

BEYOND LONG NONTRIVIAL TRANSPOSALS

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In my article "Transposals of 15 or More Letters" in the February 1989 issue of *Word Ways*, I presented a list of 560 trivial and 44 nontrivial transposals. In this follow-up article, I discuss the nontrivial transposals in more detail. I also present the longest nontrivial subtransposals, transadditions, and transdeletions, all of which I discovered while compiling the list of transposals in 1987 and 1988.

"Nontrivial" is not synonymous with "well-mixed," the term long used by logologists for quality transposals. Well-mixed was coined years ago when a length of 13 letters was considered quite long for quality transposals; fewer than a dozen longer than 13 letters were known. Transposals were considered well-mixed if they simply had no sequence of four or more letters in common. Today, though, there are many dozens, perhaps hundreds, of quality transposals longer than 13 letters, so the four-letter-sequence prohibition is inappropriately restrictive for the longer transposals. Furthermore, the definition of well-mixed doesn't prevent trivial lengthening of well-mixed transposals into longer well-mixed transposals, e.g., CINEMATOGRAPHER(S)/MEGACHIROPTERAN(S).

I call two words "nontrivial" transposals if (1) they are not basically interchanged letter sequences or variations on the same lengthy letter sequence, and (2) they are not reduceable to shorter transposals by removing the same affix from both or by removing or shortening their inflections.

Examples for case (1): ABDOMINOVESICAL/VESICOABDOMINAL and WHITFIELD OINTMENTS/WHITFIELD'S OINTMENT are obviously trivial since they merely interchange letter sequences. ANTITUBERCULOUS/AUTOTUBERCULINS and PETROGRAPHICALLY/PTERYLOGRAPHICAL, while not quite so trivial, are still considered trivial transposals since they involve trivial variation on a lengthy letter sequence (-TUBERCUL- or -GRAPHICAL-). CONTRACTION RULES/RECONSTRUCTIONAL, however, is a nontrivial transposal, having only a five-letter sequence in common (CTION) and not being mere variants on that sequence.

Examples for case (2): SECOND MORTGAGES/SEED-CORN MAGGOTS, while appearing nontrivial at first glance, is trivial since the shorter singular forms are also transposals. Similarly, COUNTERSTRIVING/OVERINSTRUCTING is trivial since COUNTERSTRIVED/OVERINSTRUCTED is a transposal-pair. PSEUDOEROTICISM/PSEUDO-ISOMETRIC is trivial since PSEUDO can be removed from both, leaving the transposal-pair EROTICISM/ISOMETRIC. CONTINUEDNESSES/TENDENTIOUSNESS, however, is a nontrivial transposal-pair despite hav-

ing the affix **NESS** in common since that affix alone cannot be removed from both.

For readers still interested in records for well-mixed transposals, I've noted the following improvements: **COUNTERRIPOSTES/RETROSUSCEPTION** (15 letters with 0 trigrams and 1 bigram in common), and **COUNTERDOCTRINES/RECONSTRUCTIONED** (16 letters with 0 trigrams and 4 bigrams in common).

I show sources for all words in this article using the following labels:

Label	Source Dictionary
a	Addenda of Webster's Third Unabridged
c	Century Dictionary or its Supplement
h	Chambers Twentieth Century Dictionary
o	Oxford English Dictionary or its Supplement (main entry or citation)
?	no dictionary listing found yet
none	Webster's Unabridged, Second and/or Third Edition

Nontrivial Transposals

Below, I list nontrivial transposals of 15 or more letters. All were shown in boldface type in the longer list of trivial and nontrivial transposals in my previous article. Beside each transposal, I show the name of its discoverer. Since most of the transposals were discovered in a two-year period (1987-1988), two names are shown when both people made the discovery at about the same time.

ACTION REGULATORS	CONGRATULATORIES	Kyle Corbin/Alan Frank
ANTHROPOMORPHIC	CAPTORHINOMORPH	Corbin
ANTIPROTEOLYSIS	? PROSELYTISATION	Corbin
APHELIOTROPISMS	OMPHALOTRIPSIES	Eric Albert/Corbin
BASIPARACHROMATIN	MARSIPOBRANCHIATA	Charles Holding
BRAIN SPECIALIST	PLEBISCITARIANS	Albert/Corbin
CAPTURE THEORIES	SEROTHERAPEUTIC	Albert/Corbin
CENTAURMACHIAS	MARCHANTIACEOUS	Albert/Corbin
CINEMATOGRAPHER	MEGACHIROPTERAN	Howard McPherrin
c COLOR SENSATIONS	CONSOLATORINESS	McPherrin
CONTINENTAL CODE	DELTA CONNECTION	Corbin
CONTINUEDNESSES	TENDENCIOUSNESS	Corbin
CONTRACTION RULES	RECONSTRUCTIONAL	Corbin/Frank
CORRELATIVENESS	? OVERCENTRALISES	Corbin
COUNTERDOCTRINES	RECONSTRUCTIONED	Corbin
COUNTERREPRISAL	INTEROPERCULARS	Albert/Corbin
COUNTERRIPOSTES	RETROSUSCEPTION	Corbin
DECHLORINATIONS	ORNITHOSCELIDAN	McPherrin
o DECIMALISATIONS	IDIOMATICALNESS	Corbin
? DEPROTESTANTISE	PREDETESTATIONS	Corbin
FRAUDLESSNESSES	SELF-ASSUREDNESS	Corbin
HEMATOCRYSTALLIN	THERMONASTICALLY	John Ogden
INARTICULATENESSES	NATURAL NECESSITIES	Holding
INCONSIDERATION	NONDICTIONARIES	Corbin
INVOLUNTARINESS	NON-UNIVERSALIST	Albert
INVOLUNTARINESS	UNISON INTERVALS	Albert

