

# VOWEL SWAP TRANSPOSALS

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TRAILS-TRIALS and MANTEL-MENTAL are examples of 6-letter vowel swap transposals (VSTs), the 2 vowels swapping places and the 4 consonants remaining in situ. Here, I search for 6-letter VSTs having 2, 3, 4, 5 and 6 vowels respectively, all the vowels changing places with other vowels. Previous items on letter swap transposals (WW91038, 91089, 91252) deal solely with swapping 2 letters according to their positions in a word: e.g 3-6 CANTOR-CARTON and 5-6 ALBION – ALBINO, irrespective of whether the 2 letters are consonants, vowels or one of each. They do not include any 6-letter/2-vowel VSTs. This is not surprising as VSTs involving familiar words are scarce. In most cases it is necessary to turn to more obscure words or to locational names (identified below by country). Pluralised locational names, where the name appears in more than one country, also prove valuable.

A few of the VSTs are synonyms and these are identified by an asterisk\*.

In many cases, only a single example of a particular VST was found. All are solid words. The lists of words read across the page.

Some of the unreferenced words can be found in the Oxford English Dictionary, Second Edition; some were found via Google. Locational names are taken from The United States Board on Geographic Names. Sources for the referenced words are given at the end.

## 2 VOWELS + 4 CONSONANTS

Considering the 5 major vowels A, E, I, O and U, there are 10 combinations of 2 different vowels: ae, ai, ao, au, ei, eo, eu, io, iu, and ou. For each of these 10 combinations, there are 15 positions which 2 vowels can occupy in a 6-letter word: positions 1 and 2, 1-3, 1-4, 1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-4, 3-5, 3-6, 4-5, 4-6, 5-6. This makes a total of  $10 \times 15 = 150$  arrangements of 2 different vowels in 6-letter/2-vowel words. The 19 arrangements for which no VSTs were found are shown in brackets following the 'positions' headings.

### positions 1 and 2 (ao, eu, io, iu)

AERTHS ( ploughings)

EARTHS

AINTHS (Himalayan nettles)

IANTHS (lanth = a Christian name)

AURTHS (a US surname)

UARTHs (Uarth = a Christian name)

EIRTHS (Eirth= Australian surname)

IERTHS (n. earths)

EORTHS (v. earths - *edd*)

OERTHS (Oerth = a US surname)

OUGHTS

UOGHTS (a German surname)

### positions 1 and 3 (eu)

APERCH (perching - *Web2*)

EPARCH (governor of a Greek  
admin. division)

AWILDS (rules with power)

IWALDS (wields)

ARONGS (Arong - India & Malaysia)

ORANGS

ADUNGS (Ghana & Laos)

UDANGS (Bangladesh & Malaysia)

ELISTS (n. eye-lists = defects)

ILESTS (v. y'lasts = carries out)

ERONGS (Cameroon & Nigeria)

ORENGS (Indonesia & Vietnam)

IRONGS (Kenya & Malaysia)

ORINGS (Guyana & Philippines)

ISUNGS (Papua NG & Nigeria)

USINGS

QBUNGS (Nigeria & Philippines)

UBONGS (N. Korea & S. Korea)

### positions 1 and 4 (au)

AMBERS

EMBARS (imprisons)

ANTICK (antique)

INTACK (intake)

ACTONS (an acton is a type of jacket)

QCTANS (a star constellation)

<u>ELLICK</u> * (the red gurnard, a fish)	<u>ERROLL</u> (a surname)	<u>EMBULL</u> (to publish in a papal bull)
<u>ILLECK</u> * (the same fish)	<u>ORRELL</u> (a surname)	<u>UMBELL</u> (umbel = a type of flat-topped inflorescence)
<u>INTOLL</u> (a type of payment)	<u>IMPUNG</u> (impugn)	<u>OLLUCK</u> ( <i>Pulliam</i> )
<u>ONTILL</u> (until)	<u>UMPING</u> ( <i>OSPD</i> )	<u>ULLOCK</u> (in Cumbria, UK)

