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TEXT OF THE FIRST LECTURE  
ON SEMANTOGRAPHY 1943

Shanghai, 23rd February 1943

The following notes were written by me on the eve of my first lecture. As an introduction I refer to the foregoing issue which contains the article on "A New World Writing" which appeared in the Shanghai periodical "Our Life" on the 29th January 1943 (Semantography Series No. 102) The notes in brackets refer to the subsequent abandonment of certain symbols.

Ladies and Gentlemen,

Please do not expect a great discovery as otherwise I am afraid disappointment is bound to happen. Great expectations usually cause disappointment. Consider my idea only as an experiment and as a very crude one. My task is to prove to you that a character writing is not impossible. On the contrary, it is not a bad idea, and the hope can be entertained that perhaps in 10 or 100 years this new international writing may be deeply rooted and it may be found everywhere in the world.

I am happy to report that Dr. Reifler, an outstanding linguist, found the idea very good indeed and this gives me courage.

All hopes with regard to an auxiliary international language for common intercourse, like Esperanto, have not been fulfilled. Perhaps the time is not ripe for it, but an international medium of communication is a necessity for scientific research work. Many committees at scientific congresses have studied the problem but nothing has been forthcoming.

Why did Esperanto and Basic English fail? Apart from nationalistic interests, it is difficult to acquire a new language when there are no opportunities which force you to exercise it daily. However, the necessity of an international language grows daily in this age of the train, motorcar and airplane. Countries and continents are brought nearer to each other.




If an international language has too many weak points which obstruct its success, we must try to eliminate as many weak points as possible. My idea is based on the fact that it is easier to read something in a foreign language than to speak it. Furthermore, success could be achieved if we could eliminate the weakest point in language learning, namely the learning of a new and strange sounding vocabulary.

When I came to Shanghai two and a half years ago, I was fascinated by Chinese characters, and painfully through hard study I acquired the knowledge of about 1000 characters. Like most foreigners I believed at first that Chinese character writing has great disadvantages when compared with the alphabet. Later on, however, I realised the tremendous advantage of this writing. It gives immediately the meaning of the things instead of the sounds for them.

This great advantage has led to the fact that all over East Asia different people who speak different languages are able to read Chinese books, papers and even the old classics because they could read all this in their own language. I believe that the common cultural traditions of East Asia are explained by this fact. I meditated what would have happened if such a character writing had been introduced ages ago in Europe. Then all the great poets would have written their immortal works in the same character writing. Then the works of Dante, Shakespeare, Moliere, Goethe and all the others could have been read by any literate person in Europe from Spain to Norway.

I was fascinated by this idea and considered the possibility of an international writing in which, for instance, this sign  $\square$  would mean a table, and this sign  $\perp$  would mean a chair, and this  $\triangle$  a house. And it would have this meaning

in every language and dialect which is spoken on this planet. If such an international writing could be invented, then any literate person could write a letter which any other person could read in any of the languages used by those persons.

This idea came to me in September 1942 and I started to play with it for the mere fun of it. I started with simple signs, as for instance  a fish,  a flower,  a shirt, etc.








































Soon I realized that my writing could be successful only, if it were typable on a typewriter of the usual size. This prohibited the use of too many signs and I decided therefore to compose all my signs out of certain elementary signs.

I became interested in the subject because I experienced the difficulties which scientific researchers face when studying books and journals written in other languages than their own. From my boyhood on I was possessed with the urge to do something outstanding, something by which mankind could benefit, something entirely new which would make my life worth living. Here, so it seems to me, was something new. So far, I never heard of any modern attempt to introduce a symbolic writing. The only reference I know was brought to my knowledge a few weeks ago by a friend. In the German periodical "Die Boettcherstrasse" of 1928 Mr. Gilbert a German teacher residing in Tokyo, proposed the use of Chinese characters throughout the world as an international writing. (Note: This article will form a later issue of the Semantography Series). However, I could not share his view, because the age-old Chinese writing is overburdened with complex characters, which are very difficult to acquire (so I think). This accounts partially for the fact, that many people in China cannot read and write. (Note: I have later abandoned this view. Chinese children learn easily the characters. The illiteracy of China is mostly due to the fact that the governments have not built and conducted schools. Another factor is the poverty of Chinese peasants, who need every hand of the family in the field. In Shanghai where earnings are good, the lowliest rickshaw puller sends his children to school.)





