BỘ GIÁO DỤC VÀ ĐÀO TẠO
TRƯỜNG ĐẠI HỌC DÂN LẬP HẢI PHÒNG

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GRADUATION PAPER

A STUDY ON HYPONYMY AND MERONYMY IN LEXICAL SEMANTICS

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Class:
NA1002

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HAI PHONG – JUNE 2010

BỘ GIÁO DỤC VÀ ĐÀO TẠO
TRƯỜNG ĐẠI HỌC DÂN LẬP HẢI PHÒNG

Nhiệm vụ đề tài tốt nghiệp

Sinh viên: .....Mã số: .....

Lớp: .....Ngành:.....

Tên đề tài:.....

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Nhiệm vụ đề tài

1. Nội dung và các yêu cầu cần giải quyết trong nhiệm vụ đề tài tốt nghiệp
   (về lý luận, thực tiễn, các số liệu cần tính toán và các bản vẽ).

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2. Các số liệu cần thiết để thiết kế, tính toán.

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3. Địa điểm thực tập tốt nghiệp.

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CÁN BỘ HƯỚNG DẪN ĐỀ TÀI

Người hướng dẫn thứ nhất:

Họ và tên: .....

Học hàm, học vị: .....

Cơ quan công tác: .....

Nội dung hướng dẫn: .....

Người hướng dẫn thứ hai:

Họ và tên:.....

Học hàm, học vị:.....

Cơ quan công tác:.....

Nội dung hướng dẫn:.....

Đề tài tốt nghiệp được giao ngày 12 tháng 04 năm 2010

Yêu cầu phải hoàn thành xong trước ngày 10 tháng 07 năm 2010

Đã nhận nhiệm vụ ĐTTN
Sinh viên

Đã giao nhiệm vụ ĐTTN
Người hướng dẫn

Hải Phòng, ngày tháng năm 2010

HIỆU TRƯỞNG

GS.TS.NGƯT *Trần Hữu Nghị*

PHẦN NHẬN XÉT TÓM TẮT CỦA CÁN BỘ HƯỚNG DẪN

1. **Tinh thần thái độ của sinh viên trong quá trình làm đề tài tốt nghiệp:**

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2. **Đánh giá chất lượng của khóa luận (so với nội dung yêu cầu đã đề ra trong nhiệm vụ Đ.T. T.N trên các mặt lý luận, thực tiễn, tính toán số liệu…):**

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3. **Cho điểm của cán bộ hướng dẫn (ghi bằng cả số và chữ):**

……..

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……..

Hải Phòng, ngày ….. tháng ….. năm 2010

Cán bộ hướng dẫn

(họ tên và chữ ký)

NHẬN XÉT ĐÁNH GIÁ
CỦA NGƯỜI CHẤM PHẢN BIỆN ĐỀ TÀI TỐT NGHIỆP

1. Đánh giá chất lượng đề tài tốt nghiệp về các mặt thu thập và phân tích tài liệu, số liệu ban đầu, giá trị lí luận và thực tiễn của đề tài.

2. Cho điểm của người chấm phản biện :

(Điểm ghi bằng số và chữ)

Ngày..... tháng..... năm 2010

Người chấm phản biện

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This study, although, is carried out in a few month, it is the result of the enormous amount of effort not only of mine buy also many other people. Therefore, I would like to thank everyone who helps me finish this graduation paper.

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Next, I would like to thank teachers in Foreign Language Department of Haiphong Private University for their assistance in my knowledge during the last four years, which distributes cruelly to my study today.

Finally, it is impossible to mention the mental assistance of my family and my friends. They have given me the giant encourage which help me a lot in overcoming difficulties in the process of carrying out the study.

Haiphong, June 2010

Pham Thi Bich Hong

PART ONE: **INTRODUCTION**

1. Rationale

Semantics along with other subjects like Grammar. Phonology and Phonetics, Lexical, so on stands in the system of academic language. It is researched systematically with a lot of different points of view and approaches which are argued by many famous linguisticians like J. Lyons (Cambridge University); Curse, D.A (Cambridge University); Chaffin, R & Winston, M.E (Trenton State College); Herman D (Hamilton College); and so on.

Semantics is not only researched but also learned in universities. To major students at Haiphong private university like me, semantics is a new subject in the curriculum, which brings us both excite and challenge. Furthermore, for myself, it really attracts me in the studying at class for its strangeness, especially Hyponymy and Meronymy. These two types of the sense relations are popular in life particularly in scientific field. They are used to express hierarchical relations. Besides, they also show the certainly mutual correspondence and distinction as well, which urges me to study this issue more profoundly.

That is the reason why Hyponymy and Meronymy are chosen to be the graduation paper of mine. With more detailed aspects in these two sense relations, in my hope, it will be much easier for teachers and learners to enrich their knowledge in semantics.

2. Aims of the study

With the study, I hope to satisfy readers with knowledge gap in Semantics and open new direction for further study. Specially, I would like to achieve the following aims:

- State certain aspects in Hyponymy and Meronymy.

- Point out the similarity and the distinction between Hyponymy and Meronymy.
- Show some difficulties in recognizing and distinguishing Hyponymy and Meronymy.
- Give some suggestions for further study.

3. Scope of the study

Hyponymy, Meronymy and the distinction between them are complicated and profound issues in Lexical semantics, which relate to a lot of lexical relations like Taxonymy, Meronomy, and Hierarchical relation. Therefore it is difficult for me to analyze clearly their relationship between them and the two sense relations.

Due to the limited time and knowledge, my study just emphasizes on outstanding aspects of the two sense relations as mentioned in the design. I always percept my restricted understanding in Semantics, generally speaking and Sense relations individually speaking, therefore it will be not wise if further issues of Hyponymy and Meronymy like their relationship with other semantic relations, their application in detail, etc. are mentioned with the carelessness in the study. Conversely, the aspects such as Definition, Types, Features, Contrastive analysis of Hyponymy and Meronymy will be stated in detail in the study.

In my hope, the study will not be too restricted and can give the reader a little referential knowledge.

4. Design of the study

The study includes three main parts: **Introduction, Development, Conclusion**.

The first, Introduction, gives information about the reason, scope, outline, and aims of my study.

The second one, Development- the main part of the study, denotes issues relating two types of branching lexical hierarchy.

Chapter I will be the statement of the theoretical background, in which the concept of the Hyponymy and Meronymy will be mentioned as well as their characteristics and types will be denoted.

Chapter II, the main one, presents the distinction between these two semantic relations including the distinction of the lexical relation, the transitive relation, the hierarchical relation, the expansion of lexical units of the two semantic relations.

Chapter III is to mention some problems in recognizing and differentiating Hyponymy and Meronymy. Solutions suggested for dealing with the problems are also stated.

The last part, Conclusion, giving the overview of the study comes with the summary and the orientation for further research.

PART TWO: **DEVELOPMENT**

Chapter I – THEORITICAL BACKGROUND

1. Lexical semantics

1.1. Lexical semantics

Lexical semantics is a subfield of linguistic semantics. It is the study of how and what the words of a language denote (Pustejovsky, 1995). Words may either be taken to denote things in the world, or concepts, depending on the particular approach to lexical semantics.

Lexical semantics covers theories of the classification and decomposition of word meaning, the differences and similarities in lexical semantic structure between different languages, and the relationship of word meaning to sentence meaning and syntax .

Scope of lexical semantics refers to three issues which are closely interrelated:

- Structure of lexical meaning
- Semantic structures (meanings) of words and how the meanings of words are interrelated in the language
- Semantic structure of dictionaries

1.2. Word meaning

Before mentioning the notion of word meaning, it should be mentioned the notion of “word”. There are many definitions of what word is, but it can be defined to be name or label for thing (Nguyen Hoa, 2002). Word is defaulted by human to call an object or phenomenon in reality. In the relationship with word meaning, word is representative for Language which is one of Mind, Language, and Wold. It is possible to describe the relation in the following triangle:

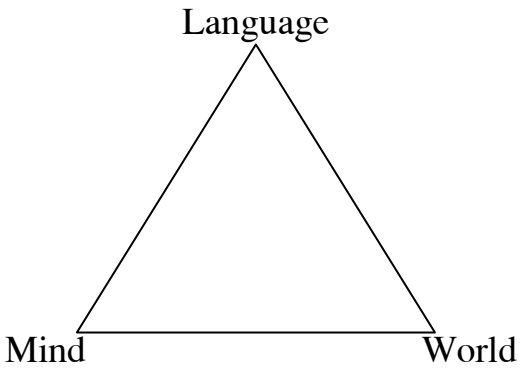

Fig.1

Hoa (2002:17)

Therefore, word meaning can be defined as reflect reality or express human conceptualization of reality, as it were.

1.3. Sense relations

While reference is mentioned as an external meaning relation, which is the relationship between a word and the entry that it 'refers to' in the physical world or the world in our experience (Jackson & Amvela, 2000), sense is an internal meaning relation. It refers to the relationship between words within the vocabulary.

Relations between concepts, senses or meanings should not be confused with relations between the terms, words, expressions or signs that are used to express the concepts. It is, however, common to mix both of these kinds of relations under the heading "semantic relations" (i.e., Cruse, 1986; Lyons, 1977; Malmkjổr, 1995 & Murphy, 2003)

For example, in the set: "slay, kill, murder, etc." all the member show different expressions of an action to deprive one's life, therefore these words is called synonyms and the relation between them is Synonymy. Similarly, there are the other sense relations such as: Antonymy along with Synonymy is the most obvious sense relations and Hyponymy, Meronymy, Homonymy, etc.

Sense relations are paradigmatic. It means that words in the same sense relation are interchangeable for all together (e.g. "hostile" and "friendly" can substituted for each other because they are in the same relation of Antonymy).

2. Hyponymy

2.1. Definition

The relation between two classes in lexicon often present in four basic relations. They are identity (two classes have the same members), inclusion (one class is entirely in another class), overlap (two classes have the same members but each one has its own members), and disjunction (two classes have no members in common). The lexical relation corresponding to the inclusion one class in another is Hyponymy (Cruse, 1986). For instance, class "chair" is included in class "furniture" because the former belong to the latter.

In sense relations, Hyponymy is regarded as the relation of generality/specificity. If we want to refer to something, e.g. a dog, we have several possibilities to express this: We could say 'spaniel' (only, of course, if we talk about a spaniel), 'dog' or 'animal'. It becomes clear that these lexical items are of "different levels of specificity" (Cruse, 1975) , and what we finally say depends on our point of view, whereas no one will disagree that 'spaniel' is more specific than 'dog', which itself is more specific than 'animal'.

