



# Expanding Comparative Literature into Comparative Sciences Clusters with Neutrosophy and Quad-stage Method

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**Abstract.** By using Neutrosophy and Quad-stage Method, the expansions of comparative literature include: comparative social sciences clusters, comparative natural sciences clusters, comparative interdisciplinary sciences clusters, and so on. Among them, comparative social sciences clusters include: comparative literature, comparative history, comparative philosophy, and so on; comparative natural sciences clusters include: comparative mathematics, comparative physics, comparative chemistry, comparative medicine, comparative biology, and so on. In addition, comparative literature itself can also be expanded. Under the two main categories of research and

practice, comparative literature can be expanded into: comparative literature research, comparative literature practice (including comparative essay, comparative fiction, comparative poetry, comparative drama, and so on), comparative literature research and practice, and so on. This paper discusses the applications of comparative method in comparative sciences clusters and their various branches. Point out that in the existing fields of social sciences and natural sciences, many sprouts of comparative sciences clusters can be found, but a wide range of the achievements of comparative sciences clusters, still are the virgin lands to be developed.

**Keywords:** Comparative, comparative sciences clusters, comparative social sciences clusters, comparative natural sciences clusters, comparative interdisciplinary sciences clusters, comparative literature, comparative history, comparative philosophy, comparative mathematics, comparative physics, comparative chemistry, comparative medicine, comparative biology, comparative essay, comparative fiction, comparative poetry, comparative drama.

## 1 Introduction

Comparative literature is the literary branch running comparative study (research) about the relationship between two or more kinds of literatures. It consists of influence study, parallel study, interdisciplinary study, and so on.

At present, the research method of comparative literature has expanded into other areas, and establish many disciplines such as comparative sociology, comparative jurisprudence, and so on. But the expansion is not enough. In this paper, we try to expand comparative literature into comparative sciences clusters (including comparative social sciences clusters, comparative natural sciences clusters, comparative interdisciplinary sciences clusters, and so on).

## 2 Basic Contents of Neutrosophy and Basic Contents of Quad-stage

Neutrosophy is proposed by Prof. Florentin Smarandache in 1995.

Neutrosophy is a new branch of philosophy that studies the origin, nature, and scope of neutralities, as well as their interactions with different ideational spectra.

This theory considers every notion or idea  $\langle A \rangle$  together with its opposite or negation  $\langle \text{Anti-}A \rangle$  and the spectrum

of "neutralities"  $\langle \text{Neut-}A \rangle$  (i.e. notions or ideas located between the two extremes, supporting neither  $\langle A \rangle$  nor  $\langle \text{Anti-}A \rangle$ ). The  $\langle \text{Neut-}A \rangle$  and  $\langle \text{Anti-}A \rangle$  ideas together are referred to as  $\langle \text{Non-}A \rangle$ .

Neutrosophy is the base of neutrosophic logic, neutrosophic set, neutrosophic probability and statistics used in engineering applications (especially for software and information fusion), medicine, military, cybernetics, and physics.

Neutrosophic Logic is a general framework for unification of many existing logics, such as fuzzy logic (especially intuitionistic fuzzy logic), paraconsistent logic, intuitionistic logic, etc. The main idea of NL is to characterize each logical statement in a 3D Neutrosophic Space, where each dimension of the space represents respectively the truth (T), the falsehood (F), and the indeterminacy (I) of the statement under consideration, where T, I, F are standard or non-standard real subsets of  $] -0, 1+[$  without necessarily connection between them.

More information about Neutrosophy can be found in references [1, 2].

Quad-stage (Four stages) is presented in reference [3], it is the expansion of Hegel's triad-stage (triad thesis, antithesis, synthesis of development). The four stages are

"general theses", "general antitheses", "the most important and the most complicated universal relations", and "general syntheses". They can be stated as follows.

The first stage, for the beginning of development (thesis), the thesis should be widely, deeply, carefully and repeatedly contacted, explored, analyzed, perfected and so on; this is the stage of general theses. It should be noted that, here the thesis will be evolved into two or three, even more theses step by step. In addition, if in other stage we find that the first stage's work is not yet completed, then we may come back to do some additional work for the first stage.

The second stage, for the appearance of opposite (antithesis), the antithesis should be also widely, deeply, carefully and repeatedly contacted, explored, analyzed, perfected and so on; this is the stage of general antitheses. It should be also noted that, here the antithesis will be evolved into two or three, even more antitheses step by step.