Right from the beginning I realized that a modern character writing must not only be very simple, the meanings must also present themselves through a picture. There is, of course, the difficulty of making 10,000 to 20,000 different signs, an enormous task. However, I found a basis for great simplification in the system of Basic English, which consists only of 850 different words. With these 850 words another 7500 words can be composed. These 7500 words are explained in detail in "The Basic Dictionary." For instance, disembark could be expressed by go off a ship. 7500 words are completely sufficient for common correspondence. With them one can express almost everything. My task was therefore reduced to invent 850 signs only and to use these signs in connection with the Basic Dictionary to express more than 7500 meanings.

Starting from this assumption I was then astonished to find that even these 850 basic signs could be greatly reduced in numbers, because many words mean the opposite of each other, as for instance: in - out, cold - warm, open - closed, up - down, love - hate, wise - foolish, etc. I thought that if I could invent a small sign which means the opposite, I could use one sign for two meanings. I found then other simplifications are possible and my amazement grew when I found how simple the matter could be evolved once a sensible system is introduced.





And now, enough with my introductory talk. Let me give you a first taste of my writing. Here are some signs and their meaning. (Note: A few signs shown in the following pages have been altered meanwhile. Nevertheless, most of what I invented in 1943 is found in my books written in 1947-1949).



- |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |    |    |  |  |  |
| sun,  | moon,   | earth,  | day,  | night,  | week,   | year,   | morning,  | evening,  | spring,   |
|  |  |  |  |  |    |  |  |  |  |
| summer,   | autumn,   | winter,   | earth,  | sky,  | world,  | star,   | water,  | river,  | cloud,  |
|  |  |  |  |  |   |  |  |  |  |
| current (multiple),   | open,   | closed,   | lake,   | up,   | down,   | rain,   | steam,  | weather,  |   |
|  |  |  |  |  |  |  |  |  |   |
| steamship,  | harbour,  | sea,  | island,   | flower,   | garden,   | tree,   | country,  | much,   |   |








This indicator  resembles a man on his legs and is a copy of the Chinese character for man. (Note: I came later to the conclusion that the Chinese character  does not mean a man on his legs but is a picture of the penis. The Chinese character for woman is  which has been written in earlier days as  a picture of the vagina, the female genital).









When we put our indicator for man on top of a character, it indicates the man dealing with the meaning of the character as for instance:



 garden,  gardener,  field,  farmer. Now, here is another character, meaning work


which I copied from Chinese writing, Now we can write a sentence:  worker  works

 diligently at  work. We have omitted the article the which is not necessary anyway,


though I have a sign for it, (see later). Other sentences:  Man works  (in at)  garden.








 Gardener  waters  flower.  early.  East (of the)  country (is a)  river.  West (of t








 town (is a)  field, etc. etc.

This indicator  is the female counterpart to the foregoing indicator. We have




the man and woman, and consequently a female gardener. However, we can dispense with this indicator. (Note: I have later on discarded both).



This indicator  is the sign for addition and means the plural, and to add.










 days,  weeks,  years,  ships,  flowers,  gardens,  houses, etc.