From two above opinions of the term of Hyponymy, it is possible to define that *Hyponymy is a relation of inclusion between two classes or two words* in which one class or word more general in term of meaning involves another class or word whose meaning is more specific.

2.2. Ingredients

Hyponymy expresses the relationship between two words, in which the word belonging to the genus and more general is called Superordinate or Hypernym, the other carrying the characteristics of the species and more specific is called Hyponym.

Hypernym refers to words carrying extensional meaning. It is broad enough to cover the Hyponym. For example, the word "animal" is Hypernym of the words "dog", cat, mouse, etc." because it holds notion of all the words " dog, cat, mouse"; whereas, Hyponym refers to words presenting inclusion meaning. It covers both the general meaning of its Superordinate and the

specific one of itself. For instance, the word “rose” carrying characteristics of a flower, in general, it also includes its individual features.

Sometimes a Superordinate may be a Superordinate to itself. For instance, the word animal may only include beasts like tiger, lion, elephant, cow, horse and is a co-hyponym of human. But it is also the Superordinate to both human and animal in contrast to bird, fish, and insect, when it is used in the sense of mammal. Furthermore, animal is also the Superordinate to bird, fish, insect and mammal in contrast to plant.

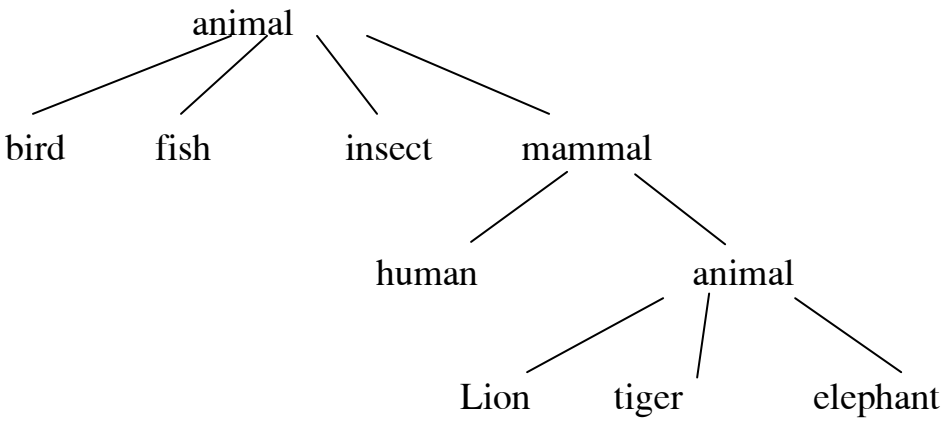

Fig.2

(http://bbs.dage.name/viewthread.php?tid=1425)

From the other point of view, the hyponym's point of view, animal is a Hyponym of itself, and may be called Auto-hyponym in that the same lexical item can operate at both Superordinate and Subordinate levels; for example, “man” contrasts with “animal” at one level, but at a lower level it contrasts with “woman” (in effect, “a man is a kind of man”).

The relation between Hypernym and Hyponym is asymmetrical relation, in which a Hypernym can have many Hyponyms that are types of their Hypernym. The following example will illustrate the statement:

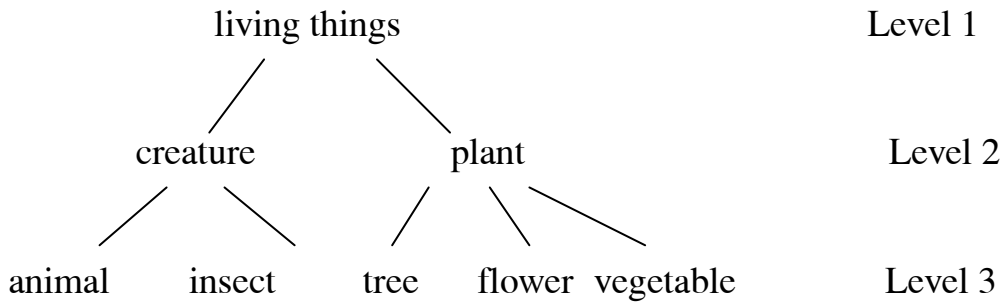

Fig. 3

(http://bbs.dage.name/viewthread.php?tid=1425)

In the tree-gram, the sense relation of Hyponymy is express in levels. The former the level is, the more general it is. The relation between levels is called hierarchical relation. Level 1 called mother-nodes is Hypernym of level 2 (daughter-nodes) and level 3. Similarly, level 2 is Hypernym of level 3. The relation between words in the same level is named as sister-nodes (creature, plant) and in the sense relation of Hyponymy; they are called Co-hyponym. Co-hyponyms in Hyponymy are strict imcompatibles (Cruse, 1986).

2.3. Types

Murphy (2003) & Chaffin (1984) argue there are different kinds of Hyonymy according to the property of concept, and define six types of Hyponymy: perception (horse-animal), function (car-vehicle), geography (Russia-country), activity (chess-game), state (fear-emotion and action (fry-cook).

Moreover, Miller (1998) defines two main types of the kind-of relation: *Taxonymic* and *functional* Hyponymy, in which Taxonymy plays the central role in the lexical hierarchy. While Taxonymy is the "is-a-kind-of" relation, Functional Hyponymy is known as the "is-used-as-a-kind-of" relation. For example, cow is in a taxonomic relation to animal (a cow is an animal), but in a functional relation to livestock (a cow functions as livestock). The functional relation is more tenuous because it is not a logically necessary relation: not every cow is livestock; not every dog is pet. Taxonymy, one the other hand, is more analytic.

2.4. Some features

2.4.1. The entailment

Entailment is relationship that applies between two propositions, where the truth of one implies the truth of the other (Nguyen Hoa 2004). Because the meaning of words in Hyponymy include, Hyponymy involves the entailment.

The entailment often occurs in the formulation "A is X entails A is Y, if Y is Superordinate of X". e.g.

This is a **dog**. *entails* This is an **animal**.

He is my **father**. *entails* He is my **parent**.

The entailment is also true to words being Adjectives and Verbs:

Bill **murdered** someone. *entails* Bill **killed** someone.

She wore **scarlet** hat. *entails* She wore **red** hat.

It is possible to formulate rules for predicting the direction of entailment if the Hypernym and Hyponym fall within the scope of a negative, or a universal quantifier (e.g. all, every, each), or if they form part of conditional clause or other expression of contingency, then the direction of entailment will be reversed (Cruse, 1986). E.g.

It's not **red**. *entails* It's not a **scarlet**.

All **animals** are forbidden. *entails* All **dogs** are forbidden.

If it is **red**, it will be rejected. *entails* If it is **scarlet**, it will be rejected.

Cruse (1986:89)

2.4.2. Substitutive possibility

The relation of Hyponymy reflects the point of view of intention and extension. It means the term of Hyponym already involves both a wider meaning

of the term of Hypernym and the specific meaning of itself (e.g. "rose" is a member of "flower; thus it has both general characteristics of a flower and individual one of a rose); therefore it is possible for them to exchangeable. For example we can say:

I bought a **Honda** yesterday. The **car** is not expensive.

The substitutive possibility not only involves nouns but also verbs and adjectives as well:

- Did she **kill** him?

- Yes, she **murdered** him.

Hoa (2000:122-123)

Even though Hyponymic relation makes substitution possible, there is no Hypernym which is replaced by a Hyponym but there is a Hyponym replaced by a Hypernym. This has been already proved as in the above example. Then there will be an example to demonstrate the contrast opinion:

I have a **motorbike**. My brother does not like the **Yamaha**. (?)

The given sentence seems logical; however, it is not possible to imply a motorbike is a Yamaha which is also a kind of motorbike. Motorbike can be Honda, SYM, Suzuki or any brand of car; it is not necessary a Yamaha. Thus the substitutive possibility only happens in one-sided direction (it is true to the case of Hypernym substitutive for Hyponym).

2.4.3. Taxonymy as a sub-type of Hyponymy

As other relations, Hyponymic relation can be divided subtypes. However, it is not identical in the linguisticians' classification ideas. In other word, Hyponymy has many competing subtypes.

Moreover, Miller (1998) argues the Taxonomic and Functional properties of concepts should be concerned in the Hyponymic relation. In addition, Cruse (1986) defines Taxonimic relation as the subtype of Hyponymy, which is the central role in this relation.

Taxonomic lexical hierarchies are based on the sense relation referred to as taxonymy. Taxonymy is in fact a subtype of hyponymy since the taxonyms of a lexical item form a sub-set of its hyponyms. Taxonymy is defined as the relation of dominance in a Taxonomy.

The relation of Taxonymy is often seen in a useful diagnostic frame:

An X is a kind/ type of Y

E.g. A spaniel is a kind of dog.

A rose is a kind of flower.

A lemon is a kind of fruit.

It is also right to say: A spaniel is dog.

A rose is flower.

A lemon is fruit.

If X is Taxonym of Y, it is possible to state as the above example. However, if an X is a Hyponym of Y, whether it is possible to say that:

A small spoon is a kind of spoon. (?)

A white shirt is a kind of shirt. (?)

The answer is it is not because the terms “small spoon” and “white shirt” are respectively not exactly a kind of spoon and shirt. It is only possible to say “a small spoon is spoon or a white shirt is shirt, although it is rather forced.

Therefore, not all Taxonyms are good Hyponyms. The Taxonymic relation and Hyponimic relation thus are different.

2.4.4. Synonymy as the special case of Hyponymy

Hyponymy is related to Synonymy(Nguyen Hoa 2004). If a lexical item has the same meaning as another’s, they are considered Synonyms. However, in terms of Hyponymic relation, they are Hyponyms of each other. For instance, both “mercury” and “quicksilver” reflects the same reference, they are synonyms but they are Hyponyms of each other as well.

There would be a formulation of such case that if X is a Hyponym of Y and Y is a Hyponym of X, then X and Y are synonyms of each other. This can be implied bidirectionally. For example, if “mercury “ and “quicksilver” are synonyms, then they are Hyponyms of each other.

Therefore, Synonymy can be considered as a special case of Hyponymy and may called *Symmertrical hyponymy*.

3. Meronymy

3.1. Definition

The semantic relation of Meronymy or called Part-Whole relation. is another kind of sense relation. **Meronymy** is the semantic relation existing between a lexical item denoting a part and an item denoting the corresponding whole (Radek Vogel, Masaryk University).The notion of Meronymy is popularly in natural environment (finger – hand, pupil – eye) or in technical disciplines (bicycle – pedal, computer – screen).

Meronymy reflects the result of division of analysis of an entry into parts or components in that the relation between the whole and its component is called Meronomic relation. For example, “a body” is divided into “hand, head, leg, ect.” ; the semantic relation between “a body” and one of lexical item “hand, head, leg” is Meronymy. Metonymy applies not only to the entries that have concrete reference but also to abstract ones, e.g.

