Rethinking the Interdisciplinary Construction of Translatology in the Context of the "Ecological Turn": Philosophical and Theoretical Analysis

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After its theoretical analysis of the newly developed ecological approach to translation studies, this paper investigates the conditions, layers, goals, modalities and results (values) of interdisciplinary transplantation[1] from ecology as the donor theory to translatology as the receptor in light of more general rules for interdisciplinary transplantation, with a view to discovering possible ways in which the ecological approach can further facilitate the advancement of translation studies. And then, by a brief analysis of the gains and losses of memetic studies in terms of interdisciplinarity, it goes on to discuss the theoretical isomorphism between natural science and social science. The importance of this discussion lies not just in its promise of further development of the ecological approach to translation studies but in its elicitation of the central issue of this paper: the relationship between interdisciplinary approaches and disciplinary integration of translatology.

Keywords: translatology, ecological approach, ecological wisdom, interdisciplinary research, disciplinary integration

1. Introduction

The rapid development of translatology in the past decades has benefited from its connection with relevant disciplines, such as linguistics, literary

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[1] Borrowed from biology, the term "transplantation" here is used metaphorically to mean theoretical borrowing from one discipline to another (See Li 1999 for the details).

studies, cultural studies, philosophy, sociology, psychology, cognitive sciences, ecology, and so on. The interdisciplinary transplantation from these relevant disciplines to translatology has not just enriched our understanding of the relationship between languages, cultures and societies, but broadened the horizon of translation research. It has also, however, brought about a certain negative influence on the construction of translatology as an independent discipline, especially on the epistemological and methodological layers of theoretical research. Take the "cultural turn" in translation studies for example, as Munday (2001: 139) observes, "the cultural turn might also be described as an attempt by cultural studies to colonize the less established field of translation studies." Munday's qualms are not unreasonable because "it is important to remember that cultural theorists themselves have their own ideology and agendas that drive their own criticism" (ibid: 138). The key point here concerns an important issue of the relationship between interdisciplinary research and disciplinary construction in Translatology (See Section 4 for detailed discussion): How do we tactfully deal with the two interrelated aspects in the evolution of translatology?

To solve this problem, we can draw inspiration from ecological wisdom. Since the 1960s, we have witnessed what may be called an "ecological turn" in the sociocultural, political, economic and academic fields, which has developed alongside the progressive "ecological crisis" on planet Earth. In academia, the ecological turn arose from the increasing intersection between the natural sciences, the social sciences and the humanities, and is of course inseparable from its complex (postmodern) sociocultural backgrounds as well. However, the underlying cause of the "ecological turn" could be boiled down to the so-called ecological wisdom, which, as a term widely used in recent decades in the social sciences and humanities, usually indicates an ecological worldview, an ecological mode of thinking, or an ecological way of living (cf. Scorer 1973; Gaard 1998; Du 2008).
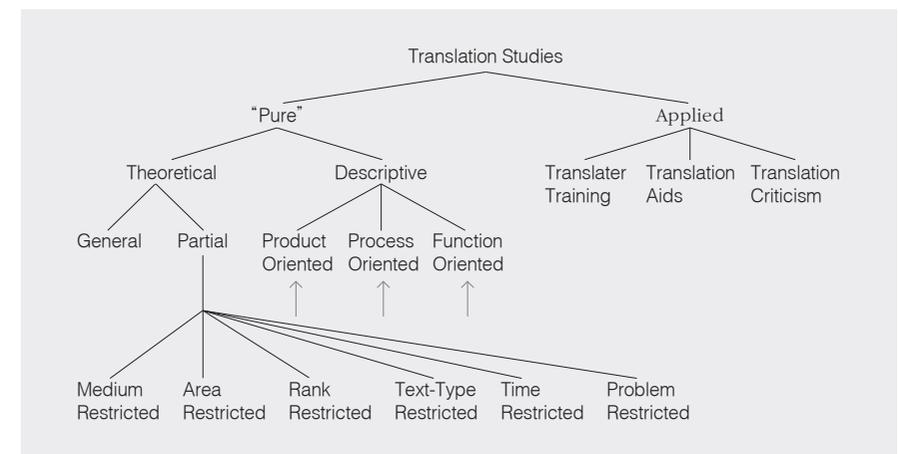
This paper, after a theoretical analysis of the interdisciplinary features of the newly developed ecological approach to translatology (Section 2), will then investigate the affinity between ecology as the donor theory and translatology as the receptor in light of more general rules for interdisciplinary transplantation (Section 3.2). This investigation, on the basis of its refinement of ecological wisdom in three hierarchical senses (Section 3.1), will focus on how translatological advancement can benefit from the ecological wisdom. Lastly, in light of the ecological wisdom refined in the paper, it will clarify the

relationship between interdisciplinary construction and disciplinary integration of translatology (Section 4).

