

# ARS MAGNA: THE TEN-SQUARE

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Word squares have always fascinated me. From an early age I took delight in devising regular 3-by-3 and 4-by-4 squares, perhaps to the detriment of my classwork, and certainly to the displeasure of a few well-meaning teachers, who mistook my linguistic activities for doodling. Undeterred by these knockbacks, I continued to practise the forbidden art, being more careful not to get caught.

In my last year at primary school something extraordinary happened - our teacher was a word fanatic. He introduced us to such things as palindromes, anagrams and snowball sentences, but best of all, word squares became respectable! From 3-by-3 and 4-by-4 squares I graduated to 5-by-5s, which kept me occupied for many hours, both during and after school.

Then came the big challenge. Using a 10x10 grid we had to score as highly as possible, with a system where points were gained for the length of each word included, except that one-letter words didn't count. Two-letter words scored only 1 point, three-letter words 3 points, four-letter words 4 points, and so on. However, there was a bonus for ten-letter words which were worth 20 points. At that stage the only squares I had tackled were small ones, and it was with some apprehension that I approached the ten-square, but after a short time I was hooked. I spent months on that challenge, searching through the pages of an old Shorter Oxford which belonged to the teacher. He took an active interest in my endeavours and always gave encouragement.

At the end of the year I showed him my best square, and his praise was reward enough for the hours of toil. The seven ten-letter words can be found in the SOED. ROSE NOBLES is a two-word term, but it does appear in hyphenated form in other dictionaries.

M A R S H A L S E A  
A B O L I T I O N S  
R O S E N O B L E S  
S L E N D E R I Z E  
H I N D R A N C E S  
A T O E A V A I L S  
L I B R N A G T A M  
S O L I C I T U D E  
E N E Z E L A D O N  
A S S E S S M E N T

MARSHALSEA was a court (abolished in 1849) formerly held by or for the knight marshal, originally for the purpose of hearing cases between the king's servants, ROSE NOBLES were gold coins current in the 15th and 16th centuries, and SLENDERIZE means "to perform or subject to slimming operations". Not a bad effort for a twelve-year-old, but very much a case of trying to run before learning to walk properly, considering my previous ventures had been only at the five-square level.

During the next few years a variety of activities took up most of my spare time, but I never lost my fascination for word squares. In turn, I taught myself how to construct 6-by-6, 7-by-7, 8-by-8 and finally 9-by-9 word squares. The 9-by-9 turned out to be far more difficult than I had foreseen; after weeks of trying, and one or two quite close attempts, I was forced to admit defeat. Several years later my thoughts were once again drawn to the challenge of the 9-by-9, and this time all the hard work paid off. After many weeks of dictionary-scouring, suffering from eyestrain and mental exhaustion, I finally made the breakthrough. The resulting 9-by-9 was published in the November 1980 *Word Ways*.

With the nine-square conquered, I felt qualified at last to channel my time and energy toward the supreme challenge, the ultimate goal for which I had striven so hard as an inexperienced youngster all those years before - the ten-square.

To find a regular 10-by-10 has long been the "impossible dream" of word-square constructors. Perhaps the greatest formist of all time was Palmer Peterson, known in the National Puzzlers' League (NPL) as Sherlock Holmes. By the time of his death in 1979 he had constructed almost 250 nine-squares, a quarter of all 9-by-9s ever built, and the most for any one person. However, Sherlock does not seem to have ever attempted a ten-square.

His reason for being pessimistic about constructing a square of this magnitude may have stemmed from the fact that no comprehensive listing of ten-letter words has ever been made. By contrast, during the first third of this century a tremendous amount of time was spent compiling nine-letter word lists, in which entries were indexed in reverse alphabetical order, so arranged because it is easier to build large squares from the base up, rather than from the top down. About 500,000 terms were eventually listed, many taken from little-known reference works of the late 19th century. These extensive "reverse lists" played an important role in the conquering of the nine-square by early formists. Would similar lists be needed for tackling a square of the tenth order? In 1970 Sherlock wrote "Frankly, I doubt if a ten-square is possible". To begin with, he said, we must conquer the double nine-square, but in 1972 he wrote "What are the possibilities of making a double nine-square? Nil! Absolutely and positively nil!"