**positions 1 and 5 (ai, iu)**

<u>ANGLES</u>	<u>ASTROY</u> (to destroy)	<u>ANCRUM</u> (a village in Scotland)
<u>ENGLAS</u> (angel)	<u>OSTRAY</u> (astray)	<u>UNCRAM</u> ( <i>Web2</i> )
<u>ENCLIN</u> (bowed down)	<u>ENGLOT</u> (to gulp down)	<u>ENCLUS</u> (OF: an anchorite)
<u>INCLEN</u> (ME: to hint at - <i>Cham</i> )	<u>ONGLET</u> (the claw of a petal)	<u>UNCLES</u>
<u>IRCHON</u> (a hedgehog)	<u>URCHON</u> (urchin)	
<u>ORCHIN</u> (a surname)	<u>ORCHUN</u> (a mythical sea monster, enemy of the whale)	

**positions 1 and 6 (eu, io, ou)**

<u>ALKSNE</u> (Latvia)	<u>ASHSHI</u> (Libya)	<u>ARMSTO</u> (surname of Brazilian film star)
<u>ELKSNA</u> (Latvia)	<u>ISHSHA</u> (Jordan)	<u>ORMSTA</u> (Sweden)
<u>ASSCHU</u> (a German surname)	<u>ENNCHI</u> (Tunisia)	<u>ERYNGO</u> (sea-holly)
<u>USSCHA</u> (n. issue)	<u>INNCHÉ</u> (Aaron Innche lived in Sussex Co., NJ in 1847)	<u>ORYNGE</u> (orange)
<u>ISSCHU</u> (v. issue)		
<u>USSCHI</u> (a Dutch Christian name)		

**positions 2 and 3**

<u>WAEATH</u> * (wealth)	<u>FAINTS</u>	<u>LAONGS</u> (Laos & Malaysia)
<u>WEALTH</u> *	<u>FIANTS</u> (dung of badger, fox etc.)	<u>LOANGS</u> (India & Philippines)
<u>FAUNTS</u> (infants)	<u>HEIGHS</u> (exclamations)	<u>WEORDS</u> * (words)
<u>FUANTS</u> (fiants)	<u>HIEGHS</u> (n. highs)	<u>WOERDS</u> * (words)
<u>REULLS</u> * (n. rules)	<u>BIONGS</u> (Ghana & Philippines)	<u>SIUNGS</u> (Malaysia & Tajikistan)
<u>RUELLS</u> * (n. rules)	<u>BOINGS</u> (boing = a reverberating sound)	<u>SUINGS</u>
<u>GOULDS</u> (Gould is a surname)		
<u>GUOLDS</u> (golds)		

**positions 2 and 4**

<u>HARELD</u>	<u>SAWISH</u> ( <i>Web2</i> )	<u>CAROLS</u>
<u>HERALD</u>	<u>SIWASH</u> (a N. American Indian)	<u>CORALS</u>
<u>BABULS</u> (thorny mimosas)	<u>LEVINS</u> (bright lights)	<u>TENORS</u>
<u>BUBALS</u> (antelopes)	<u>LIVENS</u>	<u>TONERS</u>
<u>REDUST</u>	<u>BILONG</u> (belong)	<u>PIPULS</u> (pipul is an E. Indian tree)
<u>RUDEST</u>	<u>BOLING</u> (formation of the bole of a tree)	<u>PUPILS</u>
<u>WORULD</u> * (world)		
<u>WUROLD</u> * (world)		

**positions 2 and 5 (iu)**

<u>MANTEL</u>	<u>BASCIN</u> (basin)	<u>CARBON</u>
<u>MENTAL</u>	<u>BISCAN</u> (a native of Biscay)	<u>CORBAN</u> (ancient Hebrew vow to God)
<u>JAMBUL</u> (species of <i>Eugenia</i> )	<u>LENTIL</u>	<u>CENTOS</u> (pieces of patchwork)
<u>JUMBAL</u> (a kind of cake)	<u>LINTEL</u>	<u>CONTES</u> (short stories)

BESTUD  
BUSTED

### positions 2 and 6

BATCHE (batch)  
BETCHA

CALFRU (calf)  
CULFRA (see 'bilewhit')

MENTHU (an Egyptian deity)  
MUNTHE (a surname)

LONGDU (China)  
LUNGDO (China)

### positions 3 and 4

SPAERS (those who foretell)  
SPEARS

FLAUNT  
FLUANT (fluent)

CREULS (v. crawls)  
CRUELS (Australian slang: spoils)

FLOURS  
FLUORS (n. flows, fluxes, streams)

### positions 3 and 5

GRATES  
GRETAS (girls called Greta)

CHAMUR (chamber)  
CHUMAR (Hindi- a worker in leather)