The third stage is the one that the most important and the most complicated universal relations, namely the seed-time inherited from the past and carried on for the future. Its purpose is to establish the universal relations in the widest scope. This widest scope contains all the regions related and non-related to the "general theses", "general antitheses", and the like. This stage's foundational works are to contact, grasp, discover, dig, and even create the opportunities, pieces of information, and so on as many as possible. The degree of the universal relations may be different, theoretically its upper limit is to connect all the existences, pieces of information and so on related to matters, spirits and so on in the universe; for the cases such as to create science fiction, even may connect all the existences, pieces of information and so on in the virtual world. Obviously, this stage provides all possibilities to fully use the complete achievements of nature and society, as well as all the humanity's wisdoms in the past, present and future. Therefore this stage is shortened as "universal relations" (for other stages, the universal relations are also existed, but their importance and complexity cannot be compared with the ones in this stage).

The fourth stage, to carry on the unification and synthesis regarding various opposites and the suitable pieces of information, factors, and so on; and reach one or more results which are the best or agreed with some conditions; this is the stage of "general syntheses". The results of this stage are called "synthesized second generation theses", all or partial of them may become the beginning of the next quad-stage.

For realizing the innovations in the areas such as science and technology, literature and art, and the like, it is a very useful tool to combine neutrosophy with quad-stage method. For example, in reference [4], expanding Newton mechanics with neutrosophy and quad-stage method, and establishing New Newton Mechanics taking law of conser-

vation of energy as unique source law; in reference [5], negating four color theorem with neutrosophy and quad-stage method, and "the two color theorem" and "the five color theorem" are derived to replace "the four color theorem"; in reference [6], expanding Hegelian triad thesis, antithesis, synthesis with Neutrosophy and Quad-stage Method; in reference [7], interpreting and expanding Laozi's governing a large country is like cooking a small fish with Neutrosophy and Quad-stage Method; in reference [8], interpreting and expanding the meaning of "Yi" with Neutrosophy and Quad-stage Method; in reference [9], Creating Generalized and Hybrid Set and Library with Neutrosophy and Quad-stage Method.

Applying Neutrosophy and Quad-stage Method, will significantly help us to consider all possible situations. Therefore, Neutrosophy and Quad-stage Method can play a very important role to expand comparative literature.

### 3 Expanding Comparative Literature with Neutrosophy and Quad-stage Method

The process of expanding comparative literature can be divided into four stages.

The first stage (stage of "general theses"), for the beginning of development, the thesis (namely "comparative literature") should be widely, deeply, carefully and repeatedly contacted, explored, analyzed, perfected and so on.

Currently, "comparative literature" has become a complex subject. Its research achievements absorb the research results of traditional world literature, as well as a variety of other areas even including natural science research; in fact, the inherent discipline bounds have been broken, and beyond the limitations of region and time, put the Asian-African literature, European-American literature, and so on, as well as classical literature, modern literature, and so on, into one or more overall structures or frames.

For example, in the research (study) of comparative literature, the literature can be compared with social sciences (philosophy, psychology, linguistics, history, sociology, anthropology, and so on), and the natural sciences (mathematical statistics, computer technology, system theory, information theory, and so on), as well as other artistic disciplines (painting, sculpture, architecture, music, film, and so on).

Of course, we should also see that different scholars may have different viewpoints and interpretations for "comparative literature" and the related problems, and the different opinions and arguments will be endless from generation to generation.

In the second stage (the stage of "general antitheses"), the opposites (antitheses) should be discussed carefully. Obviously, there are more than one opposites (antitheses) of comparative literature here.

For example, according to the viewpoint of Neu-

troscopy, if "comparative literature" is considered as the concept  $\langle A \rangle$ , the opposite  $\langle \text{Anti-A} \rangle$  may be: "non-comparative literature" (such as comparative sociology, comparative jurisprudence, and so on); while the neutral (middle state) fields  $\langle \text{Neut-A} \rangle$  including: "undetermined comparative literature" (neither "comparative literature", nor "non-comparative literature"; or, sometimes it is "comparative literature", and sometimes it is "non-comparative literature; and so on".

In the third stage, considering the most important and the most complicated universal relations to link with "comparative literature". The purpose of this provision stage is to establish the universal relations in the widest scope.