Despite these unpromising words from the master, ten-squares using tautonyms such as FIFTY-FIFTY and PANGO PANGO had already been constructed. These squares are obviously not a true

conquest of the 10-by-10, because only five different words are employed, each one appearing in two positions.

The first published tautonymic ten-square was composed by NPL member Paul M. Bryan (Tunste), and was exhibited in the September 1921 edition of the Enigma. Unfortunately it was rather defective, with one five-letter word, ALALA, being arbitrarily doubled. Nevertheless it was a start.

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G A P A S G A P A S
A L A L A A L A L A
P A R A N P A R A N
A L A N G A L A N G
S A N G A S A N G A
G A P A S G A P A S
A L A L A A L A L A
P A R A N P A R A N
A L A N G A L A N G
S A N G A S A N G A

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Definitions and references, somewhat incomplete, are shown below.

GAPAS GAPAS a SE point islet off the SW shore of Mactan Island, Cebu, Visayas (Philippines Gazetteer)

ALALA ALALA a repeated war-cry of the ancient Greeks (ALALA appears in the OED)

PARAN PARAN river entering Polloc Harbour, E side of Illana Bay, south shore of Catabato, Mindanao (Philippines Gazetteer)

ALANG ALANG town in Leyte, Philippine Islands

SANGA SANGA an island in the Jolo Archipelago (Stieler's Atlas, 1909)

Whether these particular terms are solid-form, hyphenated or two words I have been unable to ascertain in most cases. However, ALANGALANG Island and SANGASANGA are both listed in the Times Index-Gazetteer, 1965.

The publication of this square generated considerable interest and discussion in the NPL. Many more tautonymic 10-by-10 word squares appear in the Enigma over the next few years, but they never won general acceptance among members of the NPL because of the obscurity of the references used (many were, in fact, not even printed in English). The principal constructor was Arthur F. Holt, who created the first nine-square in 1897. He had at his disposal the full resources of the Library of Congress in Washington, and often used words found only in foreign-language books, particularly works relating to the geography and zoology of the East Indies, Australasia and the South Seas.

A fairly typical square, one of the better examples, is shown on the next page. Definitions are not given; however, it serves to illustrate the sort of references used by formists in constructing the first tautonymic ten-squares.

T I L I N T I L I N  
 I L A N G I L A N G  
 L A T T A L A T T A  
 I N T E M I N T E M  
 N G A M U N G A M U  
 T I L I N T I L I N  
 I L A N G I L A N G  
 L A T T A L A T T A  
 I N T E M I N T E M  
 N G A M U N G A M U

TILIN TILIN Elers, Philippines Fauna  
 ILANG-ILANG Webster's New International Dictionary, 1st Edition  
 LATTA LATTA Lippincott's Gazetteer, 1893  
 INTEM INTEM Stieler's Atlas, 1909  
 NGAMU NGAMU Diefenbach, Travels in New Zealand

Apart from ILANG-ILANG, a tree of Malaysia, the Philippines, etc., with greenish-yellow, very fragrant flowers, it is not known what form (i.e. solid, hyphenated, two-word) the words in this square take.

From the large number of ten-squares of this type one stands out, because it has been modified to include seven different words instead of the usual five. This square appears in Language on Vacation by Dmitri Borgmann, and it is worth noting that the seven words used have been drawn from seven different references.

O R A N G U T A N G  
 R A N G A R A N G A  
 A N D O L A N D O L  
 N G O T A N G O T A  
 G A L A N G A L A N  
 U R A N G U T A N G  
 T A N G A T A N G A  
 A N D O L A N D O L  
 N G O T A N G O T A  
 G A L A N G A L A N

Definitions are as follows:

1. The orangutan (Funk and Wagnalls New Standard)
2. In the Caroline Islands, a name for parsley fern growing in cracks of old walls (The Caroline Islands, by Frederick W. Christian (London, 1899))
3. A Chinese fly, a tincture of which is used as a blistering agent (An Illustrated Encyclopaedic Medical Dictionary, by Frank P. Foster (New York, 1888-94))
4. A town on the western shore of Lake Nyasa, in Africa, now spelt Kota Kota (Longman's Gazetteer of the World, by George C. Chisholm (London and New York, 1902))
5. A mountain in Sorsogon Province, on Luzon Island, in the Philippines (A Pronouncing Gazetteer and Geographical Dictionary

of the Philippine Islands, published by the War Department (Washington, 1902))

