



# Meaning Construction of Environmental Discourse from the Perspective of Cognitive Linguistics

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## Abstract

This article aims at providing a theoretical framework for the meaning construction of environmental discourse from the perspective of cognitive linguistics, which highlights the dynamic process of conceptualization. It firstly discusses the theoretical essence, goals and principles of meaning construction of environmental discourse on the basis of cognitive linguistics, and then proposes two fundamental theoretical models: 1) Cognitive model of meaning formation of environmental discourse. 2) Operation model of meaning construction of environmental discourse. The first model explores the cognitive origin, basis and pathway of meaning formation of environmental discourse from the embodied view of meaning. The second one illustrates the cognitive operation process of meaning construction by observing the interaction among discursive modes, cognitive strategies and semantic mechanisms. In the last part, the theoretical significance of meaning construction is discussed from the following four aspects: discursive relation, cognitive characteristics, cognitive mechanism and discursive transformation. This article suggests that the cognitive and operation models can offer guidance and reference for the analysis practice of environmental discourse on a micro level, and for the exploration of the semantic origin and hierarchy of environmental discourse on a macro level as well.

## Subject Areas

Cognitive Linguistics

## Keywords

Environmental Discourse, Discursive Studies, Meaning Construction, Cognitive Linguistics

## 1. Introduction

The ever-increasing environmental crisis which is setting off the human survival crisis has spurred the rise and development of modern environmental discursive studies. From the perspective of cognitive linguistics, environmental discourse is a thinking tool and conceptual means to perceive and understand the state of the natural environment, which has an important impact on constructing environmental reality [1]. Discursive studies on the environment involve multiple disciplines, and many scholars research the environmental discourse from a variety of theoretical perspectives, such as linguistics [2] [3], sociology [4], communication [5] [6], political science [7] [8], and geography [9]. Since language not only records and reflects but also shapes, distorts and even creates environmental reality, the book *Greenspeak: A Study of Environmental Discourse* advocates that a linguistic turn is needed to be taken in environmental studies [10]. From then on global environmental awareness and environmental discursive studies were on the rise [11], and a lot of studies were conducted on text style, text structure, linguistic features and pragmatic function of environmental discourse [9] [12] [13] [14]. Roughly speaking, there are three research paradigms of environmental discourse from the perspective of linguistics: ecolinguistics [15], cognitive linguistics [16] [17] and critical discourse analysis [18] [19]. Among them, cognitive linguistics has received increasing attention in environmental discursive studies because it underlines the constant interaction of human beings with, and as an inseparable part of, their environment [20], offering a diversity of cognitive construal mechanisms to explore mental models underlying the linguistic structures. It is claimed that language is, by metaphorical extension, a sophisticated sort of tool used for shaping or coping with, managing or manipulating social and natural reality, via a dialogic and dialectical form of communication that gives rise to a socio-cognitive framing system [18]. It is also discovered that scientists tend to use metaphors to express and explain scientific concepts, but improper metaphors may easily cause social misunderstanding and counter-productive policies [21]. The paper *Why It Matters How We Frame the Environment* points out that framing is everywhere in the news and how environmental issues are framed over time affects how the public evaluates the ecological environment [22].

However, there are few studies engaged in the exploration of meaning construction of the environmental discourse, especially the cognitive origin of meaning formation [1] [23]. Therefore, in this article, we attempt to discuss the theoretical essence, theoretical goals and principles of meaning construction of environmental discourse from a cognitive linguistic perspective. In addition, we tentatively propose two important theoretical interpretation models and elaborate the theoretical significance of the meaning construction of environmental discourse. Overall, the aim of this study is to provide a theoretical framework for meaning construction of environmental discourse and hence enrich the theoretical studies of environmental discourse. This article adopts the methodology of

theoretical modelling, which is a hypothetical deductive method widely used in the research of humanities and social sciences. To be more specific, based on the discussion of theoretical issues of meaning construction of environmental discourse from the perspective of cognitive linguistics, the theoretical models constructed in this study are mainly driven by two theories, the experiential view of meaning and the theory of idealized cognitive model.

## **2. Theoretical Issues of Meaning Construction of Environmental Discourse**

Meaning construction from cognitive linguistics puts emphasis on the conceptualization process of environmental discourse, usage-based and meaning-driven, and regards cognitive semantics as theoretical core and foundation, highlighting the embodied, dynamic, hierarchical and situated nature of meaning.

### **2.1. Theoretical Essence of Meaning Construction of Environmental Discourse**

In general, the paradigms of meanings have undergone a dynamic process of changes from a static semantic view to a dynamic and embodied one. The traditional objectivist semantic theories, such as correspondence theory of meaning and direct reference theory of meaning, are essentially a static view of semantics, which denies the intrinsic relations between meaning and human bodily experience [24]. By the end of the 19th century, linguists began to pay attention to the situated, dynamic and cognitive nature of meaning. The first semantic monograph *Semantics: Studies in the Science of Meaning* published in 1897 proposes that meaning is the result of the interaction between discourse context and mental changes of cognitive subjects; therefore, human mind endows language with life and reality [25]. In the 1930s, Austin and other language philosophers openly opposed the method of analysis-synthesis dichotomy. They believed that both the real world and linguistic context play an important role in the construction of word meaning, and it is not enough simply to examine the words themselves; just what is meant and what can be inferred can be decided only by examining the full circumstances in which the words are used [26]. The 1950s witnessed the rise of transformational generative linguistics founded by Chomsky, who regards linguistics as an autonomous system of representation, unaffected by human's cognitive abilities, mental factors and social environment. It is until the mid and late 1970s, with the birth of cognitive linguistics, when language was redefined as an experiential cognitive ontology, and consequently the embodied view of meaning came into being.

