



U S I N G A C O M P U T E R T O T E A C H
E N G L I S H A N D O T H E R L A N G U A G E S
I N A N U T T E R L Y N O V E L W A Y

by C.K.Bliss, B.Sc.
Inventor of Semantography

The computer as a tutor receives now great attention, because learning an ever increasing amount of knowledge must be speeded up. Knowledge is conveyed by language. Hence language learning must be speeded up too. Now this paper presents an utterly novel way to do this, a way hitherto considered impossible to realize - since the greatest language planner of all times, the universal genius and mathematician Leibnitz suggested the idea 300 years ago, and prophesied its coming.

Leibnitz thought of the use of pictorial symbols, so simple that even illiterate children could grasp them easily, and could read and write them BEFORE they are introduced to the bewildering vagaries, irregularities and illogic in conventional spelling, pronunciation and grammar, which make language learning so difficult for children and adults alike.

Leibnitz himself did not invent a single symbol, and for 300 years the idea was considered a mere "philosopher's speculation" impossible to realize. But in our time Professor Oliver L. Reiser of the University of Pittsburgh told the American Association for the Advancement of Science

"Bliss realized the ambition of the great mathematician Leibnitz"

Educators have made tests with children and adults and have found that illiterate children are "thrilled and fascinated" to be able to read and write complete sentences in these pictorial symbols within the first hour.

These pictorial Leibnitzian symbols of Semantography contain also a simple arithmetic, semantics and symbolic logic. The child is therefore at first not introduced to all the irregularities of language, but to a logical, quasi-mathematical way of using words. It sees in language learning a simple logical build-up, is encouraged to go ahead, and does not suffer the shock as experienced by learners of languages in a conventional way with all the conventional irregularities which often make no sense. Two examples will be given in the following paragraphs.

The child draws at first the simplified outlines (and speaks the words) of an eye, ear, nose, etc. Then it learns to put a multiplication mark on top of each symbol, thus forming the plural in writing, and adding an -s to speak of a multitude of eyes, ears, noses, etc. It then forms other plurals logically houses, mouses, geese, etc. Only later does it learn that (as a relic from olden times) we speak of mice and geese.

Similarly it learns to write in pictorial symbols I will, you will, he will, and I walk, you walk, he walk, and learns later that we say he walks, he talks. It learns to put the past symbol onto other symbols and form I walked, I talked, I thought, I drank, etc. Thus it sees first the logical system clear and simple, and doesn't mind when told later that we say today I thought, and I drank.

An even greater advantage is the simple semantics inherent in the pictorial symbols. It helps children and adults to learn their own or a foreign language by strictly separating those illogical, nonsensical idiomatic uses of words which baffle every learner. For instance to put down something can be easily pictured. But to put down something means also to write it down. Logically this can only be pictured by drawing the writing pen. Similarly to put up something can be pictured. But to put up someone means also to provide him with a bed for the night. This must be pictured by drawing a bed. To make up my mind, or to have an open mind seems utterly nonsensical in other languages. It's not picturable in these words. There are tens of thousands of such idiomatic uses of words in all languages, and they make language learning so nonsensical and illogical for the despairing learners.

Thus the Leibnitzian symbols give children and adults a simple set of basic words which are logical and interchangeable by similar words in other languages, because they refer to the same pictorial symbols. Thus language learning does not become the tearful accumulation of nonsensical phrases, but enables the learners to learn only those word combinations which make sense, because they refer to the same pictorial symbols in different languages.

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

The pictorial symbols may appear on a screen in front of the child. The child may then draw the symbol on his own writing screen. It may hear the words and repeat them. It may be corrected. Only much later, when it is fluent in reading and writing in these symbols, only then is it introduced to the alphabetical spelling of these words.

The symbols can be typed on an IBM 72 typewriter carrying a ball element with the symbols (and also the alphabet). Is the student introduced to a foreign language then the very same symbols are used, spoken of first in the mother tongue then in the other language. Indeed, any statement typed in symbols can be scanned by an appropriate computer and translated instantly into any programmed language.

This will have practical applications in the commercial field. A beginning has been made already, as officials and businessmen in the travel industry have realized that only pictorial symbols can be read by travellers in any of their many languages.

