

The Development of Semiotics and Linguistics from the Perspective of the Evolution of the Logical Systems of Categories

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Abstract: Logical systems of categories are the core of philosophy and the starting point of all philosophic theories. The same is true for semiotics and linguistics. The author of this paper attempts to construct the logical systems of categories of the two major schools of modern semiotics and those of several representative linguistic disciplines and describe their development so as to illuminate the philosophical origins of the two schools of semiotics and the philosophical and semiotic origins of those linguistic disciplines and the relationships among them. It is hoped that this study serves as a template for research in the fields of semiotics and linguistics.

Keywords: logical systems of categories, semiotics, linguistics

Introduction

Logical systems of categories are the core of philosophy and the starting point of all philosophic theories. Semiotics used to be a part of philosophy and is now based on it, and every school of semiotics also has its own logical system of categories. Language is one of the various sign systems and the most important and best studied one at that. It has, of course, its logical system of categories. From this perspective, every discipline of linguistics has its philosophic and semiotic origin: the logical system of categories of philosophy is first embodied respectively in those of its subordinate semiotic schools, and, in turn, in those (or basic theories) of their subordinate linguistic disciplines. As a result, we can always see the developmental process of semiotics and linguistics from the evolution of the logical systems of categories of philosophy.

Western philosophy has undergone roughly three stages of development: ontology in ancient times, epistemology in modern times and philosophy of language in the

contemporary era (a combination of ontology and epistemology). As human cognition is the concern of epistemology, and humans live in a certain society and culture, naturally the social and cultural background of humans is involved in this stage of study. The evolution of the logical system of categories of philosophy reflects on the evolution of those schools of semiotics (binary opposition between signifier and signified, triadic interaction among the three elements of sign: representamen, object and interpretant, and combination of binary opposition and triadic interaction), and further reflects on the logical systems of categories (or basic theories) of various disciplines of linguistics. On the basis of the logical systems of categories of the above three developmental stages of philosophy, Marxist philosophy further develops till now the most advanced logical system of categories, the logical system of categories of dialectic unity of opposition. As a matter of fact, it has already exerted great influence on the study of semiotics and linguistics without our conscious knowledge.

The significance of the present study lies in the fact that, from the evolution of the logical systems of contemporary Western philosophy and semiotics, the nature, concern and methodology of various disciplines of linguistics and their mutual connections can be clearly seen and thus provide a template for the study of contemporary Western linguistics.

1. Logical System of Categories in Philosophy

1.1 Definition of Logical Category

1.1.1 Definition of Category

A category is the reflection of the basic form of objective reality and its development, a phase of developing cognition, and a basic link of logical thinking. A category has to be implied in the study of either a specific discipline of science or philosophy as a whole. Therefore, the notion of "category" occupies a very important position in the study of science, philosophy or logics (Peng Yilian, 2002, preface).

1.1.2 Definition of Logical Categories

Different philosophies have different concepts of logical categories. Kant's is transcendental, that is, he thinks that categories are not the intense abstraction of experiences but inherent in human reason. They first provide guidance to his or her cognition or serve as a means of summation in the process of cognition, and then

they will be filled with his or her experiences to achieve the goal of “transcendental unity of perceptual and conceptual knowledge”. Hegel thinks, in another way, that categories are “absolute ideas” which are intrinsic in human intellect. Marx, however, thinks that material is the firstness while ideology is the reflection of it, and that human knowledge comes from all of their experiences, developing from perceptual knowledge to conceptual knowledge, and further deepens their knowledge of the world through practice and finally achieves the unity of perceptual and conceptual knowledge.

1.2 Great Significance of Logical Categories

Only logical categories can reveal the commonness of various processes of cognition and various approaches of human thinking, thus providing a methodological guidance to the thinking processes of various specific disciplines of science (Peng Yilian, 2002, p. 19). Marxists think that, so far as their nature is concerned, logical categories are dialectic. As fundamental concepts of philosophy and logical science are major forms of human thinking, logical categories must imitate or “transplant” the dialectics of objective things, consolidate the dialectics of cognitive processes and, as a result, they themselves necessarily become dialectic (ibid, pp. 21). As Lenin puts it, “Categories are the phases which divide processes, that is, the steps of knowing the world” (Lenin, 1956, p. 90).

1.3 Relationship between Evolution of Logical System of Categories and Development of Semiotics and Linguistics

Hegel holds that categories are not only links of the movement of concepts but also major marks of various systems of philosophy. They invariably combine and form a system, an integral whole, that is, a logical system of categories (Peng Yilian, 2002, p. 163). For Hegel, every logical system of categories necessarily represents a school of philosophy in the history of philosophy and the evolution of logical systems of categories fits the development of schools of philosophy, forming various links of the integral philosophical thought. Although every logical system of categories or every school of philosophy is to be replaced by a new-coming one, it is invariably retained as an organic link of the system or a period of its history (ibid, pp. 173).

We can surely see the development of the two major schools of semiotics and various disciplines of linguistics through the evolution of the logical system of

categories of philosophy. Therefore, the study of the logical system of categories is of great importance to the study of semiotics and linguistics. Only by studying them can a red line be drawn through the interwoven and complicated theories of various disciplines of linguistics, their philosophical and semiotic origins can be traced, and their nature, concern, methodology and mutual relationship can be ascertained.

2. Three Developmental Stages of Philosophy and Their Related Logical Systems of Categories

2.1 Three Developmental Stages of Western Philosophy

Western philosophy has undergone three stages of development: ontology, epistemology and philosophy of language, or the stages of studying existence, thought and language. In ancient Greece, philosophers focused their study on metaphysics and ontology, exploring the ultimate elements which constitute the world. They attempted to discover the origin of reality, the essence or certain metaphysical existence behind phenomena. Therefore, ontology became their focus of attention. In modern times beginning with Descartes (1596-1650), the focus of philosophic study turned from ontology to epistemology, that is, it turned from the study of the origin of the world or the world itself to the study of the origin of human cognition, that is, the study of the origin of human knowledge, whether it comes from experience or reason, its limitation and approaches to and methods of knowing the world. This turn was closely related to the development of natural science in modern times. In the contemporary era, the development of philosophy has switched from the stage of epistemology to that of philosophy of language in which the study of language has become the focus, because many philosophers have realized that problems in philosophical research are nothing but problems related to the meaning of language. The reason why the study of philosophy has turned from ontology to epistemology is that philosophers have come to know the inefficiency of discussing problems of existence without referring to epistemology; and the reason why philosophy turned from epistemology to philosophy of language is also due to the fact that they have come to know whether they study existence or cognition, the prerequisite is that they have to know the meaning of language, which is precisely the prime task of the philosophy of language (Tu Jiliang, 2007, pp. 191-192).

2.2 Three Corresponding Logical Systems of Categories of Three Developmental Stages of Western Philosophy

2.2.1 Aristotle's Logical System of Categories

Aristotle (384 BC – 322 BC) lived in ancient Greece, where the main concern of philosophy was to study existence, that is, the origin of the universe, the beginning of things in the world, etc. As “substance” or “subject” is the most fundamental and primary origin of objective things, that is, “the first origin”, he called the study of “the first origin” the first philosophy. As substance is the core of philosophy, it becomes the first of his ten major categories while the other nine categories represent the attributes or predicates of various aspects of substance. In other words, substance is the subject or foundation of all things in the world and is an existence independent of anything else. Logically speaking, substance is the subject or main category of a sentence, while other words or categories are only predicates that describe various aspects of the subject. Substance does not describe anything else. All other things depend on the subject (substance) for their existence. For example, “quantity”, “quality”, and “relationship” all belong to the subject and do not exist at all without the subject (Peng Yilian, 2002, p.137)

In “Categories”, Aristotle puts forward ten categories: substance, quantity, quality, relation, place, time, position, state, action and affection. “Substance” e.g. man, horse; “quantity” e.g. two arms long, three arms long; “quality” e.g. white, cultured; “relation” e.g. one meter, two folds, bigger than; “place” e.g. in Liucon, at the market; “time” e.g. yesterday, last year; “position” e.g. lie down, sit; “state” e.g. wearing shoes, armored; “action” e.g. cut, kindle; “affection” e.g. be cut, be kindled (ibid, pp. 136). The relation between the category “substance” and other categories is, in a sense, that of subject and predicates, with substance being the subject of a proposition and other categories, such as quantity, quality, relation, being predicates modifying the subject. Although all the categories are ontological categories, they are viewed and analyzed from the perspective of propositions, i.e. of the relation between subject and predicate. In this sense, they are all logical categories (ibid, pp. 138). Owing to the fact that this system of categories fulfills the task of revealing the basic attributes of objective existence, it is materialist in nature (ibid, pp. 140).

These categories are not put together at random, but in a relation of inner connection and subordination. Therefore, they undoubtedly have a dialectic nature or

tendency. Friedrich Engels thinks that “Aristotle has already studied the major forms of dialectic thinking, he has put forth the first logical system of categories in the history... which has exerted positive influence on the forming of Kant’s and Hegel’s logical systems of categories” (ibid, pp.141).