FLEXUS (flex, a point of inflexion)  
FLUXES

GLOTUN\* (glutton)  
GLUTON\* (glutton)

### positions 3 and 6

STALLE (stole = p. tense 'steal')  
STELLA

CHANDU (prepared opium - *Web2*)  
CHUNDA (Austral. slang: to vomit)

THUMBE (thumb)  
THEMBU (Xhosa-speaking pop.  
of SE South Africa)

CHOLLU (Iran)  
CHULLO (*Pulliam*)

### positions 4 and 5 (ao)

SPHAER\* (sphere)  
SPHEAR\* (sphere)

PONTIS (France)  
PINTOS (piebald horses)

RASHTI (a liquor in Nepal & Tibet)  
RISHTA (in Russia, the guinea worm)

REMPLI (v. filled up)  
RIMPLE (a wrinkle)

SINGLO (a green China tea)  
SONGLI (Norway)

PLAINT (lamentation)  
PLIANT

THEIRS\*  
THIERS\* (theirs)

PRIONS (saw-billed petrels)  
PROINS (v. prunes)

SPANIL (spaniel)  
SPINAL

PRECIS  
PRICES

TRIPOS  
TROPIS (part of a sponge-spicule)

KHARKI (khaki)  
KHIRKA (a dervish's robe)

GRESLI (grizzly)  
GRISLE (horror, terror)

TRISTO (trist)  
TROSTI (trust)

STRAIL (a blanket)  
STRIAL (striate - *Web2*)

COSTUS (an oriental aromatic plant)  
CUSTOS (a guardian, warden)

PANCHO\* (poncho)  
PONCHA\* (poncho)

PELTRO (It. 'pewter')  
POLTRE (poultry)

SINDHU (an admin. district of Nepal)  
SUNDHI (a Sanskrit linguistic term)

THAONG (Cambodia)  
THOANG (Vietnam)

PREOST\* (priest)  
PROEST\* (priest)

BLIUNG (Indonesia)  
BLUING (to make blue)

SCATQL (an aromatic substance)  
SCOTAL (a type of ale festival)

CREMOR (a thick liquid)  
CROMER (a Norfolk town, UK)

FRIGUS (cold)  
FRUGIS (fruit - *Cham*)

CHALLQ (a fabric)  
CHOLLA (species of *Opuntia*)

PREGGQ (pregnant)  
PROGGE (prog = food provisions)

CHISTU (Zambia)  
CHUSTI (Greece)

STRAUN (New Zealand)  
STRUAN (UK)

SHREIK* (shriek)	SCHEON (shoe)	SCHEUD* (showed)
SHRIEK*	SCHOEN (v. shine)	SCHUED* (showed)
CHRIOS (Ireland)	STRIUS (S. Africa)	SCHOUT* (shout)
CHROIS (Ireland)	STRUIS ( <i>Pulliam</i> )	SCHOUT* (shout)
<b>positions 4 and 6</b>		
SCHAME (shame)	STRACI (Czechoslovakia)	SCRATO (a hermaphrodite)
SCHEMA (scheme)	STRICA (n. streak)	SCROTA (pl. of scrotum)
DZHAGU (Azerbaijan)	THREFI (a measure of corn etc.)	STRENO (n. strain)
DZHUGA (Azerbaijan)	THRIFE (thrive)	STRONE (to urinate)
SPRECU (v. speak)	STRIMO (Germany)	STRIKU (Latvia)
SPRUCE	STROMI (Greece)	STRUKI (Belarus)
CHHOTU (Pakistan)		
CHHUTO (Pakistan)		

### positions 5 and 6 (ao, au, eo, io, iu, ou)

MCCRAE (a surname)	VRYSAI (Greece)	VNSLEI* (a. unsly = awkward)
MCCREA (Canada)	VRYSIA (Cyprus)	VNSLIE* (a. unsly = awkward)
TYSSEU* (tissue)		
TYSSUE* (tissue)		

*From hereon, systematic breakdowns of the positions of the vowels have not been attempted.*

## 3 VOWELS + 3 CONSONANTS

Progressing to 6-letter words with 3 vowels, it is possible to find VSTs in which all three vowels vacate their original positions, the consonants remaining in situ as before. The triple vowel swaps below illustrate the 10 combinations of 3 different vowels: aei, aeo, aeu, aio, aiu, aou, eio, eiu, eou, and iou respectively.