6. An orangutan (OED, 1851 quotation)

7. A name for the trinity of ancient Peruvian divinities: Pachama, Virakotcha, and Mamakotcha (The Reader's Handbook of Allusions, References, Plots, and Stories, by E. Cobham Brewer (Philadelphia, 1880))

In the February 1973 issue of *Word Ways*, Borgmann posed the problem of creating a tautonymic ten-square consisting entirely of words and names found in reference works published since 1950 - "a modern, space-age word-square". In the following months he and Darryl Francis joined in a search for sufficient numbers of ten-letter tautonyms to make the construction of the desired square possible. After collecting several hundred such tautonyms a square was discovered which fulfilled the requirements. It employs five independent terms, taken from five different works, all published within five years of the square's appearance in the November 1973 edition of *Word Ways*.

R A B B I R A B B I  
 A S A I L A S A I L  
 B A S S A B A S S A  
 B I S O N B I S O N  
 I L A N G I L A N G  
 R A B B I R A B B I  
 A S A I L A S A I L  
 B A S S A B A S S A  
 B I S O N B I S O N  
 I L A N G I L A N G

RABBI, RABBI From "The New Testament and the Book of Psalms", King James Version (New York, 1972) in the Gospel According to Saint Matthew, Chapter 23, Verse 7: "And greetings in the markets, and to be called of men, Rabbi, Rabbi"

A SAIL! A SAIL! From "Familiar Quotations", by John Bartlett, 14th Edition (Boston and Toronto, 1968), the following lines appear in Part III, Stanza 4, of "The Rime of the Ancient Mariner" by Samuel Taylor Coleridge: "I bit my arm, I sucked the blood, And cried, A Sail! A Sail!"

BASSA-BASSA General confusion, noise, or even exchange of blows, found in "Notes for a Glossary of Words and Phrases of Barbadian Dialect" by Frank A. Collymore (Bridgetown, Barbados, 1970)

BISON BISON The scientific (genus + species) name for the bison, shown in the definition of "bison" in "The American Heritage Dictionary of the English Language" (1971)

ILANG-ILANG A tree of Malaysia, the Philippines, etc., found in "The World Book Dictionary" (1968)

Although the discovery of this word square was undoubtedly a significant achievement, there was a measure of uneasiness voiced concerning two of the terms used. It was felt in some quarters

that the inclusion of RABBI, RABBI and A SALL! A SALL! stretched logological license a little too far. Could a better example be discovered? Using the Borgmann-Francis list of ten-letter tautonyms, and adding a few of my own, I began to search for another up-to-date tautonymic square. Eventually I hit upon the one shown below, which, although by no means perfect, is nevertheless pleasing to both the eye and the sensibilities, with all terms being drawn from modern sources.

J A P A N J A P A N  
 A L A N G A L A N G  
 P A S S E P A S S E  
 A N S E R A N S E R  
 N G E R E N G E R E  
 J A P A N J A P A N  
 A L A N G A L A N G  
 P A S S E P A S S E  
 A N S E R A N S E R  
 N G E R E N G E R E

**JAPAN JAPAN** The notation used in an edition of the "RCA Record Catalogue" to register the album entitled "Japan" by the English group "Japan", released in 1978 (the term "Japan Japan" also appear on the record itself, although one name is situated below the other)

**ALANGALANG** In "Tanjung Alangalang", a cape in the territory of Kalimantan, Indonesia (Times Atlas of the World); also the name of an island in the Malay Archipelago, in the vicinity of Celebes (Times Index-Gazetteer)

**PASSE-PASSE** A skillful feat of juggling or manipulation (Webster's Third)

**ANSER ANSER** The scientific name of the greylag goose, the common grey wild goose of Europe, believed to be the chief wild ancestor of common domestic geese (Webster's Third, under greylag)

**NGERENGERE** A town in Tanzania (Times Index-Gazetteer of the World) and also a Maori surname (there are 28 people with this name registered on the electoral rolls in New Zealand)

To progress from constructing nine-squares and tautonymic ten-squares to building a regular 10-by-10 can be likened to attempting a marathon after previously running only in a 10 kilometre road race. The increase in difficulty is considerable, but success is not, I believe, impossible.