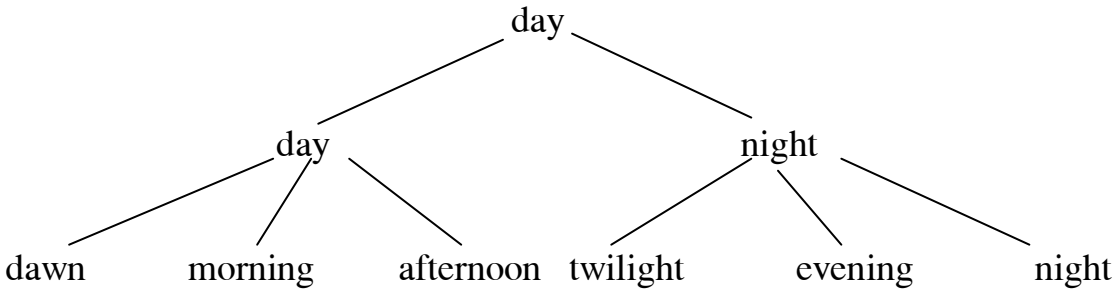

Fig.4

Jack & Amvela (2000:104)

The term “day” occurs twice in this example; however, this term expresses two lexical meanings: the first time it refers to the period of twenty-four hours and the second it reflects the part of that period which enjoys daylight. Therefore, the lexical relation in this case is Meronymy. It also reflects the same as in the relation between “night” which is in contrast with the second meaning of “day” and “day” referring to the darkest part of it.

3.2. Ingredients

In the Meronomic relation, there are two members. The entry divided into parts is called **Holonym** or **Superordinate**, and the other – **Meronymy**. The term of Holonym presents the wholeness as an upper class, Meronym – the lower class is the lexical item expressing the parts. Therefore, the relation

between two lexical items “knife – blade” in the concept “blade is a part of knife” is the semantic relation of Meronymy, in which “knife” is Holonymy and “blade” is Meronym.

The relation between Holonym and Meronym sometimes fluid; it is exchangeable, e.g.

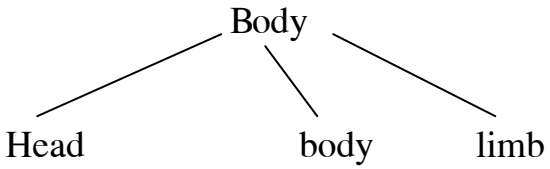

Fig.5

In this example, the term Holonym is homonym of its Meronym. This show that a Holonym is able to have Meronymy being itself ver vice a Meronym likely has Holonym being itself; in Meronomic relation this may be called GGG. While the mother-node “body” must be Holonym of “head, body, limb”, the terms “head”, “body”, “limb” in the sisterhood relation, as the sense relation of Hyponymy, are called *Co-meronym*.

3.3. Types

Like the Hyponymy relation, Meronymy also divided into different kinds. Cruse (1986) distinguished two subtypes of Meronymy: necessary Meronyms (ear-body) and optional Meronyms (beard-face) to show some object were the direct parts of the whole, while some were attached parts. Additionally, Chaffin & Herrmann (1987) explored the relation elements and suggested six types of Meronymy. Winston et al. (1987) considered the function, homeomeria and separability to interpret the types of Meronymy relation which is shown in the following table:

Six Types of Meronymic Relation with Relation Elements

		Relation		
Relation	Example	Functional	Homeomerous	Separable
Component/ Integral	Handle-cup	+	-	+
Member/ Collection	Tree-forest	-	-	+
Portion/ Mass	Slice-pie	-	+	+
Stuff/ object	Steel-bike	-	-	-
Feature/ Activity	Paying-shopping	+	-	-
Place/ Area	Everglades-Florida	-	+	-

Fig.6

(http://www.citeulike.org/user/cwmaier/article/995833)

3.3.1. Component – integral object

This is the relation between the components and the objects to with they belong. For example:

A handle is a part of a cup.

Wheels are parts of cars.

The refrigerator is a part of the kitchen.

(http://www.citeulike.org/user/cwmaier/article/995833)

Integral objects have the structure; their components are separable and have a functional relation with their whole.

Some components may be optional; while the integral object may not be extensive (i.e. they may not occupy same physical space as in phonology part of linguistics)

3.3.2. Member – collection

Member – collection relation represents membership in a collection. Members are parts, but they cannot separated from collections and do not play any functional part with respect to their whole.

A tree is part of forest.

A juror is part of a jury.

This ship is part of a fleet.

(http://www.citeulike.org/user/cwmaier/article/995833)

Membership in a collection differs from componenthood in not requiring that member perform a particular function or possess a particular structural arrangement in relation to each other and to their whole.

Collection whose members are determined by social connection are generally referred as "group". This relationship is often expressed by the phrase "a/the member of". For example:

Vietnam is the member of Asian.

Chine is a member of WTO.

(http://www.citeulike.org/user/cwmaier/article/995833)

3.3.3. Portion – mass

Portions of masses, extensive objects, and physical dimensions are different from components of objects and members of collections in being "homeomerous," that is, having parts which are similar to each other and to the wholes which they comprise, as in,

This slice is part of a pie.

A yard is a part of mile.

This hunk is part of my clay.

(http://www.citeulike.org/user/cwmaier/article/995833)

The portion – mass sense has been distinguished from other senses of "part of" by Sharvy (1980, 1983). He suggests that mass and count senses of can be distinguished by replacing "part of" with "some of". When "part of" is being used in the mass – portion sense, as in,

She asked me for a part of my orange.

We can readily substitute "some of" while preserving meaning:

She asked me for some of my orange.

(http://www.citeulike.org/user/cwmaier/article/995833)

3.3.4. Stuff – object

The stuff – object category encodes the relation between an object and the stuff of which it is partly or entirely made. The parts are not similar to the whole thay comprise, cannot be separated from the whole, and have no functional role.

The stuff-object relation is often expressed by phrase "is partly". For example:

The bicycle is partly steel.

Wine is partly alcohol.

Teeth are partly calcium.

(http://www.citeulike.org/user/cwmaier/article/995833)

3.3.5. Feature – activity

The existence of a fifth type of Meronymic relation is indicated by the use of "part" to designate the features or phrases of activities and processes, e.g.

Paying is part of shopping.

Bidding is part of playing bridge.

Ovulation is part of the menstrual cycle.

Dating is part of adolescence.

(http://www.citeulike.org/user/cwmaier/article/995833)

Unlike the type of Meronymy discussed thus far, the feature – activity relation cannot be expressed in sentences of the type "X has Y", and similar locutions (Cruse, 1986), such as,

Sororities have members.

Bicycle has pedals.

Play has acts.

? Shopping has paying.

(http://www.citeulike.org/user/cwmaier/article/995833)

Apart from this difference, the feature – activity relation is like the component – integral object relation in that complex activities are structured by means of "scripts" which assign locations to particular sub-activities or features (Shank & Abelson, 1976), just as integral objects are made up of

components. When used in relation to complex or "scripted" activities or events, the term "part" can be used to refer to stages, phrases, discrete periods, or sub-activities which are included in the "script". When we move from speaking of generic king of activities to describe events, e.g. "war" to "World War II", we use this same meronymic relation.

3.3.6. Place – area

A sixth type of Meronymy is the relation between areas and special places and locations within them, as in the following:

The Everglades are part of Florida.

An oasis is a part of desert.

The baseline is a part of tennis court.

(http://www.citeulike.org/user/cwmaier/article/995833)

Like the member of collection, places are not part by virtue of any functional contribution to the whole. Like the portion – mass relation, the area – place relation is homeomerous; every place within an area is similar to every other and to the whole area in that all are areas. Unlike portions of masses, however, places cannot be separated from the areas of which they are a part. Once again, this relationship differs from the other basic types of Meronymy, though it does give on kind of answer to question "What are its parts".

3.4. Some features

3.4.1. The close relationship between members in a Meronymy

Meronymy is the semantic relation existing between a lexical item denoting a part and an item denoting the corresponding whole. Therefore, the relationship among elements in Meronym is in the same general type. If one element in a Meronymy denotes a cohesive physical object, then the other items in the set must too (Cruse, 1986). For instance, "weight" of a "body" does not figure among its parts. In addition, if one item refers to geographical area, all the others must do (hence Westminster Abbey is not a part of London); if one item is abstract noun, the others must be as well (e.g. "high" is impossible to be a part of "body")

The principle of the unity of elements in a same set of Meronymy helps to explain why the expansion of Meronymy is limited in certain extent. For example, the part-whole relation only originates from the term "body" but does not go higher (to maybe family, then population, so on); instead of the lower direction (head, leg, arm, etc.)

3.4.2. The constant principle in the semantic relation of Meronymy

Meronomies (the semantic relation of Meronymy in terms of lexical hierarchies) follow certain principles which determine the type of differentiation of the reality (Cruse, 1986). If a whole is divided into separable, spatially or perceptually cohesive parts, these will be referred to as *segmental parts*. In such a division, items of a lexical hierarchy correspond to real-life objects which stand in a relation of segmental parts to the whole. An alternative approach is a division into *systemic parts*, which "have a greater functional unity, a greater consistency of internal constitution, but they are spatially inter-penetrating" (Cruse, 1986). Divisions of this kind are not so easily perceptually accessible, but they are as valid as the former type. Every good taxonomic hierarchy must keep a constant principle of hierarchy and avoid mixing them. Thus a *plant* must be either divided into segmental parts, such as *root*, *stem*, *leaves* (further divisible into a *leaf stalk* or *petiole*, and a *blade* or *lamina*), *flower*, etc., or into systemic parts, such as the *vascular tissue* (mainly *xylem* and *phloem*), *stele* or *vascular cylinder*, *cortex*, *stem cambium*, *epidermis*, *endodermis*, *photosynthetic tissue* or *mesophyll*, and other specialized cellular systems.

3.4.3. Properties of Meronymy

Cruse stated in his book (2000) that there are some properties of Meronymy

Necessity: some parts are necessary for the wholes and some are optional: e.g. an engine is a necessary part of a car; a moustache is an optional part of a male's face.

Integrality: some parts are more integral to their wholes than others: e.g. handle as part of a door & the hand as part of an arm.

Discreteness: some parts are more easily divided from their sister parts than others: e.g. an engine can be easily taken from a car. Other parts, such as the tip of the tongue, the lobe of the ear are less clearly separated. A more discrete a part is, the more prototypical the Meronyms is.