The embodied view of meaning is the philosophical foundation of cognitive semantics, stressing that meaning originates from the interaction among human body, brain and physical environment. It is advanced that from the experientialist view experience is the result of embodied sensorimotor and cognitive structures that generate meaning in and through our ongoing interactions with our changing environment [27]. Thus from the embodied view meaning is a dynam-

ic process with interactive and experiential properties, which comes from recurring patterns of engagement between organism and environment, but not from internal structure of the organism or external inputs. In addition the embodied view of meaning proposes that meaning in its origins emerges from “bottom-up” through increasingly complex levels of organic activity and has an intrinsic relation with a flow of experience that cannot exist without a biological organism engaging its environment [28]. To a great extent the embodied view of meaning enriches human’s cognition toward meaning and overturns the view of objectivist semantics which holds a simple, isolated, abstract and one-sided understanding of meaning.

From the perspective of embodied view of meaning, we may suggest, environmental discourse is essentially the physical coding or representation of the experiential experience through the interaction among brain, human body, and natural environment. In other words, the meaning construction of environmental discourse is the linguistic representation of the interaction between human body and ecological environment. Based on the cognitive pathway of meaning construction depicted by Evans and Green (2006) [29], we could come to the conclusion that meaning generation and construction of environmental discourse commonly go through a process of the five basic steps: Interactive experience > generating perception > refining concept > forming meaning > generating form. Among the five steps interactive experience is the foundation and source of meaning construction of environmental discourse.

## **2.2. Theoretical Goals of Meaning Construction of Environmental Discourse**

Meaning construction of environmental discourse has two levels of theoretical goals in light of the distinction between macro and micro theoretical levels. On the macro level, the major task of meaning construction is to explore the cognitive operation process of conceptualization of environmental discourse. It aims to help individuals get a clear picture of discourse about the nature, environmental protection, environmental deterioration, etc., and understand how environmental discourse conflicts with dominant social discourses such as economic discourse and political discourse.

On the micro level, the theoretical goal of meaning construction is to explore how to reconstruct environmental discourse from the destructive and ambivalent ones to the beneficial ones [17]. From the perspective of cognitive linguistics, we attempt to solve the problems of the underlying cognitive mechanisms and cognitive construal operation process of environmental discourse by means of constructing two theoretical models. One is cognitive model of meaning formation of environmental discourse and the other is operation model of meaning construction of environmental discourse. The first model engages in exploring the cognitive origin, basis and pathway of semantic formation of environmental discourse from the embodied view. The second one attempts to illustrate cognitive operation process of meaning construction of environmental discourse by

discussing the interaction among environmental discursive modes, discursive strategies and semantic construal mechanisms.

### 2.3. Principles of Meaning Construction of Environmental Discourse

Although cognitive semantics does not have a unified research framework, all researches are interrelated to the theme of the relationship between meaning and cognition with a certain set of guiding principles. In view of this and based on the theoretical essence and goals of meaning construction of environmental discourse, the macro principles of meaning construction of environmental discourse are established on the recognized guiding principles of cognitive semantics. Then the micro principles of meaning construction of environmental discourse are put forward by integrating the characteristics of environmental discourse with the macro principles.

From the macro level, meaning construction of environmental discourse emphasizes the dynamic and usage-based qualities of meaning construction and employs four principles summarized as basic theoretical principles. The four principles, viewed as central assumptions of cognitive linguistics, are considered as the outcomes of the two key commitments—the generalization commitment and the cognitive commitment. The four principles under the two commitments are as follows: Conceptual structure is embodied; semantic structure is conceptual structure; meaning representation is encyclopedic; meaning construction is conceptualization [28]. These four principles respectively highlight the embodiment of meaning, the importance of experiential construal, the positive role of words and phrases as the concept of points of access, and the dynamic process of meaning construction. Based on the theoretical essence and goals of meaning construction of environmental discourse, we suggest that the general principle should be followed is that meaning construction of environmental discourse is a process of conceptualization. According to the general principle, four principles on the micro level are specifically stressed:

1) Embodied nature. Environmental discourse is linguistic representation of the interaction between human body and natural environment. Its meaning generation and construction are rooted in the experiential experience of the interaction.

2) Situated nature. Environmental discourse is characterized by situated nature, and its meaning construction has to rely on specific social and cultural contexts.