No more than twenty or so formists have ever conquered the nine-square, and of these only a couple are still living. Did any of them ever have a go at the ten-square? It appears unlikely, as the time-consuming groundwork, in the form of systematic compilation of reverse ten-letter word lists, has never been carried out. Construction of a 9-by-9 was apparently considered the ultimate achievement, and as far as I am aware there is no written evidence of an assault on the ten-square by any of the early formists.

The first published attempt at a regular ten-square is exhibited in the February 1977 *Word Ways*, in an article entitled "A Near-Miss Ten-by-Ten Word Square". For several years Frank Rubin of Wappingers Falls, New York tried to solve the problem with the help of a computer, using as input the 35,000 ten-letter words on the Air Force tape of Webster's Second, plus a number of multi-word terms like FLY-BY-NIGHT and ROBERT E. LEE. The nearest approach to a ten-square that he found is given below.

A C C O M P L I S H  
 C O O P E R A N C Y  
 C O P A T E N T E E  
 O P A L E S C E N T  
 M E T E N T E R O N  
 P R E S T A T I O N  
 L A N C E T O O T H  
 I N T E R I O R L Y  
 S C E N O O T L  
 H Y E T N N H Y

ACCOMPLISH to bring to an issue of full success  
 COOPERANCY the state or condition of working together  
 COPATENTEE a fellow patentee, one to whom a grant is made  
 OPALESCENT reflecting an iridescent light  
 METENTERON one of the radial digestive chambers of an actinozoan  
 as distinguished from the mesenteron  
 PRESTATION in feudal law, a rent, tax, or due paid in kind or  
 in services  
 LANCE TOOTH describing a saw with lance-shaped teeth  
 INTERIORLY with respect to the interior, on the inside

These first eight words in the square are of impeccable quality, all appearing in Webster's Second. LANCE TOOTH is given as a two-word term in this reference; however, it can be found in hyphenated form in Funk and Wagnalls Unabridged Dictionary. Unfortunately, there seems to be no possibility of modifying and improving either this computer-generated square or my earlier effort, so any new attempt on the ten-square must start from scratch.

Ross Eckler recently drew my attention to the following "French" square which appears in Laclos' "Jeux de Lettres, Jeux d'Esprit".

R E M E U R T R I E  
 E T A B L E R E N T  
 M A T O U V E S T E  
 E B O U L A S S E S  
 U L U L A S S E N T  
 R E V A S S A N T E  
 T R E S S A U T E R  
 R E S S E N T I R A  
 I N T E N T E R A I  
 E T E S T E R A I S

It leans rather heavily to coinages, but to a non-Frenchman the words look plausible enough. No doubt it would be possible to create a similar "English-looking" ten-square by making sure all tri-grams (or perhaps tetragrams) were common ones. For example, shown below is an extension of a ten-square idea originally formulated by George Hardy Ropes (Ajax) of the NPL.

S A H O D I S H E S  
 A M A R A N T I N E  
 H A N D I N E S S E  
 O R D I N A N C E S  
 D A I N E S T O N E  
 I N N A S C E N T E  
 S T E N T E R I E S  
 H I S C O N I I N E  
 E N S E N T E N C E  
 S E E S E E S E E S

AMARANTINE, HANDINESSE, ORDINANCES and the palindromic SEE-SEE-SEES are the only words in this square for which legitimate sources are known. SAHO DISHES (food prepared by the Saho people of northeastern Ethiopia) and HIS CONLINE (a chemist's stock of this powerful poison) are two-word terms which could conceivably appear in print somewhere. The other four, although contrived, do have a certain "English" appearance. However, there is a world of difference between a square of this nature and a true 10-by-10.

Not surprisingly, trying to construct a ten-square without resorting to coinages proved an immense undertaking. Being unable to gain any assistance from reverse word-lists was a major handicap, and I was tempted to give up on more than one occasion.

The problem of finding two suitably compatible base-words was in itself a task which involved several weeks of intensive dictionary-scanning. It quickly became apparent, however, that access to a much wider range of reference works was necessary to optimize the chances of success. Of course dictionaries were the main source of words during my quest, but I also had occasion to consult gazetteers, telephone directories, electoral rolls, scientific journals, chemical registers, and a wide variety of dialectic and foreign-language works. In addition to personal research, I wrote dozens of letters to dictionary editors, libraries, embassies, societies, and numerous individuals throughout the world in the hope that they would be able to assist me. In fact, I now have a stack of correspondence nearly a foot high.