2.2.2 Kant’s Cognitive Logical System of Categories

From the above ontological logical system of categories, we can see that Aristotle thinks that categories originate from objects and are used to reveal the quality and relation of existence or substance. Kant, however, thinks that categories do not originate from objects but from People's inherent ability of cognition and are not used to describe the quality and relation of existences or substances, but to combine themselves with perceptual intuition to form knowledge (ibid, pp. 151). Kant’s categories are cognitive categories, pure cognitive concepts. He holds that man’s knowledge is divided into three links or phases: perceptual, cognitive and conceptual links or phases. Cognitive conception refers to the ability of consciousness to produce a concept from itself, that is, the initiative of cognition. The ultimate ability of cognitive perception is to form “transcendental unified perception”, which is a primitive and inherent unified perception, the most fundamental ability of cognition and the prerequisite for the establishment of all consciousness. The concepts produced by this unified perception are pure cognitive concepts or categories such as “substance”, “cause-and-effect”, etc. As it is inherent and does not contain any experience, it is quite different from an empirical concept generalized from perceptual experience with elements of experience in them (ibid, pp. 142). Categories originate from cognitive perception. The function of knowledge is to make judgments. “Thought is empty without content and intuition is blind without concepts.” Knowledge can only be formed by turning mixed and complicated concepts into a unified consciousness. This is precisely the role played by the combining effect of cognitive perception. Cognitive categories make possible knowledge about experienced objects. Kant holds that “empirical knowledge of material things is only possible when it is formed according to a subjective law (cognitive categories) (ibid, pp. 144).

Thus Kant lists Aristotle’s system in four groups of three: quantity (universal, particular, singular), quality (affirmative, negative, infinite), relation (categorical, hypothetical, disjunctive) and modality (problematic, assertoric, apodeictic). The parallelism with Kant’s categories is obvious: quantity (unity, plurality, totality), quality

(reality, negation, limitation), relation (substance, cause, community) and modality (possibility, existence, necessity) (adapted from the entry on philosophy in *Wikipedia*).

We can see at first glance that Aristotle's system of logical categories is dyadic while Kant's is triadic. What difference does this make? Kant thinks that the dyadic system based on the law of contradiction has its limitations. In analysis based on this system, only two mutually repulsive or negative aspects can be obtained, thus the unity of the two opposites is not obtainable. The triadic model puts stress on synthesis: "the third is a concept made of the combination of the first and the second", for example, "totality" is made of combination of "unity" and "plurality", "limitation" is made of combination of "reality" and "negation". It demonstrates that the third category reaches unity of opposites, and this model not only includes the two opposite factors but also produces a new factor through combination and unity. The thesis, anti-thesis and synthesis of Kant's model undoubtedly break the limitation of formal logical and conceived thought of dialectics. For this reason, Hegel speaks highly of this model of Kant's: "it is Kant's enormous contribution, although it is merely a superficial and external way of cognition." This triadic model has exerted direct influence on Hegel's classification of categories and the dialectic movement of his system of categories (ibid, pp. 154).

Aristotle starts from the idea and method of formal logics and establishes his system of categories from the perspective of ontology, while Kant starts from dialectic logics and establishes his system of categories from the perspective of epistemology: therefore Kant's system becomes the inevitable stage and intermediate link between Aristotle's system of categories and Hegel's dialectic system of categories (ibid, pp. 155).

Kant's system of categories, however, is merely a way of thinking within the category of cognitive perception. Even in terms of epistemology, his system of categories cannot be regarded as perfect. According to Kant, human knowledge is divided into three stages: perceptual knowledge, cognitive knowledge and conceptual knowledge. But his system of categories covers only the stage of cognitive knowledge. How can we resolve the problem of making a transition from cognitive knowledge to conceptual knowledge with Kant's theory?

2.2.3 Hegel's System of Categories

Hegel is the philosopher who established the first precise and systematic system

of categories (ibid, pp. 158). Engels points out: “Hegel has for the first time described the whole natural, historical and spiritual world as a process, a process of incessant movement, change, transference and development, and attempts to reveal the inner connections of this movement and development. That is his great merit” (Zhao Zhikui, 2004).

Hegel holds that, as a certain essential normalization of existence or existing thing, a category contains inner contradictions, that is, identities and differences. That is the root cause for its dialectic shifting as a result of self-moving of categories, shifting from one category to another (ibid, pp. 159).

As a form of thinking, an instrument of cognition, especially as a form of thinking that reflects the most general, universal quality and relation of real objects, that is, the most widely-covering concept, a category is the generalization or description of the most general and universal relation of real objects, and at the same time, a normalization of them (ibid, pp. 161-162).

Hegel’s comprehensive and systematic ontology from a logical starting point is composed of three parts: the doctrine of Being (Direct category), the doctrine of Essence (Indirect category) and the doctrine of Concept (the unity of indirect and direct categories). The former two (direct category and indirect category) fall in the domain of Objective logical and the last one (the unity of direct category and indirect category) falls in the domain of Subjective logic. Correspondingly, a transition is effected from Objective logical to Subjective logical through three stages of development (three categories): thesis, antithesis and synthesis to effect the unity of the Objective and the Subjective (Nature and Mind). In each category there are two opposing elements: affirmative and negative; and negation is always the propelling force for the transition from one category (stage) to another. In sum, Hegel’s system of categories itself is a logical system which is triadic and manifests the unity of opposites, thus being dialectic. On the other hand, for Hegel, nature is nothing but the externalization of a logical concept, and spirit is the reduction of a concept. Therefore, Hegel’s system of categories is after all an idealistic system of categories. In his mind, logical system of categories is nothing but the self-movement of an absolute concept. Marx says: Hegel thinks that “all that happened in the past and all that happens now are all that has happened in his thought ...” (Peng Yilian, 2002, 176-181).

The shortcomings of Hegel’s system of categories are: 1) it is an idealistic position. 2) a category is regarded as the form of self-movement of reason and is separated from

the objective reality of actual movement (Zhao Zhikui, 2004).

If we take the position of dialectic materialism and understand Hegel's so-called rational concept as an objective world independent of man's consciousness, the principle to be observed in establishing logical system of categories is: a logical system of categories must embody the materialistic principle of the unity of the world, follow the principle of identity of a system of categories and objective dialectics, that is, to take the mutual relations among phenomena in objective reality as the starting point of establishing a logical system of categories in order to make the inner connections among various categories, manifestations of the completeness and regularity of a unified objective world and its development. This is a fundamental principle with the significance of materialism ... (Peng Yilian, 2002, p.170).

2.3 Logical System of Categories of Marxism

2.3.1 Marx, Engels, Lenin and Mao Zedong Established Logical System of Categories of Marxism

Marx and Engels founded dialectic materialism and historical materialism, thus putting an end to the vagueness and idealistic distortion of the problem of categories. Inheriting a Marxist theory of categories, Lenin critically accepts the "reasonable inner core" of Hegel's idealistic category, thus further developing Marxist dialectics and making important contributions to founding and developing a system of categories. His most important contribution is putting the category of practice in epistemology. In this respect, Mao Zedong made an irrefutable contribution. In the system of thought of Marx, Engels, Lenin and Mao Zedong, the category of "practice" constitutes the most important link in a system of categories. "Practice" occupies a very outstanding position.

Following Marx and Engels, Lenin takes "the category of practice" as the starting point of the epistemology of dialectic materialism. He points out that the idea of living and practicing is to be taken as the prime and basic idea of epistemology. This point of view necessarily leads to materialism. Lenin stresses that man's cognition must be based on practice, and continually develops in practice. "Practice" is a link in human cognition and is "human behavior", which is a strong initiative in social development.

Following and developing the thought of Marx and Lenin, Mao Zedong further defines the characteristics of practice, saying: as a subjective view originates from the objective world, compared with cognition, practice is a process that is characteristic

of direct reality and is capable of reforming the world. Moreover, practice has the character of self-conscious initiative and social history. Practice cannot be divorced from the development of human history and is the social activities of the masses of people, which are the only strong propelling force of social development. Mao Zedong goes on to define the forms of practice, saying that people's social practice is not limited to the form of productive activities, but is carried out in many other forms: class struggle, political life, scientific and artistic activities, so on and so forth. Therefore, besides material life, humans get to know, in different degrees, the relationship between men from political life and culture (which are closely related with material life). He takes practice as the core of the epistemology of dialectic materialism, saying: "Truth is discovered in practice and proved and further developed through practice", thus putting the category of practice of Marxism in a new position and in a new developmental stage.

Marx revealed the essence of practice, saying: "Men establish corresponding social relations according to their respective ways of production. It is exactly the same men who invent corresponding principles, ideas and categories according to their respective social relations... Categories are historical and subject to change, new categories replacing old ones, the contents of some categories changing with the development of practice (Zhao Zhikui, 2004).

