Upgrading the Indo-European-Root-Based Hyper English Dictionary

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Abstract

One method for the English word learning is using Indo-European roots. By using them, learning English words becomes systematic and more interesting. The Indo-European-Root-Based Hyper English Dictionary is used for this English vocabulary learning. This dictionary was produced by Prof. Ikebe from the standpoint that "no reform in language education is possible without reforming dictionaries". Also this dictionary was made by the research on the new formed dictionary for English word learning. Indo-European roots used as a way to arrange and classify English words are based on 596 types classified in The American Heritage Dictionary of the English Language (AHD) Third Edition. The AHD forth edition [3] and The American Heritage Dictionary of Indo-European roots (AHD of IE roots) second edition [2] were published in 2000. These include the Indo-European roots which were not contained in third edition.

The present hyper dictionary has some flaws. For example, some of the Indo-European roots which are contained in the AHD forth edition are not registered, also some of the most important words such as "already", "beyond", which derive from the non-registered Indo-European roots, are not registered. These flaws must be improved.

In this research, the advantages of this hyper dictionary are mentioned, and in order to improve this hyper dictionary, the Indo-European roots information is updated from the third edition to the forth edition, and the important words which are derived from the added Indo-European roots are added. This hyper dictionary is more useful because of this updating.

1 Introduction

1.1 Background

1.1.1 What is the hyper dictionary?

The hyper dictionary is the dictionary which uses hyper text which can be used on the World Wide Web. The hyper dictionary is better than the usual dictionary made of paper. Followings are the examples.

- The hyper dictionary is easier to carry than the usual dictionary made of paper.

- The hyper dictionary can be used by everyone everywhere.

- Revision of the hyper dictionary by the addition of data, deletion and a change can be done easily.

- For a long time, even if the hyper dictionary is used many times, it doesn't deteriorate, and it isn't damaged.

- By using links, the hyper dictionary can have a multiple layer structure which a usual dictionary can't have.

1.1.2 What are Indo-European roots?

Proto-Indo-European is not the natural language which existed as a real language but the virtual language. It was created by the comparative linguistics which developed rapidly from in the 19th century in Europe, and using the theoretical re-composition as following the regular change in sounds and rhyme found in the Indo-Europeans, which are distributed widely in the Indo-European area, for example, English, German and Dutch (the Germanic side), French, Italian and Spanish (the Romance side), Greek (the Greek side), Russian (the Baltic Slavic side), Sanskrit (the Indian Iranian side), and so on. The stems which are arranged some patterns in Proto-Indo-European are the Indo-European roots. [5]

1.1.3 The advantages and utilities of using the Indo-European roots

Words which have the same Indo-European root as the origin of the words can be learned at the same time. For example, the word "dairy" has the Indo-European root "dheigh-", whose meaning is to construct, to make and to knead clay. The words which derive from this Indo-European root, that is, same root words of dairy are showed in Figure 1.

Judging from the Indo-European root, "dairy" means a place where cheese or butter is made, "lady" means a person who kneads bread, "dough" means kneaded bread material, "figure" means the form which is made
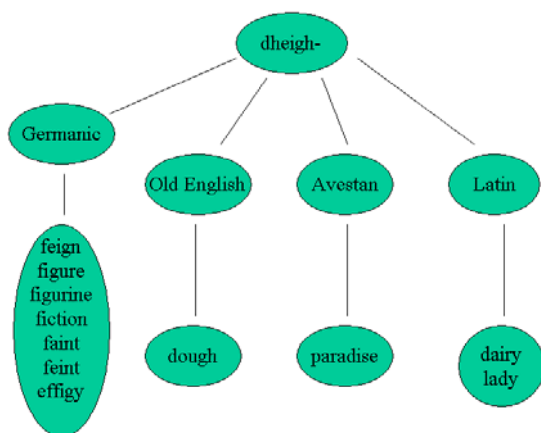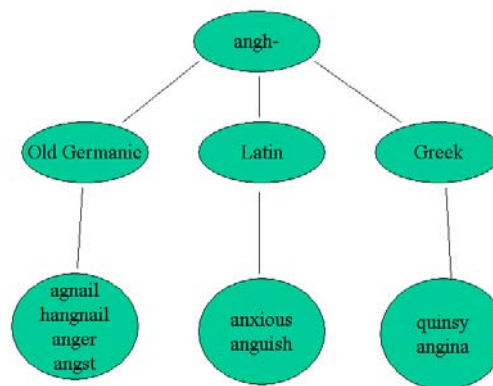
Figure 1: derivation of dairy