The three variant squares exhibited on the following pages represent over three years of work. I believe they show that conquest of the ten-square is not an "impossible dream", and hope that their publication may inspire other formists to take up the challenge.



M I S S A T I C A L  
 I S O E M E T I N E  
 S O L S P R I N G S  
 S E S T U N N E L S  
 A M P U T I E R E N  
 T E R N I T R A T E  
 I T I N E R A T E S  
 C I N E R A T O R S  
 A N G L E T E R R E  
 L E S S N E S S E S

- MISSATICAL** An obsolete word meaning "pertaining to the Mass" (Oxford English Dictionary).
- ISOEMETINE** An alkaloid shown in Rodd's Chemistry of Carbon Compounds (2nd Edition), edited by S. Coffey, published by the Elsevier Scientific Publishing Company (Amsterdam, 1978). On page 218 of Volume IV, Heterocyclic Compounds (Part H), the following appears: "When psychotrine is reduced, it affords a mixture of cephaeline and isocephaeline, and these can be O-methylated to emetine and isoemetine, respectively".
- SOL SPRINGS** Individuals with the name Sol Spring. According to Ross Eckler, there is a Certified Public Accountant named Sol H. Spring in the October 1978 Denver telephone directory, and two Sol Springs are located in the 1980-81 Manhattan directory.
- SES TUNNELS** French for "his, her, or its tunnels", as in the following: "Le Métro et ses tunnels" (The Underground and its tunnels). The phrase must undoubtedly appear in a French text somewhere, most likely in a book on tunnels or tunnelling. Despite quite strenuous attempts, I have been unable to find a printed instance of its use.
- AMPUTIEREN** This is the German transitive verb "to amputate" and also a noun meaning "amputation" (Harrap's Standard German and English Dictionary, 1977).
- TERNITRATE** This is an earlier form of "trinitrate", a compound formed from three molecules of nitric acid,  $\text{HNO}_3$ , by the replacement of the three hydrogen stems by a trivalent element or radical. For example, consider ternitrate of bismuth, represented by  $\text{Bi}(\text{NO}_3)_3$ , shown in lightface under the prefix ter-2, in the Oxford English Dictionary).
- ITINERATES** One definition of the noun "itinerant" given in the Oxford English Dictionary is "one who itinerates or travels..." The verb "itinerate" is often applied specifically to Methodist ministers, who preach to the various congregations within the circuit to which they are appointed, and go periodically from circuit to circuit as appointed, usually every three years (Oxford English Dictionary).
- CINERATORS** This is the plural of "cinerator", a furnace for reducing dead bodies to ashes. The following supportive citation is shown in the Oxford English Dictionary: "A pentagonal cinerator for the use of Hindus and the other Hindu castes".
- ANGLETERRE** A rare term listed in the Dictionary of Textiles, by Louis Harmuth (1924), it can be defined as "highly finished silk taffeta made in France". The word also appears in the

lace-making terms Angleterre bars and Angleterre edge in the above reference, and in Angleterre lace, or "point d'Angleterre" in Webster's Second. The two-word terms given in the Dictionary of Textiles were originally listed in the Dictionary of Needlework, an encyclopedia of artistic, plain and fancy needlework by Sophia Caulfeild and Blanche Seward, published by L. Upcott Gill (London, 1882). A facsimile of this work was published by the Hamlyn Publishing Group Ltd. (1972).

LESSNESSES This is the plural of "lessness", the quality or state of being less; inferiority. The plural form is specifically indicated in Webster's Third.

A P O L I T I C A L  
 P R O E M E T I N E  
 O O T S P R I N G S  
 L E S T U N N E L S  
 I M P U T I E R E N  
 T E R N I T R A T E  
 I T I N E R A T E S  
 C I N E R A T O R S  
 A N G L E T E R R E  
 L E S S N E S S E S

APOLITICAL This means "detached from, not interested in or concerned with, political issues or activities" (Oxford English Dictionary, A-G Supplement).

