TRANSPOSALS OF 15 OR MORE LETTERS

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Two words are called transposals if they use the same letters in a different order. The letters may be rearranged only slightly, as in BACHELOR-BUTTONS and BACHELOR'S-BUTTON (a "trivial" transposal), or they may be quite mixed, as in COUNTERDOCTRINES and RECONSTRUCTIONED ("nontrivial"). Word Ways has published many short nontrivial transposals and a few long trivial and nontrivial ones over the years. In 1987 I discovered several new long nontrivial transposals during related logological research, and I soon began keeping a list of all the trivial and nontrivial transposals of at least 15 letters I could find. That list grew into the 604-transposal list presented in this article.

In compiling the list, I drew the transposals from four sources: (1) Word Ways, (2) Dennis Ritchie's list of transposals from Webster's Second Unabridged, produced at Bell Labs, (3) other logologists whom I contacted after reviewing their transposal articles in Word Ways, and (4) my own discoveries. Of the 604 trivial and nontrivial transposals in my list (counting plurals), a few dozen are from sources (1) and (2), about a dozen are from source (3) (Darryl Francis and Eric Albert), and the rest are my own discoveries. However, a number of my nontrivial finds that have not been previously published in Word Ways were independently discovered by Eric Albert in his own lengthy investigation of nontrivial transposals.

"Nontrivial" is not synonymous with "well-mixed," a term introduced in Word Ways more than a decade ago to describe quality transposals. Briefly, two words are nontrivial transposals if (1) they are not basically interchanged letter sequences and (2) they are not reducible to shorter transposals by shortening or removing their affixes (e.g., depluralizing them). I will discuss this further in a subsequent article, where I will present long nontrivial transposals, substransposals, transadditions, and transdeletions.

The longest transposal I found has 32 letters (31 letters for the singular): METER-KILOGRAM-SECOND-AMPERE SYSTEMS / METRE-KILOGRAM-SECOND-AMPERE SYSTEMS. Darryl Francis found the only other transposal nearly as long: FRIDERICHSENI-WATERHOUSE SYNDROMES / WATERHOUSE-FRIDERICHSEN SYNDROMES (31 letters, or 30 for the singular).

The trivial transposals in my list follow several patterns. You will see immediately from a quick glance at the list that most of the transposals consist of two synonymous technical terms with merely interchanged letter sequences. Including that pattern, there
are six patterns altogether:

(1) Interchanging long sequences of letters: ELECTROMAGNETIC / MAGNETOELCETRIC, HAMMER AND SICKLE / SICKLE AND HAMMER.

(2) Moving -S from one component to the other (plural, possessive, and/or variant spelling): ATTORNEY GENERALS / ATTORNEYS GENERAL, BACHELOR-BUTTONS / BACHELOR'S-BUTTON, DEOXYRIBONUCLEIC ACIDS / DEOXYRIBONUCLEIC ACID.

(3) Transposing only some of the letters, leaving most unchanged: COMBINATIONAL NOTE / COMBINATIONAL TONE, CILIOMAGELLATE / SILICOFLAGELLATE.

(4) Transposing only an affix and moving it elsewhere in the word: MISREPRESENTATION / REPRESENTATIONISM, CHROMATOGRAPHER / RECHROMATOGRAPH.

(5) Lengthening a shorter nontrivial transposal (adding the same affixes to both words): STATELESSNESSES / TASTELESSNESSES.

(6) Using the -ER/-RE variant spelling: MICROMILLIMETER / MICRO-MILLIMETRE.

All words in my list are dictionary-sanctioned, be they capitalized, hyphenated, open compounds, or inflectional forms. Though I prefer not to stray from the Merritam-Webster series of dictionaries for the words, I do so since including all transposals already published in Word Ways requires me to and since some British variant spellings which are transposably prolific are not listed in Merriam-Webster (e.g., -IZE/-ISE and -ER/-RE). All words in the list are labeled according to the chart below. A few of the British spellings are not shown in the only British dictionaries I have access to and are labeled with "?"; perhaps a reader can find a source dictionary for these words. (If so, please write to Word Ways.)

With one exception, I've limited my sources to general-purpose dictionaries. I include Dorland's Illustrated Medical Dictionary only because it is already in use as a source of transposals in Word Ways and because it contains hundreds of very long transposals. However, with the exception of a few extremely long ones, no transposals in my list draw both their words from Dorland's.

Since most long transposals are technical terms, many not in my list can be found in specialized dictionaries I haven't consulted. Two examples found by Darryl Francis are: GLOSSOLABIOPHARYNGEAL PARALYSIS / LABIOGLOSSOPHARYNGEAL PARALYSIS (from Century Supplement / Dorland's 24th ed.) and SUPERPHOSPHATE-TRIPLE / TRIPLE SUPERPHOSPHATE (both words from Chambers Science and Technology).