3) Dynamic quality. Meaning construction of environmental discourse is featured as a dynamic process, determined by the dynamic quality of the interaction between human body and natural environment. Discursive types are essentially determined by the way how human interacts with natural environment. In addition, in the light of three interactive ways between human and natural environment, environmental discourse is categorized into three types: beneficial discourse, ambivalent discourse and destructive discourse [17]. Beneficial dis-

course emphasizes the harmonious and positive interaction between human body and natural environment. Ambivalent discourse underlines human's neglect or indifference toward ecological environment, and destructive discourse stresses human's destructive occupancy and manipulation of environment.

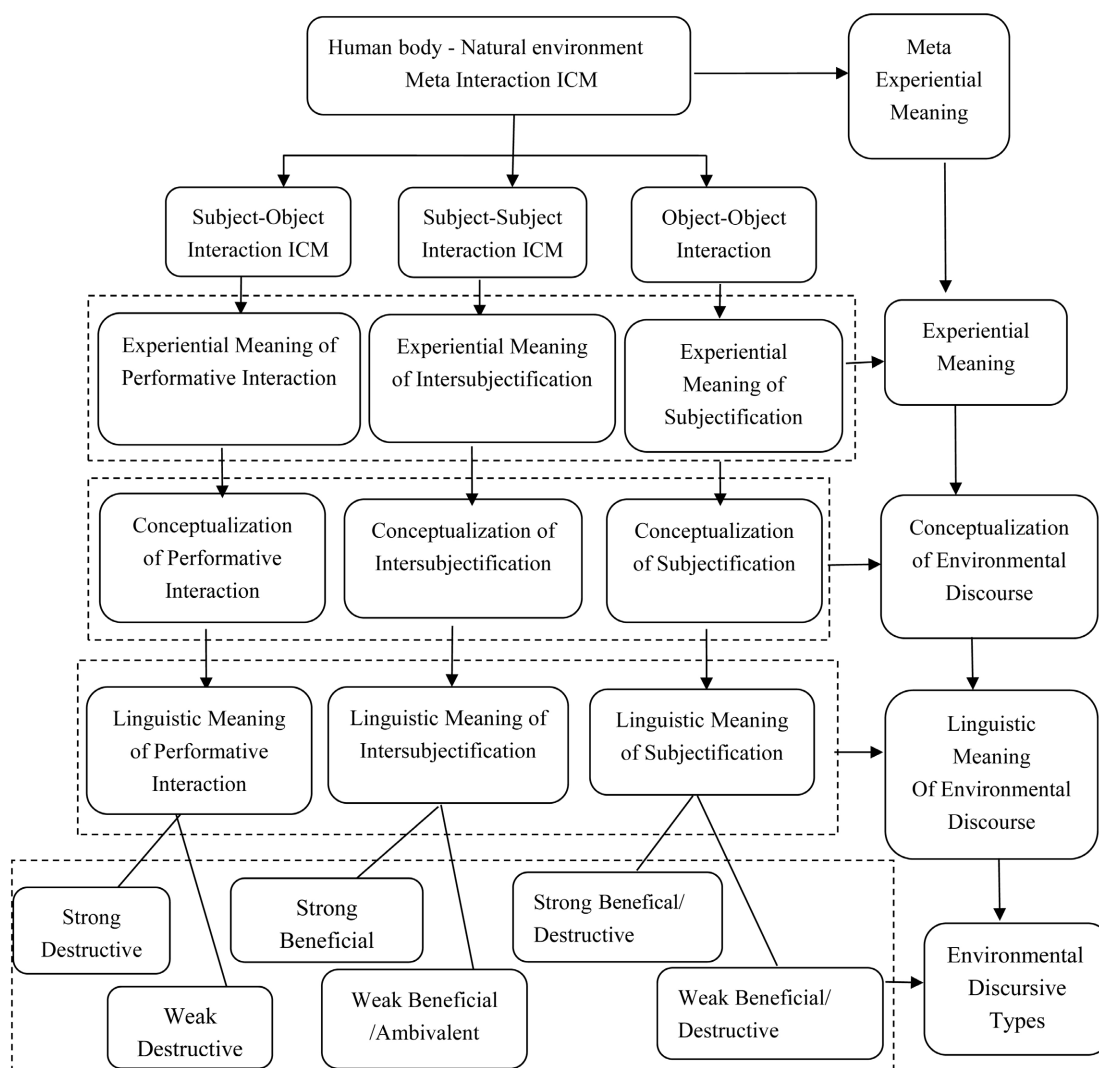
4) The necessity of cognitive construal. Mental operation mechanisms are necessarily utilized to work out the meaning construction of environmental discourse. Cognitive linguistics claims that semantic structures are conceptual structures, and conceptual structures represent a construal of experience, that is, an active mental operation [30].

### 3. Theoretical Models of Meaning Construction of Environmental Discourse

In this part, two theoretical interpretation models are tentatively proposed: Cognitive model of meaning formation and construal operation model of meaning construction. The former strives to discuss the cognitive origin, basis and pathway of meaning formation of environmental discourse from the experiential view of meaning. The latter try to explain cognitive operation processes of meaning construction by observing the interactive relationship among environmental discursive mode, cognitive strategies and cognitive mechanisms.