2. The existing ecological approach to translatology: theoretical review

Over the past decades, the "ecological turn" has progressively made a significant impact on various sociocultural, political, and academic fields. It goes without saying that increasing ecological inspiration and application have brought about fruitful research findings in both natural science and social science. The newly developed ecological approach to translatology in China has achieved certain achievements as well. It so far can be divided into two sub-approaches: eco-translatology and translation ecology. If we site them on the Holmes' basic "map" of translation studies (Holmes 1994, see Figure 1), they basically belong to the category of "descriptive translation studies," and in a further analysis they could be classified into the function-oriented subbranch because of their common focus on "the study of contexts rather than texts" (ibid: 72). Although they both approach translation and its contexts from an ecological perspective, they still vary markedly in research orientation, theoretical basis, and interdisciplinary approach.

Figure 1. Holmes' basic "map" of Translation Studies (see Toury 1995: 10)

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2.1. Eco-translatology

Initiated by Gengshen Hu in his PhD thesis "Exploration into a Translator-Centered Approach to Translation as Adaptation and Selection" (2003) and developed later in his monograph On Translation as Adaptation and Selection (2004) as well as his series of academic papers, eco-translatology regards translation as a whole ecosystem and is aimed at "interpreting translation process, describing the relationship between translators and translational eco-environment, and highlighting the living conditions and competence development of the translator" (2008: 4). In the matter of theoretical construction, the core theory of eco-translatology is "translation as adaptation and selection", according to which the translation process is "cyclical alternations of the translator's adaptation and selection" (ibid: 1); its theoretical basis is the Darwinian evolutionary idea of natural selection and its central idea is the translator-centeredness. In addition, the translation standard in eco-translatology involves three elements: multidimensional transformation, reader feedback, and the translator's aptitude, and the best translation should be the highest degree of holistic adaptation and selection (cf. Hu 2004a; 2008).

Applying such fundamental ecological concepts as natural selection and adaptation to translatology, eco-translatology has developed new adaptive terminology such as translational eco-environment, adaptive selection, selective adaption, adaptive (and multidimensional) transformation, as well as the degree of holistic adaptation and selection. These new terms exactly present the holistic, dynamic, correlative, and hierarchical thinking about translation process. These fruitful modes of thinking and theorization outlooks exactly reflect the ecological worldview and methodology. More importantly, the viewpoints of the translator-centeredness and disciplinary integration are especially inspiring for furthering translatological construction.

The translator-centered view, first of all, is congenial to the humanistic belief in the significant role of the individual creativity in shaping their existence and creating the society (Fowler 1999:10). It "will help justify the translator's subjectivity, creativity, and authority in the process of translation" (Hu 2004b:10). This is also how eco-translatology, as a new channel of sociocultural approach to translation studies, varies from previous cultural approaches in the field. As Pym (2006: 2) remarks that the majority of the previous social and cultural approaches to translation studies "were fundamentally ways of studying texts." So he advocates that "something quite different, however, might be expected from approaches that focus on the translators rather than translations." The sociology of translation in Pym "should be able to focus on mediators, not just on the social aspects of the source text and the target text" (ibid: 24). In this light, the eco-translatology and the sociology of translation present the same focus on the translator. They in essence both present the "people-oriented" humanistic belief. This sort of belief or perspective is methodologically vital because it can direct our attention to the dynamic, creative and constructive aspects of language use and thus avoid dogmatic and depersonalized ways of thinking about language and translation.

In addition, disciplinary integration, as another remarkable aspect of eco-translatology, deserves to be further investigated. After decades of booming interdisciplinary studies in the field, it's high time we gave serious consideration to the integration of different approaches to translatology into a more comprehensive translatological framework. Any discipline, in spite of its interdisciplinarity, must rest upon its own systematic theoretical framework that characterizes it as an independent (not dependent) discipline. For the further development of translatology, disciplinary integration should be an inevitable step forward to the maturity of the discipline per se. Eco-translatology has contributed a preliminary plan to this pursuit of disciplinary integration. In holistic and correlative perspectives of ecology, it elaborated an integrated model of the translational ecosystem, which centers on translatology and incorporates other research approaches (anthropological, linguistic, and cultural) as the subsystems involved in translatological horizon (cf. Hu 2009). With its innovative attempt at disciplinary integration and its prospect of a holistic interpretative system of translatology, the integrated model has shed stimulating light on other studies in the same theoretical pursuit. On the other hand, as a preliminary plan, it inevitably presents certain deficiencies. At least, some important perspectives/approaches (such as the sociological and the cognitive-psychological) are not involved; and the whole framework perhaps still needs to be further elaborated in more psychologically- and socially-aware ways, and with more research perspectives and details incorporated.

In light of the rules of interdisciplinary transplantation (see Section 3.1), the interdisciplinary approach of eco-translatology, with its ecological facilitation of translatology, presents the following characteristics: (1) it mainly occurs on philosophical layer; (2) its modality belongs to epistemological and methodological inspiration; (3) its goal is for methodological improvement and disciplinary integration; (4) its result so far has shown a certain degree

of theoretical merging (as an ecological explanatory power of translation process), which presents a tendency of the vertical deepening of the research, even though the depth seems still not enough. In addition, the sustainability of the research should be in a certain prospect (especially in terms of the translator-centeredness and integration perspective). Those four features of interdisciplinary approach of eco-translatology have testified the fruitful operation of eco-translatology, which will enlighten us in pushing translation research ahead.