2.3.2 Movement and Formation of Logical System of Categories

Marx says: "Just as we can turn everything into a system of categories we can obtain movements of abstract form, movements of pure form, pure logic equations of movement by extracting all the characteristics of various movements. If we take categories as substance of all things, we can presume logical equations of movement as a kind of absolute method that not only can explain everything but itself contains movements of everything." "What are movements of abstract form? They are pure logical equations of movement or movements of pure reason. Then what are movements of pure reason? That is to presume themselves, to set themselves against each other, combine themselves, define themselves as thesis, antithesis and synthesis, or as affirmation of themselves, negation of themselves or negation of self-negation" (Zhao Zhikui, 2004).

Transference of logical categories is carried out in the course of movement of logical categories. This is a process of self-affirmation of reason. "Just as a group

of categories can be produced in the movement of simple categories, a system of categories can be produced in the dialectic movement of a group of categories. And, in turn, a whole system can be produced in a series of movements.” **The process of formation of a whole system is: categories — a group of thoughts — a series of categories — a system** (Zhao Zhikui, 2004).

2.3.3 Process of Establishment of Logical System of Categories

In terms of dialectic logic, the establishment of a system of categories is to be started from the analysis of the most simple and common things. It is precisely these most simple and common things that conceive all the contradictions that lead to the ensuing development of the object of our study and provide sufficient possibility for the unfolding and inferring of following categories. Besides, by analyzing the most simple and common things, that is, buds of inner contradictions in the primary categories (the **initial** phase of logical system), aspects of contradictions can be revealed and a series of **intermediate** categories (intermediate phases of a logical system) are formed, and a series of logical categories are gradually established following the course from simple to complex, from abstract to concrete; that is, first confirming the existence of the most simple, the most common and the most direct things and then raising them to more profound and concrete categories and finally reaching the terminal of the whole logical system — the richest and most concrete categories (the **final** term as the ultimate phase of a logical system)

2.3.4 Logical Structure of System of Categories

Analysis of the logical structure of a system of categories may further reveal the general significance of cognitive categories, that is, the significance of the ontology, epistemology, methodology and world outlook of category itself. **Ontology shows that a category is the reflection in human consciousness of the most general characteristics of the objective world. Epistemology shows that it is through categories that one’s thought reflects and generalizes the most general characteristics of the world**, and on this basis are built scientific concepts and systems of categories that are used to interpret and reform the world. Methodology shows that no matter what structure of knowledge one adopts, one must think with some categories. The essence of human thought is categorical. Dialectic categories reflect real objective world by conceptual forms. World outlook shows that the essence of thinking categorically not only reflects the real world but reveals human knowledge and

appraisal of the world, thus further enabling one to interpret and reform the world.

2.3.5 Examples of Marxist Theory of Categories

Marx once discovers the theory of surplus value by starting with the analysis of the simplest category of commodities in capitalist society. Engels attaches great importance to categories in studying sciences of history and political economy. Lenin points out in an emphatic way that **categories are ladders in knowing the objective world, junctions of the nets for cognizing and mastering natural phenomena**. Mao Zedong introduces the category of practice into epistemology and puts it in a very important position. Deng Xiaoping, paying a lot of attention to the essential relations between objective things, explores the categories of planning and marketing, and on this basis, establishes the theory of socialist market economy, thus unfolding a new phase of socialist movement (Zhao Zhikui, 2004).

3. Brief History of Development of Western Semiotics and Linguistics

3.1 Brief History of Development of Western Linguistics

From the earliest period in human history to the present, language studies have developed along a route characterized by being incremental in depth. From tentative attempts to know about human language up to more systematic inquiries into languages; from the description of particular languages to the description of various languages as a whole; from studying human languages proper to dealing with the relationships between language and thought, logic, society, and culture, most inquiries seem to have brought us closer to the truth. However, as language is such a complicated phenomenon and each inquiry has its limitations, we are still far from having exhausted all aspects of language. It is safe to say, though, that these inquiries have paved the way for unprecedented linguistic developments in the time that followed. (Lui Runqing & Feng Zongxin, 2006, p. 67).

Linguistic studies in the 19th century served to bridge the past with the 20th century. Such studies, especially those of the Neogrammarians, summarized the academic achievements of historical and comparative linguistics on the one hand, and heralded the advent of structuralist linguistics at the beginning of the 20th century on the other. Their statements on the objectivity and independence of language, their emphasis on

linguistic data, and their methods of surveying contemporary languages and dialects are of great importance to modern linguistics in the 20th century (ibid, pp. 92-93).

For Saussure, the linguist's task is to study language as a system of units and relations; to do linguistics is to define the units of a language, the relations between them, and their rules of combination. Saussure is the first in emphasizing the sense of this task of linguistic investigation. And it is since Saussure that this has become the definition of linguistic investigation, and, so in this sense, Saussure can be called the father of modern linguistics. Also in this sense, his silent influence has passed into the nature of the discipline itself. Indeed, an account of structural linguistics as inaugurated by Saussure can include all the major schools of modern linguistics: the Prague School, the Copenhagen School, the Functionalists, American Structuralism, and even Noam Chomsky and other transformational grammarians (ibid, pp. 137).

3.2 Brief History of Development of Western Semiotics

In ancient times, semiotics used to be a part of philosophy. In modern times, semiotics drew mainly on philosophy. At present, semiotics is still based on philosophy. Although many scholars are of the opinion that there are two schools of semiotics, namely linguistic semiology, with Ferdinand de Saussure as the representative and philosophical semiotics, with Charles Sanders Peirce as the representative, the author of this paper would rather think that there is only one school of semiotics in terms of philosophy. The former is based on Kant's transcendental philosophy and the philosophical thought of structuralism while the latter is based on the philosophy of pragmatism, logics and the theory of categories.

3.3 Three Developmental Stages of Western Linguistics and Two Schools of Semiotics

3.3.1 Three Developmental Stages of Linguistics

The development of linguistics has undergone three stages: prescriptive, descriptive and explanatory. Traditional grammar, in the two-millennium long period before the 19th century, was prescriptive. Historical and comparative linguistics in the 19th century and structuralist linguistics in the first half of the 20th century were descriptive. The many schools of linguistics starting from TG Grammar in the second half of the 20th century are explanatory.

In fact, various schools of linguistics in the past two centuries have been shifting between approaches of description and explanation. Historical comparative linguists believed that only by taking Sanskrit, Greek, and Latin as originating from one primitive language could they explain the corresponding relations between them. While these linguists reconstructed the forms of the Proto-Indo-European language and explained the static corresponding relations among different languages, they failed to come up with explanations for why languages developed in one direction rather than another. In the new period starting from Saussure till the mid-twentieth century, the main trends of linguistic inquiry focused on describing the linguistic systems of various languages. When linguists found that mere description of languages is insufficient for their purposes of accounting for the language faculty in human beings, new schools of linguistics evolved for explanatory purposes. Chomsky's formalist approach starting from the 1950s and Halliday's functional approaches starting from the 1970s are both explanatory, with the only major difference that the former is psychologically oriented and the latter is sociologically oriented.

The three stages of development of linguistics coincide with the stages of how human beings have tried to know about the natural world (Liu Runqing & Feng Zongxin, 2006, pp. 12-13).

3.3.2 Two Major Schools of Western Semiotics

Since the beginning of the 20th century, Western semiotics has divided into two major schools: Saussurean semiology and Peircean semiotics. To the mind of the author of this paper, they cover two aspects of human semiotic activities: one aspect is signification and communication, and the other is cognition and thinking.

In terms of philosophy, Saussurean semiology belongs to a humanist trend of thought in contemporary Western philosophy and is based on Kant's transcendental philosophy and the tenets of structuralism. It has two major principles: arbitrariness and linearity. Its prominent characteristics are a humanist tendency, being socially (psychologically) communicative and structural (systemic). Theoretically related to it are the following disciplines of linguistics: structural linguistics, stylistics, systemic-functional linguistics, social linguistics, textual linguistics and critical discourse analysis, etc. They fall into the type of linguistics that studies the social function (social communication) of language from the perspective of interorganism.

Peircean semiotics, on the other hand, belongs to the trend of thought of

scientism of contemporary Western philosophy. It is based on the philosophy of pragmatism, logics and a theory of categories. It is marked by the following prominent characteristics: a scientist tendency, empiricism, biological behaviorism, cognition, dynamism and interaction. Theoretically related to it are the following disciplines of linguistics: pragmatics, cognitive linguistics, etc. They fall into the type of linguistics that studies the psychological and biological activities of language from the perspective of intraorganism (Guo Hong, 2004a, 2004b).