PROEMETINE This is an alkaloid mentioned in Rodd's Chemistry of Carbon Compounds (2nd Edition), edited by S. Coffey, published by the Elsevier Scientific Publishing Company (Amsterdam, 1978). On pages 220-221 of Volume IV, Heterocyclic Compounds (Part H), the following appears: "Proemetine, which possesses the same configuration at the relevant centres .. as emetine .. can be reduced by the Wolff-Kishner method into the diethyl compound XV". Some doubt exists, however, over the validity of this word. Dr. Trevor Kitson of the Department of Chemistry, Biochemistry and Biophysics at New Zealand's Massey University thinks that it may well be a misprint for "protoemetine", although the ten-letter version does appear in the index.

OOTSPRINGS This is an orthographic representation of the Northern English and Scots pronunciation of "outsprings", inferred from the entry "oot-, see out-" in the Scottish National Dictionary. As a noun, the word outspring means "an act of springing out or forth", and as a verb, "to spring out, beyond, or farther than". The English Dialect Dictionary gives such forms as oot-shot, oot-flow, ootcast, oot-spew and ootthrust. M. Ritchie, on behalf of A.J.Aitken, editor of A Dictionary of the Older Scottish Tongue, states: "It is perfectly possible that outspring is a modern spelling of the standard form outspring". John MacQueen, Professor of Scottish Literature and Oral Tradition, University of Edinburgh, notes: "...the Middle Scots outspring .. had a pronunciation which in Modern Scots would be expressed as out-spring". Finally, Ted Relph of the Lakeland Dialect Society

writes as follows: "The bulk of words current in a standard language have a standard spelling which can be taught in schools, but dialect writers as a rule spell their dialect words in the way that they think best represents to them the correct local pronunciation of the word. Outspring would be quite acceptable in standard English poems .. 'from opening buds the (little) leaves outspring'. Hence in our dialect one could write 'Frev oppenin buds t'laal leaves ootspring', and I defy anyone to say that it was not dialect or not the correct spelling".

**LES TUNNELS** This is the French phrase for "the tunnels", as in "Les tunnels du Métro" (tunnels of The Underground). On page 1851 in the Dictionnaire De La Langue Française (Dictionary of the French Language), published by Paul Robert (1973), this phrase appears under "tunnel". Ross Eckler also made an extensive telephone directory search for a person called Les Runnels or Les Gunnels, either of which would improve the quality of this square. He discovered individuals called Lee Runnels, Lee Gunnels and Leo Gunnels, but unfortunately could not locate one of the names required. Is there a Les Runnels (or Gunnels) out there?

**IMPUTIEREN** This is the German transitive verb "to impute something to someone" (Harrap's Standard German and English Dictionary, 1977).

**TERNITRATE** See earlier square.

**ITINERATES** See earlier square.

**CINERATORS** See earlier square.

**ANGLETERRE** See earlier square.

**LESSNESSES** See earlier square.

T I T B I T I C A L  
I S O E M E T I N E  
T O P S P R I N G S  
B E S S O N N E L S  
I M P O N I E R E N  
T E R N I T R A T E  
I T I N E R A T E S  
C I N E R A T O R S  
A N G L E T E R R E  
L E S S N E S S E S

**TITBITICAL** This nonce-word appears in hyphenated form in the Oxford English Dictionary, where it is defined as "of the nature of, consisting or full of tit-bits". The word appears without a hyphen in the (London) Times Literary Supplement of Aug-4, 1972, page 92, in a review of *The Patriotic Traitors* by David Littlejohn: "This is a titbitical book: but, on a subject that matters, better than no book at all".

**ISOEMETINE** See earlier square.

**TOP SPRINGS** This is the name of a road house on the way to Wave Hill and Victoria River Downs in Northern Territory, Australia, listed in the Australia 1:250,000 Map Series Gazetteer, prepared by the Division of National Mapping, Department of Minerals

and Energy, published by the Australian Government Publishing Service, Canberra (1975). Top Springs is also shown in the Readers Digest Atlas of Australia (1977).