#### 3.1. Cognitive Model of Meaning Formation of Environmental Discourse

Grounded in the theory of Idealized Cognitive Model (ICM) proposed by George Lakoff, the source of meaning is schematized as "human-natural environment" meta-interaction ICM [31]. In accordance with the hierarchical nature of ICM, the meta-interaction ICM could be further categorized into three basic interaction ICMs: Subject-object interaction ICM, subject-subject interaction ICM and object-object interaction ICM. Specifically speaking, when human body acts as subject and natural environment acts as object, we can schematize subject-object interaction ICM. When both human body and natural environment act as subjects, we come to get subject-subject interaction ICM. And when all kinds of living things in the environment act as objects and positively interact with one another, we could abstract object-object interaction ICM [32]. According to the degree of embodiment, these three basic ICMs constitute an experiential and interactive continuum, representing three basic types of experience which possess divergence of strength and weakness in the intensity of interaction. The model (Figure 1) explains cognitive origin and pathway of meaning construction of environmental discourse: meta-experiential meaning > experiential meaning > conceptual meaning > linguistic meaning > discursive types. As is shown in Figure 1, the meaning of environmental discourse is originally derived from the ICM of "human body-environment" meta-interaction, from which the three basic interactive ICMs are highly abstracted and schematized. The basic ICMs, which represent three types of interaction between human body and natural environment, provide cognitive basis for meaning formation of



**Figure 1.** Cognitive model of meaning formation of environmental discourse. (The figure was modified from a figure that originally appeared in: Ma J.J. and Wang F.F., 2018, Multi-dimensions of the Generation and Construction of Metaphorical Meaning in Hua'er, *Foreign Language Research*, 5: 40-46).

environmental discourse. Subject-object interaction ICM stresses the dominant role of human beings in the control and manipulation of natural environment. The ICM of subject-subject interaction emphasizes the equal status and inter-subjective relationship of human and environment. The ICM of object-object interaction underlines the mental projection of subjectification upon human and environment.

As is shown, meta-experiential meaning of environmental discourse is originated from “human body-environment” meta-interaction ICM. Then the three basic ICMs are respectively the direct cognitive source and basis of the experiential meaning of performative interaction, the experiential meaning of intersubjectification and the experiential meaning of subjectification. In view of the fact that the experiential meaning is a sub-category of meaning, the three kinds of experiential meaning are also the cognitive sources of experiential meaning for-

mation. In the figure, the dotted boxes are used to frame the three kinds of experiential meaning with arrows pointing to the experiential meaning of environmental discourse, which indicates that the three kinds of experiential meaning are the epistemological source and basis of the experiential meaning of environmental discourse. Because experiential meaning is the direct theoretical ground of conceptualization, the three basic kinds of experiential meaning generate three types of conceptualization: conceptualization of performative interaction, intersubjectification and subjectification. In consideration of the fact that meaning formation of environmental discourse is based on conceptualization, the three types of conceptualization are the cognitive source and basis for conceptualizing environmental discourse. The cognitive model shows that the three types of conceptualization are framed by the dashed boxes with arrows pointing to the conceptualization of environmental discourse. Since linguistic meaning is the physical coding or representation of conceptualization on the linguistic level, the three different types of conceptualization essentially are the cognitive source and basis of linguistic meaning: linguistic meaning of performative interaction, linguistic meaning of intersubjectification, and linguistic meaning of subjectification. And for the reason that linguistic meaning of environmental discourse is a sub-category of linguistic meaning, linguistic meaning is also the cognitive source and basis of linguistic meaning of environmental discourse.