Motivation: “good” parts have an identifiable function of their own with respect to their wholes: e.g. the handle is for grasping and opening and closing the door, the wheels are for the car to move smoothly, etc.

Chapter II – CONTRASTIVE ANALYSIS OF HYPONYMY AND MERONYMY

1. Compare of Hyponymy and Meronymy

1.1. Hierarchies

1.1.1. Hierarchies

Hierarchies is one of two most formally complex types of Lexical configuration (Cruse, 1986). A hierarchy consists of elements related to one another in a characteristic way. There are two structural types of hierarch: branching hierarchies and non – branching hierarchies. The difference between two these types is the capability of branching which will be described in below figure:

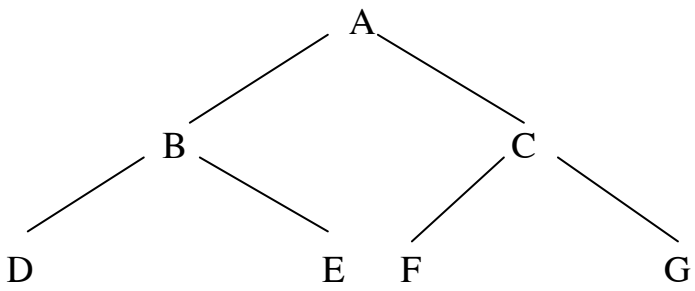

Fig.7 (a)

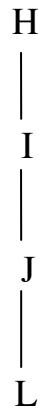

Fig.7 (b)

Cruse (1986: 112)

The relation of Hyponymy and Meronymy belong the branching hierarchies, and they are called the branching lexical hierarchies (S. Nulle, 2001). Two these thus are able to branch into different levels as in the above figure (a). Each level has a certain relation to its corresponding mother-node and sister-nodes.

In the hierarchical relations, member is by relations which structured the relation. The most fundamental structural relation of any hierarchy – without it there is no hierarchy at all (Cruse, 1986) is the *relation of dominance*. The other, which is very important in a hierarchy, is the *relation of difference*.

1.1.2. Dominance

The relation of Dominance refers to the "hyper – sub" relation. The relation structures elements in a hierarchy in a vertical direction in which each element as a node in a vertical chain has the respective relation to others of "mother-daughter" in a hierarchy.

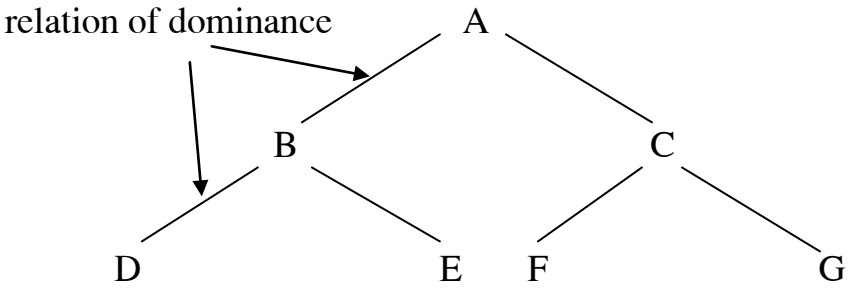

Fig. 8

Cruse (1986:112)

The relation of Dominance is expressed by lines connecting A to B and C, B to D and E, and C to F and G. In this relation, A and B have the relation of "mother – daughter", similarly to B and D; B and E; A and C; C and F; C and G.

To the sense relations Hyponym and Meronymy, the relation is true, too. If "*flower*" is Superordinate of "*sunflower*", the relation between them is Dominance. If "*table*" is Superordinate of "*leg*", the relation between them here is also Dominance. The difference between the former and the latter is that the relation of Dominance is specified to Hyponymy and Meronymy.

In the relation of Dominance, two properties are necessary to decide the existence of the relation: **Asymmetry**, and **Catenary**.

The relation of Dominance of a hierarchy must be Asymmetric. It means that it is necessary to have directional character (a relation between a superordinated and subordinate expression is not identical with the relation between the subordinate and the superordinate. For example, the relation between A and B is " longer than" which is asymmetric relation, if A is longer than B, it cannot follow that is longer than A. Putting the Asymmetric relation in the relation of Hyponym and Meronymy, we can see that if "*rose*" is Hyponym of "*flower*", then "*flower*" cannot be Hyponym of "*rose*" but

Hypernym; if "*body*" is Holonym of "*head*", then "*head*" cannot Holonym of "*body*" but Meronym.

The relation of Dominance also requires the Catenary. It is the capacity to create indefinitely long chains of elements in a hierarchy. The property of Capacity shall be described in the follow: the relation between A, B, and C is considered catenary if in the relation "–mother of –" A is the mother of B and B is the mother of C, too. The Catenary relation ensures the identical relation between elements in a chain.

In the Meronymic relation, for instance:

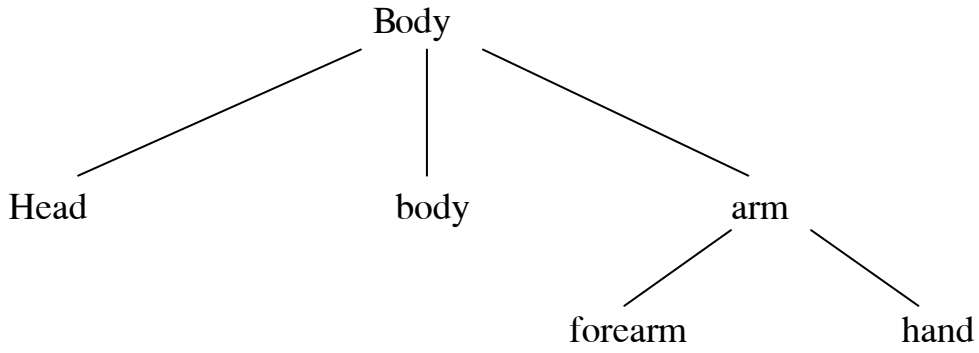

Fig.9

Cruse (1986: 157)

The terms "*body, arm, forearm*" and "*body, arm, hand*" have the Catenary relation because "f*orearm*" is a part of "*arm*" which is a part of "*body*" and "*hand*" is a part of "*arm*" which is a part of "*body*".

The Catenary relation also exists in the sense relation of Hyponymy, e.g.

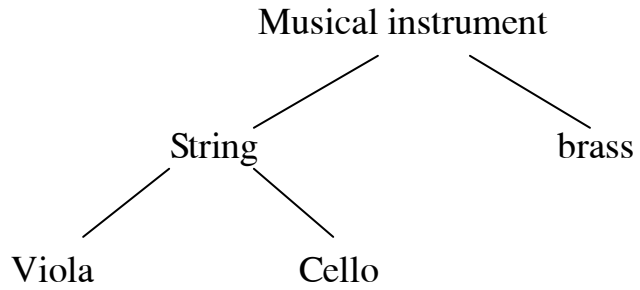

Fig.10

Cruse (1986: 147)

The relation terms "*musical instrument, string, viola*" and *"musical instrument, string, cello*" are illustrations of the Catenary relation "-kind of-" in the relation of Dominance of hierarchy.

It is possible to see that sense relations such as synonymy and antonymy are neither assymetric (because the semantic relations between their member elements are symmetric), nor catenary (because their elements are not part of chains structured on the basis of the same relation; they are rather sets, pairs, etc.).

1.1.3. Differentiation

The second relation a branching hierarchy requires is the relation of Difference. If the relation of Dominance is regarded the "*hyper – sub*" *relation*, the Difference relation refers to "*sister-nodes*" *relation* that reflects the relation between elements in a same level. E.g.

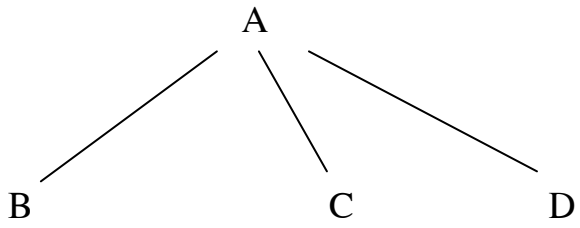

Fig.11

The relation of Difference in the figure 3 holds between elements B, C, D. Like the relation of Dominance, this relation must be constant throughout a well-formed hierarchy (Cruse, 1986)

In the sense relation of Hyponymy and Meronymy, there is also the existence of the difference relation. For instance, the term "*vehicle*" has its Hyponyms "*motorbike, bike, car*", then the relation of Difference covers the

terms "*motorbike, bike, car*" in the Hyponymic hierarchy; to the Meronymic relation, Meronyms *"pedal, sit, wheel"* of the term *"bicycle"* have the difference relation. Is it easy to see that the relation of difference often occurs between subordinates of both Hyponymy and Meronymy.

1.2. Lexical hierarchy

First, let consider the hierarchical relation which is the relative of lexical relation. This relationship is one where elements at lower levels are submissive to elements at higher levels. Just think of the military hierarchy, where the General is above a Captain who is above a Private.

The use of hierarchical relationships is the primary feature that distinguishes a taxonomy or thesaurus from other, simple forms of controlled vocabularies such as lists and synonym rings.

Hierarchical relationships are based on degrees or levels of Superordination and subordination, where the Superordinate term represents a class or a whole, and subordinate terms refer to its members or parts. Reciprocity should be expressed by the following relationship indicators:

- BT (Broader Term), a label for the Superordinate term
- NT (Narrower Term), a label for the subordinate term

Consider the following example which illustrates the hierarchical relation exists in both Hyponymy and Meronymy

	Hyponymy	Meronymy
Superordinate term	Flower	Arm
Subordinate term	Rose	Body

As mentioned, a hierarchy consists of elements related to another in a characteristic way (Cruse, 1986). The notion of Hierarchy is the general term which is divided into a lot of specific types such as: Taxonomic hierarchies, part – whole hierarchies, non – branching hierarchies.

The term of Lexical hierarchy is different a hierarchy from *lexical item*. A hierarchy needs no lexical items; elements in the hierarchy are decided

according to the defaulted- in -advance relation, for instance, A and B are considered to relate to each other if there is a relation satisfying any feature of A relating to any feature of B. To Lexical hierarchy, however, it is necessary to exist lexical items which decide whether it is a lexical hierarchy or not. Elements in lexical hierarchy thus must be lexical units and relation in lexical hierarchy is identified according to relation of lexical units. For example, the term *"finger"* and *"hand"* have a relation of "part – whole" in the lexical part-whole hierarchy.