Let us now learn a few other signs:  closed,  in,  out,  into,  out of, furthermore the article:  a and  the. Now comes the international exclamation



mark, which I use in other positions for this, that, here, there. Remember that the exclamation mark for this and here is inclined towards the right (as the writing goes) and this directional indication is used in the signs for

 forward and  backward. Now we can form more complete sentences: The houses  in

 the town. Those houses  in this village. You may argue that different languages have different word order. However this is no actual hindrance, as will be shown later. Now we learn the signs for the pronouns:

 I,  you,  he,  she,  it,  we,  you,  they. (plural is indicated by the indicator. You note that he and she resembles the sign for man and woman. The possessive pronouns are easily made by adding a small plus  to the right of the sign:

 mine,  yours,  his,  hers,  its,  ours,  yours,  theirs.

The plus sign placed in the middle of the space means with.  I  with you.

(Note: I have later abandoned the use of the plus sign for plural, and have adopted the multiplication mark instead. Also, the plus sign in the middle means now and, whereas the plus sign up means with, the plus sign down: possession (see above, possessive pronouns.

And now to the most important verbs to have and to be. To have is indicated by the plus <sup>+</sup> and the earth (earthly possession); must be written with the verb indicator on top:  $\overset{v}{+}$  to have. Without it it means property, and with the man indicator on top it means the haver, the owner. With the adjective indicator on top it means a well-to-do man, having, being rich. (Note: I abandoned this later).

Combining the vertical line meaning I with the circle meaning the sun (without which no life is possible), we arrive at the symbol for Existence, Life. Then we have to live, to be, and alive. The earth is alive with flowers. Putting the man indicator on top we have then a male human being (Note: this is unnecessary and I have abandoned it later for the simple sign for man.). The sign for Life crossed out means Death, to die, dead, a dead body.

Let us form the following sentences: This man is a gardener. He has three gardens in the country, east of the town. No matter how different languages

differ in their word order, a glance on the sentence will tell the reader what it is all about, and he will be able to read it in his own language, even if he uses a different word order.

This indicator  $\overset{\circ}{\text{I}}$  on top of another sign means the representative word for a group of things. person, liquid, addition, subtraction, division, agricul-

ture, industry, etc. (Note: this sign indicating the mouth has later on be used in a different way to express representative words. The symbolization of addition, subtraction, etc. agriculture, industry, etc. has been simplified.)

This indicator  $\overset{s}{\text{I}}$  means symbolic and it is used when the character meaning is used in an abstract (metaphorical) way only: The world of his ideas. The sun

of his life. His mind was open to new ideas, etc. This is necessary because literal translation of words into other languages make no sense if the reader is not made aware that the word is used in a metaphorical way. (Note: This symbolization has been abandoned in favour of a better one).

This indicator <sup>x</sup> means the whole of the same kind. It represents the multiplication mark. The ocean, sea, the working class, etc. (Note: completely abandoned).

An important sign (though not used on top of other signs) is the sign for opposite.

<sup>x</sup> much, <sup>↓x</sup> little, <sup>x</sup> very much, <sup>↓x</sup> very little, <sup>x̄</sup> more, <sup>↓x̄</sup> less, <sup>x̄</sup> most, <sup>↓x̄</sup> least, <sup>∩</sup> fire, <sup>∪</sup> ice, <sup>↑</sup> warm, <sup>↓</sup> cold, <sup>~</sup> wet, <sup>↓~</sup> dry, <sup>♡</sup> love, <sup>∩♡</sup> hate, etc.

Another important sign is part ( a parted line). It is used for any meaning for

a part of something bigger: <sup>+</sup>⊙ hour, <sup>≠</sup>⊙ minute, <sup>≠</sup>⊙ second, <sup>∠</sup> angle, <sup>+</sup>∠ degree, <sup>≠</sup>∠ minute, <sup>≠</sup>∠ second, <sup>△</sup> mountain, <sup>+</sup>△ rock, <sup>≠</sup>△ stone, <sup>≠</sup>△ dust, <sup>L</sup> arm, <sup>+</sup>L hand, <sup>≠</sup>L finger, <sup>∩</sup> fire, <sup>+</sup>∩ flame, <sup>□</sup> matter, <sup>+</sup>□ molecule, <sup>≠</sup>□ atom, <sup>▢</sup> book, <sup>▢</sup> page, <sup>+</sup>▢ line, <sup>≠</sup>▢ letter, <sup>∩</sup> language (ear and mouth), <sup>+</sup>∩ word, <sup>≠</sup>∩ syllable, <sup>↑</sup> tree, <sup>+</sup>↑ branch, <sup>≠</sup>↑ leaf, etc. (Note: this has been much simplified later).

