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PUBLISHING

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This book first published 2014

Cambridge Scholars Publishing

12 Back Chapman Street, Newcastle upon Tyne, NE6 2XX, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN (10): 1-4438-6533-8, ISBN (13): 978-1-4438-6533-3

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PREFACE

The widely accepted theory [1, 2] among linguists holds that English letters represent sounds only, which made the alphabet useful for all peoples to write their own language in. That is to say, English words were created by writing down their pronunciations in spoken language.

In our opinion, this dominant theory not only contradicts with the common sense that the information obtained by eyes is much more than that obtained by ears, but also contradicts with the logic reasoning as follows:

It is known from logic reasoning that the definition of one concept can only be made by some other defined concepts. So eventually people have to rely on some concepts, which don't need to be defined, and these concepts can be classified into two categories: self-evident truths or generally acknowledged hypotheses [3].

Because English words are composed of letters, so their definitions should be made by the concepts implicit in English letters, which are something similar to self-evident truths or generally acknowledged hypotheses and don't need to be defined. That is to say, 1) English letters also represent some concepts; 2) English words have ideographic characteristics. This is the one hand.

On the other hand, the definitions of English words provide a path to back-trace the concepts represented by the component letters. Because this method only focuses on the "fixed" English spelling current in the dictionaries, it can avoid the nonchalant spelling before orthography, as mentioned in the book [1]:

> Within a few lines, a scribe might spell both *water* and *watter*, *treese* and *tres* 'trees,' *nakid* and *nakyd* 'naked,' *eddre* and *edder* 'adder,' *moneth* and *moneþ* 'month,' *clowdes* and *clowdeȝ* 'clouds', as did the scribe who copied out a manuscript of the Wycliffe Bible.

And this method is also feasible, because the orthography was performed by only a few persons such as learned men and printers supposed to have some God-given power of determining which are "good" words and which are "bad" ones and to know how they "ought" to be pronounced [1]. That is to say, if we can reveal the God-given power of

determining which are "good" words or not, we can also know how an English word "ought" to be pronounced.

Here a question arises: what is the God-given power of determining which are "good" words or not?

In our opinion, the God-given power is implicit in the fact that English words were created based on the ancient theory of the four elements (*earth, fire, water and air*), and following the intellectual traditions of the Westerners, as revealed by Nisbett [4]:

> and (c) make more inductive use of categories, that is, generalize from particular instances of a category to other instances or to the category as a whole…

And to reveal the God-given power is the task of this book.

The back-tracing research reveals that: 1) there is a time sequence and a space relationship corresponding to the component letter sequence in a morpheme, due to the fact that English is a linearly written left-to-right language and the space relationship between the four elements. 2) Because the sun is the source of the element *fire/light*, there are many morphemes closely related to the sun. And the fact that there are only four elements but 26 English letters determines that one element can be represented by several letters. Thus, the same meaning can be easily represented in different alphabets. And the morphemes closely related to the sun and the different alphabets with the same meaning (i.e., synonyms) can be used to cross-check the back-traced concepts represented by the component letters, to guide the corresponding analysis, to reveal self-evident truths or generally acknowledged hypotheses implicit in the morphemes.

The back-traced concepts represented by the component letters in morphemes, generally speaking, belong to the particular instances of a category. So, we propose another method to obtain the particular instance(s) and the generalized concepts represented by English letters (i.e., the root ideas of English letters) based on the shape resemblance between the particular instance and an English letter and logically following the intellectual traditions of the Westerners.

And the generalization method can be summarized as follows:

The ancient atomist theory by Democritus (born about 460 BCE) held that

> There are smallest indivisible bodies from which everything else is composed, and that these move about in an infinite void space [http://plato.stanford.edu/entries/democritus/].

Similarly, the letter l is the smallest indivisible unit in the alphabet from which other letters are composed. Thus, the role of the letter l in the alphabet is similar to that of the atom in the ancient atomist theory. And according to the ancient four elements theory, the role of each element is similar to that of the atom in the ancient atomist theory. So it can be derived that the letter l represents one of the four elements, i.e., 1) the letter l—the element of earth, or water, or air, or fire, i.e. sth.

The above analysis is made in *the category of sth*. Similarly, in *the category of living things* represented by *sb*, it can be derived that:

2) the letter l—one of living things (persons, animals or plants)

3) the letter l—the linear part of the human body (i.e., sb's body), such as arm, leg, hair, etc, or the linear part of animals or plants, because the letter l is shapely linear.

So, based on the generalized concepts represented by the letter l, the root ideas of other letters can also be generalized from one particular instance to other instances in the category of *sth* or in the category of *living things* represented by *sb* or to the category as a whole.

And it is easy to derive that the back-traced concepts represented by the component letters in morphemes and the logically generalized root ideas of English letters provide a macro platform to cross-check each other, which is helpful in analyzing the ideographic characteristics of morphemes.

Finally it should be pointed out that, because English is not the native language of the authors, it's inevitable that there must be some mistakes. And the authors are very appreciative of the help by readers to correct these mistakes.

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[2] ИСТРИН В А. *ВОЗНИКНОВЕНИЕ И РАЗВИТИЕ ПИСВМА Издательство*. НАУКА, Москва:Второе издание,1971.(In Chinese).