2.2. Translation ecology

Translation ecology was elaborated by Jianzhong Xu in his monograph Translation Ecology (2009). Translation ecology, as indicated by the name, should be a study of the ecology of translation. According to Xu (2009: 3), the purpose of translation ecology, in applying ecological achievements to translation research, is to explore the relationship between translation and its eco-environments as well as the mechanism(s) involved. In this light, translation ecology should be an ecological study of translation community, with the ecological mechanism (i.e., various principles and laws of ecological community) as its theoretical framework. It hence is "mechanism-centered," which is obviously different from the translator-centeredness of Hu's eco-translatology. The different research orientations of translation ecology and eco-translatology can also be clearly demonstrated by the genealogy of ecology presented later in Figure 2. To put it another way, translation ecology should be an investigation into the ecological operation of translation community. The translator is mainly regarded as a node in the ecological chain of translation ecology, without being specially treated. The feature of the interdisciplinary approach employed by translation ecology can also be revealed by the contents of the monograph, as suggested by the titles of its chapters:

- *The eco-environment/eco-structure/eco-function of Translation (Ch.2-4);*
- *The basic principles/laws of translation ecology (Ch.5-6);*
- *The behavioral ecology of translation (Ch.7);*
- *The succession and evolution of translation ecology (Ch.8);*
- *The detection and assessment of translation ecology (Ch.9);*
- *Eco-translation and sustainability (Ch.10)*

In summary, the interdisciplinary approach of translation ecology, as indicated above, by borrowing the model of ecological mechanism to re-theorize on translation, contributes a new system of theoretical discourse and terminology to the theorization on the relationship between translation and society and the mechanisms involved. In terms of methodology, it, however, seems somewhat like "putting new wine into old bottles," as a result of which, neither of them can be well preserved. The key point here, in fact, is whether the model of ecological mechanism and the terminology involved are fully appropriate for translatological research. In other words, we should consider whether this way of interdisciplinary approach is methodologically feasible or useful. Suppose each relevant discipline imposes its own system of theoretical discourse on translatology, what would be the result for it?

Therefore, the interdisciplinarity of translatology does not warrant other disciplines' different extents of "colonization" of it. Translatology should rest on its own special system of theoretical discourse and terminology that characterize it as an independent (rather than dependent) discipline. What the construction of its theoretical discourse system needs is theoretical inspiration from other relevant disciplines, rather than their theoretical "colonization" (see Section 4.1 for a further explanation of "inspiration"). Here still concerns the methodology of interdisciplinary research.

In addition, since translation is a social practice (cf. Wolf & Kukari 2007), translation ecology, theoretically, should be in the category of social ecology. In this sense, translation ecology seems to be part of the sociology of translation, with ecology as a vantage point. In this vein, the research on translation ecology, essentially, should be conducted with a socio-ecological approach. In addition, as Pym (2006: 2) advocates that we need a sociology of translators or mediators because we have no real shortage of the social and cultural approaches to translations as texts. However, translation ecology, as indicated above, does not run in the similar way although it with great effort presents a descriptive "hotchpotch" of the miscellaneous aspects of translation and society. Since translation ecology is regarded as an academic research rather than a simple social report, the research methodology of the socio-ecological approach should be the central issue to consider. In this light, the key to the promotion of translation ecology should be a rethinking of the methodology of its interdisciplinary approach.

3. The transplantation from ecology to translatology: theoretical investigation

The existing ecological approach to translatology, as mentioned above, has demonstrated a promising research perspective on the discipline. However, it meanwhile presents certain theoretical problems. In order to further the ecological approach to translatology, in this section, this paper will explore the genealogy of ecology and the ecological wisdom as the intellectual support for this research.

3.1. The genealogy of ecology and ecological wisdom

In recent decades, it has become nearly impossible to discuss humans' relation to nature or society without referring to "ecology." And the term "ecological wisdom," as mentioned above, has usually been employed to roughly indicate an ecological worldview or an ecological way of living. In order to understand ecological wisdom more deeply and employ it to facilitate further development of theoretical research in translatology, this section will refine it in three hierarchical senses, on the basis of a brief review of the genealogy of ecology and the major features of ecology as a science of synthesis.

It is widely known that German biologist Ernst Haeckel coined the term 'ecology' and defined it as "the knowledge of the sum of the relations of organisms to the surrounding outer world, to organic and inorganic conditions of existence" (Chapman & Reiss 1999: 2). Ecology developed out of natural history and its course of development has witnessed its interdisciplinarity. As Keller and Golley (2000: 1) observe:

> As we enter the twenty-first century, ecology is proving to be a timely and captivating subject. Ecology is timely because it is being enthusiastically heralded as a powerful and needed corrective for the malaise of contemporary industrial civilization. And ecology is captivating due to the sheer comprehensiveness of its scope and complexity of its subject matter.