4. Perspective of Development of Semiotics and Linguistics from Evolution of Logical Systems of Categories

4.1 Embodiment of Evolution of Philosophical Systems of Categories in Development of Contemporary Western Semiotics

As stated above, Western philosophy has undergone three developmental stages: ontology, epistemology and philosophy of language, or the stages of studying existence, thinking and language. Logical systems of categories in philosophy have undergone the following developmental stages: Aristotle's logical system of categories of ontology, Kant's logical system of categories of epistemology, Hegel's logical system of categories of dialectics and Marx's logical system of categories of dialectic materialism. Semiotics has passed through the stages of being part of philosophy, drawing on philosophy and being based on philosophy (Saussurean semiology and Peircean semiotics). Linguistics has moved through the stages of prescriptive linguistics (traditional grammar in the two thousand years before the 19th century), descriptive linguistics (historical and comparative linguistics in the 19th century and structural linguistics in the first half of the 20th century) and explanatory linguistics (many schools of linguistics beginning with transformational-generative linguistics in the latter half of the 20th century). These three developmental stages of linguistics correspond to the stages of the human effort to understand nature, that is, to the stage of ontology of philosophy.

The author of this paper thinks that, in terms of logical system of categories, Saussurean semiology embodies the logical system of categories of ontology in philosophy, for it studies language itself, that is, the relationship between language structure and meaning structure. What is more, this idea of structure extends to the study of nature as a whole. Peircean semiotics embodies the logical system of categories of epistemology in philosophy, for it studies the functions of signs in human

thinking and cognition. Lotman's cultural semiotics embodies the combination of logical systems of categories of ontology and epistemology with ideas of materialism and dialectics, for it studies the functions of semiotics both in cognition and communication and especially in building human culture, and therefore it has a great epoch-making significance. Prescriptive, descriptive and explanatory linguistics embody ontology in philosophy, for these three developmental stages of linguistics correspond to the stages of the human effort to understand nature. Only cognitive linguistics starting and flourishing in the latter half of the 20th century embodies the logical system of categories of epistemology in philosophy, for it regards the use of language as an important part of human cognition and studies the psychological and biological activities of language in human cognition. It also has a great epoch-making significance in the history of linguistics and has exerted great influence on the development of linguistics as a whole. With the view of the logical system of categories we are going to discuss Saussurean semiology, Peircean semiotics, Lotman's cultural semiotics and some representative disciplines of linguistics: cognitive linguistics, systemic-functional linguistics and critical discourse analysis.

4.1.1 Saussurean Linguistic Semiology

Saussure abstracts the (linguistic) sign and the meaning it represents as "signifier" and "signified". "Signifier" is the image produced in human mind by a certain sound, and "signified" is the psychological response aroused by this image, that is, the meaning. This relationship of signifier and signified is built on a social psychological basis. Macroscopically speaking, "signifier" is the semiotic system while "signified" is the meaning system. Therefore, we can take "signifier and signified" as the "initial term" of the logical system of categories of Saussurean semiology. Most simple as it seems, it contains the most profound meaning and the richest content. Starting from the analysis of this "initial term", a series of "intermediate terms" are produced: "langue and parole", "paradigmatic and syntagmatic relation", "synchronic and diachronic study", "form and content", "language and society" and other categories. Stemming from the "initial term" and "intermediate term" are many theories of this discipline: structuralism, markedness theory, structural phonology, structural anthropology, etc. All of these theories or disciplines have their own logical systems of categories that are formed in binary opposition.

The structure of binary opposites has at least three functions: the first is

ascertaining the basic category to which a thing belongs, for example, friend or enemy, left or right, good or bad, control or controlled, etc.; the second is defining the meaning of a thing, for example, true or false, if there is nothing true, then there is nothing false and vice versa; and the third function is to define the structure of things in the world, e.g. “part and whole” is the most basic structure of binary opposites. The renowned contemporary semiotician Algirdas Greimas says: to know a certain structure is to know its various parts in binary opposition. What is important is not the existence of the two parts in opposition but the relation between them (Kim, 1996, p. 118).

One thing that marks human language is that in any linguistic system there exists the phenomenon of symmetry of two poles. This phenomenon is most prominent on the level of vocabulary, e.g. “beautiful” and “ugly”, “trust” and “betray”, “truth” and “absurdity”, etc. This phenomenon is also very prominent in grammar, e.g. single and plural, active voice and passive voice, affirmative and negative, present tense and past tense, male and female, etc. On the level of phonology, phonemes present combinations of opposites, e.g. nasal and glottal, vowel and consonant. But this kind of opposition is not symmetry. The side that is simpler and more common than the other is termed “unmarked” while the side which is more complex and specific is termed “marked”. Markedness theory is one of the theories of structural linguistics and one of the methods of analysis. This kind of non-symmetry opposition also exists universally in cultural phenomena, e.g. crime and virtue, holiday and workday, life and death, male and female, left and right, etc.

Phonology does not study individual sounds but rather the relations among them or systems of relations. Its study starts from the phenomena which humans consciously master or understand to their deep structure which they are unconsciously aware of. It is assumed that there is an inner system of relations, and the meanings of some linguistic items are produced by the contrast between some linguistic items in the cultural system. Nikolai Trubetzkoy applies his theory of phonology to the study of social sciences, thus further consolidating Saussurean semiology. Phoneticians concern themselves with the actual sounds of speech while phonologists are interested in the characteristics that perform functions of differentiation. They want to know which sound differences are related to meaning differences and what the relationship is between these differences and how they combine to form words and phrases.

Why does “binary opposition” permeate the logical system of categories of Saussurean semiology? As is stated above, it belongs to ontology, which is

characteristic of binary opposition. Aristotle's logical system of categories is composed of "substance" and "predicates", a binary opposition. The sign model of Saussurean semiology is "signifier and signified", and the latter is a description of the former.

Besides, Saussure only succeeds in making clear the relationship between linguistic structure and meaning structure, but does not give any details of the relationship between the structures of language on the one hand and the society and culture in which language is used on the other. As society and culture are always in a state of changing and developing, if language is divorced from society and culture, the language structure described by Saussure is naturally closed and static.

According to Winfried Noth (author of the authoritative book *Handbook of Semiotics*), structure is in binary opposition, but when structure embarks on the process of changing, binary opposition becomes triadic interaction (for more details see Guo Hong, 2004a, 2004b).

Here is a brief summary of the **Logical System of Categories of Saussurean Semiology**:

Initial Term

Signifier and signified

Intermediate Term

Langue and parole, paradigmatic and syntagmatic relation, diachronic and synchronic study, form and content, language and society, etc.

Final Term

The task of linguistics is to study language as a system of units and their various relationships; to study language is to define the units, their relations and the rules by which they combine into language.

Philosophical Origin: Kantian transcendental philosophy

Philosophical Category: ontological logical system of categories in binary opposition

Outstanding Features: being social, structural (systemic), closed and static, humanistic

Focus on Linguistic Functions: expression and communication (v. cognition and thinking)

Applications: linguistics, anthropology, literary criticism and other fields of humanities

4.1.2 Peircean Semiotics

Peirce's semiotics, and theory of categories and logics constitute an integral whole that studies the methodology of scientific thinking. Based on Kant's logical system of categories of prior-cognition, Peirce's logical system of categories is a system of categories of phenomenology that investigates the system of categories formed in humans' direct experiences, that is, the system of categories formed in momentary phases of cognition and their interaction, drawing some elements of dialectics from Hegel's dialectic logical system of categories.

The "initial term" of a Peircean system of categories is the sign model: representamen — object — interpretant. Compared with the sign model of Saussurean semiology, its prominent characteristic is that, if we roughly compare "representamen" to "signifier" and "object" to "signified", then we find in the sign model an additional element, i.e. "interpretant". The meaning of "interpretant" is vague and controversial among linguists and semioticians. For the author of this paper, it is precisely the vagueness that gives a rich content that may mean the content of interpretation (the meaning obtained in interpretation) or the interpreter (the subject of cognition). Either way, it serves to state that the meaning represented by signs (for example, language) has no direct connection with "object" (the objective world) and must be mediated by "interpretant" (the subject of cognition or the action of interpreting). In other words, the meaning represented by signs (language) has no direct connection with the objective world so that the ultimate meaning of signs is obtained in the process of interpreting by the cognizer, thus the cognizer and his initiative are brought to the foreground and the process of cognition also stands out to show dynamism and interaction in cognition. The sign model (representamen — object — interpretant) or "initial term" serves to state that the sign (to be strict, "representamen") does not necessarily represent the meaning of "object". The true meaning must be obtained through the interpretation of the cognizer (supported by his experiences) and the interpretation is repeated since one's knowledge of the objective world is never exhaustive. Peirce further abstracts the sign model into "firstness, secondness and thirdness". Firstness combines (interacts) with secondness to produce thirdness, or firstness connects with secondness through thirdness. Thus further intensified is the prominence of the subject of cognition and the dialectic nature of the sign model. A series of mediating systems of categories (the "intermediate term") are obtained through the analysis of the relations between the three relevant elements of the sign (representamen — object — interpretant) by

dividing it into three aspects: the sign itself, the relation between representamen and object, and the relation between representamen and interpretant. All the three aspects are triadic.