Figure 2: derivation of anger

of kneaded mud, "figurine" means the figure which is made of kneaded mud, "fiction" means a thing which was kneaded, "paradise" is derived from "pairidaeza" in Avestan, which is an extinct language close to old Persian. "pairidaeza" means a place surrounded by a wall made of brick which is made of kneaded mud like a garden or an orchard.

In this way, when learners memorize some words which seem like there's no link, they can memorize them as the words which have connection by using Indo-European roots. This is a very effective way of English vocabulary learning.

The differences in the nuance and the usage of the synonyms from the Indo-European roots can be guessed. The difference between "anger" and "rage" is described below as a example.

"anger" has the Indo-European root "angh-", whose meaning is painful, tight, painfully constricted. The words which derive from this Indo-European root are showed in Figure 2.

Guessing from these words' meanings, it is supposed that anger's meaning is the anger against being tormented, or to be restrained unjustly.

In the same way, "rage" has the Indo-European root "rebh-", whose meaning is violent, impetuous. The words which derive from this Indo-European root are showed in Figure 3.

Guessing from these words' meanings, it is supposed that rage's meaning is to get angry suddenly passionately.
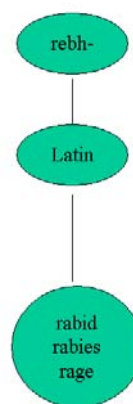

Figure 3: derivation of rage

There are expressions such as "road rage" and "air rage". "Road rage" means to drive a car recklessly on the road with anger. "Air rage" means to lose self-control in airplane with anger. However, there are no expressions such as "road anger" and "air anger". This is guessed by each Indo-European root.

Like this, the proper use of the synonyms can become clear and accurate by using the Indo-European roots. [4]

1.1.4　The present hyper dictionary

The present hyper dictionary was made by Prof. Ikebe from the standpoint that "no reform in language education is possible without reforming dictionaries". Also this dictionary was made by the research on the new formed dictionary for English word learning. This dictionary uses Indo-European roots as a way to arrange and classify English words. The Indo-European roots

are based on 596 types classified in AHD Third Edition. This hyper dictionary can be found on World Wide Web at: http://mfntsv1.u-aizu.ac.jp:8080/hidic/hdhome.htm.

Figure 4: Hyper English Dictionary

1.1.5 American Heritage Dictionary

AHD is one of the most widely used dictionaries in America, and gets very high evaluation at Amazon.com which is the famous shopping site in America. AHD First Edition classified the Indo-European roots into about 1400 types, but it was reduced by AHD Third Edition to 596 types which have higher importance. At present, AHD Fourth Edition and American Heritage Dictionary of Indo-European roots (AHD of IE roots) SECOND EDITION are published, and Indo-European roots have been increased by AHD of IE roots SECOND EDITION in about 1400 types again.

1.1.6 The functions of present hyper dictionary

- The reference from front of words

- The reference from front of Indo-European roots

- The indication of synonyms list

- The indication of Indo-European roots list

- The indication of prefixes list

- The indication of stems list

- The number of registered Indo-European roots is 596.

- The number of registered English words is 9730.

1.2 Problems

- The number of words is too small to use as a dictionary.

- Hyper dictionary is not equivalent to the Indo-European roots which were increased with the above the AHD Fourth Edition and the AHD of IE roots SECOND EDITION from the AHD Third Edition. For example, "rage" has the Indo-European root "rebh-", but in the present hyper dictionary, it is said that "rage's Indo-European root doesn't exist".