For "comparative literature", different people will have different research methods and findings; even if for the same person, at different times and in different situations, he or she may also apply different research methods and reach different research results. Therefore, pursuing the unique right research method and research result do not seem to make sense. So the advisable method of work is to collect all people's research methods and research results from ancient times to modern times, and plus own research methods and research results, to form the so-called "full research methods and research results", and to store up them as Think Tank; while once we need to apply them, then immediately the one or several best research methods and research results can be elected, or according to the information in Think Tank and the reality to obtain one or several best programmes temporarily, thus we can be invincible.

Now we list some specific research methods and results.

The first school of comparative literature in the world is France school. Characterized by respecting the facts, and emphasizing the textual studies; and the research achievements occupy a glorious page in the history of world literature.

Later, United States school is appeared and takig "parallel study" as the symbol, the scholars of this school consider that literature as a discipline should compare with other disciplines.

At present, in United Kingdom, Russia, China and other countries, comparative literature studies have achieved fruitful results.

In the fourth stage, the comprehensive results of the front three stages can be used to expand "comparative literature" with a variety of ways and means. Here we mainly according to Neutrosophy and Quad-stage method to seek expanded results.

According to Neutrosophy and Quad-stage method, if the social sciences can be considered as  $\langle A \rangle$ , then the natural sciences can be considered as the opposite  $\langle \text{Anti-A} \rangle$ , and the interdisciplinary sciences can be considered as  $\langle \text{Neut-A} \rangle$  (neutral A).

Firstly, link to social sciences, "comparative literature" should be expanded into "comparative social sciences", or

"comparative social sciences clusters" including comparative literature, comparative history, comparative philosophy, and so on.

Secondly, link to natural sciences, "comparative literature" should be expanded into "comparative natural sciences", or "comparative natural sciences clusters" including comparative mathematics, comparative physics, chemistry, comparative medicine, comparative biology, and so on.

Thirdly, link to interdisciplinary sciences, "comparative literature" should be expanded into "comparative interdisciplinary sciences", or "comparative interdisciplinary sciences clusters" including comparative mathematical medicine, comparative mathematical biology, and so on.

In addition, the "comparative literature" itself can also be expanded. In addition, comparative literature itself can also be expanded. In references [10], under the two main categories of research and practice, comparative literature can be expanded into: comparative literature research, comparative literature practice (Including comparative essay, comparative fiction, comparative poetry, comparative drama, and so on), comparative literature research and practice, and so on. For the sake of convenience of classification, and to distinguish with other forms of work, naming the essay created by comparative method as comparative essay, the fiction created by comparative method as comparative fiction, the poetry created by comparative method as comparative poetry, the drama created by comparative method as comparative drama, and so on.

#### 4 Applications of comparative method in comparative sciences clusters and their branches

"Comparison" means: according to the certain standards and methodologies, to identify advantages and disadvantages, same and different, beauty and ugliness, and so on between two or more things.

The principle of comparison: there shall be the object to be compared with, as well as the common comparative foundation, and the certain standards and methods, and so on; as comparing, we should try to consider all possible situations.

Based on the above concepts and principles, comparative method can be widely used in comparative sciences clusters and their various branches, and provide a variety of ways and broad space for development.

Firstly we discuss the comparative objects. In comparative sciences clusters and their various branches, the comparative objects can be selected within the large range, the medium range, and the small range.

Secondly we discuss the comparative standards. The comparative standards can be selected as: advantages and disadvantages, same and different, beauty and ugliness, and so on. As taking advantages and disadvantages as the comparative standard, the comparative result can be decided by experts, by ordinary scholars and readers, and by all the people (including experts, ordinary scholars and read-

ers).

As for the methods and ways for comparison, they are also numerous. For example, to compare according to the time sequence, according to the different spatial locations; or according to the longitudinal direction and transverse direction; as well as qualitative comparison, quantitative comparison, macro-comparison, micro-comparison; and the combination of different methods and ways.

It needs to be emphasized that, when comparing, we should try to consider all possible situations. This is also the great feature of comparative sciences clusters and their various branches.

As for how to consider all possible situations, we will discuss this problem in another paper.

It should be noted that, in the existing fields of social sciences and natural sciences, many sprouts of comparative sciences clusters can be found, but a wide range of the achievements of comparative sciences clusters, still are the virgin lands to be developed.

## Conclusions

Applying comparative methods and ways in comparative sciences clusters and their various branches, will play an extremely important role to promote the development of social sciences, natural sciences, interdisciplinary sciences, and so on; and continue to make new achievements.

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