(1) Sign Itself: qualisign – sinsign – legisign

Qualisign (sign that represents the quality of an object), which is qualitative (the feeling of quality)

Sinsign (sign that represents a single fact), which is singular (the actual fact)

Legisign (sign that represents a law), which is lawlike (the representation or cognition)

The author of this paper would like to think that they are the three stages of cognition: the first stage — feeling of quality, the second — recognizing existence of a fact and the third — recognizing the law of cognition.

(2) Relation between Object and Sign (representamen): icon – index – symbol

An icon is a sign in which there is likeness between object and sign (representamen);

An index is a sign that shows a cause-and-effect relation between object and sign (representamen);

A symbol is a sign that does not show any relationship between object and sign but does represent the meaning of sign (adapted from Hoffmann, 2009).

The author of this paper would like to interpret the above three consecutive signs as three modes of cognition, for a sign actually stands for a semiosis in which a series of interactions between its elements produce cognition: by icon we get to know an object through its likeness (commonness) with other objects, by index we get to know an object through its cause-and-effect relationship with other objects, and by symbol we get to know an object through using symbols, for example language, which is based on social convention or habit.

The above three signs are all in a progressive process, which shows the progression of human cognition. Peirce puts it as follows:

Symbols are growing. They have grown up from other types of sign, especially from icons, or from signs with a mixed nature of icons and symbols. We can only think in signs. Intellectual signs are of a mixed model. Elements of symbols are concepts.

(3) Relation between Interpretant and Sign (representamen): rhema – dicisign – argument

Rhema (a word or a sign that shows a possibility), which is rhematic (serving as a term in a judgment or proposition, or revealing a possibility of a certain event);

Dicisign (a proposition or a sign that shows a single fact), which is dicent (showing a single fact);

Argument (an argumentative chain of propositions) that is argumentative (capable of making clear an argument or a concept).

The author of this paper would like to interpret the relation between interpretant and sign as the result of semiosis (cognition): it tells us a possibility, confirms a fact or reasons out something.

In sum, the three aspects of the sign tell us respectively the process, mode and result of cognition, which can be regarded as three sub-systems of categories (adapted from Hoffmann, 2009).

Furthermore, there are some relevant important ideas manifested in Peirce's sign model that serve to form some sub-systems of categories:

A. The Meaning of a Sign Is the Effect Produced by It.

The basic idea of Peirce's pragmatism consists in that a sign's meaning cannot be separated from its effect. He gives the term "significate effect" and divides it into three subclasses in terms of his theory of categories:

- a. Qualitative possibility of such effects (firstness);
- b. Concrete significate effect (secondness);
- c. General significate effect (thirdness).

As effect consists in interpretant, he divides interpretant into three subclasses:

- a. Immediate interpretant is the possible effect;
- b. Dynamic interpretant is the actual effect produced upon a given interpreter on a given occasion in a given stage of his consideration of the sign;
- c. Final interpretant is the ultimate effect, being more or less of a habitual and formal nature (ibid).

As meaning (interpretant) is the result of human cognition that is progressive, Peirce divides interpretant into three successive subclasses.

- a. Emotional interpretant is a qualitative possibility of an action;
- b. Energetic interpretant is an idea of effort, experience or action;
- c. Logical interpretant is an idea of general form, meaning or habit (ibid).

B. The Meaning of a Sign Is the Reaction Caused by It.

Another basic idea of Peirce's is that the meaning of any sign for anybody consists in the way one reacts to the sign, for example: When the captain of infantry gives the

order: “Ground arms”, the dynamic Interpretant is in the thump of the muskets on the ground, or rather, it is the Act of their Minds... The final interpretant does not consist in the way in which any mind acts but in the way in which every mind would act. That is, it consists in a truth that might be expressed in a conditional proposition of the type: If so and so were to happen to any mind, this sign would determine that mind to such and such conduct (adapted from Hoffmann, 2009).

C. Peirce’s Methodology in Scientific Enquiry Which Forms Part of the Construction of His Logical System of Categories

Peirce holds that all thought is in signs and derived from inference. The three modes of inference constitute his methodology of scientific enquiry. They are abduction, deduction and induction. In his theory of inquiry, Peirce regards the three modes as clarified by their coordination in essential roles in scientific inquiry, with abduction generating a possible hypothesis to account for a surprising phenomenon, deduction clarifying the relevant necessary predictive consequences of the hypothesis, and induction testing the sum of the predictions against the sum of the data to show what is actually in operation (“Charles Sanders Peirce from *Wikipedia, The Free Encyclopedia*”, 2011).

Just take an example from our daily life. The ground is wet. If it has rained, the ground will become wet. Now the ground is wet, so we have good reason to believe that it has rained.

Peirce thinks that neither deduction nor induction can make new discoveries, but abduction can. However, it is risky, because the ground might be wet for other reasons, for example, somebody sprayed water on the ground.

From the above example, we can see that abduction is a kind of retroductive inference or back reasoning. Namely, it starts from an actual fact to find out the cause of it. This method has actually been widely used in scientific enquiry. For example, it is exactly the methodology used by cognitive linguistics, starting from the linguistic fact to find out the psychological activities and physiological mechanism of its formation (for more details see Guo Hong, 2011).

From the above I provide a brief summary of the **Logical System of Categories in Peircean Semiotics**:

Initial Term

Firstness – Secondness – Thirdness (phenomenological categories);

Sign model: representamen – object – interpretant.

Intermediate Term

Three stages of cognition: feeling of quality, recognizing existence of a fact and recognizing the law of cognition.

Three kinds of sign and three modes of cognition: by icon we get to know an object through its likeness (commonness) with other objects, by index we get to know an object through its cause-and-effect relationship with other objects, and by symbol we get to know an object through using symbols (through social convention or habit).

Three kinds of result of cognition: it tells us a possibility, confirms a fact or reasons out something.

Three classes of effect: possible effect, concrete effect and general effect.

Three kinds of reaction to sign: possible action, actual action (act of the mind) and habitual action.

Three methods in scientific enquiry: abduction, deduction and induction.

Final Term

All thought of humans is in signs derived from inference and the task of semiotics is to study the methodology of scientific thinking.

Philosophical Origin: trend of thought of scientism of contemporary Western philosophy.

Philosophical Category: epistemological logical system of categories (system of phenomenological categories), which is triadic.

Outstanding Features: being scientific, cognitive, individual (non-social), dynamic and interactive.

Applications: natural sciences, humanities with scientific tendency (cognitive linguistics, pragmatics, etc.).

4.1.3 Lotman's Cultural Semiotics

Culture is defined in MTS (Moscow-Tartu School) as a collective semiotic mechanism for the production, circulation, processing and storage of information. It is both a collective memory and a program for the generation of new messages. Cultural semiotics inherits the tradition of Saussurean semiology. Yuri Lotman is “the first Soviet structuralist”, but he questions structuralism. He absorbs relevant theories of Bakhtin and Kristeva of his own tradition while taking in those of Peircean and Morrisian semiotics of the other tradition. Therefore, we can view cultural semiotics as an embodiment of the convergence of the theories of Saussurean semiology and

Peircean semiotics.

Saussurean semiology mainly studies the role that signs play in social communication while Peircean semiotics mainly studies the role that signs play in an individual's cognition. Cultural semiotics combines the study of communication with that of cognition, the study of the sociality of communication with that of psychological and biological activities of individuals in cognition; therefore it can be regarded as a study of social communication and social cognition. So far as a nation is concerned, social communication and social cognition result in raising the cultural level of a nation, i.e. raising the level of science and technology of a nation. As to nations in the world, they result in the development of human culture and the lifting of the level of science and technology of the human race.

The Saussurean model of the sign is composed of signifier and signified. So far as a single sign is concerned, signification is effected by the combination of a signifier and a signified. Macrocosmically, the signifier is the whole semiotic system, and the signified is the meaning conveyed by this system. Therefore, it is a theory of static objective reflection, strictly speaking. It is a theory of transcendentalism, for Saussure is a Kantian transcendentalist, holding that originally the world used to be a chaotic mess and was only later given order by language. On the other hand, the Peircean model of the sign is composed of three relevant elements – representamen, object and interpretant. Representamen does not necessarily represent the meaning of object. The final production of meaning is effected by the interpretation of the relation between representamen and object by the user of sign. Here the subjective initiative of the user of the sign is stressed; the interaction between the user of a sign and the objective world is stressed; the cognition of the user of a sign is stressed. Cultural semiotics has widely applied the notion of interaction and cognition to cultural intercourse. The text in cultural semiotics is concurrently a unit of information and an act of semiosis. An exchange of information is an exchange of texts, a mutual influence of them, an interaction between them, which produces new texts, new information and new cognition. Text is a modeling system, that is, language (the sign system) is used as a means of modeling (cognizing and explaining) the world. As a consequence, cultural intercourse is an exchange of information between social groups or nations and concurrently their collective cognitive activities.