- Some important words which derive from unregistered Indo-European roots are unregistered. For example, "actor" is not registered though it is a fundamental word to learn in junior high school.

- 50 sets of synonyms are registered but it is insufficient.

- The present hyper dictionary doesn't include the information of the transition between the present word and the Indo-European roots.

1.3 Purpose of this research

- To add words and Indo-European roots in order to solve two problems, shortage of the registered words and non-correspondence to the shift to the newest edition of AHD, in above problems.

- Learning about databases through the work to add the words and Indo-European roots.

- Improvement of my own English skill by learning a way to learn English words with the Indo-European roots.

1.4 The construction of the following sections

In the second section, the contents of the actual works and the results are described. In the third section, the conclusion of this research is described.

2 Actual works

2.1 Work content

2.1.1 The selection of the words to add

The English words registered into the present hyper dictionary are the most important words and next important words (university entrance examination level) in PROGRESSIVE English-Japanese Dictionary, which have Indo-European root.

The words to add to the hyper dictionary are the important words which have Indo-European roots in the words which should be memorized for a member of society. Also the most important words which have the Indo-European roots which are added in this research are added. The number of the words to add is about 1000.

These words are selected by comparing the index of AHD of IE roots with PROGRESSIVE English-Japanese Dictionary as actual work.

2.1.2 Creation of the data table of the Indo-European roots and English words

The present hyper dictionary uses the data base software named "Access" which was developed by Microsoft Corporation.

The data table about English words named "tango master" includes the following fields.

- distinction

- spelling

- headline distinction (distinction when there are more than two same spelling words)

- comment (The brief meaning of the word at the time of carrying out title discernment)

- the parts of speech

- the meaning of the word

- synonyms (distinction of the synonyms data table)

- Indo-European roots 1-4 (distinction of the Indo-European roots data table)

- prefix 1-2 (distinction of the prefix data table)

- stems (distinction of the stem data table)

- reverse spelling

The data about the selected words input into the above "tango master" data table one by one.

2.1.3 Investigation of the relation between the added Indo-European roots and the existing words

The value of the Indo-European roots field in "tango master" is rewritten when the word derives from a newly added Indo-European root. The AHD of IE roots SECOND EDITION is referred when the word correspond to the Indo-European root which is added newly. It took a long time to check the AHD of IE roots and "tango master" data table one by one.

2.2 Results of the works

2.2.1 Improvement

The Indo-European roots of the AHD newest edition and the AHD of IE roots were added. The number of those is 600. The number of the added words is 1000. The sum of the registered words is 10000. The 15 prefixes which are needed by the added words were added.

2.2.2 Future works

- The middle transition words information which Mr. Sugiura, who is my companion in my laboratory, added in the hyper dictionary is not equivalent to the added English words.

- The number of the registered words is insufficient for using as a dictionary.

- There are Indo-European roots which begin with "-" in the Indo-European roots added in this research. These are used by suffixes. Therefore, suffix information need to be added to use these Indo-European roots in this dictionary because this dictionary didn't have suffix information.

2.2.3 The learning of the database skills

The fundamental skills of "Access" which were needed when this research was carried out were learned for example, how to import and export, the structure of the database, and so on.

2.2.4 Improvement of my own English skill

English study became more interesting by learning English word learning methods using Indo-European roots, and my own English skills were developed. Actually, my TOEIC score is higher than one before this research started.

3 Conclusion

In this research, Prof. Ikebe's Indo-European-Root-Based Hyper English Dictionary became more useful and more beneficial. Especially, almost all of the most important words and next important words in the PROGRESSIVE English-Japanese Dictionary which were not registered before were registered. This means increasing of the worth and the utility for high school students or college students who study English. Moreover, through this research, my own knowledge of the database, English words, and so forth has increased.

Acknowledgment

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