When I first subscribed to Word Ways and enquired about word squares with diagonal words, Jeff Grant commented that such items were rare and hard to find. That is true, but here is a rather belated reply!

An eight-square is a square array of eight different 8-letter words placed in rows, so that column 1 is the same word as row 1, column 2 the same as row 2, and so on. Contrary to the opinion of one soi-disant expert, words of length 1 to 7 are inadmissible. All word squares necessarily have a palindromic NW-SE diagonal, and in the squares below, this palindrome is a word. In the squares below, the diagonal starting on the NW corner is also a word, as is the diagonal starting in the SE corner: alert readers will spot the implication that the word on this diagonal is a reversible word. As palindromic words and reversible words are scarce, so are all-diagonal squares. In the case of 9-squares, I found squares with all three diagonals, but never in the same square. I conclude that the squares below are the largest all-diagonal squares ever published. The squares in this article are one-tenth as common as ten-squares.

In fact, out of over three-quarters of a million 8-letter words, there were just 496 reversible words (you could say 2 x 248), and only 170 palindromes. The squares below were selected from 212, with a bias to dictionary words. I could not construct a square without proper nouns. I found no squares starting F, J, O, P, Q, or U-Z at the top left. The squares on the following pages are in order of top row word within palindrome. The most popular palindromes were: AAAAAAAA 149, HRRRRRRH 17, SAASSAAS 11, EEEEEEEE 9, SIISSIIS 5, SNERRENS 5, ANNEENNA 3, ANASSANA 2, SEISSIES 2, with ANNAANNA, ANTEETNA, KNITITNK, LIIILLII, MMMMMMMM, SFISSIFS, SHALLAHS, SNIBBINS, TUUTTUUT occurring just once each. Following each square are the diagonals, as read from NE or SW, NW, and SE. The square below is one of a few that has place names as ten of the eleven items (the palindrome being the exception).

**M Y S A T I Y A** Mys Atiya, Bulgarias, 42°28, 27°35
**Y I A L O V A S** (Potamos) Yialovas, Greece, 36°57, 21°42
**S A L A N A N G** (Phou) Salanang, Laos, 19°47, 102°35
**A L A L A N D A** *(Tawil) al-'Alanda, Libya, 33°03, 11°36
**T O N A I J A R** (Ouled) Tonaijar, Morocco, 34°30, -5°49
**I V A N J S K I** Ivanjski (Bok), Croatia, 45°20, 16°44
**Y A N D A K L Y** †(Rodnik) Yandakly, Turkmenistan, 37°49, 64°38
**A S G A R I Y E** (Chah-e) 'Asgari-ye (Kamran), Iran, 31°50, 54°26
* or **A L A L A N G A** (Quebrada) Alalanga, Peru, -14°39, -74°14
† or **Y A N G A K L Y** (Kolodets) Yangakly, Turkmenistan, 38°21, 64°14
**A A A A A A A A A A A A A A A A A A A A A A** Pa, a Brooklyn business name
**M I L L I S L E** Millisle, UK, 54°36, -5°32
**E L S I L L I M** Naqb el-Silim, Egypt, 27°46, 28°33

Place names are from the NIMA database. ITIS is the Integrated Taxonomic Information System of the USDA (Dept. of Agriculture). Pa is the Palindromicon. Latitude precedes longitude.

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The following three look different, but have the same diagonals:

**D A S G U P T A** author of History of Indian Philosophy, US Census

**ARPAALAN** Arpaalan, Turkey, 40°22, 37°52

**SPANIARD** OED

**GANGANTA** Ganganta, 14°03, -10°45

**UAIANARI** Caiohoeira Grande de Uaianari, Brazil, 0°41, -64°13

**PLANAEIN** Greek to wander, hence "planet"

**TARTRITE** OED

**ANDAINES** Saint-Michel-des-Andaines, France, 48°35, -0°25

AAAAAAA Pa, a Brooklyn business name

**DRAGNETS** OED tip 2, 1955q

**STENGERD** Stengard, Sweden, 57°45, 14°42

**DOMBOSHA** Dombosha, Zimbabwe, -19°55, 31°34

**ORBERTAL** Orber Tal, Germany, 50°15, 9°21

**MBANGARI** Mbangari, South Africa, -24°12, 31°38

**BENGALIE** (Baie du) Bengalie, Vietnam, 20°44, 107°00

**ORGANMAN** OED organ 8, 1626q

**STALMENT** OED

**HARIANTE** OED verme

**ALIENTES** OED turn 25, 1526q

AAAAAAA Pa, a Brooklyn business name

**DRAGNETS** OED tip 2, 1955q

**STENGERD** Stengard, Sweden, 57°45, 14°42

**DUNSMALA** Dunsmala, Sweden, 56°32, 14°46

**URTAARAL** (Ostrov) Urta-Aral, Kazakhstan, 45°23, 73°52

**NTANTAMA** Ntantama, South Africa, -27°09, 30°20

**SANGAMIN** (Dahane) Sangamin, Afghanistan, 34°10, 63°32

**MATANANI** Matanani, Cameroon, 4°59, 8°55

**ARAMAEAN** OED

**LAMINATE** OED

**ALANINES** OED

AAAAAAA Pa, a Brooklyn business name

**DRAGNETS** OED tip 2, 1955q

**STENGERD** Stengard, Sweden, 57°45, 14°42

The following three look different, but have the same diagonals:

