- line
- house
- break
- house
- bath
- house
- green

The way street names join is different from the way words join in a simple rectangular array. There is no beginning or end to the above. Travelers may proceed through an intersection only if the names of the approaching and continuing streets add (in the direction of travel) to a solid (no hyphenation) word, or if the name does not change. Traffic cops have a list of acceptable words taken from Webster's Third International Dictionary. If you get a ticket, but you know the word would be sanctioned by another dictionary, you have to "tell it to the judge". Of the three tours below, only the first is legitimate, but you can take the second if you can persuade him that womanwise (below the line in Webster's Second) is legit, and you can take the third if you can also persuade him of the validity of upcountry (in solid form in

Webster's First, however, for example):

water kick, point woman down walk road cock hide how

Although the possible starting maze that Abbott created is computer (where the dictionary (Artificial Intelligence) is repeated) having a point at the end of their lengths:

A second line: central on

reversible and let me
find from below

Finding

block, head, here

However, for

head, block, shore, find
stock, word

foot, gear, here

block, head, here

There are

Although the word

158 of the

word in Websters

0
Articles on works could be about it Harris sent in the May instead of instead of Abbott's must obey about my magazine the one maze:

Note that whichever of the above routes we used, we must always circle back through some intersection. This is Abbott's principle. The following is another good example of having to go through a location twice.

Although not intended, there are a few dead ends and impossible starts in the above maze; I was unable to create a practical maze that used only Webster's Third words. Furthermore, my computer (which was of no use in designing the maze) found that the dictionaries allow paths that I was not initially aware of. (Artificial intelligence?) One might also note that some frags are repeated in the array. I started the design with the intent of having a few streets on which the name was unchanged throughout their lengths, but was unsuccessful.

A second Logomaze, presented below, is constructed along different lines. It contains three concentric ana-gram-mar loops; the central one (intended to model a city traffic circle) contains all reversible words. I filled in radial links more or less haphazardly and let my computer tell me what was there. Many words come from below the line in Webster's Second.

Finding the following path is easy:

However, finding the reverse is not:

There are no fundamental principles involved in these logomazes. Although they bear a superficial resemblance to word meshes (see p 158 of the August 1991 Word Ways), the philosophy is entirely
different. In meshes all routes (down and to the right) are by
definition possible: in logomazes, frags have been chosen and
placed so that travel is difficult, but not impossible.

top - table - let - room - board - buck

cross - load - bird - game - sick - eye - water

cat - stand - off - shore - fish - drop

fire - band - yard - ball - crop - berry - head

pin - outs - hand - over - salt - pan

dog - back - work - take - bush - block

light - stock - with - out

foot - feed - book - down - tit - road

pig - cast - land - wash - seed - bed

gear - line - worm - mark - gold - lark - rail

set - pipe - bag - money - spur - way

box - screw - wind - post - man - goose - guard

thorn - tail - gate - house - break - neck

The chains used in the above logomazes are called ana-gram-mars
a word introduced by Chris McManus in the November 1990 Word
Ways. (The idea stems from charades.) In May 1991, Ross Eckler
extended this type of chain to networks, and in August 1991, he
and I presented further analysis, using the term directed word
chains. At that time, I began calling the parts of a long word
frags. Although frags need not be words, when I developed some
word meshes in November 1991, I found that for 4-4 splits, only
frags that were common four-letter words were useful. In the above
mazes, all frags were required to be words.

Topologically, the city-street array differs from either the ortho-
gonal array used in meshes, or an isometric (hexagonal cell) ar-
ray. The subject is quite interesting, and I plan to discuss it
in a future article.

One can design Logomazes to have certain topological properties.
The one below solves the "Mailman's Dilemma" - what is the short-
est path he can find to travel all the streets and return to his
starting point?

place - work - case

kick - table - house - note

thorn - ware - block

back - buck - head - wood

water - cock - light

stop - horse - black - worm

over - shoe - horn
The Robert Abbott style depends upon the use of reversible words such as gunshot and shotgun. Reversible eight-letter words that split into two four-letter frags were presented in the August 1991 Word Ways. Here are additional seven-letter, eight-letter and nine-letter words, all with uneven splits:

backout backrun backsaw backset backway birdman blowfly blowout
bucksaw burnout castoff cookout dinghee downcut downset downsun
drawout dropout everwho fallback faraway farsham foldout footshot
footpad gallnut gangway gateway handgun handoff headbox headman
headpin headset holdout holeman hoodman kickout kingpin linecut
lookpin lookout overall overcut overfly overlay overrun overset
packman passout potshot pullout railbed readout rollout ropeman
sellout shagrag shipboy shipman shippen shotgun shutout sickbed
sideway spinout tailpin takeoff takeout tiderip tramman turnout
walkout wardman warmups washout wiseman without woodbin woodbox
workbox workday workouts worktop wornout
breakout carryout chickpea drillman flameout grassroots grassman
grassnut grateman headman housebug lollypop pitchout
shakeout shootout sideway sparerib standout stonecat tailspin
talesmen tallymen throwout wardsman watchdog watchout
backflash backhatch backswing birdstone boathouse downhill throw
everwhich filmslide findfault gallstone handstone headblock
headlight headstamp headstone headwater landreeve outspoint
overbreak overcarry overcross picktooth pipemouth postwoman
shipowner sidetrack slipcover warmhouse whisstock windbreak
windstorm wingbacks wisewoman woodblock woodhorse woodsmoke
woodstone workbench workhouse workpiece worksheet

Scot Morris, writing in the March 1994 issue of Omni magazine, describes mazes developed by Scott Kim for play on the home computer. I have not seen any of that, but I am sure that Abbott's mazes, as well as Logomazes, can easily be adapted to the computer.