The tenses are very easy to construct, though some of them are not necessary. We

need only one tense to express the past and another (opposite) for the future. Now,

<sup>→</sup> this means forward and <sup>←</sup> this backward, <sup>□</sup> this open. This sign is turned about to the "forward time," meaning future. This sign is open backward meaning past. We have then

<sup>○</sup> day, <sup>○∩</sup> yesterday, <sup>○∩</sup> to morrow, <sup>+</sup>I have, <sup>+</sup>I have had, <sup>∩∩</sup>I had, <sup>∩∩</sup>I had had, <sup>+</sup>I will have, etc.

As said before some tenses are unnecessary. This means presence.

So far, the idea of indicators to be put on top of other signs is my own idea. (Note: Later I learned that Leibniz had the same idea in a restricted sense.) Now I am borrowing from the Chinese the idea of the classifier, a sign which is put before other signs, indicating to which class the meaning belongs.

The following classifiers are important: <sup>○</sup> eye, <sup>○</sup> mouth, <sup>∠</sup> nose, <sup>∩</sup> ear, <sup>∩</sup> brain, <sup>L</sup> arm,

<sup>+</sup> geometrical, <sup>⊙</sup> time, <sup>○</sup> food (mouth and earth), <sup>○</sup> colour (eye and earth), <sup>I</sup> tool, <sup>▢</sup> paper,

<sup>∩</sup> language, <sup>∩</sup> fruit, <sup>∩</sup> vegetable, <sup>^</sup> human being, <sup>^</sup> animal (quadruped), <sup>∩</sup> bird, <sup>∩</sup> fish,

<sup>⊙</sup> movement (wheel), <sup>♡</sup> feelings (heart), <sup>+</sup> plus, <sup>-</sup> minus, etc. Here now are a few examples,

<sup>○</sup> eye, <sup>∩</sup> to see, <sup>∩</sup> visible, <sup>∩!</sup> look, <sup>∩!!</sup> attraction, <sup>∩!!</sup> advertisement, etc. <sup>∩!!</sup> showing also the manifold use of the exclamation mark.

<sup>∩</sup> ear, <sup>∩</sup> to hear, <sup>∩</sup> audible, <sup>∩!</sup> a sound, <sup>∩!!</sup> attention, etc.

mouth, to say, speakable, a cry, a shout, etc.

nose, to smell, smelling, a smell, a stench, etc.

brain, to think, thinkable, intuition, etc.

arm, a touch, a blow, etc.

feelings, surprise, a shock, etc.

movement, quick, very quick, sudden, slow, etc. In some of the signs above the exclamation mark has been used extensively. For more classifier signs see below.

I shall now proceed to show you more characters in connection with classifiers. I wish however to point out that often it is not necessary to put the classifier before the sign, because there may be no other meaning to the sign without a classifier. This may be seen in some of the following characters:

geometrical, angle, direction, distance, limit, circle, round, line,

straight, etc. plane, flat, square, curve, (could be shown as opposite to

straight), parallel, opposite, space, base, begin, end, middle, across,

against, meet, separate, between, over, under, through, together, front,

before, back, after, long, short or short, big, small, high, low, etc. (Note: I have abandoned the use of the classifier for such meanings as before, after, above, below, through, long, short, begin, end, and others, because they have only this meaning in the sign shown. The classifier is not necessary. Later, I altered the classifier for geometrical too.)

The following examples show however how some signs take on different meanings with different classifiers before them. This holds especially true for the meanings of space and time.