**SHAMMASA** (Wadi Ganis esh) Shammasa, Sudan, 15°17, 34°25

**HALBADAN** Halbadan, Finland, 62°51, 21°07

**ALBAHACA** Web2

**MBABARAM** in the Australian South-East Marine Region*

**MAHAALI** Mahaa Ali, Yemen, 14°49, 43°33

**ADARATAR** Ot 2 after adorative ST

**SACALAIT** OED sac-à-lac

**ANAMIRTA** Anamirta cocculus, Chambers coccus

*http://aqua.hba.marine.csiro.au:7373/nddq/owa/ndd_search.Browse_Citation?txtSession=114

AAAAAAA Pa, a Brooklyn business name

**SABBATIA** OED

**AITABBAS** Ait Abbas, Algeria, 36°33, 4°13
S M A B A C K A  Smabacka, Sweden, 64°27, 20°49
M A L A K H A N  Mala Khan, Afghanistan, 30°29, 63°23
A L B I C A N T  OED
B A I B A N D A  Bai Banda, Pakistan, 34°19, 73°01
A K C A A G I L  Akcaagil (Koyu), Turkey, 40°12, 38°04
C H A N G T S O  Chang-ts'o, Taiwan, 25°02, 121°07
K A N D I S I M  Kandi Sim, Pakistan, 26°43, 69°04
A N T A L O M A  (Cerro) Antaloma, Peru, -11°49, -76°15
  see above for diagonals
S T A B A C K A  Stabacka, Finland, 62°24, 21°21
T A L A G H A N  Talaghan, Iran, 36°23, 50°25*
A L B I C A N T  OED
B A I B A N D A  Bai Banda, Pakistan, 34°19, 73°01
A G C A A G I L  Agecaagil, Turkey, 40°12, 38°04†
C H A N G T S O  Chang-ts'o, Taiwan, 25°02, 121°07
K A N D I S I M  Kandi Sim, Pakistan, 26°43, 69°04
A N T A L O M A  (Cerro) Antaloma, Peru, -11°49, -76°15
  * or T AL A K H A N  Talakan, Russia, 64°23, 119°57
  † or Akcaagil (Koyu), Turkey, 40°12, 38°04
  see above for diagonals
E S T R E L I A  (La) Estrelia, Colombia, 3°46, -76°27
S T E A L Y N G  OED occasional 1, 1563q
T E T T A N T O  (Ozero) Tettan-To, Russia, 68°29, 70°36
R A T E A T E N  rat-eaten, OED rat c
E L A A L A L I  El Aalali, Lebanon, 34°12, 35°46
L Y N T A L L S  OED limtel 1, 1601q
I N T E L L E T  (Oued) i-n- Tellet, Algeria, 28°44, 7°37
A G O N I S T S  OED
  ANNAANNA  Anna Anna, Pa, personal name, my twins!
  ETTELLES  OED ettle 1a, 1400q
  SELLETTE  OED
A L M A S N A A  Al-Masna’a, Oman, 23°46, 57°38
L I A N T A N G  Liantang, China, 32°52, 118°38
M A N O E N D I  (Kaap) Manoendi, Indonesia, -0°38, 135°22
A N O A E T O S  Ano Aetos, Greece, 38°01, 24°27
S T E E R I N G  OED
N A N T I R I A  Nantiria, Mozambique, -13°26, 39°22
A N D O N I A N  US Census
A G I S G A N G  Agisgang (River), Philippines, 13°30, 120°35
  ANNEENNA  Anne Enna, Pa, personal name
A I N A R R A G  Ain Ar Rag, Western Sahara, 25°50, -13°17
G A R R A N I A  (Bir el) Garrania, Libya, 31°10, 15°04
Two squares, with diagonals similar to some previous ones.