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PART I:

METHODOLOGY

CHAPTER ONE

INTRODUCTION TO BACK-TRACING METHOD

This Chapter presents the method to back-trace the concepts represented by the component letters from the definitions of morphemes. And the research reveals that: 1) English words were created based on the ancient theory of the four elements (*earth, fire, water and air*) and following the intellectual traditions of the Westerners, as revealed by Nisbett. 2) There is a time sequence and a space relationship corresponding to the component letter sequence in a morpheme, due to the fact that English is a linearly written left-to-right language and the space relationship between the four elements. 3) Because the sun is the source of the element *fire/light*, there are many morphemes closely related to the sun. And the fact that there are only four elements but 26 English letters determines that one element can be represented by several letters. Thus, the same meaning can be easily represented in different alphabets. And the morphemes closely related to the sun and the different alphabets with the same meaning (i.e., synonyms) can be used to cross-check the back-traced concepts represented by the component letters.

1. Introduction

The widely accepted theory [1, 2] among linguists holds that English letters represent sounds only, which made the alphabet useful for all peoples to write their own language in. That is to say, English words were created by writing down their pronunciations in spoken language.

In our opinion, this dominant theory not only contradicts with the common sense that the information obtained by eyes is much more than that obtained by ears, but also contradicts with the logic reasoning as follows:

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On the other hand, the definitions of English words provide a path to back-trace the concepts represented by the component letters. Because this method only focuses on the "fixed" English spelling current in the dictionaries, it can avoid the nonchalant spelling before orthography, as mentioned in the book [1]:

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And this method is also feasible, because the orthography was performed by only a few persons such as learned men and printers

> supposed to have some God-given power of determining which are "good" words and which are "bad" ones and to know how they "ought" to be pronounced [1].

That is to say, if we can reveal the God-given power of determining which are "good" words or not, we can also know how an English word "ought" to be pronounced.

Here a question arises: what is the God-given power of determining which are "good" words or not?

In order to answer the above question, we should turn back to the ancient theory of the four elements (*earth, fire, water and air*):

> According to http://en.wikipedia.org/wiki/Classical_element, Many philosophies and worldviews have a set of classical elements believed to reflect the simplest essential parts and principles of which anything consists or upon which the constitution and fundamental powers of anything are based. Most frequently, *classical elements* refer to ancient beliefs inspired by natural observation of the phases of matter.
>
> In classical thought, the four elements Earth, Water, Air, and Fire frequently occur, sometimes including a fifth element or *quintessence* (after "quint" meaning "fifth") called Aether in ancient Greece and India. The concept of the five elements formed a basis of analysis in both Hinduism and Buddhism.

> The concept of the five classical elements in the Western tradition may originate from Babylonian mythology.
>
> The Greek classical elements (Earth, Water, Air, Fire, and Aether) dated from pre-Socratic times and persisted throughout the Middle Ages and into the Renaissance, deeply influencing European thought and culture.

In our opinion, the deep influence of the ancient four elements theory on European thought and culture is in fact implicit in English words. That is to say, English words were created based on the ancient four elements theory. This is the one hand. On the other hand, the ancient four elements theory also deeply influenced the intellectual traditions of the Westerners, as revealed by Nisbett [4]:

> and (c) make more inductive use of categories, that is, generalize from particular instances of a category to other instances or to the category as a whole…

And to reveal these two kinds of deep influence is the task of this book.

Based on the above background, the God-given power of determining which are "good" words or not can be briefed as follows.

As mentioned above, it is known from logic reasoning that the definition of one concept can only be made by some other defined concepts. Similarly, the definition of an English morpheme should be made by the concepts represented by the component letters. So, it can be derived that the component letters in an English morpheme represent not only some concepts but also some basic laws to specify the relationship(s) between the concepts. And our research reveals that, 1) the concepts represented by the component letters in morphemes can be classified into three kinds: the first kind related to the four elements, the second kind describing the space relationship between the four elements, and the third kind related to living things such as humans, animals, or plants, 2) and there are two basic laws behind English morphemes: the time sequence and the space relationship corresponding to the component letter sequence in a morpheme. Obviously, the former basic law is due to the fact that English is a linearly written left-to-right language, and the later basic law is due to the space relationship between the four elements.

Now that English words were created based on the ancient theory of the four elements (*earth, fire, water and air*), the morpheme *sun* or *solis* should play a crucial role in creating words, because the sun is the source of the element *fire/light*. So, it can be derived that there are many

morphemes closely related to the sun, which provide a platform to cross-check the concepts back-traced from the definitions of the morphemes.

Moreover, the fact that there are only four classical elements but there are 26 English letters determines that one classical element can be represented by several letters. So, the same meaning can be easily represented in different alphabets, and these synonyms form another kind of closely related morphemes to cross-check the back-traced concepts represented by English letters.

This Chapter is organized as follows: 1) the Section 2 presents the procedures to determine the literal meaning(s) (or the definition) of an English morpheme, 2) the Section 3 presents the two basic laws corresponding to the component letter sequence in a morpheme, i.e., the time sequence and space relationships implicit in morphemes, and 3) the Section 4 presents cross-check of the back-traced concepts represented by English letters among the closely related morphemes.