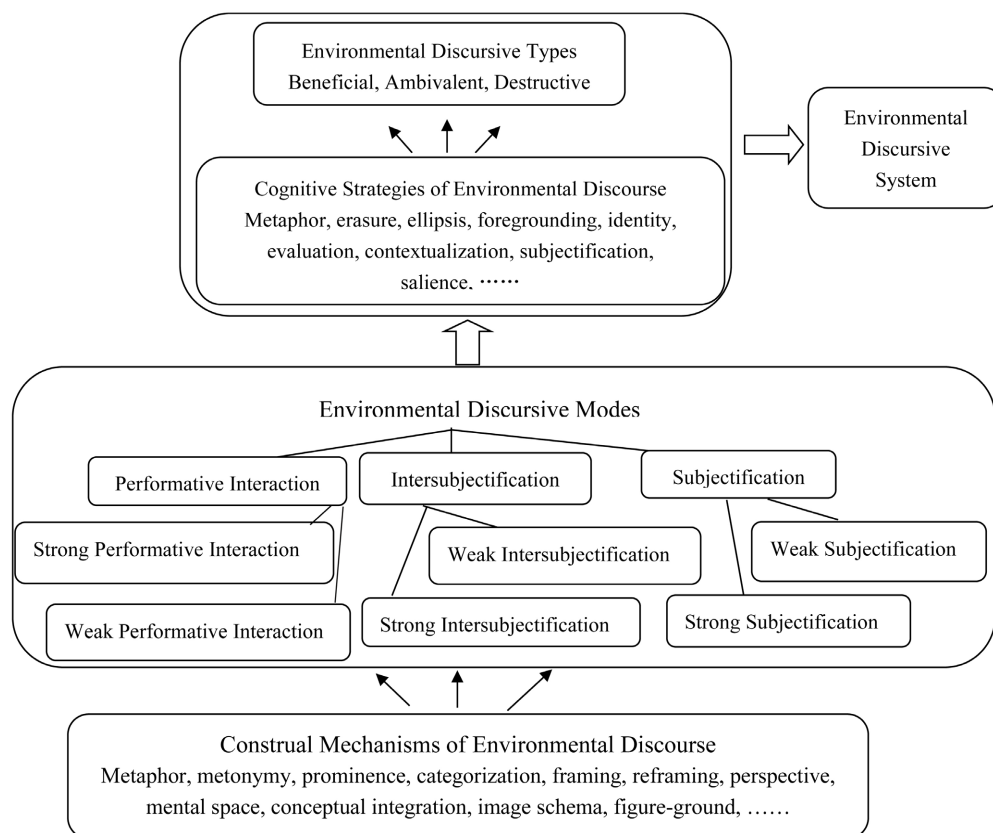
Since all interactions differ in the degree of intensity, the linguistic meaning of each basic interaction could be roughly subcategorized into the strong one and the weak one. Specifically, linguistic meaning of performative interaction could be divided into two types: linguistic meaning of strong performative interaction and weak performative interaction. Similarly, linguistic meaning of intersubjectification and subjectification also could be subcategorized into the strong ones and the weak ones. As is presented in **Figure 1**, the three types of linguistic meaning and their six subcategories are framed with dotted box with arrows pointing to the linguistic meaning of environmental discourse, showing that the three types of linguistic meaning and their six subcategories are cognitive source and basis of the linguistic meaning of environmental discourse. Because we define discourse as the physical coding or representation of linguistic meaning, linguistic meaning of strong performative interaction is mainly the semantic foundation of destructive discourse, such as those discourses constructed on the notion of conquering and defeating the nature. And linguistic meaning of weak performative interaction lays semantic foundation for weak destructive discourse or ambivalent discourse, such as those discourses constructed on the concept of exploiting natural resources. To a great extent, the linguistic meaning of strong and weak intersubjectification respectively lay foundation for the strong and weak beneficial discourses, the linguistic meaning of strong subjectification offers semantic foundation for strong destructive discourses or strong beneficial ones, and the linguistic meaning of weak subjectification provides semantic basis for weak destructive discourses, weak beneficial discourses or ambivalent dis-



courses. In a word, the cognitive model of meaning formation illustrates the cognitive source and basis of meaning formation of environmental discourse and environmental discursive types.

### 3.2. Operation Model of Meaning Construction of Environmental Discourse

The purpose of meaning construction of environmental discourse from cognitive linguistic perspective is to interpret cognitive strategies and cognitive mechanisms of environmental discourse in order to unveil ecological cognition and attitudes hidden behind the meaning construction of environmental discourse and hence to construct beneficial discourse to improve environmental reality. The two models advanced in this study have an inheritance relation, in other words, operation model of meaning construction is the application of cognitive model of meaning formation at the discourse operation level. As is shown in **Figure 2**, operation model displays the interaction among environmental discursive mode, discursive strategy and construal mechanisms, and at the linguistic level it reveals the basic mental operation mechanisms underlying the linguistic forms, which govern how language is used. As language in use, discourse involves the intersubjective coordination of cognitive systems [33], construal



**Figure 2.** Operation model of meaning construction of environmental discourse. (The figure was modified from a figure that originally appeared in: Zheng, H.L., 2020, A Cognitive Study of Discursive Construction of Environmental Discourse, PhD. dissertation).

mechanisms of environmental discourse as the bottom cognitive structures locate at the base of environmental discursive system, possessing multiple mental models and conceptualization tools, such as metaphor, metonymy, prominence, categorization, framework, perspective, mental space and conceptual blending. Meaning construction of environmental discourse generally uses more than one mental manipulation mechanism to make the appropriate choice of discursive modes.

Cognitive linguists suggest that language structure is inseparable from language function [34]. Language function is cognition-driven at the mental level, which has linguistic realization tools at the linguistic level, and language structure is the implementation of functional organization [35]. Discursive mode is one of the main means to achieve language function at the linguistic level, which constitutes the meaning level of text structure and has specific linguistic characteristics [36]. Thus from the aspect of cognitive function, the three basic interaction ICMs could be regarded not only as the interpretation model of meaning source and basis, but also as the cognitive function realized by linguistic devices. In view of that, three cognitive functions realized through the three basic interaction ICMs are implemented at the linguistic level as three basic types of discursive modes: performative interaction, intersubjectification and subjectification. Meanwhile based on interaction intensity of the three interactive experience functions, each discursive mode can be subcategorized into a strong one and a weak one. Specifically discursive mode of performative interaction includes two subcategories: strong performative interaction and weak performative interaction. Accordingly, intersubjectificative discursive mode and subjectificative discursive mode also have two subcategories respectively. It shows that major cognitive operation tools employed by basic discursive modes and their subcategories in the cognitive construal process are metaphor, metonymy, prominence, categorization, framing, reframing, perspective, mental space, conceptual integration, image schema, figure-ground, etc. The major cognitive function of environmental discursive modes is to use cognitive strategies of environmental discourse to generate and construct beneficial, ambivalent and destructive discourses. From the point of theoretical essence, the construal operation model demonstrates that environmental discursive modes play a decisive role in the formation of environmental discursive types, that is to say, environmental discursive modes could generate environmental discursive types by means of cognitive strategies.