Due to the complex synthesis of ecology (in a broad sense), and also for our focus on the theme (i.e., the refinement of ecological wisdom) under discussion, it is necessary to distinguish ecology as pure and applied sciences from its impact on social, cultural, and philosophical studies. On the basis of this distinction, Figure 2 clearly charts the enormous genealogy of ecology and its impact.[2]

Figure 2. Genealogy of ecology and its impact
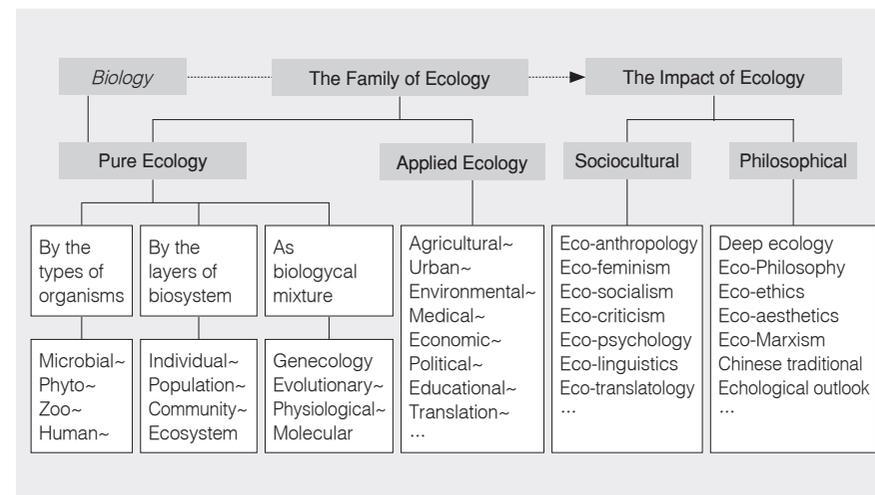
Since it helps us avoid the confusion between the connotations of ecological scientific pursuit and ecological-like thinking, Figure 2 will be necessary to our exploring the channels of transplantation from ecology to translatology. It can also help us to understand the disciplinary features of ecology and its applied branches. By its brief classification of the three major branches (i.e., "pure ecology," "applied ecology" and "the impact of ecology"), Figure 2 contributes three possible lines of thinking about refining ecological wisdom. More specifically, ecological wisdom as an umbrella term can be redefined in terms of three hierarchical senses: the philosophical sense, the sense of thinking mode, and the sense of theorization outlook. In each sense different aspects of

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[2] In view of the openness of ecology and its impact, Figure 2 is not an all-inclusive, but a brief, description of the status quo of ecology as a pure and applied science and its wide range of (interdisciplinary) impact. In addition, it should be noted that the sign "~" in the figure stands for "ecology."

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contents are further involved.

The philosophical sense of ecological wisdom involves epistemological and methodological significance. In its very origin, "Chinese philosophy is deep ecological philosophy" (Meng 2004: 1) Confucianism, Daoism, and Chinese Buddhism, as three major traditions of Chinese ancient philosophy and culture, all definitely share certain thoughts of ecological ethics. Epistemologically speaking, the ecological orientation of Chinese philosophy toward the interplay between organic naturalism and intrinsic humanism, originating in "a sentiment of the consanguinity of man and nature" (Cheng 1999: 68), determines its outlook on the nature of knowledge and justification, i.e., concrete rationalism. According to Cheng (cf. 1999: 82-83), in three fundamental senses we may define the concrete use of concrete reason in Chinese philosophy. Firstly, *empirical observation and experience become the direct way of acquiring knowledge.* The philosophy of change, in terms of yin and yang developed in the Book of Change (*I Ching*), is precisely built on observation of natural and human activities. Furthermore, the philosophical terms of ultimate reality, such as *tian* 天 and *tao* 道, in fact are not general and abstract terms only capable of logical definition, but terms with a universal yet concrete content, to be understood by means of direct and diverse experience. Secondly, *Chinese philosophy stresses that theory must be applied to practice or to be considered merely empty words.* This sense can be reflected typically by the Confucian concept of *ren* 仁 (for moral and political practice and perfection), the Taoist concept of *tao* (for natural and internal order, relationship and principle for the process of movement and change of everything it generates), and the Chinese Buddhist concept of *chan* 禅 (for the ontological relationship between knowing and doing/acting, which should easily lead to the doctrine of instantaneous enlightenment). Finally, as Table 1 indicates, *Chinese philosophy is characterized by its moral-and politics-oriented pragmatism.* The above-mentioned conceptions of *ren, tao, chan* also forcefully prop up this idea.

Methodologically speaking, the ecological wisdom of Chinese philosophy, in a nut shell, can be termed as the three principles of wholeness, internality and organicity. The wholeness principle legislates that any individual thing must be understood in the whole context which forms its background, source, and network of interrelations; the internality principle requires thinkers to focus always on the movements and changes in the world as natural and spontaneous happenings due to the internal life-force of reality, not to seek explanations in an external final cause; the organicity principle leads one to evaluate things and happenings by considering the negative and positive directions of change so that they may be seen to fit into a reality of balanced relationships.