Lyons (1968) calls the hyponymy relation the most fundamental paradigmatic relation of sense in terms of which the vocabulary is structured. Together with the Part-whole relation, it is a hierarchical relation often found in thesauri, taxonomies and ontologies. The relations of Hyponym and Meronymy are lexical hierarchies because they are not only sense relation which refers associations between lexical units but also relate words hierarchically, showing how a words with a general meaning includes the meaning of other words with more specific meanings (H. Jackson & Z. Amvela, 2000). Consider the following example to interpret this statement:

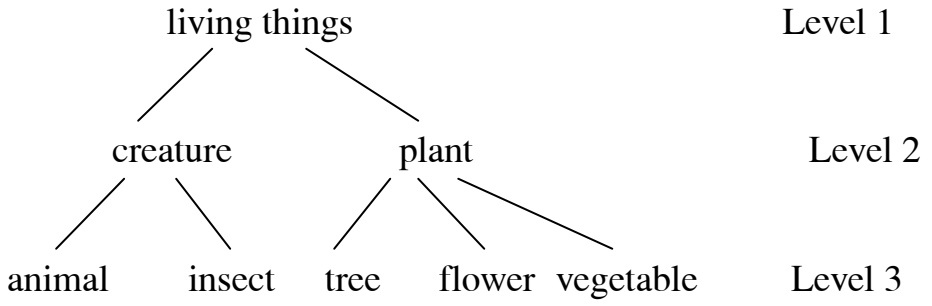

Fig.12

(http://bbs.dage.name/viewthread.php?tid=1425)

To the Hyponymy, there is the clear hierarchy of lexical items. In this example, it is divided into three level corresponding two superordinates and two subordinates. It is obvious to see that in the example "*living things*" is the highest level of the hierarchy, which is immediate superordinate of the co-hyponyms "*creature*" and "*plant*"; the terms "*creature*" and "*plant*" are immediate superordinate of "*animal, insect*" and "*tree, flower, vegetable*" respectively. Conversely, the terms "*creature, plant*" and "*animal, insect*",

"*tree, flower*, *vegetable*" are co-hyponyms of their Hypernyms "*living things*", "*creature*" and "*plant*" respectively.

With respect of Meronymy, the hierarchy which distinguishes the upper terms and the lower terms also exists. Each repetition of the division creates one more level, which sets up the hierarchy with complex system. We can see in the following part – whole hierarchy:

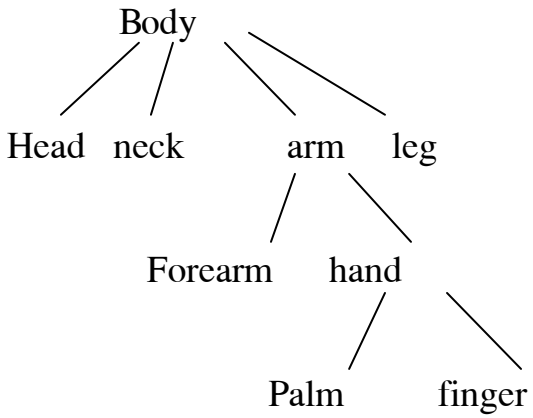

Fig.13

Cruse (1986: 157)

The division of the human body structures levels in the hierarchy, in which upper levels are superordinates of the lower, and the wholeness of its as well. The term "*body*" – the highest level has its immediate subordinates "*head, neck, arm, leg*" which stand in the level 2 and are divided once again into subordinates in the level 3(e.g. "*arm*" has co-meronyms such as "*forearm*" and "*hand*"; the term "*hand*" has its immediate Meronyms "*palm*" and "*finger*".

In conclusion, both the classification in Hyponymy and the division in Meronymy have made up hierarchies. The more the phenomena happen, the more levels get, which made the hierarchy with plenty of lexical items.

1.3. Lexical gaps

Lexical gap discusses the absence of a lexeme/word at a particular place in the structure of a lexical field (Nguyen Hoa, 2002).

In linguistics, a lexical gap refers to a possible word form that just doesn't exist in the language, for any number of possible reasons. This may be due to productive morphology; for example, the word "*ungood*" is a possible word

form in English, but doesn't exist due to the fact that the same meaning is already established in the existing word "*bad*". (One could argue, though, that a word such as "*ungood"* might be used in a poetic or emphatic sense.)

The existence of the lexical gap in linguistics shows that there is no absolute closeness in the vocabulary of a language.

1.3.1. Superordinate missing

Lexical gap particularly occurs in hierarchical relationships in which the existence of either upper term or lower term may be absent.

With respect to the sense relation of Hyponymy, there is sometimes the superordinate missing that refers to the absence of superordinate term in the hierarchical relation. Consider the superordinate term of the color terms: "*red, yellow, blue, white, etc*."

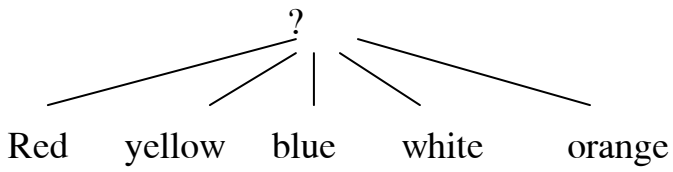

Fig. 14

Propose that the given terms is the category of adjective, in English there is no term which is also an adjective to refer to the superordinate of the terms in the hierarchical relation. One more example of the Hyponymy relation to illustrate the unsystematic nature of hierarchical organization in vocabulary:

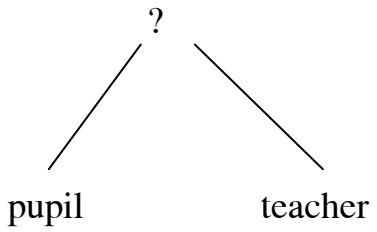

Fig. 15(a)

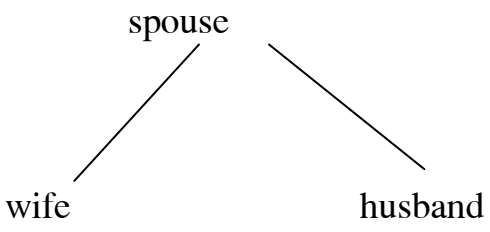

Fig. 15(b)

Hoa (2002:130)

In the figure 2.b, the Hypernym "*spouse*" is used to refer name of a married man or woman, along with its Hyponyms "*wife*" and "*husband*", whereas it is possible to see from the hierarchy in figure 2.a that there is, sometime, no superordinate denoting the general term for "*pupil*" and "*teacher*", which refers to the participants of education process.

The situation occurs not only to adjectives, nouns but also verbs. The co-hyponyms "*come*" and "*go*" seem not to have their Herponym. It may be suggested that the term "*move*" covers them; but this is not quite right because the term "move" includes all states of transferring from one place to another like "*walk*", "*travel*", "*run*", etc. while the Superordinate of "*come*" and "*go*" must express the direction of the movement not mode or manner.

To the Meronymy relation, the Superordinate missing occurs less frequently. Allan mentions the absence of an English word for the limbs dubbed "arm-hand" as an example of a lexical gap in the Meronymic hierarchy including "*finger, hand, arm, and body"*:

$$\forall \text{ W, X, Y, Z} \quad \begin{cases} \text{Finger'(X)} \rightarrow \text{X is part of a hand} \\ \text{Hand' (Y)} \rightarrow \text{Y is part of an arm-hand} \\ \text{Hand' (Y)} \rightarrow \text{Y is part of a body} \\ \text{Arm' (Z)} \rightarrow \text{Z is part of an arm-hand} \\ \text{Arm' (Z)} \rightarrow \text{Z is part of a body} \\ \text{Arm-hand} \rightarrow \text{W is part of a body} \end{cases}$$

Lyons (2001:265)

The hand and the arm are different parts of the body: to cut one's hand is not to cut one's arm nor vice versa. However, if one loses one's arm, one also loses one hand attached to it. The missing word "*arm-hand"* would be used to refer to the part of the body including the hand and the arm. Allan points out that in this case Meronymy is logically transitive: a finger is a part of a hand, an "*arm-hand"* and a body.

1.3.2. Subordinate missing

Consider the part – whole relation, for example, the human finger has three joints, but there is one of them named the "knuckle". In fact that it is possible to describe them like "the middle joint" or "the joint nearest the "nail", but this can be considered as the lexical gap, for the other two potential Meronyms has no specific label as the rest "*knuckle*".

Cruse (1986) notes that there is often no separate name for the major, essential functional part of an object. Teapot, for example, has handles, spouts, and lids, but the body is left unnamed. In fact native speaker intuition would probably call that part the teapot, as it is common for a name that designates the whole to be applied also the main part: note the case of body, which can be applies exclusively the trunk or the trunk plus head and limbs.

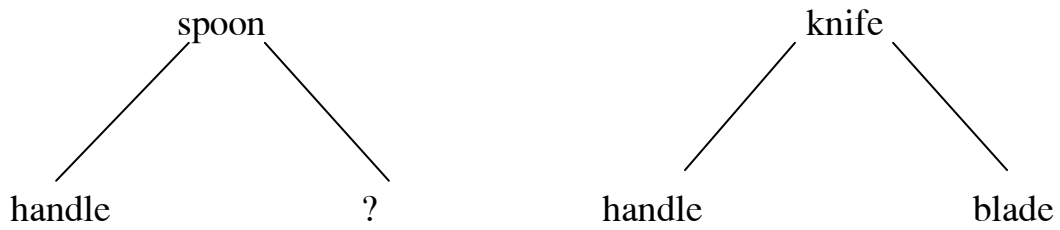

Fig. 16

Cruse (1986:171)

Similarly, "*fork*" and "*spoon*" have "*handles*" – parts to hold with a hand but what do we call the other part, which corresponds to the "blade" of "knife". It might be suggested that the "*prongs*" constitute the rest; but if it is understood that the part of a fork excluding the handle bears some resemblance to a hand, and the "*prongs*" are analogous to "*fingers*", there is no name for the fork analogue of hand.