Saussurean semiology holds that language is form, system or system of systems. This system is, however, actually a closed one, which is alienated from social and

cultural contexts and thus free from their influence. Although Saussure states that language is a social fact, he fails to link language with society. And, as a result, this system is static. Cultural semiotics has drawn on Peircean semiotics, more directly from the “dialogue” theory of the Bakhtin Circle, the notion of interaction between the various sides of communication and the various levels of language, holding that the colossal cultural system consists of numerous sub-systems that are stratified into many levels and that the subsystems and their different levels interact with each other to produce new texts, that is, new information and new cognition.

In sum, we may come to the conclusion that the theories of cultural semiotics are convergence of those of Saussurean semiology and Peircean semiotics. Cultural semiotics attempts to combine the cognition and thinking with the expression and communication of mankind in its study. Besides, Lotman draws on Bakhtin and Kristeva’s ideas of “dialogue” and “intertextuality” and thus manages to make his study deeper into social and cultural contexts with characteristics of dialectic historical materialism.

Saussure talks about the relationship between the structure of signs and that of meanings in a static binary opposition. Lotman, however, talks about the relationship between the structure of signs and that of meanings as follows: culture is a system of signs composed of many sub-systems, which, in turn, divide into many levels, but these systems, subsystems and levels are not in a static binary opposition but in an “asymmetrical opposition”. He thinks that relations between signs should be understood by the term “asymmetry”, in which the two sides constitute a total but neither side can be totally translated into the other. However, the structure of signs cannot perform its function of cultural intercourse unless the two sides are mutually translatable. The interaction between the text and its reader requires two situations: understanding and not understanding, which interact with each other to produce new information. In any culture there is a tension between automatic balance and dynamic imbalance, and there is a contradiction between the requirement for freshness, multiplicity and increase of considerably independent sub-systems and the requirement for desire of identity and unity and culture as an identical total of a strict and stable organization. If there is no multiplicity, culture will be rigid (without the ability of self-renewal); but if there is no certain identity or cohesion, intercourse of cultures will be impossible. When different levels or sub-systems are placed into a single integral culture, two opposing mechanisms are at work: one tends toward multiplicity and different languages, which

constitute a multi-linguistic culture; the other tends to unification, attempting to interpret itself or other cultures as a unified and precise language. In sum, the binary opposition interpreted by Lotman is not static but a dynamic asymmetrical binary opposition, and the interaction between units produces new information and movement in two opposite directions. The author of this paper thinks that here in this place are injected dialectic ideas of Hegel and Peirce's idea of semiosis.

The relationship between Saussure's system of signs and that of meaning is a system of reflection. Lotman's sign system is a "modeling system", that is, a system for cognition and reconstruction of reality. Language is the major modeling system. As Lotman puts it, "all systems in culture are modeling means (the means for knowing and interpreting the world)"; "linguistic art is both a system of communication and a modeling system, transmitting information and constructing realistic imagery" (Guo Hong, 2006a). What an idea similar to that of cognitive linguistics!

The notion of text in cultural semiotics is quite different from the traditional sense of *text*. The latter refers to levels of language, ranging from words and sentences to discourse. Or as Halliday and some other linguists see it, a text is a piece of language that expresses an integral and coherent idea, at whatever level of language. In a word, traditional *text* is a static linguistic structure while *text* in cultural semiotics is a dynamic "reduced model of culture". *Text* in cultural semiotics is not a linguistic phenomenon but a complex interactive activity that produces meaning — a semiosis. This idea shifts its focus from a text itself to its surroundings and thus submerges it in history and society. A text not only happens in the course of mutual reactions between elements of language in a closed structure but also happens under the influence of various cultural movements and events. A text in cultural semiotics is information; it is production, transmission and storage of information; it is semiosis. A text may be as extensive as the whole culture of a country or nation, and also as limited as a single event. A cultural text may adopt any medium, e.g. paintings, movies, ballets or language. A text is multi-leveled and each level has its inner structure. Interaction between different levels of the structure (for example, between phonetics and vocabulary) produces a second grade of multifarious structures. Additionally, a text has its national character and all nations take their own texts as cultures while those of other nations are regarded as non-cultures to be rejected. Texts are pieces of information and realizations of semiosis. Interpersonal communication is a kind of exchange of texts. Communications between nations are also exchanges of texts.

Communication means mutual absorption, mutual rejection, mutual criticism and thus produces new texts, new information and new knowledge. In this way, human beings may increase their knowledge, society may progress, and the culture of nations and the world may continually develop.

In traditional linguistics, a language behavior has only one context, and this language behavior and its context have nothing to do with other language behaviors and their contexts. Cultural semiotics, however, draws on Bakhtin's theory and considers that one language behavior has one context but besides it there are many other language behaviors and many contexts. They interact with each other and produce various sounds and various meanings. Bakhtin's idea can boil down to the following: Language is mainly produced in dialogues and formed in social interactions, which leads to interaction between different social values. This idea may have exerted its influence on Lotman and have enabled him to realize that systems of signs are not closed but open and combine with society, culture, history, art, etc. The author of this paper thinks that it is an idea of dialectic materialism.

Besides, signs in cultural semiotics are means of cognition and thinking on the one hand, and means of expression and communication on the other. This idea is of epoch-making significance in the history of semiotics, for it has broken the limit of the definition of traditional semiotics that "Semiotics studies the signification of signs". The new idea actually states that signs are means to create human culture and coincides with Ernst Cassirer's idea: "Man is the only animal who can use signs". Or it approaches Martin Heidegger's idea that language (linguistic signs) makes possible the existence of human beings, for there would be no human beings if there were no language. In this sense, the important position of cultural semiotics can be stated in the way that semiotic study has been going on from the study of the relationship between a sign system and a meaning system, to the study of the function of signs in human cognition and thinking and further to the study of the relationship between signs and the very existence of humans themselves.

In terms of a logical system of categories, cultural semiotics manages to combine the ontological system of categories, which is static and dyadic (binary opposition of signifier and signified), with the cognitive system of categories, which is dynamic and triadic (interaction between the three related elements of the sign: representamen, object and interpretant), and absorbs some ideas of Hegel's dialectic logical system of categories and ideas of dialectic historical materialism (for more details see Guo Hong,

2006a).

Here is a brief summary of the **Logical System of Categories of Lotman's**

Cultural Semiotics:

Initial Term

Culture — system of signs, human semiosis

Intermediate Term

Text — reduced model of culture;

Exchange of texts within nation — social communication and social cognition;

Exchange of texts between nations — international cultural intercourse;

World-wide exchange of texts — promotion and development of human culture as a whole.

Final Term

Cultural semiotics studies culture as a system of signs and human semiosis.

Culture is a collective mechanism for the production, circulation, processing and storage of information. It is both a collective memory and a program for the generation of new message;

Semiotic Origins: Saussurean semiology and Peircean semiotics;

Philosophical Category: materialistic, dialectic, ontological and epistemological system of categories;

Outstanding Features: being social, cognitive, communicative, dynamic and interactive;

Applications: promotion of cultural intercourse, dealing with problems of relation between nations within a country as well as in the world, peaceful progression of the human race.

4.2 Embodiment of Evolution of Philosophical Systems of Categories in Development of Contemporary Western Linguistics

4.2.1 Cognitive Linguistics

As is stated above, Peircean semiotics mainly studies the function of signs in human cognition. Thomas Sebeok, the late President of the International Association for Semiotic Studies, says that Peircean semiotics is surely a cognitive science. The author of this paper thinks that Peircean semiotics is precisely cognitive semiotics. Cognitive linguistics is a branch of it, just as a linguistic sign is one of the signs. It is an application of the basic theories of cognitive semiotics in the study of language,

following the trend of thought of scientism of contemporary Western philosophy. In terms of the classification of linguistics, it belongs to the type of linguistics studying the psychological and biological activities of language from an intraorganic point of view. Its philosophic foundation is “embodied philosophy”, a kind of subjective empiricism with greater emphasis on direct experiences. Cognitive linguistics advocates that the use of language is part of human cognition, meaning is the conceptualization of experiences and grammar is the formalization of conceptual structure. It applies the basic theories of cognitive semiotics, especially the idea of dynamism and interaction, to the study of language, and manages to illustrate the psychological process (and physiological mechanism) of generation of language in a vivid and concrete way and exerts great influence on other branches of linguistics in a tacit way, thus promoting the study of linguistics as a whole.