In the sense of thinking mode, the ecological wisdom of Chinese philosophy involves correlative thinking, dynamic process thinking, dialectical thinking and value-loaded thinking. The essence of correlative thinking is to classify and coordinate different types of things into correlative orders and patterns, and thus to consider explanations of individual happenings as relating to these orders and patterns (cf. Cheng 1999:101-107); dynamic process thinking puts emphasis on the process and context of producing meaning; dialectical thinking and the value-loaded thinking characterize the holistic-internalistic-organic feature of Chinese ecological philosophy, which is distinct from the atomistic-externalistic-mechanical feature of the Western traditional philosophy.

In the sense of theorization outlook, ecological wisdom stems from the horizon of the complexity science as the modern "ecological" methods of rationalization in the West. It involves the systemic and hierarchical outlooks of theorization, which by their very nature of holism and interrelatedness, presume theorists' major concerns of theorization about their research objects: wholeness, interaction, hierarchical structures, dynamic balance, and chronology. Social systems, like all self-organizing ecosystems, create order out of chaos by means of certain codes. In the process of creating new structures and increasing complexity, one thing that a self-organizing system often generates is hierarchy (Meadows 2008: 82). As a rule, analyzing complex problems (like translatological framework as a whole) needs to model a dynamic and hierarchical system that can signify possible relations between elements and the operational mechanism involved in the real process. The above systemic and hierarchical outlooks have undoubtedly laid a solid foundation for modeling an integrative theoretical framework of translatology (see Section 4.2).

3.2. Ecological inspiration for translatological advancement

From the above explication of ecological wisdom in the three hierarchical senses, we can draw inspiration on how ecology can inform the advancement of translatology. We'll firstly examine this issue against the rules or principles of interdisciplinary transplantation. Interdisciplinary transplantation, like biological transplantation, has its own basic rules as necessary guidance for

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the success of transplantation. The basic rules involve relevance, layering, and adaptation:

> *1. The relevance of the donor theory rests upon its maturation in its own discipline, its congeniality with the receptor and its power of interpretation. 2. Transplantation must be aimed at a specific layer, and can never be expected to cover all the layers of the receptor. 3. The transplanted theory must be merged into the receptor discipline, creating new models and offering deeper insights.* (Li 1999: 55)

The three rules in fact explicate necessary conditions of successful transplantation in respect of the donor theory and its relationship with the receptor. More specifically, the most important factors influencing the survival of the transplantation involve the maturity of the donor theory and the degree of the affinity between the donor theory and the receptor. Furthermore, the three rules, for practical investigation into interdisciplinary transplantation, can be further refined into more operational details, which involve the conditions (necessity and possibility), layers (philosophical, mechanismic, and methodological), goals (explanatory clarity, methodological improvement, and disciplinary integration), modalities (theoretical substitution, theoretical inspiration, and theoretical integration), as well as results/values (the extent of merging and the prospect of sustainability) of interdisciplinary transplantation. As general rules, such detailed aspects obviously also hold true for the interdisciplinary transplantation from ecology to translatology.

Therefore, with a view to exploring how translatological construction can benefit from ecology, this section will investigate the affinity between ecology as the donor theory and translatology as the receptor in light of the above-mentioned rules of interdisciplinary transplantation. Ecology as the donor theory, as suggested by Figure 2, has established its own relatively mature disciplinary system and research methods (in terms of pure science) as well as an enormous genealogy (in terms of the applied senses). As a pure science and a major branch of biology, the development of ecology has brought about a series of ecological conceptions (such as ecosystem, ecological balance, and ecological environment/sphere), which has also become the theoretical sources of other ecologically applied sciences including translatology. More extensively, ecological wisdom has become a fruitful epistemological and methodological guide for our thinking about life, work, and research. Translatology as an

applied social science centers on the complex relationship between language, culture and society. The complex relationship constitutes a network of various ecosystems, the study of which calls for the theoretical perspective of ecological wisdom. Since ecological wisdom, as expounded in the preceding section, is defined in terms of three hierarchical senses–philosophical sense, the sense of thinking mode, and the sense of theorization outlook–the impact of ecological inspiration on translatological advancement can be accordingly explored in these three layers (see below).

In terms of the opportunity and method of interdisciplinary transplantation, it's high time we considered the impact of ecological inspiration on translatological development, not only because the interdisciplinary construction of translatology needs an ecological dimension but because the disciplinary integration of translatology calls for ecological epistemology and methodology (see Section 4.2).