#### **4. Theoretical Significance of Meaning Construction of Environmental Discourse**

Meaning construction of environmental discourse has important theoretical significance in politics, economy, linguistics, cognitive psychology, social culture and other areas. Since linguistic perspective is the starting point of this study, which is also closely related to culture and society, in this part we briefly discuss

the significance of meaning construction in linguistics, culture and society.

#### **4.1. Relieve the Imbalance between Environmental Discourse and Dominant Discourse**

Discourse is one of the key issues of researches on contemporary language use, and the fundamental significance of discursive study is to explore how to effectively improve the ecological system of social discourses. When a kind of discourse gains a broad or taken-for-granted status in a culture (for example, “growth is good for the economy”) or when its meaning helps to legitimize certain policies or practices, it can be said to be a dominant discourse [37]. As it is stated that the dominant discourse in the medieval world was theology, in the modern world was science, and now the discourse that defines reality for most people is economics [38]. Those language which promote unlimited economy growth are criticized for they may lead to the exhaustion of natural resources and destruction of the ecosystems we live by [39]. Economic discourses are ubiquitous in the social system and they are perhaps the most influential [17], which consequently leads to an imbalance in the social discursive ecosystem. Environmental discourses recently are arising from the confrontation between environment and economy, which has two widely-accepted interactive models with dominant social discourses, especially with economic discourses. On the one hand, the irreconcilable contradiction between economic development and environmental protection in the process of modern industrialization has resulted in the confrontation between economic discourse and environmental discourse. On the other hand, the severe reality of serious environmental pollution and degradation of ecosystems is calling for the concept of ecological civilization that human should respect and protect nature. The compromise of the economy to the environment is characterized linguistically by the compromise of economic discourse to environmental discourse. Since economy has an irreplaceable basic position in the society, natural environment is always regarded as a warehouse for economic development, the discursive construction of natural environment is often restricted within the framework of economic discourse in a state of suppression and compromise.

Meaning construction of environmental discourse could reconstruct the relationship of environmental discourse and other social discourses by underlining the dynamic interchangeable process among various discourses. Because meaning is a constant process of conceptualization based on experiential experience, meaning construction of environmental discourse specifically examines the dynamic changes of discursive meaning and the relations between environmental discourse and dominant social discourses. In fact the traditional viewpoint of dualism that the relations among discourses are simply defined as confrontation or compromise is out of date. In addition, the prototype theory of categorization holds the idea about membership gradience that at least some categories have degrees of membership and no clear boundary. Prototype theory considers that a category consists of members with unequal cognitive status affected by social

and cultural factors. From this sense, the dynamic experiential view of meaning construction is conducive to promoting the link between environmental discourse and dominant social discourses, alleviating the imbalance between environmental discourse and dominant discourses, and ultimately forming a benign ecological system of social discourses.

## **4.2. Reveal Cognitive Characteristics of Meaning Construction of Environmental Discourse**

A thorough understanding of the cognitive characteristics of environmental discourse can enable us to promote environmental discourse as a kind of power to achieve ecological harmony. In fact meaning construction of beneficial environmental discourse and destructive environmental discourse embodies different cognitive characteristics. The analysis of linguistic structure and cognitive characteristics of the two kinds of discourses could help us identify those which are destructive or potentially destructive to natural environment. In addition, it may help us construct, promote, and disseminate beneficial and positive environmental discourse.

### **4.2.1. Cognitive Characteristics of Meaning Construction of Beneficial Discourse**

Realizing the positive interaction between human beings and the nature at the discursive level is the foremost goal of meaning construction of beneficial discourse, which gives full play to the role of language in the sustainable development of life to construct or strengthen those mental models that are conducive to environmental protection. Specifically, meaning construction of beneficial discourses stresses the harmonious symbiosis between human beings and the nature, emphasizes the equal status of all living organisms in natural environment, and advocates that people should be more concerned about nature and actively participate in social practices of environmental protection. In a word, meaning construction of beneficial discourses symbolizes the value orientation of eco-centrism, which is a life-centered view of the nature, underlining the care of each independent living organism in the nature, and the significance of ecological environment for human beings' survival. The discursive strategies used in meaning construction of beneficial discourses are prominence, metaphor, specification, subjectification, framing, foregrounding, reference, identity, evaluation, etc. For example, an ecological book *Dance with the Devil* published by Austrian writer Günther Schwab in 1958, is typical beneficial discourse, which depicts the dependence of human spiritual world on ecological environment. The book utilizes a large number of metaphorical expressions to highlight the experiential experience of human being and the subjective initiative of natural world. As the quoted sentence shows, *home of mankind, the heart of nature, the roots of the human spirit*, and *springs of language and music* are metaphorical expressions are utilized to sketch out and give prominence to an intimate relationship of mutual influence between individuals and natural environment.