Before and after in space. Before and after in time. Parallel (space) and

again (time). Begin and end (space). Begin and end (time). Before, front and

behind, back (human person). Start and stop (movement). Push and pull (hand), etc.

I may have to ask the linguist for help with regard to languages which have a very different structure, whether or not more or less classifiers are necessary, and whether or not certain symbols are necessary. For instance I took great pains to invent signs for the 3rd person he, she and it. Yet, in Chinese there is only one sign and one sound for the 3rd person, as the plural in English.

Now, here are more composite signs with the classifier in addition to the ones shown above:

eye, to see, attraction, design, light (sun), darkness, brightness, much

darkness, observation, picture, clear, awake (open), sleep, reading (paper),

⊙:      ⊙      ⊙      ⊙      ⊙      ⊙      ⊙      ⊙  
comparison, beautiful, art, colour, paint, white(paper), yellow(sun), green(tree)

⊙      ⊙      ⊙      ⊙      ⊙  
red(flower), blue(sky), brown(earth), grey(cloud), black(night). etc.

⌒      ⌒      ⌒      ⌒      ⌒      ⌒      ⌒      ⌒  
Classifier ear, to hear, audible, music, rhythm, voice, song, language, loud,

○      ○      ○      ○+!      ○-!  
Classifier mouth, to speak, speakable, approval(yes,positive), denial(negative),

○      ○○      ○!      ○!!      ○      ○      ○~      ○♡      ○♡  
argument, discussion, cry, shout, story, food, drink, sweet, bitter,

○x      ○      ○~  
sour(knife), to eat, to drink, etc.

!      !      !xλ      !↔      ![      !]  
Classifier commerce(%), business, company, competition, credit, debt,

!↑      !↓      !+      !-      +      +      !□      !□      ▽  
increase, decrease, profit, loss, property, owner, store, office, scale,

△      △  
heavy, light, etc.

∩      ∩      ∩      ∩      ∩      ∩      ∩  
Classifier fire, ice, hot, cold, flame, match, smoke(after), etc.

~      ↑      ↓      ↑      ↑      ~      ~  
Classifier water, to boil, to rain, boiler, drop(part), wet, dry, etc.

^      ^      ^      ^      ^      ^      ^      ^  
Classifier human body, body, bone, face(front) back, arm, hand, finger,

^△      ^▽  
healthiness, disease, (these latter symbols have been abandoned in favour of better ones).

∠      ∠      ∠      ∠      ∠      ∠      ∠      ∠  
Classifier nose, to smell, to breath, to taste, air(sky), wind, storm, etc.

9  
Classifier vegetable, it would be senseless to make a sign for every vegetable grown in various countries and known under different names. The simple thing is therefore to have them numbered in a new dictionary. For instance

911      97      915  
potatoes, spinach, cabbage, etc. (this idea has been later elaborated and simplified). Few numbers are necessary to indicate common vegetables.

6      62      65      67      612  
Classifier fruit(as above), apple, pear, orange, grape fruit, etc.

⊙  
Classifier for building(not yet decided)(Later I chose the well-known builder's tool) We can form fundament, church(see later), hospital, factory, roof, etc.

□      □      □      □      □      □  
Classifier room, ceiling, (later abandoned), table, chair, door, curtain, etc.

⊥      ⊥      ⊥      ⊥      ⊥      ⊥  
Classifier tool(work in Chinese, abandoned later) ball, ring, and without it

↑      ×      ○      ↑      ↑      ♂      ♀  
hammer, knife, bottle, nail, umbrella, spoon, fork, etc.



Classifier for military(sword), attack, defense, fight, soldier, army, etc.

Classifier for movement(wheel), motion, carriage, train, engine, machine(sun),

station, road, street, way, quick, slow, sudden, factory, etc.

Classifier for chemical(retort), chemist, acid(knife), chem.liquid, analysis,

Classifier for electricity(lightning) telephone, telegram, elec. train, etc.