2. Procedures of back-tracing

Before back-tracing the concepts represented by the component letters in an English morpheme, it's necessary to have a general understanding about word formation and conversion [5~7].

According to the book [5]: the term "*morpheme*" can be classified into the following 4 categories: 1) **prefix**, 2) **suffix**, 3) **word root**, 4) **base word**.

Here a question arises: many words, such as *bottle*, can be used either as a noun or as a verb, how can we determine that the verb is derived from the noun and not the noun that is derived from the verb. That is to say, how can we determine the noun is a base word and not the verb? So, we have to understand conversion.

And the book [5] also provides several ways to solve the above problem. For an example, the word *launch* can be used either as a verb or as a noun, whose meanings are listed as follows. And by the ways mentioned in the book [5], we can determine that, for the word *launch,* the verb is the base word and the noun is derived from the verb.

launch[1]: *v.* 1) put (sth) into motion, send on its course, 2) cause (a ship, esp one newly built) to move into the water, 3) put (sth/sb) into action, set going, 4) (*phr* v) **launch (out) into sth** enter boldly or freely into (a course of action)

launch[2]: *n.* (esp *sing*) process of putting into motion a ship, spacecraft or new product

launch[3]: *n.* large motor boat

Please notice that the verb of the word *launch* has three meanings. So, a question arises: which one is the literal meaning (or the definition) for the verb of the word *launch*?

And in order to answer the above question, we should have a general understanding about words and meanings. Following the certain paths along which a word changes its meaning as mentioned in the book [5], we are able to answer the above question.

For the verb of the word *launch*, the second meaning, i.e., cause (a ship, esp one newly built) to move into the water, is its literal meaning (or the definition), and the other two meanings are the generalization of the literal meaning. And after determining the literal meaning (or the definition) of the word *launch*, it is now suitable for back-tracing the concepts represented by the component letters.

Generally speaking, an English morpheme, after being treated by the above procedures, has only one literal meaning (or the definition). But there are some morphemes with more than one literal meaning, such as *squall* (as listed below). And these (more than one) literal meanings are also due to the fact that there are only four classical elements but there are 26 English letters, so they can be analyzed respectively.

squall: *n.* 1) sudden violent wind, often with rain or snow, 2) loud cry or scream of pain or fear (esp from a baby)

Here it should be pointed out that, 1) all the example words and their meanings are excerpted from the dictionary [8], 2) in the following analysis on morphemes, only the literal meaning (sometimes with its closely related meaning) will be excerpted.

3. The basic laws behind morphemes

3.1 The time sequence implicit in morphemes

English is a linearly written left-to-right language, and this determines the time sequence of a letter sequence *AB* in a morpheme: i.e., what the letter *A* represents is prior to what the letter *B* represents. In short, the time sequence implicit in morphemes is from left to right, which is illustrated by the analysis on some typical words.

go: *v.* 1(**a**) move or travel from one place to another, (**b**) leave one place in order to reach another,…

Analysis: the word *go* can be analyzed as shown in the Fig.1-1, in which

1) the letter *g* represents *the earth*, 2) the letter *o* represents *the sun*.

And for the simplicity of writing, the above expressions are abbreviated as: *g—the earth, o—the sun*.

Thus, the literal meaning of the word *go* is: *the movement of the sun around the earth*. And similarly, it is abbreviated as: *go—the movement of the sun around the earth*.

Comment: Ⅰ) Obviously behind the word *go* is geocentrism: This theory was accepted as standard throughout the Western world through the Middle Ages and the Renaissance. [http://rationalwi ki.org/wiki/Geocentrism].

Ⅱ) Behind the word *go* is the time view and the space view. To be specific, 1) the east (or the right side) corresponds to the rise of the sun, which is implicit in the position of the letter *o* in the word *go*, while the west (or the left side) corresponds to the fall of the sun. 2) The east implies the future of time, while the west implies the passing of time, and this determines the time sequence implicit in words.

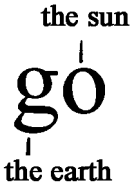


Fig.1-1 The analysis on *go*

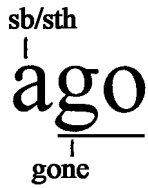


Fig.1-2 The analysis on *ago*

ago: *adv.* (used after the word or phrase it modifies, esp with the simple past tense, not with the perfect tense) gone by, in the past

Analysis: the word *ago* can be analyzed as shown in the Fig.1-2, in which 1) *a—sb/sth*, 2) *go—gone*. Thus, *ago—sb/sth gone*, because the letter *a* is prior to *go*.

The word root **mob**, **mot**, **mov** [L **mobilis**, **motus**, **movere**=to move], where L—Latin

Analysis: the Latin word *mobilis* can be analyzed as shown in the Fig.1-3, in which 1) *m=g—the earth*, 2) *o*=the letter *o* in the letter *b—the sun*, and the letter *l* in the letter *b=l=s—light flow*, 3) *i=y=v+l—light going out of the sun*, because the letter *v*—the letter *o* (i.e., *the sun*) *opens*, and the letter *l* in the letter *y—sunlight*. Thus, *mobilis—the sun moves around the earth and gives off sunlight*, which is similar to the word *go*.