Therefore, the above analysis of the affinity between ecology and translatology has demonstrated that the transplantation from ecology to translatology will certainly give rise to deeper insights on translatological advancement. More specifically, in a philosophical sense, the ecological wisdom of Chinese philosophy, with its epistemological stress on human practice and experience as the direct way of acquiring knowledge, enlightens us on the epistemological aspects of translation research. To establish the belief in practice-oriented theorization of translation is vital to the healthy development of translatology. It can not merely avoid the blindness and transcendental biases of theoretical construction but must also strengthen practical consciousness in both translation research and translation instruction (cf. Zhu 2010: 216). In view of the existing disagreements in translation research on how far translation theory is useful for practice or how translation theory is connected with practice, the ecological way of practice-oriented theorization and the ecological outlook of hierarchy are especially useful in solving this problem. Since translation practice is the starting point of theorization, we should analyze it first. In fact, the main reason for the disagreements is that we lack a detailed and comprehensive analysis of the heterogeneity of translation practice. If we regard practice only as a general whole or take a certain narrow part of translation activity as the whole of translation practice, we will never clarify the relationship between translation theory and practice

Since translation practice is full of kaleidoscopic and hierarchical varieties, it is necessary for translation theory, as the generalization or characterization of certain aspect(s) of translation practice, to be multi-level and multi-functional.

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For different practical purposes, translation theory may have such different functions as explanatory, epistemic, critical, directive, predicative, and so on. Holmes (1994) classifies translation theory into three levels: theoretical, descriptive, and applied. Each level of theories presents its special concern with translation practice and thus performs its certain practice-oriented function(s). Bearing in mind the basic principle of practice-oriented theorization, each translation theorist, first of all, need to carefully examine the diverse translation practice, studying the subjects involved, the objects involved, as well as the various dynamic intersubjective relations and the relations between the subject(s) and the object(s) in translation practice (cf. Zhu 2010: 211-12). This is exactly what the ecological outlook of practice–and experience–orientation entails.

In addition, methodologically speaking, the ecological principles of wholeness, internality, and organicity have shed illuminating light on translatology in respect of research perspectives. They justify the necessity of considering any translation problem in the whole context of translation practice, in its internal mechanism of operation, and also in its multidimensional (positive and negative) interrelations with other aspects and layers of translation activity and with other sociocultural aspects as well.

The second sense of ecological wisdom–ecological modes of thinking–can inspire us for translation research as well. The ecological modes of correlative thinking, dynamic process thinking, dialectical thinking, and value-loaded thinking can also refresh our thinking about translation and translation research. In a nutshell, we need correlative thinking about different approaches to translatology and about how to integrate them into a whole framework of translatology as an independent discipline; we also need correlative thinking about the unity of the translator's emotional and mental aspects of his/her experience of translation. We need dialectical/pluralistic thinking about translation standards, translation strategies, intersubjective relations, different schools of translation theories, mainstream theories and centrifugal theories, and so on. We need dynamic/process/contextual thinking about translation strategies, translation purposes, translation criticism, and so on. We need value-loaded thinking about theorization on translation and about methodological consideration of translation practice and translation research as well.

The third sense of ecological wisdom–the ecological outlooks of theorization–can best illuminate the way for the disciplinary integration of translatology. A systemic outlook, with its emphasis on self-organization,

nonlinearity as well as dissipative structure, will offer us a more productive theoretical perspective on translation and on the disciplinary integration of different approaches to translatology into an organic whole framework of the discipline. A hierarchical outlook, because of its layering method of analysis, will facilitate our investigation into the complexity of translation activity and translation problems.

In summary, ecological wisdom will facilitate translatological advancement in terms of the three different hierarchical senses: the philosophical sense of ecological wisdom offers an ecological worldview and methodology for the analysis of the complexity of translation activity and translatological construction; the sense of thinking mode provides new effective ways of thinking which can broaden and deepen our thinking about theoretical research; the sense of theorization outlook illuminates the channels of disciplinary integration of translatology as both an independent and an interdisciplinary discipline, which will be unfolded in the next section.

4. Interdisciplinary construction and disciplinary integration of translatology

The rapid development of translatology is inseparable from its interdisciplinary construction. When the primary interdisciplinary dimensions of translatology–philosophical, linguistic (textual), cultural, cognitive-psychological, and sociological–have taken shape to a great extent, the disciplinary integration of translatology needs to be put on the agenda and translation research accordingly has been promoted to a new stage of restructuring and integration. As Chesterman (2005: 20) suggests,

as an interdiscipline, modern translation studies announces itself as a new attempt to cut across boundaries in the search for a deeper understanding of the relations between texts, societies and cultures⋯ I am thus assuming that consilience is, or would be, a Good Thing, something to be desired and striven for. Moves towards consilience are moves in the right direction, moves that help a discipline to evolve.

Chesterman's term "Consilience" in fact refers to the disciplinary integration under discussion. In addition, he also puts forward his model of integration,

which will be analyzed later in 4.2. Each approach presents a special yet limited perspective on translation and thus has its own "boundary". For the field of translation studies, to get a full picture of translation means to "cut cross the boundaries" i.e., to effectively incorporate different perspectives into a systemic description and explanation of translation in its sociocultural context. However, the highlight on disciplinary integration does not mean the wane of interdisciplinary construction. Interdisciplinary research of course will still be furthered since interdisciplinarity has been a basic character and also motivation of the disciplinary development.

