

# PIG LAWNS AND DIAPER SPAS

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Surprise is a key ingredient of wordplay's charm. Many forms of wordplay amuse us by rearranging one word's letters into two or more unrelated, unexpected words. One basic class of letter rearrangements is **word interlocks**. Interlocks are the rearrangements that split a word but preserve the original letter-ordering in the derived words. The title of this article includes two amusing interlocks: laPwInGs and DIsAPpEaRs.

The best-known subclasses of word interlocks are **charades** (STAG-nation into STAG + nation), **word deletions** (CHangeLESS into CHESS + angel), and **alternades** (FlEEtNEsS into FETES + lens). Generic word interlocks have been discussed by A. Ross Eckler in the May/June 1978 issue of the now-defunct British periodical *Games and Puzzles* (cited in Herbert Kohl's *A Book of Puzzlements*); he presented a type-collection of all the ways in which an eight-letter word could be dissected into two words, each at least two letters long.

A natural way to subdivide word interlocks is to count the number of transitions between constituent words. If we write the original word using upper case letters for one contributing word and lower case for the second (and perhaps lower case italics for a third word), then transitions are simply the number of changes in typeface in the original word. In a charade, there is always only one transition. A word deletion must have exactly two transitions. An alternade always has one less transition than its word length.

The number of transitions is a good index of just how thoroughly the constituent word interlocks are mixed together. For the present study, I looked at the uncharted sea of "near alternades", or **word interweaves**. This is my subjective term for words at least eight letters long, whose components are nearly equal in length and whose transitions number at least six. This last condition insurs that at least one component word comprises four or more disjoint fragments.

The search for interweaves is a natural candidate for computerization. For any given eight-letter word there are eight possible word divisions of nearly equal length with at least six transitions; for a nine-letter word, there are 37 candidate divisions. The progression spirals: for each ten-letter word there are 110 word interweave candidates; for eleven, 351; for twelve, 737; for thirteen, 2004; for fourteen, 3682; for fifteen, 9605; and for sixteen, 15990. The number of word interweave solutions found by the computer bears a starkly decreasing rate of return: 763 interweaves among

eight-letter words, 981 among nine-letter words, decreasing to 662 for ten-letter words, 445 for eleven-letter words, 226 for twelve-letter words, 131 for thirteen-letter words, 53 for fourteen-letter words, 27 for fifteen-letter words, and only 12 for sixteen-letter words. Based on these statistics, I cut off the current study after sixteen letters.

These results are highly dependent on the completeness of one's computerized word list ("your mileage may vary"). My own list is derived from several sources, and contains about 178,000 lower-case word forms up to sixteen letters long. Common solutions, where the original and constituent words all appear in the Random House Concise Dictionary (RHD) are a small fraction of the total solutions (96, 150, 97, 45, 23, 11, 2, 1 and 1 for words of length eight through sixteen). Many more solutions took their constituent words from the Official Scrabble Players Dictionary (OSPD). Unless otherwise specified, constituent words hereafter listed appear in the OSPD or RHD. Medical words, unless specified, were found in Stedman's Medical Dictionary, 25th Edition.

Several obvious questions can now be answered:

### Which interweaves have the most transitions?

The record for transitions is 11, occurring only in **ARtEriOpLAsTiEs** = AREOLATE + tripsis. The lone runner-up, with 10 transitions, is the longest-known alternade, **TrIeNnIaLlY** = TINILY + renal. **Arterioplasties** is a remarkable word; it is even more thoroughly entwined than the longest alternade!

Fifteen 9-transition interweaves which I found are **AchEiRiCAlLy** = AERIAL + chicly; **COuraGeOusNeSs** = COGONS + uraeuses; **CoUrTIeSt** = CUTIS + orlet; **CoUrTIeSs** = CUTINS + orles; **DEPaRtMentAlLy** = DERMAL + patently; **IsChIoCeLEs** = ICICLE + shoes; **PaRANuCIeArS** = PRANCER + aulas; **PIeOnOsTeOSEs** = PENTOSE + looses; **PIEuROcentRALLy** = PERORAL + lucently; **PoUrPARTiEs** = PUPATE + orris; **PsYlLiAtEs** = PYLAE + slits; **SaTuRAtIoNs** = STRAIN + autos; **ScHoLiarLiNeSs** = SHARNS + collies; **SOLicItOusNeSs** = SOLIONS + ictuses; **SpEarhEaDs** = SERED + pahas. (Orlet, pourparty and pahas are in W2; aulas, departmentally and pyale in W3.)

Among the 88 word interweaves with 8 transitions each are: **BlOOdInEsS** = BODES + loins; **DEwBeRrIeS** = DEBRIS + were; **FuRrInEsS** = FRIES + urns; **GregARiOUSnEsS** = GROUSES + regains; **PROSecTIoNinG** = POSTING + recoin; **RhEoTropIsm** = RETRIM + hoops; **SpLeNiEsT** = SLEET + penis; **VIGoROUSnEsS** = VIRUSES + goons.

### Which are the longest interweaves?

Among 16-letter words, there are a solid dozen interweaves. Unfortunately, most are medical terms and none has 7 transitions: **AcRostEalgiCAlLy** = AREALLY + costalgic; **AEROcyStosCOPIEs** = AEROSCOPE + cytosis; **ANTImicrobiCAlLy** = ANTICLY + microbial; **ChRomATograpHERS** = CRATERS + homograph; **ChRomATographING** = CRATING + homograph; **DISarTicuLationS** = DISTILS + arcuation; **InterMedIATEneSs** = INMATES + teredines; **MACROGAsTRICAlly** = MARGARIC + costally; **OVERcautioUSnEsS** = OVERUSES + cautions; **PhONomYographING**

= PONYING + homograph; PosteRoINTERNALs = PRINTERS + osteonal; SaLpINGogographING = SLINGING + apograph. (Apograph is in W3.)