In the sense relation of Hyponymy, the Hyponym is possibly absent from the hierarchy. Consider the following example of lower terms of "*bus*" from Cruse (1986):

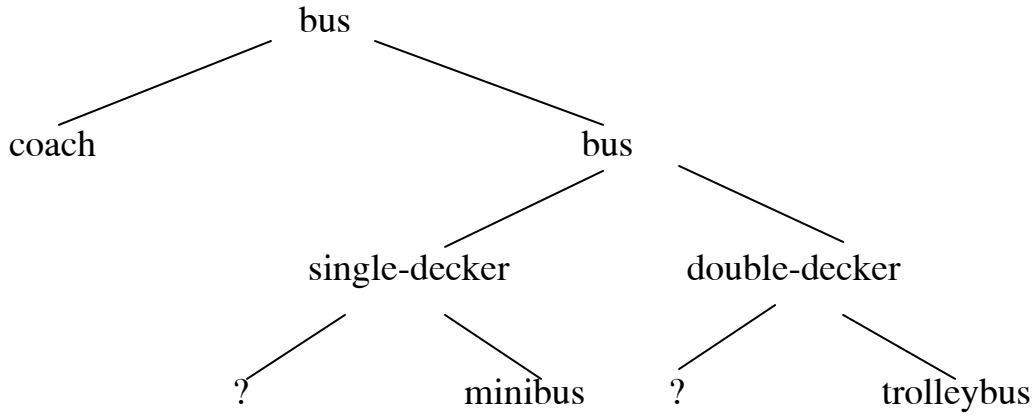

Fig. 17

Jackson & Amvela (2000:105)

The term "*bus*" is both the overall term for this kind of vehicle and more specifically differentiates an urban mass passenger vehicle from one used for inter-city travel (coach). A "minibus" is a small single-decker, but there seems to be term for ordinary-sized "*single-decker*" as co-hyponym. Similarly, there is no term for other kind of "*double-decker*" which distinguished by method of power, like "*trolley-bus*".

With what has been discussed, it is possible to conclude that there are lexical gaps in the hierarchical semantics relations of both Hyponymy and Meronymy, which occurs not only to Superordinate terms but also Subordinate terms. This shows the confusion when build words distinguished on the same basics (size, purpose, mode of power, etc.) in the hierarchies of Hyponymy and Meronymy.

2. Contrast of Hyponymy and Meronymy

2.1. Lexical relation

The branch of semantics that deals with the word meaning is called lexical semantics. It is the study of systematic, meaning related structures of words. Lexical field or semantic field is the organization of related words and expressions in to a system, which shows their relationship with one other. E.g. set of "*angry, sad, happy, and afraid*". This set of words is a lexical field; all its words refer to emotion states.

Lexical semantics examines relationships among word meanings. It is the study of how the lexicon organized and how the lexical meanings of lexical items are interrelated, and it is principle goal is to build a model for structure of the lexicon by categorizing the types of relationship between words, which is called lexical relation.

Definition: A lexical relation is a culturally recognized pattern of association that exists between lexical units in a language.

There are different types of lexical relations: Synonymy, Homonymy, Metonymy, Polysemy, Hyponymy, Meronymy, in which each relation reflects the different association of lexical units in a language.

In lexical relations, Hyponymy is considered as the relation of inclusion. The members in Hyponymy relation – Hypernym and Hyponym denoting the terms referring the same object, but the former is boarder than the latter.

There is always an expression to recognize which term is Hypernym and which term is the other. Hyponym is considered as the "is-a" relation (Cruse, 2002) that is possible to be expressed by the verb to be. For example:

A stallion is the horse.

A dog is an animal.

Cruse (2002)

The terms "*stallion*" and "*dog*" are identified the Hyponyms, while "*horse*" and "*animal*" is called the Hypernyms.

Moreover, the relation of Hyponymy is formulated in the following phrase: *X is a kind/type/sort of Y* (Radek Vogel, 2006) as the concern of Taxonymy relation – subtype of Hyponymy. For instance, *Rose is a kind of flower*. Therefore this relation, in other word, is called the "kind of relation".

While Hyponymy reflects to "is-a" relation, the other hierarchical relation is regarded the "part-of" relation (Winston, Chaffin & Herrmann, 1987; Artale, Franconi, Guarino & Pazzi, 1996). It is thus expressed by phrase: "*X is a part of Y*". e.g. "*Finger is a part of hand*" or "*head is a part of body*"

The difference between Hyponymy and Meronymy in terms of Lexical relation, therefore, is that the lexical relation between the terms "*arm*", "*eye"*, "*hand*", "*head*", for example, an arm is not a kind of "*body*" like a rose is a kind of flower, but a part of body. It is possible to state that the relation of Hyponymy structures hierarchically concepts according to logical aspects, thus "*rose*" is classified basing on general and individual characteristics of its that make it put into kinds of "*flower*" (because of general characteristics) and identified to be "*rose*" (because of individual characteristics). On another hand, the relation of Meronymy reflects a physical point of view (Khoo & Na, 2006), which is easy to be seen in the given example: "*head*", "*arm*", "*eye*" or "*hand*" relate to "*body*" according to the nature or material things. The relation of members in Meronymy, therefore, is closer than ones in Hyponymy.

In short Hyponymy and Meronymy have a lot of expressions. They are, however, distinguished by the lexical relation of "*kind-of relation*" for the former and "*part-of relation*" for the latter.

2.2. Transitive relation

The transitive relation is defined as transferable over the boundaries of elementary relations. Given **X**, **Y**, **Z** are concepts and **q** is a semantic relation, the relation q is transitive if:

$$\mathbf{[(X\ q\ Y) \cap (Y\ q\ Z)] \rightarrow (X\ q\ Z)} \quad (\cap \text{ means "and"})$$

The principle is interpreted as the following: if it holds between X and Y, and between Y and Z, it also holds between X and Z.

Transitivity was mentioned a lot in semantic relations by Lyons (1977) or D.A. Cruse (1979, 1986). It is one of the important properties of semantic relations beside reflexivity, symmetry, so on.

In the sense relation of Hyponymy and Meronymy, the transitivity also occurs. Hyponymy is considered as a transitive relationship. For example, if "*dog*" is a Hyponym of "*animal*" and "*spaniel*" is a Hyponym of "*dog*", then "*spaniel*" is a Hyponym of "*dog*".

However, Meronymy is different from Hyponymy. Hyponymy is always transitive, as we can see, but Meronymy is not necessarily transitive. An example for the transitivity: "*nail*" is a Meronym of "*finger*" which is a Meronym of "*hand*", "*nail*" is the Meronym of "hand". A non – transitive example: if "*pupil*" is a Meronym of "*eye*", "*eye*" is a Meronym of "*face*", but we cannot say that "*pupil*" is the Meronym of "*face*" because pupil is not a part of face in fact.

Cruse (1986) notes that there are two causes of "*failure*" of the transitivity of the part – whole relation, which may in some examples be simultaneously operative. The first is the notion of *functional domain*. For example:

1.a The jacket has sleeves.

1.b The sleeves have cuffs.

1.c The jacket has cuffs.

2.a The sleeve has button.

2.b The button has holds.

2.c ? The sleeve has holds.

Cruse (1986:165)

We can conclude 1.c from 1.b and 1.a, while it is not valid if say that 2.c is the conclusion of 2.a and 2.c. the reason 2.c is odd is that a part typically has more or less certain function with respect to some whole. The more inclusive element within which the part functions may be termed its functional domain.

A functional domain can be restricted or generalized. The function domain of hold, for example, is typically restricted. A button-hold is a place for thread through to connect button with cuff, and the button-hold does not have any direct function with respect to the sleeve. Furthermore, the functional of domains of a part is established with reference to specific context. Many parts have their functional domains encapsulated within their meaning like "*stamens*" function with respect to "*flowers*" or "*fingers*" function with respect to "*hands*"; we rarely say "*flower- stamens*" or "*hand-finger*". However, "*hold*" is not the same case, it has multitude of different possible functional domains which is formed by the contexts in difference. "*The sleeve*" in the sentence "*the sleeve has a hold*" thus is maybe taken as the context of this sentence then we difficult to imply a hold in this sentence referring to the button-hold but easily to understand it referring to the sleeve-hold.

The second cause leading to the transitivity failures is *attachment* which is a special type of part. Attachments have twp defining characteristics. First, it must be normal to them as being attached to some larger entity which is called *stock*:

> A **hand** is attached to an **arm**.
>
> The **ears** are attached to the **head**.
>
> It is odd to refer to **integral parts** (those are not attached).
>
> ? The **palm** is attached to the **hand**.
>
> ? The **handle** is attached to the **spoon**.
>
> *Cruse (1986: 167)*

The wholeness of an entity is destroyed if an integral part is missing but it is not necessary true if the missing is an attachment. Consider the following example from Cruse (1986:167)

> A: Did you find the whole **arm**?
>
> B: (1) Yes, but the **hand** was missing.

(2)? Yes, but the **forearm** was missing.

An attachment is, however, typically an integral part of the overall whole, so that, for instance, a human body cannot be described as complete if the hands are missing, nor can the hand be described as being attached to the body.

2.3. The expansion of lexical item category

The sense relations relate to many categories of item in lexicon. So do Hyponymy and Meronymy relations, of course. However, because of the difference between the formulary of the two relations, the expansion of item categories is also different.

To the sense relation of Hyponymy which is regard the "kind – of relation", it means that any part of speech can be classified into types including not only nouns, verbs but also adjectives, therefore the lexical items are abundant.

Nguyen Hoa (2002) notes that items related by the Hyponymic relation are more frequently found among nouns than among adjectives or verbs. In fact that noun is the part of speech denoting plenty of objects or abstract concepts which need to be classified in reality. In nature, we easy to find a lot of Hyponymic cases "*sunflower*", "*tulip*", "*rose*" are kinds of "*flower*"; "*horse*", "*dog*", "*pig*" are kinds of "*animal*". In science, Hyponymy relation is used: "*hydrogen*", "*nitrogen*", "*oxygen*" are kinds of gas; "*Mercury*", "*Jupiter*", "*Mars*" are kinds of planets.

Adjective category is also observed in Hyponymy relation. For instance, the kinds of colors: *green, red, white, blue, so on*, although the Hypernyms of these words is not an adjective; or kinds of emotion: *sad, happy, afraid, etc*.

Hyponymy is not restricted to objects, abstract concepts, or nouns. It can be identified in many other areas of the lexicon. Verbs are in between, and among the verbs one can find some example of hyponymy (Cruse, 2002), e.g. the verb "*cook*" has many hyponyms including "*boil*", "*fry*", "*grill*", "*bake*",

etc. ; the verb "*look*" is the Hypernym of "*stare*", "*glimpse*", "*gaze*", "*glance*".

Contrary to Hyponymy, lexical category in Meronymy appears to be best fitted to nouns and noun concepts (Beckwith, Fellbaum, Gross, and Miller, 1990). The reason of this is that this is the relation between parts and wholeness, therefore only nouns referring to objects or phenomenon is possible to be divided into parts not verbs or adjectives are the abstract notions. For example: "*handle*" and "*blade*" are parts of "*knife*"; "*finger*" and "*forearm*" are parts of "*arm*". Even Meronymy can be applied to abstract nouns. E.g. "*sunrise*", "morning" and "*noon*" are parts of "*day*"; "*hydrogen*" and "*oxygen*" are parts of "*water*".