RAPIER	MALONE (a surname)	CERURA (a moth genus)
REPAIR	MELANO (opposite of albino)	CURARE
MAORIS	SALUIS (v. salute)	COPULA (a connection, a link)
MOIRAS (girls called Moira)	SILAUS (a saxifrage genus)	CUPALO (cupola)
SIMONE	LINEUS (nemertean worm genus)	POPULE (v. people)
SOMENI (to summon)	LUNIES	PUPELO (cider brandy in New England)
LISOUN (?glimpse, trace)		
LUSION (a playing, game or pastime)		

## 4 VOWELS + 2 CONSONANTS

Onward to 6-letter words with 4 vowels. These 5 VSTs illustrate the 5 combinations of 4 different vowels: aeio, aeiu, aeou, aiou and eiou respectively.

EVODIA (a plant genus - <i>dfpf</i> )	MAIEUR (mayor)	AERUGO (verdigris)
QVIDAE (sheep & goat family - <i>Web2</i> )	MIAUER ( <i>Pulliam</i> )	OURAGE (overage = work)
MIAOUS (miaows)	DIEGOU (Senegal)	
MOUIAS (Algeria)	DOUGIE	

### One vowel duplicated

So far, all the vowels in a particular word have been different. With 4 vowels, however, it is also possible to find VSTs in which one of the vowels appears twice and which therefore contain just 3 different vowels instead of 4. The 2 identical vowels swap places with the remaining 2 vowels. There are 30 combinations of 4 vowels in which one of the vowels is duplicated, starting with aaei:

<u>AIRANE</u> (Morocco)	<u>AVAREO</u> (DR Congo)	<u>AUALLE</u> (afalle- to fall)
<u>IARENA</u> (Papua NG)	<u>OVERAA</u> (Norway)	<u>UAELLA</u> (a water well)
<u>APODIA</u> (absence of feet - <i>Web2</i> )	<u>ARIPAU</u> (Papua NG)	<u>TAROUA</u> (Morocco)
<u>OPADAI</u> (Guyana)	<u>IRAPUA</u> (Brazil)	<u>TURAAO</u> (Papua NG)
<u>ADIELE</u> (Nigeria)	<u>SELOEA</u> (Indonesia)	<u>GEAUNE</u> (France)-
<u>EDEILA</u> (Algeria)	<u>SOLEAE</u> (OE: sole of foot)	<u>GUEENA</u> (Australia)
<u>PEONIE</u> (peony)	<u>EUNICE</u>	<u>EUNOES</u> (ancient Persian name)
<u>POENEI</u> (Romania)	<u>IENECU</u> (a pueblo on Rio Grande- <i>Hod</i> )	<u>OENEUS</u> (a beetle - <i>Nom Zoo</i> )
<u>BAILIE</u> (bailiff)	<u>DAIMIO</u> (ancient Japanese title)	<u>ARICIU</u> (Romania)
<u>BIELAI</u> (Czechoslovakia)	<u>DIOMAI</u> (Guinea)	<u>IRACUI</u> (Brazil)
<u>FEIORI</u> (Papua NG)	<u>BILIEU</u> (France)	<u>ISIODU</u> (Nigeria)
<u>FIEIRO</u> (Spain)	<u>BULEII</u> (Romania)	<u>OSUIDI</u> (Stanley Osuidi lives in UK)
<u>LAOWOE</u> (Indonesia)	<u>ATIORO</u> (Togo)	<u>ONOTAU</u> (Cook Is.)
<u>LOEWAO</u> (Indonesia)	<u>OTOARI</u> (Angola)	<u>UNATOO</u> (Japan)
<u>MEIDOO</u> (Maidu tribe - <i>Hod</i> .)	<u>ENDOOU</u> (Congo Rep.)	<u>DILOULQ</u> (Ivory Coast)
<u>MOODIE</u> (moody; also =moudie, the mole)	<u>ONDEOU</u> (Congo Rep.)	<u>DOUQLI</u> (Guinea)
<u>UALUES</u> (valves)	<u>UAMURI</u> (Ethiopia)	<u>OUNAKU</u> (Estonia)
<u>EULAUS</u> (Germany & Czechosl.)	<u>IUMARU</u> (French Polynesia)	<u>UONUKA</u> (Russia)
<u>LEULUI</u> (Romania)	<u>OMEUKU</u> (DR Congo)	<u>LIUHOI</u> (China)
<u>LUILEU</u> (Chile)	<u>UMUOKE</u> (Nigeria)	<u>LUOHUI</u> (China)

### Two vowels duplicated

VSTs with 4 vowels also come with 2 each of 2 different vowels. 9 of the 10 combinations of 2 different vowels (all except eo) are illustrated here by tautonymic VSTs.