Please notice the time sequence implicit in the word *mobilis*. The letter string *bil* corresponds to *the past time* that the sun gave off light, while the letter string *is* corresponds to *the present time* that the sun gives off light. And the letter string *bilis* implies that the sun gives off light *repeatedly, or*

continuously, i.e., *the sun will also give off light forever in the future*.

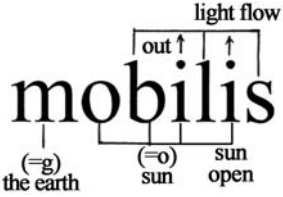


Fig.1-3 The analysis on *mobilis*

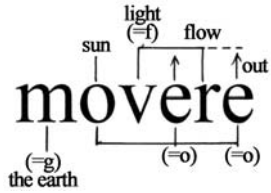


Fig.1-4 The analysis on *movere*

Analysis: the word *movere* can be analyzed as shown in the Fig.1-4, in which 1) *m=g—the earth*, 2) *o*=the letter *o* in the letter *e—the sun*, 3) *v=f=r—sunlight flow*. So, its literal meaning is the same as that of the word *mobilis*.

Please also notice the time sequence implicit in the word *movere*. The letter string *ve* corresponds to *the past time* that the sun gave off light, while the letter string *re* corresponds to *the present time* that the sun gives off light. Thus, the letter string *vere* implies that *the sun will give off light forever in the future*.

Comment: the words *go*, *mobilis* and *movere* show that the same meaning can be easily represented in different alphabets.

Also, taking the word *movere* as an example, some notational conventions in this book are defined as follows:

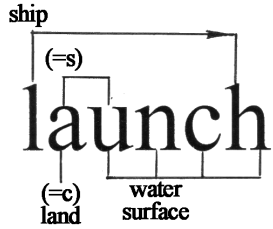
1) As mentioned above, *m—the earth* is the abbreviation of the expression that the letter *m* represents *the earth*.

2) The relationship that *o*=the letter *o* in the letter *e—the sun* is shown in the Fig. 1-4 by a solid line connecting the letter *o* and the other two *e* letters. And similarly, the letter *v* and *r* are connected by another solid line.

launch: *v.* 1) put (sth) into motion, send on its course, 2) cause (a ship, esp one newly built) to move into the water…

Analysis: the word *launch* can be analyzed as shown in the Fig.1-5, in which 1) $l=l_a$ in the letter *h—a ship*, 2) the letter *c* in the letter *a—the earth*, i.e., *land*, 3) the letter *s* in the letter $a=u=n=c=l_c$ in the letter *h—water surface*. So, *launch—cause (a ship, esp one newly built) to move into the water from land*.

Comment: 1) in order to illustrate the time sequence implicit in the word *launch*, a right-pointing arrow is given. And this kind of arrow will not be given in the following analysis unless necessary. 2) The digraph *ch* is an archaic spelling, whose analysis will be detailed in the Chapter 3.



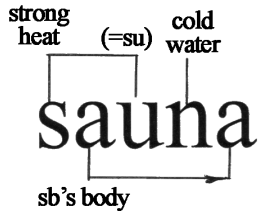


Fig.1-5 The analysis on *launch* Fig.1-6 The analysis on *sauna*

sauna: *n.* (**a**) period of sitting or lying in a special room heated to a very high temperature, often followed by a quick bath in cold water, (**b**) room for this

Analysis: the word *sauna* can be analyzed as shown in the Fig.1-6, in which 1) *s+u=su—strong heat*, 2) *n—water*, i.e., *cold water*, 3) *a—sb's body*. And combining with the time sequence as shown by the right-pointing arrow, its literal meaning is obvious.

Comment: 1) *su—strong heat* will be detailed in the following analysis, 2) *sau—sb's body is in the strong heat*, because *a* is between *s* and *u*, which expresses one kind of space relationship and is a common practice implicit in words.

The word root **alter**, **altern**, **altr** (the variant of **alter**) [L **alter**=other], where L=Latin

Analysis: the Latin word *alter* can be analyzed as shown in the Fig.1-7, in which 1) the letter *s* in the letter *a=l—sth linear*, i.e., *old antler*, 2) the letter *c* in the letter *a=t=*the letter *o* in the letter *e—stag's head*, 3) *r—young one*, *sth sharp*, i.e., *new antler*. So, 1) *alt—old antler on a stag's head*, 2) *ter—new antler growing out of the stag's head*. Thus, *alter—new antler grows out of a stag's head to replace the old one.*

Please notice the time sequence implicit in the word *alter*: *alt* is prior to *ter*.

Comment: Here it is necessary to introduce the backgrounds of the word *alter*, [from the Internet]:

> Deer antlers are cranial appendages that develop after birth as extensions of a permanent protuberance (pedicle) on the frontal bone…These primary antlers are then shed and regenerated the following year in a larger, more complex form…In red deer, the species that we study, casting of the old set of antlers is followed immediately by growth of the new set…To put it mildly, the growth of antlers is a unique phenomenon.