<table>
<thead>
<tr>
<th>Label</th>
<th>Source Dictionary</th>
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<tbody>
<tr>
<td>a</td>
<td>Addenda of Webster's Third Unabridged</td>
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<td>c</td>
<td>Century Dictionary, or its Supplement</td>
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<tr>
<td>d</td>
<td>Dorland's Illustrated Medical Dictionary, 26th ed.</td>
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<tr>
<td>h</td>
<td>Chambers Twentieth Century Dictionary</td>
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<td>m</td>
<td>American Heritage Dictionary</td>
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<td>o</td>
<td>Oxford English Dictionary, or its Supplement (main entry or citation)</td>
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To cond...
To condense the list of transposals, I use a plus sign to the right of each word in a transposal pair whenever both words can be pluralized regularly to form a longer transposal (e.g., CINEMATOGRAPHER + / MEGACHIROPTERAN + indicates that CINEMATOGRAPHERS / MEGACHIROPTERANS is also a transposal). With this convention, the list of 604 transposals takes only 487 lines.

Some potential plural transposals in Webster's Second present a problem since they lack definitions and parts of speech. These words occur in "lists of self-explanatory combinations." If, after carefully examining the words' components in Webster's Second and Third, I still suspected that a plural was invalid, I omitted the words from the list. For example, see FRONTOPARIETAL and PARietofrontal in Webster's Second. I omitted the uncertain 15-letter plurals of these transposals from my list.

In the list, the alphabetically first word in each transposal pair is shown on the left, and the pairs are then alphabetized. (Punctuation is ignored for alphabetization.) For example, MEGACHIROPTERAN / CINEMATOGRAPHER is presented as CINEMATOGRAPHER / MEGACHIROPTERAN and is found after CILIOFLAGELLATES / SILICOFIAGELATE and before CIRCULAR INTEGRAL / CIRCULAR TRIANGLE. Nontrivial transposals are shown in boldface type.
ECCLESIASTICISM
ELECTROMAGNETIC
ELECTROMAGNETICAL
ELECTROTERMOMETER +
ENCEPHALOMENSES
ENCEPHALOMENINGITIS
ENCEPHALOMENINGOCELE +
ENCEPHALOMYELITIS
ENCEPHALOMYELITIS
ENCEPHALOMYELITIS
ENCEPHALOMYELITIS
ENCYCLOPAEDICAL
ENCYCLOPAEDISTS
ENOL-KETO ISOMERISM +
ENTEROCAUSTITIES
ENTEROCAUSTITIS
EPIDIDYMOVASTOMY +
ESOPHAGOSTOMY +
ETHICO-POLITICAL
ETHMOPOPHARYNGEAL
EUCHROMOCENTERS
EXCELENTABILITIES
EXCELENTATIONISTS
FERROHYDROCYANIC
FERROHYDROCYANIC
FIBROMYXOSARCOMA
FIBROMYXOSARCOMATA
FLUOROPHOTOMETER +
FRAGMENTABILITIES
FREIGHT STEAMERS
FRIDERICHSEN-WATERHOUSE SYNDROME +
FRONTO-OCCIPITAL
FURNACE HEATINGS
GALACTOPHORITES
GALVANOHERMOMETER +
GENERAL COURT-MARSHALS
GERMANIFICATION +
GLOSSLABLEARANGYNEAL
GLOSSLABLEARANGYNEAL
GLYCOCHROMATE +
GOVERNOR-GENERAL
GOVERNOR-GENERAL-IN-COUNCIL
GRAM-CENTIMETERS
GRAMOPHONICALLY
GRAMOPHONICALLY
GRANDFATHER CHAIRS
GRANDFATHER CLOCKS
HAMMER AND SICKLE +
HELIOPHOTOGRAPHY +
HEMATOCRYSSTALLIN
HEMICATALEPSIES
HEMOPNEUMOTHORACES
HEMOPNEUMOTHORAC +
HEMOPNEUMOTHORAX
HEMOPNEUMOTHORAXES
HEPATOPLENOEMEGALY +
HETEROMORPHOSIS
HEXAKISOCATHECRA
HEXAKISOCATHECRA
MAGNETOTELEPHONE + a MARFAN'S SYNDROME
MASTER OF REQUESTS
MATHEMATICOC-PHYSICAL
MEADOW REED GRASS + MENINGOMYELITIDES
MENINGOMYELOCELE + METALLIC LOSTRES
METER-KILOGRAM-SECOND + o METRE-KILOGRAM-SECOND +

m METER-KILOGRAM-SECOND-AMPERE SYSTEM + h METRE-KILOGRAM-SECOND-AMPERE SYSTEM +

METER-MILLIMETER + ph METRE-MILLIMETRE +
MICROMILLIMETER + mm MICROMILLIMETRE +
MICROPHOTOGRAPH + micro MICROPHOTOGRAPHER +
MICROPHOTOGRAPHIC PHOTOMICROGRAPHIC
MICROPHOTOGRAPHY + micro MICROPHOTOGRAPHY +
MICORADIIOMETER + micron MICROSCOPIC +
MICROSPECTROSCOPE + MINISTER-PRESIDENTS
?
MISCHARACTERISE
MISREPRESENTATION +
MISUNDERSTANDER +
MISUNDERSTANDER +
MISUNDERSTANDING +
MOLYBDOPHOSPHATE +
MONOGRAPHICALLY
MONOPERSULFURIC ACID
MONOPERSULPHURIC ACID
MYELONEURITIDES
NEUROMYELITIDES
NITROSULPHUREOUS