In fact, for the evolution of translatology, what really matters is how to tactfully deal with the two interrelated aspects of interdisciplinary research and disciplinary construction. To solve this question, we firstly need to reconsider the methodology of interdisciplinary research, especially the methodology of theoretical drawing between natural science and social science. In this aspect, ecological wisdom inspires us again.

4.1. Theoretical isomorphism between natural science and social science: gains and losses

In recent decades, the interdisciplinary approach has obviously become a dominating feature of modern academic research, not only because an interdisciplinary approach, by theoretical and methodological integration, is able to creatively and effectively solve complex research problems that can hardly be solved within only one discipline, but because more and more new research fields, such as cognitive science, artificial intelligence, environmental psychology, and translatology under discussion, are, by nature, interdisciplinary. Moreover, the interdisciplinarity occurs not only between the natural sciences or between the social sciences, but between the natural sciences and the social sciences. Especially the latter case, while producing fruitful and even exciting achievements, may easily bring about certain methodological problems as well. Let's take a close look at the gains and losses of this type of interdisciplinary transplantation through an analysis of the newly developed memetics.

Memetics originates in the coinage of "meme" by the Oxford ethologist Richard Dawkins in his 1976 monograph *The Selfish Gene*, in which he not only popularized "the increasingly influential view that evolution is best understood in terms of the competition between genes" (Blackmore 1999:

4) but expanded Darwinism from gene-based biology to ideas-based culture. Memetics was inspired by this analogical application of Darwinian thinking to cultural evolution.[3] In terms of its contribution, memetics, in virtue of the conception of human imitation as meme contagion, offers us a new way of seeing social communication and cultural evolution. It explains to a certain extent how ideas or beliefs are transferred between individuals and how one influences or is influenced by another.

In terms of its problems, memetics presents itself with a certain methodological misuse of interdisciplinary transplantation between natural science and social science. Firstly, we find that none of the existing memetic studies has offered a coherent and convincing theory of the operational mechanism of the memetic channel of cultural evolution. They basically take memetic evolution as the analogue of genetic evolution. The only evident mechanism seems to be imitation as meme contagion. The looping explanations of memetic contagion, even in complex ways, cannot satisfy readers, especially those readers adept in psychological and cognitive fields. This problem mainly arises from the idea of universal Darwinism. Memetics is about imitation rather than innovation, but human psychology and cognition, as suggested by psychological and cognitive studies, are undoubtedly both imitative and creative processes. As Miller (2000: 435) points out, the meme machine argues against the current evolutionary psychology view that much of human culture promotes the genetic interests of particular individuals, and most memeplexes are products of individual human genius rather than abstract cultural evolution.

The above analysis indicates that the development of memetics depends not on the biological genetic mechanism, but on whether it can develop its own explanatory framework (mechanism) of cultural evolution. In fact, it is precisely the dynamic mechanism of a memetic channel of cultural transference and creation that can prove the true value of memetic studies. This dynamic mechanism, evidently, cannot be achieved only by the single concept of meme, for it seems too rough and inclusive; instead, what it requires should be more effective and detailed concepts signifying certain inner structures, functions and processes of the dynamic mechanism per se. In this aspect, molecular ecology can inspire us. In addition to the basic concept of gene, molecular

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[3] The typical representatives of this line of memetics include Brodie (1996), Blackmore (1999) , and Lynch (1998). They both share the core idea that memes evolve by natural selection in a process similar to that of genes in evolutionary biology.

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ecology has established its own scientific framework of coherent explanation, which is constituted by a series of concepts (such as nucleic acid, protein, DNA, RNA, Polypeptide Chain, enzyme, hormone, and chromosome) signifying certain structures and functions as well as the dynamic process involved. So in the process of interdisciplinary transplantation from natural science to social science, what a social science needs to learn most should be the detail-oriented scientific approach to theorization of natural science.

So far, the analysis of the interdisciplinarity of memetics has mirrored the theoretical isomorphism between natural science and social science. In a nutshell, on the one hand, theoretical isomorphism is possible to a certain extent, which may vary with the disciplinary characteristics and contents. On the other hand, theoretical isomorphism always occurs on certain layer(s) rather than by a full analogy. In view of the disciplinary distinction between natural science and social science, the major layers of theoretical isomorphism between them should be mainly epistemological and methodological inspiration rather than mechanical analogy. By inspiration, we mean an arousal of the mind to special creativity in terms of mechanism and method while by mechanical analogy we mean indiscriminate theoretical substitution or application. What we need most before interdisciplinary studies is a careful study of the donor theory. As Gabora (1999) points out, as one's understanding of biological concepts increases, the danger of misapplying them decreases.