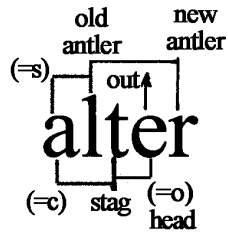


Fig.1-7 The analysis on *alter*

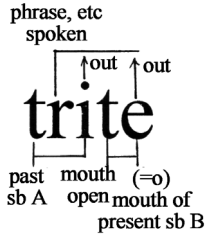


Fig.1-8 The analysis on *trite*

trite: *adj.* (of a phrase, an opinion, etc) not new or original, because often used, hackneyed, commonplace

Analysis: the word *trite* can be analyzed as shown in the Fig.1-8, in which 1) *t* (the first)—*sb A* (*past*), 2) *r—flow of air* (*sound*), i.e., *a phrase, etc*, 3) *i—a phrase out of the mouth of sb A*, 4) *t*(the second)—*sb B* (*present*), 5) the letter *o* in the letter *e—the mouth of sb B*. So, *trite—what sb B says is the phrase, etc spoken by sb A who had gone (or said)*.

The above analysis is based on the direction of writing from left to right, but according to the book [1]:

> In the early days, the Greeks wrote from right to left, as the Semitic peoples usually did and as Hebrew is still written. But sometimes the early Greeks would change direction in alternate lines, for instance, at the right, then changing direction at the end of the line, so that the next line went from left to right, and continuing this change of direction in alternate lines throughout. Solon's laws were so written…eventually, however, they settled down to writing from left to right, the direction we still use.

The above historical facts suggest that there should be morphemes, in which the time sequence is from right to left, contrary to the time sequence from left to right as analyzed above. Here the words *leach* and *bleach* are used as examples to illustrate this point.

leach: *v.* 1) make (liquid) percolate through soil, ore, ash, etc,…

Analysis: the word *leach* can be analyzed as shown in the Fig.1-9, in which 1) *l*=the letter *s* in the letter *a*=l_a in the letter *h—water, liquid*, 2) the letter *o* in the letter *e*=the letter *c* in the *a*= *c*= l_c in the letter *h—earth, soil*, and also the letter *o* in the letter *e—openings*. So, 1) *a=ch—liquid goes into soil*, and then 2) *le—liquid goes out of the soil*.

Obviously, the time implicit in *ach* is prior to that in *le*.

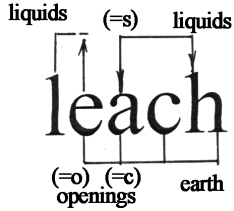


Fig.1-9 The analysis on *leach*

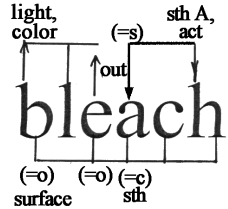


Fig.1-10 The analysis on *bleach*

bleach: *v.* (cause sth to) become white or pale (by chemical action or sunlight)

Analysis: the word *bleach* can be analyzed as shown in the Fig.1-10, in which 1) the letter *o* in the letter *b*=the letter *o* in the letter *e*=the letter *c* in the letter $a=c=l_c$—*sth's surface*, 2) the letter *l* in the letter *b*=*l*—*light/color*, 3) the letter *s* in the letter $a=l_a$—*sth A, act*. So, 1) *ach*—*sth A acts on sth*, 2) *ble*—*light/color goes out of sth's surface,* i.e., *sth becomes white or pale.*

Obviously, the time implicit in *ach* is prior to that in *ble*.

3.2 The space relationship implicit in morphemes

According to the four elements theory, the relationship between the earth element and the other three elements can be described as follows:

All matter in the universe was comprised of just four elements: earth, fire, water and air. The earth element represents the source from which we obtain our nourishment. It is the basis on which everything else is built [http://en.wikipedia.org/wiki/Classical_element]. And this relationship is in fact implicit in the lower case *a* as shown in the Fig.1-11.

As will be analyzed in the next Chapter: shapely, the lower case *a* is composed of one c letter and one symbol similar to the letter s, which is in fact equivalent to the letter s, please refer to the Fig.1-11(1). So, 1a) the lower case a—the letter s is in/on the letter c. And the Fig.1-11(2) shows one particular instance of what the lower case a represents: the water rises up to such a higher degree that the earth is completely covered in it, i.e., 1b) the lower case a—the Noah flood, flood, which is implicit in the meaning of the *pref a-*.

a-: *pref* 1) (with *ns, adjs* and *advs*) not, without, 2) (with *vs* forming *adjs*) in the state or process of

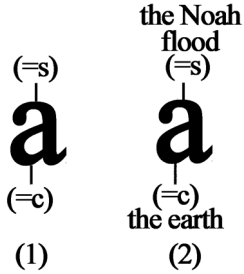


Fig.1-11 Analysis on the lower case *a*

Humorism was closely related to the theory of the four elements, which holds that the human body was filled with four basic substances, called humors, which are in balance when a person is healthy. All diseases and disabilities supposedly resulted from an excess or deficit of one of these four humors [http://en.wikipedia.org/wiki/Humorism].