**BESSONNELS** The name "Bessonnel" is a logically-formed diminutive of the fairly common French surname Besson. There are 264 Bessons listed in the 1982 Paris telephone directory, along with 3 Bessonnes, 7 Bessonnets and 5 Bessonneaus, but unfortunately no Bessonnels. André Manesse, the "Attaché Linguistique" at the French Embassy in Wellington, New Zealand's capital city, states that "with regard to names ending in -el, the modern form of this ending is -eau". It seems possible, therefore, that the name Bessonnel may well have formerly existed as an early form of the present-day Bessoneau. Professor J. Dunmore of the French Department at New Zealand's Massey University believes that Bessonnel may be a diminutive of 'besson' (twin). He adds that it would "most likely be a descriptive patronymic, meaning 'little twin', probably a central-southern name." Despite this encouraging information I was unable to track down a single person called Bessonnel. Many hours scouring French telephone directories, and literally dozens of letters to France, failed to turn up the name I sought. Not to be deterred, I resolved to approach the problem from a different angle. On my hunt for Bessonnel I had noticed a few individuals with the surname Bessonne. I wondered if I could find a Bessonne L.S., even two Bessonne L's, which would give me the combination of letters required. The first possibility was quickly eliminated when I discovered that middle names are practically non-existent in France. There must be a lot of people with exactly the same names there! So it was back to the French telephone directories, searching through cities, towns and villages, hoping to find a person with the name Bessonne L. On the point of giving up I had a breakthrough. In the June 1981 edition of the French Alpes-Maritimes directory, under the section on the Principality of Monaco is the entry Bessonne Laurent, which could obviously be shortened to Bessonne L. This person's residence, that is Bessonne L's address, was shown as 31 Hector Avenue. Surely there had to be other Bessonne L's in France. Another search was unsuccessful, so I decided to write to every person I could find with the surname Bessonne - there were 15, out of which only 5 responded. The first replies were not encouraging. The people were naturally curious, even suspicious, as to why I wanted to locate a person called Bessonne L. The language barrier made it almost impossible for me to convince them that I had no ulterior motives, and only hope kept me going. Once again I seemed to be at a dead end. Six months passed, and finally a letter arrived which raised my spirits. It was from a young Parisienne named Fabienne Bessonne. Her English was well-nigh perfect, and she informed me that she had an uncle called Louis Bessonne. Eagerly I wrote back asking if he was listed in a telephone directory, and if so would she send me a photocopy of the relevant page. Again months passed and my hopes waned, but eventually came the

reply I had been waiting for, and enclosed was a photocopy of the village of Carqueiranne in the south of France, showing the entry Bessonne Louis. So now I have a directory record of Laurent Bessonne in Monaco and Louis Bessonne in Carqueiranne - two Bessonne L's!

IMPONIEREN This is the German intransitive verb "to impress someone, or to command someone's respect" (Harrap's Standard German and English Dictionary, 1977).

TERNITRATE See earlier square.

ITINIRATES See earlier square.

CINERATORS See earlier square.

ANGLETERRE See earlier square.

LESSNESSES See earlier square.

Although by no means entirely satisfied with the results of my labour, I feel that it is unlikely any improvements can be made using the same set of base-words, unless some new term comes to light. For example, the discovery of a word such as 'epiemetine', which I am informed would be a logical name if anyone ever synthesizes or isolates another isomer of emetine (c.f. chloesterol, epichloesterol), could possibly lead to the square being further modified and improved.

On the other hand, a different approach with a new set of base-words may give rise to a better solution. Who knows, one day someone may discover a ten-square using only English words drawn from well-known modern references. If they do, it will ensure them logological immortality.

### AN ANAGRAM DICTIONARY OF WORDS AND PHRASES

*The Longman Anagram Dictionary (1985), a British book, sells in the United States for \$14.95 and is distributed by Caroline House, Inc., Naperville, Illinois. More than one thousand pages long, it is arranged by word length from 3 to 15 letters. Besides including many plurals and participial forms, the dictionary records a number of phrases, idioms, and proper names. Where British and American spelling differ, both forms are anagrammed (show and shew, curb and kerb, color and colour). All too often, the multi-word anagrams lead to multiple listings which fill space but contribute nothing of substance (thus, under BCEFHIMNOOOTT, one finds fine tooth-comb, fine toothcomb, and fine-tooth comb). Some of the entries (God of love/love of God, table water/water table, spot light/stop light) serve as reminders that words and letters do not always permute well. Still, some mutations have a certain droll charm: bill of fare/ball of fire, boring stiff/brings it off, bunny girl/burningly, camera shy/easy charm, good host/good shot/hot goods, honestly/on the sly, trample on/patrolmen, pay in full/painfully, pours the tea/up to the ears, and self-denial/fills a need. (J. Henrick)*