To summarize, what has been discussed is the difference between Hyponymy and Meronymy – the part of speech related by the two relations. Although it is not as outstanding as other differences like the transitivity or lexical relation, it is important to recognize it for distinguishing Hyponymy and Meronymy.

Chapter III – IMPLICATION

In sense relation there are often problems when dealing with sense relations, especially recognizing and distinguishing Hyponymy and Meronymy. Because it is not all the time there is the clearness between sense relations and it is not easy to get a complete understanding in the sense relations, we sometimes can confuse among sense relations.

This chapter is going to mention the problems in recognizing the sense relations of Hyponymy and Meronymy, then state solutions to overcome the matters.

1. Some problems with Hyponymy and Meronymy

1.1. Difficulties in recognizing Hyponymy and Meronymy

1.1.1. Difficulties in recognizing Hyponymy

Hyponymy is a familiar relation met in lexical semantics, which play the expressing the sense of inclusion part; therefore, Hyponymy is missed with other relations. Especially, the relation of Hyponymy is often confused with its sub-type of Taxonymy.

The difficulty in recognize Hyponymy from Taxonymy is majorly caused by two obstructs. The first is the sense relation of two relations: both express the relation of inclusion. For example:

Hyponymy		Taxonymy	
superordinate	subordinate	superordinate	subordinate
cat	kitten	dog	spaniel
queen	monarch	fruit	mango

The relation of inclusion refers to the relationship between one class is wholly included in another (Cruse, 1986). In the example, the relation of inclusion is illustrated by the superordinate and subordinate. The superordinate which refers the more general terms involve the subordinate which is more specific: the words "*cat"*, "*queen*", "*dog*", "*fruit*" include the

words “*kitten*”, “*monarch*”, “*spaniel*” and “*mango*” respectively. Therefore, it is common that the relation of Hyponymy is sometimes confused the relation of Taxonymy.

The second is the similarity in the lexical hierarchy. Both Hyponymy and Taxonymy can be express in the hierarchy, in which both refer to the relation of dominance. For instance:

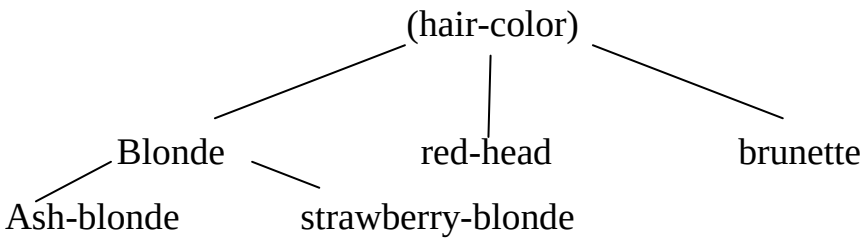

Fig. 18: The Taxonymic hierarchy

Cruse (1986: 142)

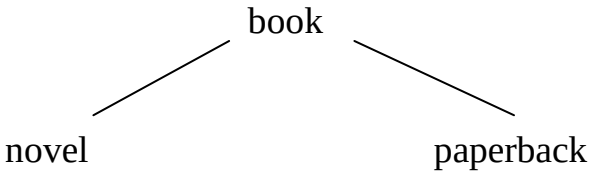

Fig.19: the Hyponymic hierarchy

Cruse (1986: 137)

In both figures, we can see the lexical hierarchy is expressed in two different relations Taxonymy and Hyponymy. Both the two relations reflect the relation of mother-daughter nodes (horizontal relation) e.g. “*blonde - ash-blonde*”, “hair-*color – brunette*” in the Taxonymic hierarchy; “*book – novel*”, “*book – paperback*” in the Hyponymic hierarchy.

1.1.2. Difficulties in recognizing Meronymy (Difficulty in recognizing Meronymy from its close relatives)

Beside Meronymy, entities such as groups, classes, collections stand in relations which resemble Meronymy with their constituent elements. They are called close relatives of part-whole relation and easily to be confused with Meronymy. For example:

The group-member relation: Jury-Juror; senate-senator

1.a A juror is a part of the jury.

1.b A jury has jurors.

2.a A senate is a part of the senator.

2.b A senator has senates

The class-member relation: proletariat-worker; clergy-bishop

3. A bishop is a part of the clergy.

4. A worker is a part of the proletariat.

The collective-member relation: forest-tree; library-book

5. A forest has trees.

6. A library has books.

Cruse (1986: 176)

These relations refer to the specific/general relation (clergy is general than bishop; forest is more general than; tree; etc.). Moreover, all of the relations can be expressed by phrase like the expression of Meronymy: "*An X has a Y*". These reasons give the difficulties in recognizing Meronymy.

1.2. Difficulties in distinguish Hyponymy and Meronymy

1.2.1. The relativity in both Hyponymy and Meronymy

The relativity is understood that although Hyponymy and Meronymy are two different relations which, under any aspect, may have the identicalness, the distinction between them may be fluid (Nguyen Hoa, 2002). For example, "*wood*" with respect to "*table*", it may say that "*this table is made of wood*" or "*this table has wood in it*"; it means that "*wood*" is regard both a kind of matter and part. However, whether we can say:

? This body is an arm.

? This animal consists of a cow.

The examples give a problem in distinguishing Hyponymy and Meronymy

1.2.2. Quasi-relation

The quasi-relationship is used to refer to the cases in that there is no an exactly appreciate lexical partner that would complete a paradigmatic relationship but a lexical item exists, with virtually the required meaning, but of wrong syntactic category (Cruse, 1986).

The quasi-relation often relates to mass nouns which are collectives of sets in lexicon. Consider the following example: there is no X such that *It's a bull, It's a steer, It's a cow*. However, we do have the mass noun "*cattle*" is the superordinate in relation to a set of the quasi-hyponyms "*cow, bull, steer*", shown by the regular use of such expression as "*cow, bull, steer and other cattle*". The collective "*cattle*" thus is called the Quasi-superordinate of the set, which presents the kind-of relation. However, the collective "*clergy*" in relation of "*bishop, priest*" does not present the relation of kind, but part-whole relation and shown in the expression "*bishop, priest and other members of the clergy*".

From the above examples we can explore that there are many such collectives in English vocabulary which are superordinate of sets of lexemes in a hierarchical relationship that is ambivalent with respect to distinction of Hyponymy and the part-whole relation (Lyons, 1977). This causes the problem in distinguishing Hyponymy and Meronymy when dealing with collectives.

2. Some suggestions to problems

2.1. Suggestions to recognize Hyponymy and Meronymy

2.1.1. Suggestions to recognize Hyponymy

Solution: in order to distinguish Hyponymy and Taxonymy, it is necessary to interpret two relations between Taxonymy and Hyponymy. First, the expression of the two relations which makes the confusion between them needs to be interpreted. The typical formulation of the Taxonymy relation is:

An X is a kind/type of Y

Cruse (1991, 2002)

If X is a Taxonym of Y, the result is normal:

A **spaniel** is a kind of **dog**.

A **rose** is a kind of **flower**.

A **mango** is a kind of **fruit**.

While the phrase: "*An X is a Y*" is often used to express the Hyponymy relation. For example:

A **kitten** is an **animal**.

A **waiter** is a **man**.

The second is the difference in the hierarchy building. The principle to create the Taxonymic hierarchy is much closer than the one to create the Hyponymy relation. The Taxonymic hierarchy always obeys a strict rule in which its levels are commonly labeled as follows:

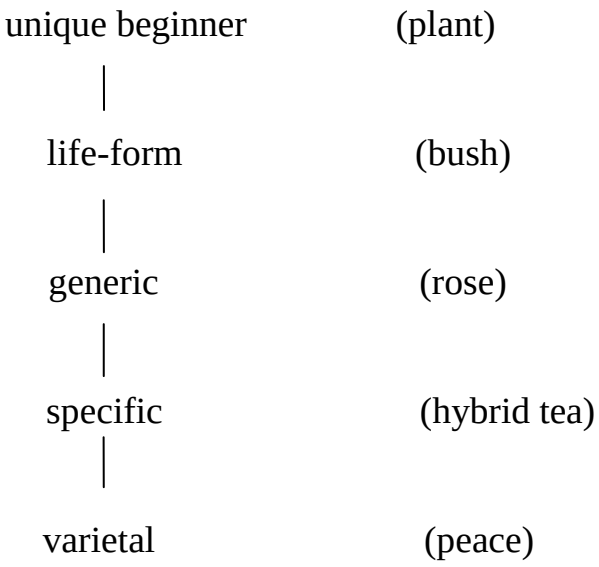

fig.20

Cruse (1986:145)

The levels may be fewer and frequently three or four levels. Consider the following example:

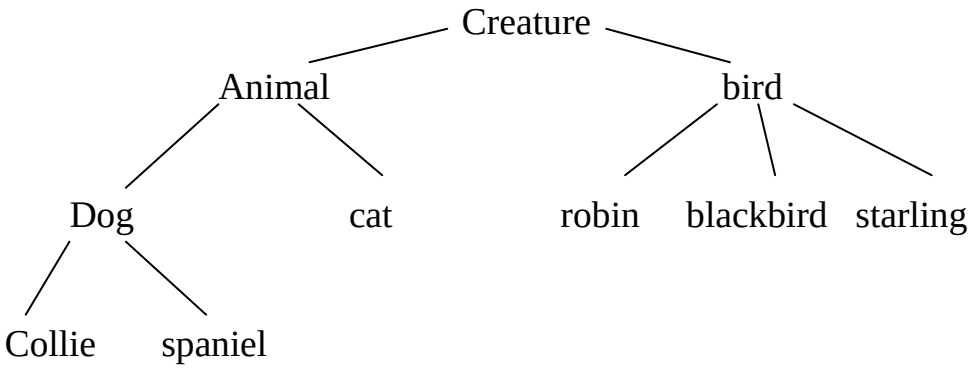

Fig.21

Cruse (1986:146)

In the example, the taxonymic hierarchy consists of four levels in which the lower the level is, the more specific, the terms in that level are.

But in Hyponymy the rule is not preserved. Consider the following example:

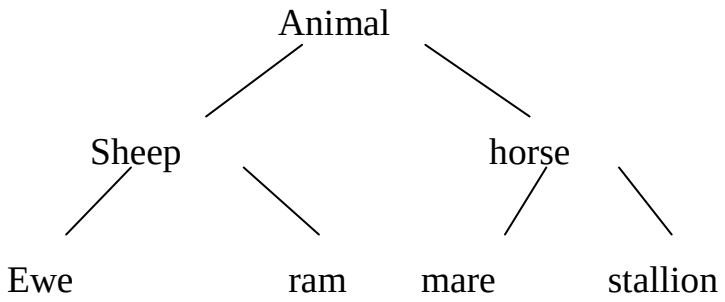

Fig.22

Cruse (1986:136)

The order of concrete although is obeyed, it does not decrease gradually but dramatically. From the highest level, it is possible to omit the next lower level to reach the following one as in the above example: "*sheep*" can be the immediate Hyponym of "*animal*" like "*horse*" can be the immediate Hyponym of "*animal*".