And according to the theory of humorism: one person has four bodies known as the physical body (corresponding to the earth element), the emotional body (corresponding to the water element), the mental body (corresponding to the air element) and the spirit/etheric body (corresponding to the fire element).

3.2.1 The space *in/out* or *on/off* relationship implicit in morphemes

Based on the four elements theory and the related theory of humorism, for a letter sequence *CD* in a morpheme, the space relationship between *C* and *D* can be derived as follows:

1) *C* is the basis on which *D* is built. To be specific, *D* is *on* or *in C*.

2) If *D* is the basis on which *C* is built, it means *C* goes *out of* or *off D*.

And these two kinds of relationship are named as the space *in/out* or *on/off* relationship implicit in words, which are illustrated by the analysis on the typical morphemes as follows.

age: *v.* 1) grow old, showing signs of growing old,…

Analysis: the word *age* can be analyzed as shown in the Fig.1-12, in which 1) the letter *c* in the letter *a*=*g*=the letter *o* in the letter *e—sb's physical body*, and also the letter *o* in the letter *e—the opening of sb's body*, 2) the letter *s* in the letter *a—bodily liquids*, 3) *e—sth* (i.e., *bodily liquids*) *goes out of sb's body through the opening*. So, *age—the bodily liquids in sb's physical body are gradually going out*.

Comment: 1) the word *age* is based on the ancient belief: because people believed that the quantity of humors in the body could not be replenished, there were folk-medical beliefs that the loss of fluids was a form of death

[http://en.wikipedia.org/wiki/Humorism], which is also the basis of the word *corpse*. 2) The letter *s* in the letter *a* is between the letter *c* in the letter *a* and the letter g, which shows directly that *s* is confined by *c* and *g*. That is to say, *bodily liquids* (represented by *s*) are in *sb's physical body* (represented by *c* and *g*). And this is also a common practice to express one kind of space relationship as mentioned in the analysis on the word *sauna*.

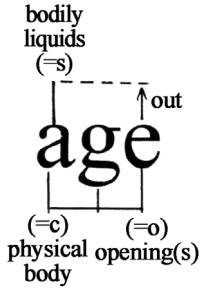


Fig. 1-12 The analysis on *age*

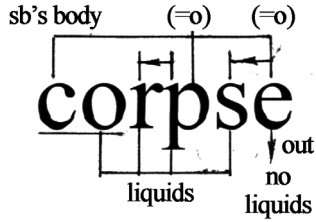


Fig.1-13 The analysis on *corpse*

corpse: *n.* dead body (esp of a human being)

Analysis: the word *corpse* can be analyzed as shown in the Fig.1-13, in which 1) *c*=the letter *o* in the letter *p*=the letter *o* in the letter *e—sb's physical body*, 2) *o=r*= the letter *l* in the letter *p=s—bodily liquids*. So, according to the space *in/out* relationship implicit in words, *co=p—bodily liquids in sb's physical body*, while *rp=se—bodily liquids are going out of sb's body*, which is illustrated by the two left-pointing arrows. And combining with the time sequence implicit in words, *e—no bodily liquids are going out of sb's body,* i.e., *there are no bodily liquids in sb's physical body (a dead body).*

Comment: please notice that, in the word *corpse*, *p—bodily liquids in sb's physical body*, which illustrates that the space relationship can also be represented by a letter.

aero-: *comb form.* of air or aircraft

Analysis: the morpheme *aero-* can be analyzed as shown in the Fig.1-14, in which 1) the letter *c* in the letter *a—the earth*, i.e., *bottom*, 2) the letter *s* in the letter *a*= the letter *o* in the letter *e=o—water,* and also *o—surface*, 3) *r—air flow*, 4) *e—sth* (i.e., *air flow*) *goes out of water surface*.

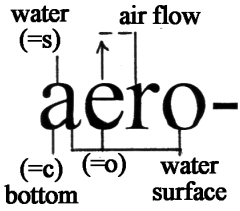


Fig. 1-14 The analysis on *aero-*

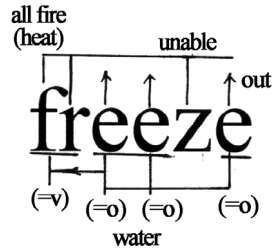


Fig.1-15 The analysis on *freeze*

freeze: *v.* (esp of water) change or be changed from liquid to solid by extreme cold

Analysis: the word *freeze* can be analyzed as shown in the Fig.1-15, in which 1) *f=v, r=s*, so *fr=vr=vs=su—all the fire* (*all the heat*), 2) the letter *o* in the letter *e—water*, 3) *z—sth* (i.e., *heat*) *goes out with difficulty*, i.e., *unable to go out later*. So, 1) *free—all the heat has gone out of water repeatedly* due to the two *e* letters next to each other, and 2) *freeze—no heat goes out of water later*, i.e., there is no heat in water.

Comment: the above analysis on the morphemes *aero-* and *freeze* reveals the relationship among the three elements: *water, air* and *fire* (*heat*).

life: *n.* 1) ability to function and grow that distinguishes living animals and plants from dead and from rocks, metals, etc,…

Analysis: the word *life* can be analyzed as shown in the Fig.1-16, in which 1) *l=f—the element of fire*, 2) the letter *o* in the letter *e—the body of living things*, 3) *i=e*. So, *li=fe—fire goes out of the body of living things repeatedly.*

Comment: the word *life* provides another criterion to judge whether sb or sth is alive or not, besides the criterion as revealed in the analysis on the word *corpse*.