*“Nature is the home of mankind, and the forest is the heart of nature. Every piece of land in the forest is tightly tied to the roots of the human spirit. The deep green forest treasures are filled with springs of language and music.”*

For one thing, meaning construction of beneficial discourse conforms to the traditional Chinese ecological philosophy in which Confucianism’s “oneness of Heaven and Man”, Taoist “Way of Things” and Buddhism’s “equality of all things” all show positive interactive experience between human and the nature. For another, meaning construction of beneficial discourse is more likely to stimulate and mobilize human’s innate ability of empathy, thus producing strong moral force. The discovery of mirror neurons shows that empathy is a basic human capacity that we are born with, but it must be strengthened through a nurturing upbringing or it will decay [40]. Moreover, empathy is the core of ecological awareness, which enables us to build and comprehend mutual connection with other living things and physical world that supports life. As the poem “*Lines Composed A Few Miles above Tintern Abbey*” written by English romantic poet William Wordsworth says, “*And so I dare to hope... bounded over the mountains, by the sides of the deep rivers, and the lonely streams, wherever nature led: more like a man flying from something that he dreads, than one who sought the thing he loved*”. Only a sustainable relationship of human beings and natural environment is built, then can we succeed in the sustainable development of ecosystem truly [21].

#### **4.2.2. Cognitive Characteristics of Meaning Construction of Destructive Discourses**

The goal of meaning construction of destructive environmental discourse is to expose the discursive essence of “economy supremacy” through analyzing the discourse strategies of destructive discourses and deconstructing cognitive models of environmental reality based on the view of dualism in order to find alternative discourses to reconstruct cognitive models conducive to sustainable development of ecological environment. Destructive discourses generally stress the role of language in economic growth and adopt those discursive strategies such as erasure, omission, exclusion, ellipsis, generalization, abstraction, framing, backgrounding, and contextualization. They prefer to give prominence to dominant social discourses like economic discourse, political discourse and institutional discourse, and attempt to shift, weaken, or even remove the public’s attention to environmental issues so as to achieve the purpose of marginalizing environmental problems. Meaning construction of destructive discourse unmasks human’s manipulation of natural environment, which takes the idea of “conquering the nature” and the traditional philosophy of dichotomy as principles of discursive practice. It essentially reflects the value orientation of anthropocentrism, which regards economic interests as the basis of moral assessment, and the nature as an additional object with resource and application value [41].

From the cognitive pathway of meaning generation, destructive environmental discourse mainly derives from the ICM of “subject-object” interaction under

the “human body-environment” meta-interaction ICM. Destructive discourse underlines the superordinate status of human beings and the subordinate status of natural environment. Moreover, it denies and ignores intrinsic value of natural environment and the subjective status of the ecological system. For example, erasure as a discursive strategy is often used in destructive discourse for the purpose of making people form such an idea: A certain area of society like extinction of wild animal is irrelevant to human’s life. If the content of ecological construction and protection in the discourse is erased, it would be impossible for individuals to consciously pay special attentions to the ecosystem. And they are likely to ignore the social responsibilities that organizations, enterprises and institutions should take for environmental deterioration and degradation. Concept substitution is also a discursive strategy frequently employed in meaning construction of destructive discourse to remove environmental issues from the public’s cognitive focus so that economic development can be rationalized at the expense of environment, and environmental protection issues may be consequently marginalized. All these are likely to cause disastrous effects on the nature, bring evil consequences of environmental damage to human, and the ecological environment would become the Damocles sword hanging over people.

Lakoff warns that individuals who are lack of empathy often encounter the failure of identity, that is, they cannot put themselves in others’ shoes [40]. The empathy hierarchy is proposed which reflects an egocentric assessment of the various sorts of entities that populate the world and the hierarchy members are ranked according to their potential to attract our empathy [42]. The starting point of the empathy hierarchy is speaker, and the hierarchical structure is as follows: speaker > hearer > human > animal > physical object > abstract entity. As we know, destructive environmental discourses generally embody strong egocentrism, which stresses the subjective experience of the speaker, reflecting human control, manipulation and servitude of the nature. If the public constantly contact destructive environmental discourse, their consciousness of environmental protection and positive embodied experience with natural environment would eventually fade away. In this sense, high intensity of destructive discourse probably cut off the connection between human and the nature, and ultimately make people lose their ecological identities. In brief discursive strategy analysis of destructive discourse and revelation of cognitive models of destructive discourse may play a vital role in structuring ecological identities, ecological relationship and ecological concepts in reality to break away from discursive predicament.