Classifier for paper, book, advertisement, agreement, new, old, newspaper, map,

history, library, writing(pen), to write, page, line, letter, copy, etc.

Here are a few examples how to make use of certain common signs like:

opening, closure, question, answer, awake(eye), sleep, able to speak, dumb,

able to hear, deaf, public, secrecy, to be secret, secretary, stove(fire),

harbour, free man, prisoner, feeling of free, unfree, etc.

Classifier for feelings (heart), beautiful, ugly, believe(see later), doubt,

safe, danger, hope, fear, desire, disgust, pleasure, worry, happiness,

sadness, love, hate, rest, tiredness, kind, cruel, left, right, to be

used in the abstract meanings of right and wrong, etc.

Classifier for mental(brain), to do (abandoned later) wisdom, wise, foolish,

memory(past), foresight, science, theory, thought, discovery, idea(new),

interest, invention(machine), opinion, knowledge(house), experience, expert,

intuition, propheet, etc.

At the end of this lecture I may show you a few examples which indicate that it is possible to express in simple signs even the most abstract meanings. By using a sign and converting it geometrically, we may get the opposite meaning, thus it becomes unnecessary to use the special sign for opposite (shown before). Furthermore by using the same sign on a small and on a larger scale we can express meanings which in themselves have somehow a small and a larger meaning:

I work, construction, to make, Creation, to damage, to destruct. Then we may

form evolution, and the contrary. Then we have good and bad in the sense of make

$\frac{+}{\triangle}$  able or  $\frac{\triangle}{\triangle}$  can,  $\frac{-}{\triangle}$  unable or cannot (abandoned completely),  $\frac{\heartsuit}{\triangle}$  pride,  $\frac{\heartsuit}{\triangle}$  shame,  $\frac{\triangle}{\triangle}$  good and  
 $\frac{\nabla}{\triangle}$  bad in the ethical sense (creation),  $\frac{\triangle}{\triangle}$  truth and  $\frac{\nabla}{\triangle}$  lie, a  $\frac{\triangle}{\triangle}$  friend (a man who speak  
the truth). At last, the symbol for God, the Creator, the age-old symbol.

These explanations form the end of my lecture, and I shall now answer questions. There is I think one question which surely you are going to ask: "What are you going to do with this invention?". Well, nothing at present, and it is highly questionable whether if ever I would live to see my idea developed. I have given this lecture only to have a claim to history, in case later on someone else will be successful with it. I am perfectly sure that a system like this will be developed sooner or later, and already some signs in this direction are visible. For instance, in my business line: on home movie projectore of a certain brand which is exported throughout the world, there are signs instead of words in different languages to indicate the use of the various knobs, levers, etc., as for instance in, out, lamp brighter, or less bright, motor faster or slower, etc. These pictorial signs are affixed to the projector.

The younger ones among you may live to see an international system of signs adopted by all communication institutions and used on all trains, stations, buses, airplanes, ships, ports, etc. indicating the necessary information to everybody no matter what languages he speaks. Perhaps it might be my system which is adopted, but it would not matter if it were the system of someone else, as he and I are both only tools of the Creator.

Let me finish my lecture by demonstrating the interpretation of an old symbol. It occured to me just a few days ago when preparing my lecture. It is an old symbol dear to many people for thousands of years. Let us symbolize

$\frac{\nabla}{\triangle}$  the evil conquered by the good to form this symbol.  $\frac{\nabla}{\triangle}$

End of lecture notes

Note by Bliss: In re-reading and writing these lecture notes 12 years later, I realize how primitive my thoughts were 12 years ago when I started to work on this idea. I refer especially to the abstract meanings of good and evil. With regard to their interpretation I have changed my thoughts considerably. However with regard to pictorial symbols, little change has taken place and this is as it should be, because after all, pictorial signs are only schematized drawings of real things.

For the researcher who wants to see my original notes, I wish to inform him that they are with me, but a photostat copy is deposited with the United States Copyright Office in Washington under the year of deposition 1946.