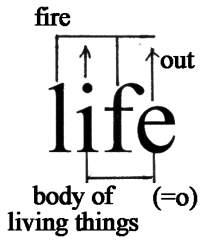


Fig.1-16 The analysis on *life*

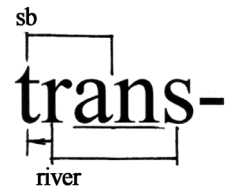


Fig.1-17 The analysis on *trans-*

trans-: *pref* 1) (with *adjs*) across, beyond, 2) (with *vs*) into another place or state

Analysis: the morpheme *trans-* can be analyzed as shown in the Fig.1-17, in which 1) *t=an=ant—sb*, 2) *r=s—a river.* So, 1) *rans—sb is in the river*, 2) *tr—sb has crossed the river*, which is marked by a left-pointing arrow.

Comment: please notice that, in the morpheme *trans-,* because *an (sb)* is between *r (a river)* and *s (the river),* this determines that *rans—sb is in the river*.

3.2.2 The space *up/down* relationship implicit in words

There is also the space *up/down* relationship implicit in the words, which is illustrated by the analysis on the words *crop, bridge, boat* and *spill*.

crop: *n.* 1) (**a**) amount of grain, hay, fruit, etc grown in one year or season

Analysis: the word *crop* can be analyzed as shown in the Fig.1-18, in which 1) *c=g—ground*, *r=*the letter *l* in the letter *p—plants*, so *cr—plants growing on the ground*, 2) *o=*the letter *o* in the letter *p—sth circular,* i.e., *grain, fruit, etc*. So, 1) *p—grain, fruit, etc growing on the upper part of the plants*, 2) *o—the grain, fruit, etc cut off the plants,* which is marked by a left-pointing arrow.

Comment: 1) In the letter *p*, the component letter *l* provides a background to show the *up/down* space relationship with the component letter *o*. 2) In the word *crop,* the contrast between the letter *o* and the letter *p* also specifies that the letter *o* in the letter *p* has gone out of the component letter l. And this is also a common practice to specify the space relationship in words.

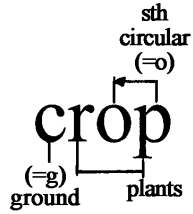


Fig.1-18 The analysis on *crop*

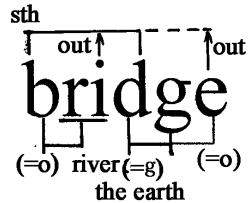


Fig.1-19 The analysis on *bridge*

bridge: *n.* 1) structure of wood, iron, concrete, etc, providing a way across a river, road, railway, etc,…

Analysis: the word *bridge* can be analyzed as shown in the Fig.1-19, in which 1) the letter *l* in the letter *b*=the letter *l* in the letter *d—sth erected* (a concept to be defined), 2) the letter *o* in the letter *b=r—a river*, so *ri—sth out of river water*, 3) the letter *c/g* in the letter *d=g*=the letter *o* in the letter *e—the earth's surface*, i.e., *ground's surface*, 4) *e—sth out(or up)*. Thus, *bridge—sth across a river and built on the ground*.

Comment: 1) in the word *bridge*, only *sth erected* (a concept to be defined) is unknown and the other concepts are known, which agrees with the fact that the definition of a concept is based on other defined (i.e., known) concepts.

2) In the letter *b*, the component letter *o* (*=r—a small river*) is located at the lower part of the component letter *l* (*—a bridge*), which is the *up/down* relationship implicit in words and will not be detailed in the later analysis, unless necessary, for the simplicity of writing.

boat: *n.* 1) small vessel for traveling in on water, moved by oars, sails or a motor, 2) any ship

Analysis: the word *boat* can be analyzed as shown in the Fig.1-20, in which 1) the letter *l* in the letter *b=at—sth made of wood,* because *a—sth* (a concept to be defined), and *t—tree,* i.e., *wood*, 2) the letter *o* in the letter *b=o—water surface.* Thus, *boat—sth made of wood floating on water*.

Comment: please notice that, in the letter *b*, the lower part of the letter *l* (a small vessel) is in *o* (water), and the upper part of the letter *l* (a small vessel) is above *o* (water).