In terms of a logical system of categories, cognitive linguistics and cognitive semiotics share the same “initial term”, the sign model of Peircean semiotics: representamen — object — interpretant, with the central idea that in the aspect of meaning, signs (language) have no direct connection with the objective world, meanings (cognition obtained) must be interpreted (supported by human experiences). Following cognitive semiotics, the central idea of cognitive linguistics is: in the aspect of meaning, language has no direct connection with the objective world, and meaning is obtained through human cognition. One of the sub-systems of the “intermediate term” of its logical system of categories is “the experiential view, the prominence view and the view of attention”. The author of this paper would like to interpret it as follows: human cognition originates from human experiences and is heavily influenced by one’s state of mind and angle of viewing. Another sub-system is “the view of the bodily experience of intellect, the view of unconsciousness of cognition, and the metaphorical nature of thinking”. By “the view of bodily experience of intellect”, it is stressed that human cognition originates from direct experience, especially one’s bodily experience. By “the metaphorical nature of thinking”, it is made clear that a major means of cognition is metaphor. By “the view of unconsciousness of cognition”, perceptual cognition is stressed. Compared with Peircean semiotics, “the view of bodily experience of intellect” puts more emphasis on direct experience, that is, bodily experience. And “the metaphorical nature of thinking” illustrates one of the three ways of cognition in Peircean semiotics (cognition obtained through similarities between things, through the relation of cause-and-effect, and through common knowledge of

society). “The view of unconsciousness of cognition” means that human cognition is unconscious when one is first in contact with something; and when the contact is repeated, a fixed psychological channel is formed and the cognition produced through this channel is also unconscious.

Although cognitive linguistics has not yet applied all the theories of cognitive semiotics in its study, it is the first branch of linguistics that manages to illustrate the process and mechanism of the psychological activities of language and the important role played by language in human cognition (linguistic activities are part of cognitive activities). What is more, philosophy has undergone three stages of development. Beginning with René Descartes in modern times, the focus of the study of philosophy switched from ontology to epistemology, that is, switched from the study of primary origins of the universe or the universe proper to the study of the origin of knowledge, that is, to the study of the origin (whether knowledge originates from human reason or experience) and limit of knowledge and the main approaches to it. If Peircean semiotics can be termed cognitive semiotics, then cognitive semiotics began with Peirce. Cognitive linguistics is a school of linguistics or methodology that has newly emerged in the circles of theoretical linguistics in the last 20 years or so. The mark of its maturity is the holding of the first international conference on cognitive linguistics organized by René Driven in Duisburg, Germany. After the conference in 1990, the journal *Cognitive Linguistics* was published and the International Cognitive Linguistics Association was founded. From the above historical sketch, we can see that the birth of cognitive linguistics lagged behind that of epistemology by about 300 years and behind cognitive semiotics by about 70 years. The part of the history of linguistics from ancient times to 1990, including the three developmental stages of linguistics (prescriptive, descriptive and interpretive linguistics), all fall into the category of ontology. Therefore, the birth of cognitive linguistics in 1990 is “a late spring”, which is of epoch-making importance in the history of linguistics. In the twenty-some years since its birth, cognitive linguistics has flourished and become a mainstream discipline in linguistics, and, as an implication of epistemology and cognitive semiotics, has exerted a great influence on other disciplines of linguistics (for more details see Guo Hong, 2011).

Here is a brief summary of the **Logical System of Categories of Cognitive Linguistics**:

Initial Term

Language — objective world — man's interpretation of the world (representamen — object — interpretant)

Intermediate Term

Use of language — essential part of human cognition;

Semantics — conceptualization of human experiences;

Grammar — formalization (codification) of human concepts;

Process of cognition: bodily experience — metaphor — metonymy — categorization — conceptual integration — schemes of imagery — totality of concepts;

Mode of cognition — metaphor (mapping between different categories);

Result of cognition — conceptualization of experiences about objective world (knowing and interpreting objective world by cognizers).

Final Term

Use of language as part of human cognition;

Human cognition as medium between language and objective world;

Semantics as conceptualization of human experiences;

Grammar as formalization (codification) of human concepts

Philosophical Origin: trend of thought of scientism of contemporary Western philosophy, Anglo-American analytic philosophy;

Semiotic Origin: Peircean semiotics;

Philosophical Category: epistemology (embodied philosophy);

Type of Linguistics: type of linguistics that studies psychological and biological activities of language from the perspective of intraorganism, explanatory linguistics;

Outstanding features: being cognitive, individual (non-social), dynamic, interactive, scientific.

Applications: cognitive approaches to language study (cognitive semantics, cognitive grammar), part of cognitive science;

Inspirations to other disciplines of linguistics: ideas of dynamism and interaction.

4.2.2 Systemic-Functional Linguistics

M. A. K. Halliday says that systemic-functional linguistics originates from European linguistic tradition stemming from Saussurean theories, and points out explicitly that it is a type of linguistics that studies the social functions of language from the perspective of interorganism.

To the mind of the author, systemic-functional linguistics has made two important

contributions to the study of language: one is that it has inherited and developed structuralist linguistics initiated by Saussure; and the other is that it laid the foundation for the discipline of critical discourse analysis.

Saussure is honored as the father of contemporary linguistics and one of the founders of contemporary semiotics. His theories have the prominent characteristics of being social and structural (systemic), but he does not actually succeed in combining the social nature and structural nature of his linguistics in practice and, as a result, he fails to make clear how language works. His linguistic structure is closed, that is, separated from society and culture. Society and culture are factors for the change and development of language. Since the language system is separated from society and culture, it is static. Consequently, Saussurean linguistics has long faced serious challenges.

Halliday points out that “Meaning is the junction of language and something outside of language. The latter is social context or situation” (Hu Zhuanglin, Zhu Yongsheng & Zhang Delu, 1989, pp. 17-18). In other words, a person uses language in the way that he makes choices from its semantic system according to social contexts.

How does one manage to combine meaning structure and social contexts of language? Halliday works out the following concrete approach: he divides social context into three aspects: field of discourse, tenor of discourse and mode of discourse, which respectively activates the three meta-functions of language (or three semantic components): ideational function (component), interpersonal function (component), and textual function (component) of language, which, in turn, respectively activate the three systems of language: transitivity, modality and theme to choose from the meaning potential of language. The three levels of language (semantic level, syntactic level and phonological level) are in a relation of realization: the syntactic level realizes the semantic level and the phonological level, in turn, realizes the syntactic level to produce a text. These are termed “the three realization chains of language”. Halliday’s contributions to the discipline of critical discourse analysis are to be dealt with in the next section (for more details see Guo Hong, 2006b).

Here is a brief summary of the **Logical System of Categories of Systemic-functional linguistics**:

Initial Term

Use of language is realization of meaning potential of the language system according to social context (language as social semiotic).

Intermediate Term

Three aspects of social context: field of discourse — tenor of discourse — mode of discourse;

Three meta-functions or semantic components of language: ideational function (component) — interpersonal function (component) — textual function (component);

Three systems of language: transitivity system — modality system — thematic system;

Three levels of language: semantic level — lexico-syntactic level — phonological level;

Vertical interactions between the elements of the first three subsystems (for example, field of discourse — ideational function or component — transitivity system) and horizontal interaction between the three levels of language realize the meaning potential.

Final Term

Answer to the question — How does language work as social semiotic?

Philosophical Origin: trend of thought of humanism of contemporary Western philosophy, European continental philosophy;

Semiotic Origin: Saussurean semiology;

Philosophical Category: materialistic dialectic ontological system of categories;

Applications: stylistics, literary criticism, discourse analysis, etc;

Type of linguistics: the type of linguistics that studies social function of language from the perspective of interorganism, explanatory linguistics.

4.2.3 Critical Discourse Analysis

Critical discourse analysis is a synthetic or interdisciplinary approach that can be regarded as the convergence of disciplines of structural linguistics: systemic-functional linguistics, stylistics, social linguistics, text linguistics and other disciplines that bear the features of being social and structural (systemic). Pragmatics and cognitive linguistics and other disciplines having the features of being individual and cognitive are only incidentally applied in the analysis; they do not converge in it, nor do they change its main direction of development, yet their indirect influence on it is tremendous. Although critical discourse analysis is composed of various linguistic disciplines and has undergone a long course of development with rich contents, its course of development can be divided roughly into three major stages: analysis of the

relation between discourse structure and meaning structure, analysis of the relation between discourse structure and social and cultural context, and analysis of the relation between discourse structure and ideology.

(1) Analysis of Relation between Discourse Structure and Meaning Structure

Saussurean linguistic semiotics has a prominent feature of being structural (systemic) and social, but does not succeed in combining these two factors in actual analysis and is thus unable to make clear what language is and how it works. Besides, its structure is closed and static due to the fact that language is divorced from changing and interactive elements of society and culture. Nevertheless, structural linguistic semiology has laid a foundation for modern linguistics and provided basic conditions for critical discourse analysis and determined its structural direction of development.