### **4.3. Unmask Cognitive Mechanisms of Meaning Construction of Environmental Discourse**

The basic theoretical proposition of cognitive linguistics is that language is a part of cognition, and cognitive linguistics is engaged in explaining the close relationship between language and cognitive abilities. Thus compared with other research paradigms, cognitive linguistics is better at unmasking cognitive me-

chanisms of meaning construction of environmental discourse, and exploring how cognitive models affect human's comprehension of environmental issues and reality.

Cognitive linguistics, which proposes that meaning is a function of both the content and the construal, is efficient in utilizing cognitive tools to interpret mental processes of construal operation of meaning construction [34]. Meaning is largely decided by people's cognitive abilities of observing scenes and interpreting contents from diverse perspectives and in different ways. For example, the conceptual metaphor theory advanced by Lakoff and Johnson (1980) is a reliable cognitive mechanism for explaining meaning generation and meaning construction of abstract concepts, which involves a process of systematical metaphorical mapping and ontological correspondence between source domain and target domain, with which the unknown and abstract entities could be understood via the familiar and concrete ones. Lakoff also recognizes metonymy, prototype, categorization, image schema as construal operation mechanisms when he discusses the theory of Idealized Cognitive Model. Langacker believes that human's basic cognitive abilities include basic sensory, comparison, analogy, abstraction, metaphor, mental scanning [42]. He illustrates construal operation through cognitive models of specificity, scope, background, perspective and salience/prominence. The Figure-ground theory based on the figure-ground distinction of gestalt psychology is also regarded as an effective way of construal operation for the reason that there is no fixed figure-ground relations in reality and how to construct figure-ground organization in an event is totally the result of subjective construal [43] [44]. As another active construal mechanism, semantic frames are specific unified frameworks of knowledge, or coherent schematizations of experience [45] and mental constructs with a systematic internal organization, which we use to understand the world and to live our lives [46]. Semantic frames provide discourses with conceptual semantic background and cognitive perspective. In total, cognitive linguistics provides a variety of construal mechanisms for meaning construction of environmental discourse to effectively bring insights into the basic cognitive mechanisms of meaning construction of environmental discourse.

#### **4.4. Convert from Destructive Discourses into Beneficial Discourses**

The ultimate goal of meaning construction of environmental discourse is suggested to be made up of three parts. Firstly, reconstruct mental models so as to push social practice of environmental protection; secondly, reinforce language users' ecological identities and consciousness; and thirdly, prompt and realize the conversion of destructive discourses into beneficial discourses. Identity studies show that people generally hold more than one identity, and the more important an identity is to oneself, the easier it is to be activated. Furthermore, important identities have a greater impact on those marginal identities, for example, an individual's economic identity has an inhibiting or suppressing effect

on one's ecological identity [47] [48]. Meaning construction of environmental discourse helps to alleviate the imbalance between environmental discourses and dominate discourses in the society, maintain and enhance individual's ecological identity, and raise citizens' awareness of environmental protection. More importantly, through interpreting cognitive characteristics and cognitive mechanisms of meaning construction of environmental discourse, we could have a clear picture of the discursive strategies and cognitive models used in meaning construction of environmental discourse by expounding environmental discourse from the underlying cognitive models to the framework of environmental discursive system, and probing into the interaction between discursive modes and cognitive models.

Overall meaning construction of environmental discourse consists of three consecutive and progressive steps: Firstly, discursive strategies are used to analyze linguistic structures and cognitive characteristics of environmental discourse; secondly, cognitive mechanisms are employed to unveil cognitive models of environmental discourse, such as the public's orientation of ecological value and judgment of environmental discursive types. Lastly, construal tools are put into use in deconstructing destructive discourse and constructing beneficial discourse in order to prompt and realize the conversion of destructive discourses into beneficial ones, and finally achieve positive interaction of human and the nature on the linguistic level.

## 5. Conclusions

This article demonstrates the conceptualization of environmental discourse from the perspective of cognitive linguistics by putting forward two theoretical models after discussing the theoretical essence, goals and principles of meaning construction of environmental discourse. The cognitive model explores the cognitive origin, basis and pathway of meaning formation of environmental discourse from the embodied view of meaning. And the operation model illustrates the cognitive process of meaning construction by observing the interaction between discursive modes, cognitive strategies and semantic mechanisms. The two proposed models could offer guidance and reference not only for the analysis practice of environmental discourse on a micro level, but also for the exploration of the semantic origin and hierarchy of environmental discourse on a macro level.

Admittedly, the major limitations of the present study are that it mainly focuses on qualitative analysis and lacks empirical evidence. Cognitive linguistics regards meaning construction as a dynamic mental process, which is highly related to construing operation, and thus may bring about subjective arbitrariness in the process of meaning description and interpretation of environmental discourses. Therefore, future research should be undertaken to find empirical evidence to support the findings, and considerably more work will need to be done to further verify and modify the theoretical models. Besides, since the construction of environmental discourse is a multi-perspective issue that involves social,



cognitive, cultural and many other factors, an interdisciplinary perspective would be worth taking into consideration in future work to enrich and expand the current theoretical angle.

### Conflicts of Interest

The author declares no conflicts of interest.

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