There are, in fact, interweaves longer than the 16-letter limit of our study. A partial search revealed two 17-letter cases: ANTI-climaCticalLY = ANTICLY + climatical, and INApPropriaTeNESS = IN-APTNESS + propriae. Both are disappointingly pedestrian; they have only 6 transitions, and components which resemble the total word.

### Which words form interweaves in multiple ways?

**Plainness** and **stearines** each decompose a record 5 distinct ways: PLANES + ins, PANS + lines, PINS + lanes, PANNES + lis, PANES + lins; SERIES + tan, STAINS + ere, SERE + tains, SERINS + tae, SAINS + tere (found in W2).

Six words that decompose in 4 distinct ways are **carnations**, **dreaminess**, **schooled**, **stainless**, **stereopses** and **trueness**: CANTOS + rain, CANTS + raion, CANTON + rais. CRATON + anis; DAMES + reins, DENS + ramies, DRAINS + emes; SHOED + col, SCOLD + hoe, SHOD + cole, SHOE + cold; SALES + tins, SANES + tils; SANS + tiles, SALS + tines; STROPS + eese, STEEPS + rose, SEES + tropes, STEPS + erose; TREES + uns, TUNS + rees, TEES + runs, TUNES + res. (Eese occurs in W2, rais and raion in W3.)

Some 38 medium-length words decompose in 3 distinct ways. The longest are **patronesses**, **scrappiness**, **stateliness** and **streakiness**: PATNESS + rose, PARSES + tones, PARESES + tons; SPINES + craps, SCRAPES + pins, SPINS + crape; STEINS + tales, SATINS + teles, STELES + tains; STRAINS + ekes, STEINS + rakes, STAKES + reins.

The 13-letter words **marchionesses**, **scholarliness** and **sedentari-ness** are the longest words to decompose into two distinct interweaves: MACHINES + roses or MARINES + choses; SHARES + collins or SHARNS + collies; SENTRIES + deans or SEDANS + entries. Twelve-letter words with distinct twin decompositions include **accurateness**, **friendliness**, **lactorrheals**, **necropolises**, **paranuclears**, **relativeness** and **spaciousness**: ACUTES + cranes or ACNES + curates; FINDS + relines or FELINES + rinds; LATHES + corral or LATHS + correal; NEROLIS + copse or NEROLS + copies; PACER + ranulas or PRANCER + aulas; RATINES + elves or REIVES + latens; SCOUSES + pains or SCIONS + pauses. (Aulas and correal occur in W3.)

In order to keep my definition simple, I have necessarily included alternades among the word interweaves. However, I have downplayed them in the remainder of this essay, since they have already been studied. Incidentally, my nets dredged up 32 eight-letter alternades, 18 of nine letters, 3 of ten letters, and the well-known eleven-letter **triennially**.

The number of transitions is far from unique. **Triennially** is just one example of a multi-valued word. That word decomposes also into TrIenNialLy for 6 transitions, TrIenNialLY or TrIeNnialLY for 8, or TrIeNnialLY for 10. Another example is **grasshoppers**, which decomposes into GRASPER + shops with 3, 5 or 7 transitions.

Word interweaves can also be the basis of word puzzles. The

following riddles range from trivial to taxing. In each case, the number of transitions is shown in parenthesis as an added clue.

1. What type of person can be reconstructed from each of the following apt phrases? Amid bras (6), car dittos (6), heater worms (7), sweat ethers (7), tiler chances (6), deter gages (6), mute apes (6), ricer folks (6), acres nests (6), dudes rises (7).

2. Divide each occupation below into a two-word interweave: chairpersons (6), librarians (6), parricides (6), abstainers (7), proprietress (7), profiteers (6), suppliant (6), appeasers (6), repairers (6), threaders (6). See how much harder it is to divide an interweave than to unite one!

3. Reconstruct the following adjectival interweaves: mold once (6), donor amity (6), ohmic spoor (7), trade heist (7), unapt creed (7), rube untold (7), ones butyls (7), rest cooing (6), mere island (7), citing loser (6).

4. Unlock the following noun interweaves: lights amines (6), scene conics (6), ranter biases (6), darns ebonies (7), tacit slate (6), scouts vines (6), radon tethers (6), clip aloes (7), hex ponies (6), hydric poems (7).

5. The following words each have at least two different interweaves (one solution with 6 transitions, the other with 7): broadness, gambolled, priestess, traitress, bargaining, sloppiness, faintness.

6. Where are PATENT ARMS found? What causes BRAIN AGING? What is a PINTO AGAIN? What should DICIER SLAMS carry? Who pays ACE FINES? Where to place HEIR CANDLES? What GOT TUBAS? What produces XYLOID OCHRES? What's a synonym for FLOATS URINE? What are MOST COPIES? Who cleans MOOR SHAPES?

### **MORE ANGUISHED ENGLISH**

*This is a sequel to Richard Lederer's highly-successful Anguished English, reviewed in the May 1988 **Word Ways**. Published in hardcover for \$17.95 in Delacorte's Intrepid Linguist Series (1993), it should be an equally-great hit with aficionados of hilarious mistakes in English: headlines such as CHINESE PROTEST MUSHROOMS, student writings such as "our biology class went out to explore the swamp and to collect little orgasms", foreign manglings such as "We highly recommend the hotel tart" (on a menu), or classified ads such as "For Sale: pair Holstein oxen, 3200 lbs, with horns capped by local blacksmith with brass balls". Although Lederer claims that every flub is authentic and genuine, it's hard to believe that some weren't invented by his contributors. But, no matter what their provenance, this book contains a first-class collection of linguistic howlers.*