MAGISTERIALNESS	STEAMER SAILINGS	Albert/Corbin
? MISCHARACTERISE	SACCHARIMETRIES	Corbin
? NOMINALISATIONS	NONASSIMILATION	Corbin
NONDISCRETIONARY	YARN CONDITIONERS	Albert/Corbin
? NONREALISATIONS	c SIARESINOTANNOL	Darryl Francis
NON-UNIVERSALIST	UNISON INTERVALS	Albert
OUTSIDE CALIPERS	PSEUDOREALISTIC	Albert/Corbin
PHOTORESISTANCE	STENOCROTAPHIES	Holding
? PRECIVILISATION	PROVINCIALITIES	Corbin
PRE-RAPHAELITISM	a PRIMAL THERAPIES	Corbin
PRETRANSMISSION	TRANSIMPRESSION	Dennis Ritchie
PRO-ARISTOTELIAN	o PROLETARISATION	Corbin
PRONATIONALISTS	TRANSPOSITIONAL	Corbin
RECITATIONALISM	ROMANTICALITIES	Holding
RECLASSIFICATION	o SACRIFICIAL STONE	McPherrin
h REGIONALISATIONS	SIGNAL NOISE RATIO	Corbin
SHORTEST-GRAINED	STRAIGHTER-NOSED	Corbin
SKIN RESISTANCES	TRAIN SICKNESSES	Albert/Corbin

Nontrivial Subtransposals

Two words of the same length are called subtransposals (or substitute-letter transposals) if all but one of their letters are the same, i.e., if they are "near-miss" transposals. In the article "Subtransposals from A to Z" in the November 1985 *Word Ways*, I described a subtransposal contest won by several *Word Ways* readers. The longest nontrivial subtransposals known at that time were ELECTROCATAPHORETIC/THEORETICOPRACTICAL, a 19-letter pair discovered by Dmitri Borgmann. Since then, I have improved the record to 21 letters. Below are all my finds of over 18 letters. The two letters to the right of each pair are the mismatches.

21:			
a	ENTEROBACTERIOLOGISTS	GASTROENTEROCOLITISES	B/S
20:			
	MICROELECTROPHORESIS	SPECTROCOLORIMETRIES	H/T
19:			
	ANTHROPOCLIMATOLOGY	MORPHOLOGICAL BOTANY	T/B
	ANTIMONARCHICALNESS	a MACHINE TRANSLATIONS	C/T
	ASSESSMENT COMPANIES	COMPASSIONATENESSES	M/O
a	CENTRAL LIMIT THEOREM	CLINICAL THERMOMETER	T/C
	COUNTERSTIMULATIONS	SUPERCONSTITUTIONAL	M/P
a	DIMETHYLNITROSAMINE	h THREE-DIMENSIONALITY	M/E
	DISCHARGE POTENTIALS	SALPINGOCATHETERISM	D/M
	ELECTROCATAPHORETIC	THEORETICOPRACTICAL	E/I
	INDICATOR TELEGRAPHS	LARYNGOTRACHEITIDES	P/Y

Nontrivial Transadditions/Transdeletions

Given two words whose lengths differ by one letter, if the longer word uses all the letters of the shorter word, it is called a transaddition of the shorter word (and the shorter word is called a transdeletion of the longer word). Until recently, the longest known nontrivial transadditions were 17 letters, discovered by A.

Ross Eckler (COUNTERMIGRATION/UNTRIGONOMETRICAL, for example). I have now improved this to 20 letters. Below, I show all the non-trivial transaddition/transdeletion pairs of over 17 letters that I've discovered. The letter on the right is the letter added to the shorter word to form the longer word.

20:

THEORETICOPRACTICAL	POETICO-ARCHITECTURAL	U
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19:

COADMINISTRATRICES	CONTRADISCRIMINATES	N
DISCHARGE POTENTIAL	INDICATOR TELEGRAPHS	R
ULTRACONSCIENTIOUS	CONTRIBUTION CLAUSES	B

18:

AMINOACETANILIDES	ESSENTIAL AMINO ACID	S
CELIOPARACENTESIS	PERICEMENTOCLASIAS	M
CONFIDENTIALITIES	SELF-IDENTIFICATION	F
? DEREGULATIONISING	URINOGENITAL RIDGES	R
SELF-CONTAINEDNESS	CONFIDENTIALNESSES	I
SONOLUMINESCENCES	UNECONOMICALNESSES	A
SPHERICAL GEOMETRY	ELECTROMYOGRAPHIES	O
UNMERCENARINESSES	INSURANCE MESSENGER	G

Most Transposably Versatile Word

While compiling lists of transposals, subtransposals, and trans-additions/transdeletions, I was surprised to discover that some very long words appeared on more than one of the lists. THEORETICOPRACTICAL, for example, is not only a subtransposal of ELECTROCATAPHORETIC, but also a transdeletion of POETICO-ARCHITECTURAL. This discovery led to the obvious question: what is the longest word that has a nontrivial transposal, subtransposal, transaddition, transdeletion, and complete transdeletion pyramid (where one letter is removed at each step)? The 15-letter RETROSUSCEPTION was the longest I found.

Tree: POSTRESURRECTION
 RETROSUSCEPTION
 REPROSECUTIONS
 COUNTERPOISES
 RETINOSCOPES
 PROSECTIONS
 INSPECTORS
 CONSPIRES
 PRINCESS
 PINGERS
 RIPENS
 PIERS
 RISE
 SIR
 IS
 I

Word: RETROSUSCEPTION
 Transposal: COUNTERRIPOSTES
 Subtransposal: PREOBSTRUCTIONS (E/B)
 Transaddition: POSTRESURRECTION (R)
 Transdeletion: REPROSECUTIONS (T)