STOWINGE OED stow, 1641q
TUVANGEN Tuvangen, Sweden, 59°43, 14°47
OVERSEME OED
WARRENER OED
INSEEING OED
NGENINGI Ngeningi, Tanzania, -5°20, 39°46
GEMENGED OED white, 1000q (g has Anglo-Saxon form)
ENERGIDS OED energid
SUERENES OED sweetness 1, 1456q
SENEREUS Senereus, Romania, 46°20, 24°39

AMTASHAH Amtashah, Sudan, 10°49, 24°54
MIANPARA Mianpara, Bangladesh, 23°20, 90°04
TANGURMI Tangurmi, Nigeria, 10°42, 12°10
ANGARBHA Angarbah, Pakistan, 35°47, 71°58
SPURRERS OED spurrer
HARBERIE OED
ARMARIAN OED

HAIHSENG Hai-hseng, Burma, 21°34, 98°00
HRRRRRHH hr-r-r-r-r-rh, Pa, EDD
AINNARRAG Ain Ar Rag, Western Sahara, 25°50, -13°17
GARRANIA (Bir el) Garrania, Libya, 31°10, 15°04

SHABABIK Shababik, Israel, 33°03, 35°37
HELOUANI Karm el Helouani, Syria, 35°31, 36°05
ALLUSION OED
BOULTERS OED boulter
AUSTERNE OED austere
BAIERTAL Baiertal, Germany, 49°41, 9°45
INORNATA Grindelia inornata angusta, ITIS plant
KINSELAE (Quercus) kinselae (glandulosa), ITIS plant

KNITTINK Pa
SELLETTE OED
ETTELLES OED ettle 1a, 1400q
NGKESILL  Ngkesill, Palau, 7°13, 134°23
GIANTRIE  OED giantry, 1611q
KACHAINA  Kachaina, Niger, 14°52, 8°20
ENHOLDEN  OED pyrite 1, 1567q
STALLIAN  OED stallion
IRIDIA E  OED
LINEATUS  OED hen-hawk. Buteo lineatus is the blue hen-hawk
LEANNESS  OED

LIILLIIL liil’liil’, Pa, Yapese
NICOLAUS  OED boon 1, 1641q: Nicolaus Damascenus
SUALOCIN  Web2 Sualocin

GLASTIGS  OED glaidtig, 1925q
LASTAREH (Kuh-e) Lastareh, Iran, 33°44, 51°15
ASTERINA  Asterina, Web2, under Asterinidae (starfish genus)
STENSDAL  Stensdal, Norway, 63°32, 9°36
TARSIIDA  perhaps misspelling for Tarsiidae, but see below*
IRIDITIS  OED
GENADISH  Genadish, Iran, 30°42, 56°11
SHALASHA  Shalasha, Sudan, 10°31, 26°41

*P. D. Jenkins, Catalogue of Primates in the British Museum (Natural History) and elsewhere in the British Isles, Part 4, Suborder Strepsirrhini, including the subfossil Madagascan lemurs and family Tarsiida. [British Museum (Natural History), London, 1987]

SEISSIES  Pa, plural of place in Ethiopia
GATNITSA  Gatnitsa, Russia, 54°36, 37°23
ASTINTAG  Astintag, China, 38°48, 89°12

SPILETS  OED spillet
PENLIGHT  OED
INNUFARA  In-Nufara, Malta, 36°02, 14°16
LUNULLUN  (Cerro) Llunillun, Peru, -11°29, -76°34
LIFLEASE  OED lifeless 1, 1000q
EGALANTE  Egalante, Mozambique, -17°19, 37°36
THRUSTEN  OED thring A2, 1400q
STANEENS  Dict. of Newfoundland Eng, 2d ed, 1982+1990 sup
SHALLAHS  Pa, plural of family name
SENNENES  Sennenes, Norway, 70°21, 22°27
SENNENES  Sennennes, Belgium, 50°18, 4°53

GLOTTONS  OED glotton
LAURELIA  Laurelia novæ-zelandiæ, OED pukatea
OUTASITE  OED outasight
TRANSVAL  Transval, Brazil, -4°23, -39°11
TESSIERA  now known as Spermacoece, family Rubiaceae
OLIVETAN  Olivetan, OED
NITARASI  Nitar Asi, Bangladesh, 24°57, 90°28
SAELANIA  Saelania jamesii tauricum, ITIS plant
SISSI’S  siissii’s, Pa, possessive of Tuvaluan verb
GATNITSA  Gatnitsa, Russia, 54°36, 37°23
ASTINTAG  Astintag, China, 38°48, 89°12
<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
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<tbody>
<tr>
<td>AMPUSSIS</td>
<td>Orthoporus ampussis nagurensis, ITIS animal</td>
</tr>
<tr>
<td>MIONHANA</td>
<td>Lago Mionhana, Mozambique, -26°41, 32°22</td>
</tr>
<tr>
<td>PONGUENE</td>
<td>Ponguene, Congo, Dem Rep, -4°12, 16°01</td>
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<td>UNGARTER</td>
<td>OED</td>
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<tr>
<td>SHURREY</td>
<td>Loch Shurrery, UK, 58°29, -3°38</td>
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<tr>
<td>SAETERMO</td>
<td>Saetermo, Norway, 69°16, 18°13</td>
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<tr>
<td>INNERMAN</td>
<td>inner man, OED man, 3b</td>
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<tr>
<td>SAEYONG</td>
<td>Saeryong-ni, North Korea, 41°09, 127°51</td>
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<td>SNERRENS</td>
<td>Pa, Danish</td>
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