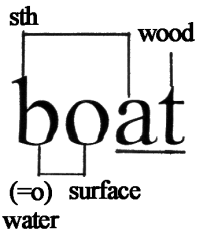


Fig. 1-20 The analysis on *boat*

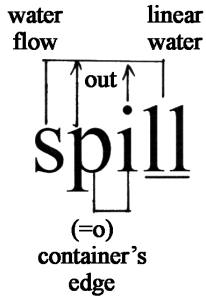


Fig. 1-21 The analysis on *spill*

spill: *v.* (allow or cause liquid, etc to) run or fall over the edge of a container,…

Analysis: the word *spill* can be analyzed as shown in the Fig.1-21, in which 1) *s*= the letter *l* in the letter *p=l—linear water flow*, 2) the letter *o* in the letter *p—the opening (edge) of a container*, 3) *i—sth* (i.e., *linear water*) *goes out of the container.*

4. Cross check among the closely related morphemes

As mentioned in the Introduction, English words were created based on the ancient theory of the four elements (*earth, fire, water and air*). Because *the sun* is the source of the element *fire/light*, it can be derived that there are many morphemes closely related to *the sun*. And these closely related morphemes not only provide a platform to cross-check the concepts represented by the component letters back-traced from the definitions of morphemes, but also give clues to back-trace the concepts represented by the component letters in the relevant morphemes, to appreciate the intellectual traditions of the Westerners, i.e., the generalization from particular instances of a category to other instances or to the category as a whole…And if viewed from the point of the definition of a concept, these closely related morphemes can help us to reveal some self-evident truths or generally acknowledged hypotheses, which don't need to be defined and are the basis to define other concepts. And in order to illustrate this point, some typical morphemes are analyzed as follows.

The word root **sol** [L **solis**=sun], where L—Latin

Analysis: the Latin word *solis* can be analyzed as shown in the Fig.1-22, in which 1) *s=l*, and *s—flow of light*, *l—sth linear*, i.e., *light*, 2) *o—sth circular* (a concept to be defined), i.e., *the sun*, 3) *i=y=v+l*, and *v*—the letter *o* becomes open, and *l—sth linear*, i.e., *light*.

And due to the space *out* relationship implicit in words, *so—flow of light emitting from sth circular*, *li—linear light emitting from sth circular*, and *is—flow of light emitting from sth circular*.

Thus, its literal meaning is: (the sun is) *sth circular which emits flow of light*.

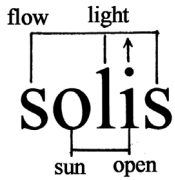


Fig. 1-22 The analysis on *solis*

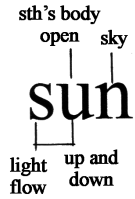


Fig.1-23 The analysis on *sun*

sun: *n.* 1) (also **the sun**) the star around which the earth orbits and from which it receives light and warmth, 2) light and warmth from the sun, sunshine,…

Analysis: the word *sun* can be analyzed as shown in the Fig.1-23, in which 1) *s—flow of light*, 2) *u—sth circular* (i.e., *the sun*) *becomes open,*

and also *u—light moving up and down*, *periodically*. That is to say, in daytime, the sun becomes open and emits large amount of light, but in night, the sun becomes close and does not emit light. 3) *n—sky*. So, its literal meaning is: (the sun is) *sth circular which appears in the sky, becomes open and emits large amount of light flow periodically*.

Comment: as will be analyzed in the Chapter 2, *the up and down movement* represented by the letter *u/v* has the following characteristics: large amount of sth appears rapidly, lasts shortly, and disappears suddenly. So, it can be derived that, in the word *sun*, *su—large amount of light flow*, i.e., *strong sunlight flow*, which can be generalized to represent *sth similar to this*, such as *strong flow of water, wind, etc*.

summer: *n.* the second and warmest season of the year outside the tropics, coming between spring and autumn

Analysis: the word *summer* can be analyzed as shown in the Fig.1-24, in which 1) *su—strong sunlight*, 2) *m—the earth*, and *mm—repeatedly*, 3) the letter *o* in the letter *e—the earth's surface*, *r—water*. So, *er—water is going out of the earth's surface*, i.e., *the earth's surface is losing water.*

So, its literal meaning is: (summer means that) *strong sunlight shines on the earth and makes the earth's surface losing water, which repeats a period of time*.

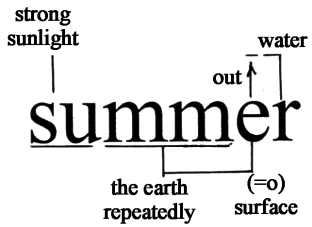


Fig.1-24 The analysis on *summer*

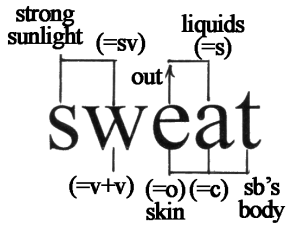


Fig.1-25 The analysis on *sweat*

sweat: *n.* natural moisture which comes through the skin when one is hot, ill, afraid, working hard, etc

Analysis: the word *sweat* can be analyzed as shown in the Fig.1-25, in which 1) *sw=sv+v—continuous strong sunlight*, 2) the letter *o* in the letter *e*=the letter *c* in the letter *a=t—sb's skin*, 3) the letter *s* in the letter *a—liquids*, 4) *ea—liquids goes out of sb's body and is on the skin*.

bold: *adj.* 1) confident and brave, daring, enterprising,…

Analysis: the word *bold* can be analyzed as shown in the Fig.1-26, in which 1) the letter *l* in the letter *b=ol*= the letter *l* in the letter *d—strong sunlight,* i.e., *much fire (courage)*, 2) the letter *o* in the letter *b*= the letter *c* in the letter *d—sb's body.* So, *bold—sb's body emitting courage*.