These are only a few of the advantages of this novel way of communication by Leibnitzian symbols. You are now kindly asked to study the attached papers, namely the issues of the Semantography Series

- No. 260 Letter of Dr. James L. Evans, a pioneer in instructional designs, on teaching Spanish as a second language.
- No. 282 Statutory Declaration of Miss Maureen Bates on the amazing grasp of these symbols by young children.
- No. 280 Universal pictorial Blissymbols for the international Traveller, a sample tourist folder, showing many symbol combinations.
- No. 243 The first 4 pages of the second enlarged edition of

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The paper printed on the foregoing pages 1 and 2 was inspired by some articles in LIKE INTERNATIONAL, TIME, and the NEW YORK TIMES. I sent consequently to all the persons and institutions mentioned in these articles, a short letter, in which I offered further information on Semantography if they are interested. In order to keep track of all the persons and institutions approached, herebelow is the list of them. The letters were posted on August 3, 1967.

Persons and Institutions mentioned in LIFE INTERNATIONAL OF February 20, 1967 in the article THE COMPUTER AS A TUTOR

Mr. Ezra Bowen, author of the article The Computer as a Tutor LIFE INTERNATIONAL
Time Life Building, NEW YORK N.Y. 10020
The Director Education by Computer Division General Electric Company SCHENECTADY NY
Dr. S. Seshu Syracuse University SYRACUSE N.Y.
Dr. Robert Fano Head Multiple Access Computer System Massachusetts Institute of Technology CAMBRIDGE Mass.
Mr. William Ribensky Principal Brentwood Elementary School EAST PALO ALTO Calif.
The Director Responsive Environments Foundation HAMDEN Conn.
Mr. Leonard Muller Director of Instructional Systems Development, I.B.M. YORKTOWN HEIGHTS N.Y.
Professor Dick Atkinson Institute for Mathematical Studies in the Social Sciences Stanford University, STANFORD. Calif.
Professor Pat Suppes Institute for Mathematical Studies in the Social Sciences Stanford University STANFORD. Calif.
Professor Omar Khayyam Moore, University of Pittsburgh, PITTSBURGH
Science Research Associates, Educational Publishers, CHICAGO, Ill.
The Manager, Department of Education by Computer, NEW YORK, Ill.
The Manager, Department of Education by Computer, R.C.A. NEW YORK, N.Y.
The Director, Litton Industries, Department of Education by Computer, BEVERLEY HILLS Calif.
The Director, American Book Company, NEW YORK, N.Y.
The Director, Educational Division Time Inc. TIME-LIFE BUILDING N.Y.
* Mr. Francis Keppel, ^{see full address below} Director, Education Subsidiary TIME INC. CAMBRIDGE Mass.
The Director, Educational Department, Xerox, ROCHESTER N.Y.
The Director, American Education Publications, Wesleyan University MIDDLETOWN Conn.
The Manager, Department of Computer Education Raytheon NORWOOD Mass.
Mr. Harold Howe, U.S. Commissioner of Education, WASHINGTON D.C.
The Director, D.C. Heath Publishers BOSTON Mass.
Mr. Harold Gores, President, Ford Foundation Educational Facilities Laboratory N.Y.
Mr. Robert Callan, Computer Expert, G.E. Laboratory, SANTA BARBARA. Calif.

Names of Persons and Institutes mentioned in the article in TIME Magazine (May 19, 1967.)

Mr. James Schwar, Director of Education by Computer, Lafayette College EASTON. Penns.
The Director and Professors, Working on Education by Computers, Texas A.& M. University COLLEGE STATION Texas.
The Director and Professors, Working on Education by Computers, University of Michigan ANN ARBOR Michigan
The Director and Professors Working on Education by Computers, Carnegie Institute of Technology PITTSBURGH Penns.
Professor John G. Kemeny, Dartmouth College HANOVER New Hampshire
The Science Advisory Committee of the President of the United States of America WASHINGTON D.C.
The Director and Professors, Working on Education by Computers, California Institute of Technology PASADENA Calif.
The Director and Professors Working on Education by Computers University of California BERKELEY Calif.
Professor Anthony Oettinger Harvard University, CAMBRIDGE Mass.

Institution mentioned in the NEW YORK TIMES and quoted in the Sydney Morning Herald July 1967

R.C.A. Instructional Systems, PALO ALTO California

* Mr. Francis Keppel Director Education Subsidiary Time Inc. (joint venture of Silver Burdett and G.E.C.) 55 Brewster Street CAMBRIDGE MASS.