2.1.2. Suggestions to recognize Meronymy

Because of the close characteristics of the close relatives of part-whole relation, it raises difficulties in recognizing Meronymy from them. However, the following solutions to deal with the problem are suggested.

First, it is advised to pay attention of the floral /single inflection. All the general terms in the given relations plural concord with the verb:

E.g. His library are in excellent condition.

The jury are under investigation.

The clergy were unhappy with the decision.

Cruse (1986:176)

The reason for this is all the terms are the collective nouns which agree with single or plural verb concord. Whereas, the general terms in Meronymy do not. For example:

(?) The body have limb.

The body has limb.

Second, it is important to achieve the principle division in the relation of Meronymy. The wholeness is divided into the segment parts or systemic parts. For example: the human body can be divided into parts: *trunk, limb, head, etc*. or also be divided into *skeleton, muscle, nerves, blood vessels, etc*. the first way is to illustrate the segment part rule; the second is the instance of the systemic part principle. While the relations of group-member, class-member and collection-member are just relations in that the entities are essentially collectivities and their parts are elements which themselves are independent whole of the more basic sort (Cruse, 1986). For instance, in the group-member relation: senate-senator, we have

"*A senate has senators*" means "*A senator is a part of a senate*" then *"? is a part of a senate*"

Another word, the division of the relation which obeys to a constant rule cannot occur any more but stops at "*senate*".

2.2. Suggestions to distinguish Hyponymy and Meronymy

2.2.1. Suggestion to difficulty of the relativity

The examples given in the section III.1.2.1 causes the difficulty in distinguishing Hypoynym and Meronymy. There are some suggestions for this difficulty.

First, it is advised to interpret the expression of the relations of Hyponymy and Meronymy. The Hyponymic relation is presented by the former: "*An X is a Y*". It means X covers all the characteristics of Y and its own characteristics; however, there is no the expression "*A Y is an X*". Therefore, in the given example: "*this table is made of wood*", it cannot imply "*table*" is the Hyponym of "*wood*", because not all the tables are made of wood. In addition, we have the formulary of Meronymy: "*An X is a part of Y*". If applying the formulation to the given example, we have "*Wood is a part of this table*". It is possible to accept the sentence if we base on the division principle of systemic parts which obeys the function unity and consistency of internal constitution.

Second, if we say "*wood"* is the hyponym of table in the example "*this table is made of wood*", we will have the sentence according to Cruse (1986):

It is wood. *entails* It is a table.

(According to the formulary: X is Hyponym of Y if A is f(X) entails but is not entailed by A is f(Y))

But the sentence is unreasonable because it is in fact not that.

2.2.2. Suggestion to the difficulty of quasi-hyponyms

We have already seen that the distinction between Hyponymy and meronymy becomes fluid when mention is made of collectives, because it is in fact less clear-cut with superordinate mass nouns than it is with superordinate countable nouns denoting discrete physical objects. Therefore the solution to distinguish Hyponymy and Meronymy is that using the key words such as "*kind of*", "*part*", "*member*", "*item*" to test the relation of the collectives with respect to sets and recognize that relation. For instance:

"bishop is a member of the clergy" → the part-whole relation

"cow is a kind of cattle" → the Hyponymy relation

"chair is a item of furniture" → the Hyponymy relation

The reason for the solution is that the given words function as the "*classifier*" which draws no grammatical distinction between singular and plural (Lyons, 1977).

To summarize, this part has mentioned some typical difficulty in the course of dealing with the two relations Hyponymy and Meronymy. Moreover, the solutions are also suggested to distinguish Hyponymy and Meronymy.

PART THREE: **CONCLUSION**

1. Summary of the study

Hyponymy and Meronymy are the popular relation seen in lexical semantics.

They are discussed in the correlativeness with the other relation, such as sense relations, paradigmatic relations, lexical relations, hierarchical relations which base on the fundamental relationship of generality and specificity relation.

In the study, the relations of Hyponymy and Meronymy are interpreted by a mention of definition, expression, common types, and some typical feature.

The relationship between Hyponymy and Meronymy is also discussed in terms of the similarity and the distinction between them; a lot of examples are mentioned to illustrate the statement. Furthermore, the relationship between Hyponymy and Meronymy becomes more obvious due to the mention of difficulties in recognizing and distinguishing Hyponymy and Meronymy; and proposal of solutions as well.

However, the study expresses shortcomings when not discuss further aspect relating to Hyponymy and Meronymy. For example, the application of Hyponymy and Meronymy in English speaking and writing is not argued; the correlative view to other relations which stand in the same relation, such as: Troponymy with respect to Hyponymy, Metonymy with respect to Meronymy, etc. is not mentioned, either.

In conclusion, the study has achieves the general view of the two relations of Hyponymy and Meronymy in which the mention of the similarity and the distinction between them should be made, regardless of some restriction of the application of two relations and the relative relations.

2. Suggestion for further study

Although the study has not been successful in discussing the close relations surrounding Hyponymy and Meronymy, it is possible to be the motivation for further researches.

We can see that the relation between Hyponymy and Meronymy are potential issue to exploit. Basing on mentioned point of view in the study, further issues relating to them will be developed. For example, the close relative relations of Hyponymy and Meronymy which are not discussed in detail in the study may be explored in further study. In addition, because Hyponymy and Meronymy are used largely in both speaking and writing, their application in psychology, technology, literature, etc. needs to be exploited. It may be, for example, the research on the use of Hyponymy and Meronymy in rhetorical device in literature.

In short, a lot of further studies can be done based on the given issues and application of Hyponymy and Meronymy. In my hope, what have been discussed in the study could be the reference data and the direction for the further researches.

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APPENDIX

This section of the study provides some exercises on the relations of Hyponymy and Meronymy, and the difference between the two relations as well. By the practice, it is more possible to deal with and understand more the notions surrounding the two relations. In addition, keys to the given exercises – the final of this section are also provided to make the course of dealing with Hyponymy and Meronymy easier.

1. Exercise

Exercise 1 Hyponymy is a transitive relation, i.e. if $x \rightarrow y$ and $y \rightarrow z$ then $x \rightarrow z$. For example, since "dog" is a *hyponym* of "mammal" and "mammal" is a hyponym of "animal", "dog is a *hyponym* of animal".

ASK:

(1) Can you find other examples to prove the relation of transitivity?

(2) Is Meronymy a transitive relation like hyponymy? Use examples for illustration.

Exercise 2 A term which is a hyponym of itself is an **auto-hyponym** in that the same lexical item can operate at both superordinate and subordinate levels; for example, "man" contrasts with "animal" at one level, but at a lower level it contrasts with "woman" (in effect, "a man is a kind of man").

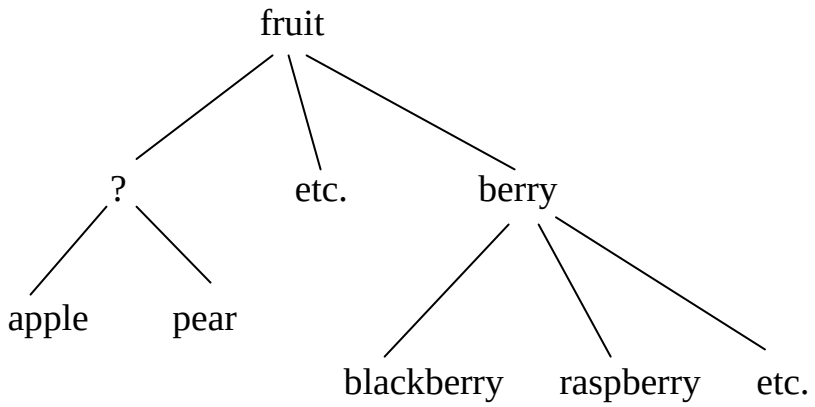
ASK:

(1) Can you find other auto-hyponyms?

(2) Can you account for the existence of auto-hyponyms in any possible way?

Exercise 3 How is Meronymy different from hyponymy? Use examples to illustrate their differences.

Exercise 4 Read the following tree diagram on the relationship of hyponymy among lexical items in the semantic field of *fruit* and illustrate the lexical gap existing in the field.



Exercise 5 Meronymy is classified into the following six types. Find more examples for each type.

1. component — object (branch — tree,)
2. member — collection (fish — shoal)
3. portion — mass (strand — hair)
4. stuff — object (gold — ring)
5. feature — activity (paying — shopping)
6. place — area (Cambridge — Massachusetts)

Exercise 6 Identify the meaning relationship between the following pairs.

1. window house
2. football game
3. Chinese language
4. New York USA
5. CPU computer
6. scarlet red

2. Key to exercise

Key to exercise 1

(1) Tulip is a *hyponym* of flower which is a *hyponym* of plant. Scarlet, vermilion, carmine and crimson are *hyponyms* of red which is a hyponym of color.

(2) Meronymy is not exactly the transitive relation like hyponymy. For example, “pupil” is a part of “eye”, and “eye” is a part of “face”, while

“pupil” is not a part of “face”. ”Finger” is a part of “hand”, “hand” is a part of “arm”.

Key to exercise 2

(1) “Animal” contrast with “plant” at one level, but a lower level it contrasts with “human”

(2) The reason for this is one lexical item can operate at both Superordinate and Subordinate.

Key to exercise 3

Meronymy is different from hyponymy in that the former is a “part of” or “member of” relation while the latter a “kind of” relation. For example, a *leaf* is a part of a *tree*; an *oak* is a kind of *tree.*

Hyponymy is a transitive relation, i.e, if $x \rightarrow y$ and $y \rightarrow z$ then $x \rightarrow z$. For example, since “dog” is a *hyponym* of “mammal” and “mammal” is a hyponym of “animal”, “dog is a *hyponym* of “animal”. Meronymy is not necessarily a transitive relation. For example, although “pupil” is a part of “eye” which is a part of “face”, “pupil” is not a part of “eye”.

Key to exercise 4

The term *berry* acts as the general term for more specific fruits blackberry and raspberry, but there seems to be no term for the category including such fruit as *apple* and *pear.*

Key to exercise 5

1. Screen - computer
2. Ship - fleet
3. Yard - mile
4. Bicycle- object
5. Dating- adolescence
6. Oasis- dessert

Key to exercise 6

1. meronymy
2. hyponymy

3. hyponymy
4. meronymy
5. mernymy
6. hyponymy