NOMINALISATIONS
NOMOGRAPHICALLY
NONDESECRATIONS
NONREALISATIONS

L

PULCHRE OCCIPITOTEMPORAL
CHUSES OOPHOROSALPINGECTOMY +
PIPES ORPIMENT YELLOWS
OUTSIDE CALIPERS
OVERSAUCINESSES
PAPILLORETINITIDES
PAPILLORETINITIS
PAPULOVESICULAR
PAREMPHITIDES
PAREMPHITIDES
PAREMPHITIDES
PAREMPHITIDES
PAREMPHITIDES
PAREMPHITIDES
PAREMPHITIDES
PAREMPHITIDES
SQUAMOSOPARIELTAL

PATHOLOGY +
PATHOPSYCHOLOGY +
PECTINATOPINNATE

TELEPHONE MAGNETO +
TELEPHONE MAGNETO +
PHYSICOMATHEMATICAL
REED MEADOW GRASS +
MYELOMENINGITIDES
MYELOMENINGITIS
MYELOMENINGOCELE +
METALLIC LOSTRES
METER-KILOGRAM-SECOND +

METER-KILOGRAM-SECOND-AMPERE SYSTEM +
METER-MILLIMETER +
MICROMILLIMETER +
MICROPHOTOGRAPH +
MICROPHOTOGRAPHIC
MICROPHOTOGRAPHY +
MICORADIIOMETER +
MICROSPECTROSCOPE +
MINISTER-PRESIDENTS

SACCHAROMETRIES
REPRESENTATIONISM +
REMINISCE
REMISUNDERSTAND +
PHOSPHOMOLYBDATE +
PHOTOGRAPHICALLY
PHOTOGRAPHICALLY
PHENOGRAMICALLY
PERMONOSULFURIC ACID
PERMONOSULPHURIC ACID
NEUROMYELITIDES
TENNYSCOPYPLASTY +
PYELONEPHRITIDES
URETERONEPHRECTOMY +
PSYCHONEUROLOGICAL
SULPHUREOMITROS
NONASSIMILATION
PHONOGRAMICALLY
RECONDENSATIONS
YARN CONDITIONERS

STARESINTOANNOC

UNISON INTERVALS
PARAOCZREALISTIC
VERACTIONS
RETIPOAPILLITIDES
RETHINAPAPILLITIS
VESICULOAPULAR
PARAEPHRENTIDES
PARAEPHRENTIDES
SQUAMOSOPARIELTAL
TEMPOROPARIELTAL
VISCEROPARIELTAL
PHYSIOPATHOLOGIC
PHYSIOLOGY +
PSYCHOPATHOLOGY +
FINNATOPECTATE
RECIPIENT

ROMANTICALITIES

a. SACRIFICIAL STONE +

b. SIGNAL NOISE RATIO

c. REVIVALIZATIONS

d. REPERTORY THEATRE +
e. RESPIRATORY CENTRE +
f. REVERSIFICATION

g. RUMMELGUMPTIONS

h. SACCULOTRICULAR

i. SALPINGO-ORETOSTOMY +

j. SALPETER PAPERS

k. SCARLET VERMILION

l. SCENTED VERBENAS

m. SCHOOL VACATIONS

n. SCISSOR-GRINDERS

o. SECOND MORTGAGES

p. SELF-MOTILATIONS

q. SELF-PENETRATIONS

r. SELF-UNCONSCIOUS

s. SHOPPING CENTERS

A. SHORTEST-GRAINED

B. SILICOTITANATES

C. SILICOTUNGSTATE +

D. SJOGREN'S SYNDROME

E. SKIN RESISTANCES

F. SOMATOSPLANCHNIC

G. SPECIAL COURT-MARSHALS

H. SPECTER-MONGERING

I. SPECTROTELESCOPE +

J. STATELESSNESSES

K. STEREOTEREOPLASTIC

L. STOCKYARD PNEUMONIAS

M. STRAWHAT THEATRE +

N. STREPTOTRICHOSES

O. STREPTOTRICHOsis

P. SULFAMETHAZINES

Q. SUMMARY COURT-MARSHALS

R. SUPERPERSONALS

S. SURVEYOR GENERALS

T. TELANGEICTASIS

U. THEATER-IN-THE-ROUND

V. THEATER OF THE ABSURD

W. THEATRES-IN-THE-ROUND

X. THEATRES OF THE ABSURD

Y. THYROIDECTOMIES

Z. TRANSACTIONS

a. ULTRAMARINE YELLOW +

b. UNAMENABLES

c. UNAMENABLENESSES

d. UNCAPABLENESSES

e. UNCAPABLENESS +

f. UNDESIRABLENESSES

g. UNDESIRABLELESS

h. WHITE BLOOD CELLS

i. WHITE HEPATICUS +

j. WHITE LADY-SLIPPERS

k. WHITFIELD OINTMENTS

l. YELLOW LADY-SLIPPERS