<u>SAESAE</u> (so so)	<u>MAIMAI</u> (type of Maori shelter)	<u>PAOPAO</u> (a Samoan canoe - <i>Web3</i> )
<u>SEASEA</u> (Papua NG)	<u>MIAMIA</u> (Australia)	<u>POAPOA</u> (Venezuela)
<u>HAUHAU</u> (a religious sect)	<u>KEIKEI</u> (Cameroon)	<u>ELUELU</u> (Nigeria)
<u>HUAHUA</u> (Peru)	<u>KIEKIE</u> (a New Zealand plant)	<u>ULEULE</u> (Somalia)
<u>PIOPIO</u> (Chile)	<u>PIUPIU</u> (dressed flax)	<u>BOUBOU</u> (an African shrike - <i>Web3</i> )
<u>POIPOI</u> (a Polynesian dish)	<u>PUIPUI</u> (Papua NG)	<u>BUOBUO</u> (Philippines)

VSTs with 2 each of 2 different vowels can also be found amongst non-tautonymic words.

<u>ASIAIN</u> (Spain)	<u>ARAPOO</u> (Uganda)	<u>ARAUMU</u> (French Polynesia)
<u>ISAIAN</u> (Pakistan)	<u>OROPAA</u> (French Polynesia)	<u>URUAMA</u> (Nigeria)
<u>BEINEI</u> (China)	<u>KEOLEO</u> (Laos)	<u>MIONIO</u> (France)
<u>BIENIE</u> (Poland)	<u>KOELOE</u> (Indonesia)	<u>MOINOI</u> (Kenya)
<u>ZOUTOU</u> (Central African Rep.)		
<u>ZUOTUO</u> (Liberia)		

## 5 VOWELS + 1 CONSONANT

### All vowels different

There is just one combination of 5 different vowels: aeiou.

BIAOUE (Senegal)

IOUEAS (plural of Iouea - WW93085 and 2004044)

BOIEAU (Belgium)

OUAIES (locations called Ouaie - 2003048)

### One vowel duplicated

There are 20 combinations of 5 vowels in which just one vowel appears twice. The combinations aaeiu and aaieu are illustrated here. Note that the vowels in BOUAIA are derived from those in BAOUAI by moving the first A to the end of the word.

MAUEIA (Angola)

AOUDAI (Algeria)

MAAOUI (Tunisia)

BAOUAI (Central African Rep)

MEIAIU (Brazil)

OUADIA (Senegal)

MOUAIA (Algeria)

BOUAIA (Morocco)

A word may have more than one VST. Such is the case with MEIAIU, AUEINA and SOUAAI.

MEIAIU (Brazil) MEIAIU

AUEINA (Libya)

AUEINA

SOUAAI (Tunisia)

SOUAAI

MAIUEA

MAUEIA

IAUANE

UAIANE

SAOUIA

SAIOUA

(Mozambique)

(Angola)

(Mozambique)

(Mozambique)

(Ivory Coast)

(Ivory Coast)

### Two vowels duplicated

There are 30 combinations of 5 vowels in which 2 of the vowels each appear twice. Both these examples illustrate the vowel combination aauii.

IURAU (Brazil)

MAUUAI (East Timor)

UARIAU (Brazil)

MUAIUA (Mozambique)

## 6 VOWELS + 0 CONSONANTS

6-letter/6-vowel words are themselves somewhat of a rarity, so it is a bonus to find that they include an example of a VST. Composed of 3 duplicated vowels, these two words are tautonyms.

AOUAOU (Mauritania)

OUAOUA (Chad)

## REFERENCES

Cham	Chambers English Dictionary
dfpf	A Dictionary of the Flowering Plants and Ferns by J.C. Willis, 7th. ed., CUP 1966
edd	English Dialect Dictionary
Hod	Handbook of American Indians ed. by F.W Hodge, 1907
Nom Zoo	Nomenclator Zoologicus
OSPD	Official Scrabble Players Dictionary
Pulliam	The Complete Word Game Dictionary by T. Pulliam & G. Carruth, 1984
Web2/3	Webster's Second and Third editions.
WW	Word Ways