(2) Analysis of Relation between Discourse Structure and Social Cultural Context

Continual development of Saussurean linguistics calls for the solution of the problem of its structure being closed and static. Although many disciplines of linguistics have in various degrees made contributions in this connection, the author of this paper thinks that systemic-functional linguistics has made the major one. M. A. K. Halliday puts forth the significant view of language: “language as social semiotic”, use of language as realization of the meaning potential according to social contexts. As stated above, through the three “realization chains”, it manages to connect the discourse structure and its social and cultural context and make the structure open and dynamic. Besides, one of the meta-functions of systemic-functional linguistics is its thematic function, which has an enabling function, being capable of realizing the other two meta-functions, that is, putting the other two functions into practice. In other words, Halliday attaches great importance to the thematic function and makes a detailed account of it, thus laying a solid foundation for the analysis of the structure of discourse. Furthermore, systemic-functional linguistics is highly practical, as it considers that language is formed in the course of its use and, in turn, serves the purpose of using language; as it considers that language is a kind of resource for expressing meaning. As a consequence, it has a prominent practicability and is thus suitable for analysis of language. It has turned out to be very useful in studying stylistics, literary criticism, especially discourse analysis, and has become their foundations. Critical discourse analysis is built on this very foundation.

(3) Analysis of Relation between Discourse and Ideology (or analysis of

discourse as a social practice)

This stage of development is the mature stage of critical discourse analysis. The most outstanding feature of it is being critical. It is critical of phenomena of social alienation of the late period of capitalist society, as it was born in the late 1970s and the early 1980s. It is built on the basis of systemic-functional linguistics added with various social political theories of post-modernism and post-structuralism.

Norman Fairclough has made outstanding contributions to the initiation of critical analysis. He holds that language constructs social relations, and so he attempts to combine discourse analysis with some social political theories. He says that an ideal discourse analysis should be interdisciplinary, involving not only the generation, transmission and acceptance of discourse but also the course of social cognition of the generation and interpretation of discourse, various institutions in social practice, connections between social practice and “power” and “hegemonism” on social level (the author of the paper: so it is both explanatory and cognitive).

According to Terry Threadgold, Fairclough manages to combine Halliday’s systemic-functional linguistics with some social political theories and initiates critical discourse. The theories of the following scholars of post-structuralism and post-modernism have played the major roles.

Foucault’s Theory of “power”

Michel Foucault (1926-1984), a French philosopher, holds that the external expression of “power” is the relationship between people, that is, a social relationship that embodies power. “Power” is not only prohibitive or oppressive, but also creative and productive. “Power” produces (or is the expression of) various social phenomena and various kinds of knowledge and truth... Knowledge is acknowledged as knowledge and universally accepted by the public because it is supported by “power”.

Truth is undoubtedly a form of “power”. Those who have the power of speech have truth... “Power” is always connected with power of speech. Those who have power have power of speech and their speech becomes truth; and others have to speak according to their speech or what they say will be “absurd” or “false”... No doubt, Foucault’ theory of “power” is significant in revealing the power-centralism and hegemonism of the Western world (Xia Jisong, 2009, pp. 414-417).

The author of this paper thinks that Foucault’s theory of “power” has constituted the core of the ethics of post-structuralism and post-modernism and has been extended to be a powerful criticism of “the imperialist hegemonism in the age of globalization”.

Bakhtin's Theory of "Dialogue"

Mikhail Bakhtin (1895-1975), a scholar of the former Soviet Union, has also contributed greatly to the initiation of critical discourse analysis, mainly in expounding the ideological nature of language and his theory of "dialogue". He says that dialects (the author: they refer to social dialects, that is, varieties of language used by different social classes of society) are infused with ideas of value, political views, and various traces of experience and hidden meanings; therefore, conflicts between dialects are those between the above-mentioned elements... In the aspect of "dialogue", his main idea is that language is mainly produced in the process of dialogue and formed in social interactions thus leading to the mutual reactions between different social values.

Kristeva's Theory of "Intertextuality"

French scholar Julia Kristeva also plays a role in the initiation of critical discourse analysis. Under the influence of Bakhtin, she puts forward the semiotic concept of intertextuality. She points out: there are two axes in a text: one is the horizontal axis, which connects the author of a text and the reader of a text, and the other is the vertical axis, which connects the text with other texts. What connects the two axes is their common code, thus the reading of every text depends on the foregoing codes. She claims that every text puts itself from the very beginning under the control of other discourses, which impose the whole universe on it. She argues that we would rather study "structuralisation" (how the structure is formed) than limit our attention to a text. Thus, it involves putting one text in the total of the previous or synchronic texts. The writer of this paper thinks that the theory of "intertextuality" is in essence that of "dialogue", which serves to make clear the generation and interpretation of discourse. Halliday manages to connect language with its social and cultural context, but what he connects is a single context that also produces a single meaning. Critical discourse analysis, however, involves various contexts that produce complex meanings. As a consequence, Fairclough adopts the theory of "intertextuality" rather than Halliday's theory in this respect to be the basis for critical discourse analysis.

To put it simply, critical discourse analysis is the combination of Halliday's systemic-functional linguistics and various critical ideas of post-structuralists and post-modernists.

What deserves special attention is a passage written by Fairclough carried on the Internet not long ago:

Since the early 1980s, my research has focused on critical discourse analysis

— including the place of language in social relations of power and ideology, and how language figures in processes of social change. My main current interest is in language (discourse) as an element in contemporary social changes which are referred to as ‘globalisation’, ‘neo-liberalism’, ‘new capitalism’, the ‘knowledge economy’ and so forth. Over the past three years I have been working specifically on aspects of ‘transition’ in Central and Eastern Europe, especially Romania, from a discourse analytical perspective. This research is based upon the theoretical claim that discourse is an element of social life which is dialectically interconnected with other elements, and may have constructive and transformative effects on other elements. It also makes the claim that discourse has in many ways become a more salient and potent element of social life in the contemporary world, and that more general processes of current social change often seem to be initiated and driven by changes in discourse. Discourse analysis, including linguistic analysis, therefore has a great deal more to contribute to social research than has generally been recognised, especially when integrated into interdisciplinary research projects.

(Fairclough, 2011)

From the passage above, we can see that Fairclough has raised critical discourse analysis to an even higher level and that he thinks “discourse is an element of social life which is dialectically interconnected with other elements, and may have constructive and transformative effects on other elements” [and] “more general processes of current social change often seem to be initiated and driven by changes in discourse”. Discourse analysis is thus raised to the level of social practice, an important level at that, for in any social practice language has to be used. Diplomatic language is a good example. The most important part of diplomatic activities is the use of language. Language is used to establish, break or develop relations between countries, to negotiate, to resolve disputes, to declare war between states. Diplomatic language and diplomatic activities are entirely synchronic and share the same features (Guo Hong & Peng Xiaodong, 1999, pp. 54-103). There are many examples of contemporary social changes promoted by “critical discourse analysis”. The May Fourth Movement in China, a new cultural movement advocating science and democracy marking the beginning of the new democratic revolution in China, was initiated and promoted by the movement of popularizing modern Chinese. The political movement of “rectification of the style of work of the Communist Party of China in Yan’an in 1942” was started by the linguistic activity of “anti-stereotypic language”. The so-called “Great Cultural Revolution” in

China, which is a hundred percent political struggle, was carried out by means of a series of “critical discourse analyses”: “Criticism on the Village of Three”, “Criticism on Removal of Hairui”, “Criticism on Lin Biao and Confucius”, etc. In recent years there have been many “forums”, political, economical and cultural, sponsored by governments and civilian institutions of various countries. The writer of this paper thinks that they are precisely critical discourse analyses as social or international practices and interactions between different social values and ideologies (for details see Guo Hong, 2007).

Here is a brief summary of the **Logical System of Categories of Critical Discourse Analysis**:

Initial Term

Analysis of discourse in a critical way.

Intermediate Term

Use of language is realization of meaning potential of language according to social context (language as social semiotic);

Analysis of discourse in a critical way;

Discourse is produced in the course of dialogues;

Discourse is composed of various dialogues in various social contexts (as combination of multifarious sounds and meanings);

Critical discourse is conflicts of different social values and ideologies to promote common understanding and new cognition.

Final Term

Critical discourse is a universal and comprehensive use of language for solution of all kinds of problems in social life and international relations;

Philosophical Origin: trend of thought of humanism of contemporary Western philosophy, European continental philosophy;

Semiotic Origin: Saussurean semiology;

Philosophical Category: materialistic dialectic ontological and epistemological system of categories

Type of linguistics: type of linguistics that studies social function of language from the perspective of interorganism, explanatory and cognitive linguistics.

Conclusion

From the evolution of their respective logical system of categories, we can see that,

like philosophy, semiotics and linguistics have also undergone the three developmental stages of ontology, epistemology and philosophy of language (combination of ontology and epistemology). Each school of semiotics and each discipline of linguistics has its logical system of categories: binary opposition, triadic interaction, or combination of binary opposition and triadic interaction. From this process of development, we can discern the philosophical and semiotic origins of various linguistic disciplines, their respective nature, concern and methodology, and their mutual relationships, thus enabling us to set out an approach to their study.

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