From the above detailed analysis of the gains and losses of the theoretical isomorphism between natural science and social science, the ecological approach to translatology should have a lesson for its further development. As Chesterman (2005: 21) warns,

> *A more serious problem is the risk that, in borrowing theoretical concepts and methods from more established disciplines, we actually do no more than transfer labels. Our applications remain superficial, not supported by an adequate understanding of the original context in which these concepts were developed. We may lack appropriate methodological training in fields other than the one where we feel most at home.*

Therefore, what really matters in the interdisciplinary research is not the substitution of new terminology borrowed from other disciplines for the old conceptions in translation research, but establishing new relations and mechanisms that can really deepen our understanding of the translation process and broaden our research horizon in translatology.

4.2. Integration of interdisciplinary approaches to translatology

The development of translatology, as we discussed above, has entered into a new stage of disciplinary integration on the basis of the early stage of interdisciplinary approaches. Each approach presents a special yet limited perspective on translation. So a full picture of translation for the discipline should be an effective incorporation of those perspectives into a systemic description of translation in its sociocultural context. But the translatological integration as a path-breaking work has no ready-made patterns to follow. The pioneering exploration requires more open and systematic research horizon and scientific approaches. In this sense, the ecological wisdom expounded in the paper can inspire us on this exploration.

So far, the major interdisciplinary approaches involve (textual) linguistic, cultural, cognitive-psychological, sociological, and philosophical ones. We can attempt to model translation research as an integrative system by seeking for some possible channels of integration of the different approaches (perspectives). In this pursuit, we have found some existing channels of integration. One is the ecological channel developed by eco-translatology (cf. Hu 2009). It has been analyzed above in 2.1. The second is the memetics channel, and the third is the causal-concept-bridging channel. They are both developed by Chesterman (2005, 2007, 2009).

Chesterman's memetic view of translation can be summarized in two aspects: one is to see translation as a memetic process, and to propose an analysis of translation theory and history in terms of clusters of memes (i.e., received ideas) about translation; the other is to see translatology as a way of studying memes and their transmission under particular circumstances and see translators as agents of memetic evolution. So, for Chesterman, translatology is, in fact, a branch of memetics (cf. Chesterman 1997, 2005, 2009). However, considering the deficiencies of memetic studies we've analyzed, it's easy to find that the memetic channel of integration, like memetics itself, also needs a more elaborated mechanism to bridge the different approaches to translatology.

The third channel, the concept-bridging channel of integration means that there is a core concept that can link different (textual and extra-textual)

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spheres involved in the whole process of translation. Chesterman (2005: 27) developed a causal-concept-bridging model of integration. He adopts a series of bridge concepts–reactions/responses/repercussions and norms/brief/ strategies–that link the four translation research spheres (as textual, cognitive, sociological, and cultural). These bridge concepts mediate the causal conditions under which translations are done: the term "reactions" refers to the effects of the textual (i.e. translations themselves) on the cognitive (i.e., the mental and emotional reactions of readers); "responses" signifies the effects of translations on individual or group behavior, i.e. on the social level; and "repercussions" describes the effects of translations at the cultural level. Conversely, from the cultural sphere along to the textual sphere, the concepts of "norms", "brief" and "strategies" indicate another group of causal conditions under which translations are done. (cf. Chesterman 2005, 2007)

Chesterman's causal-concept-bridging model, in its very nature, should be a logical framework underlying the different approaches. The logical relations it suggests in fact are not very new because they have been indicated in other

Figure 3. An integrated description of translation in its sociocultural context


theories preceding it. Perhaps, as an attempt at theoretical integration or connection, it offers us more confidence in the similar pursuit than specific ways to achieve it.

In terms of the integrated explanatory framework of translation in its sociocultural context, this paper puts forward a more comprehensive model from the perspective of the process of the translator's social-cognitive psychology (see Figure 3). Its comprehensiveness lies in that it achieves the integration of the process-oriented, function-oriented and product-oriented perspectives of descriptive translation studies (as in the Holmes' basic "map" of translation studies), and incorporates textual, intertextual (literary), and extra-textual (interpersonal and sociocultural) horizons.

In Figure 3, all the parts that extend arrows toward the central part "NORM" present the influencing factors of translation norms, and the looping connection by arrows connecting the three parts below (the channels of acquiring norms, the translator's competence as well as feeling and thinking, the translator's decisions) with the central part "NORM" constitutes the dynamic process of norm-regulating translation. In addition, the dotted lines connecting any two parts in the figure signify the relationship of influence between the two parts. The part facing the arrow is influenced by its opposite.

Figure 3 demonstrates the whole translation process, which presents a translator-oriented and psychologically-aware approach. As indicated by the figure, the sociocultural, textual (linguistic), cognitive, and ideological aspects involved in the translation process are all incorporated into this model.[4] More importantly, with its interrelatedness between different influencing factors and participating elements, this model employs the systemic and hierarchical outlook arising out of ecological wisdom, as explicated in Section 3.1. The correlative thinking displayed in this figure relates any element of the translation process to other elements involved in the process. The dynamicness of this figure lies in its "decentering" feature: there is no absolute center in the multiply correlative translation process and each part (node) in the process

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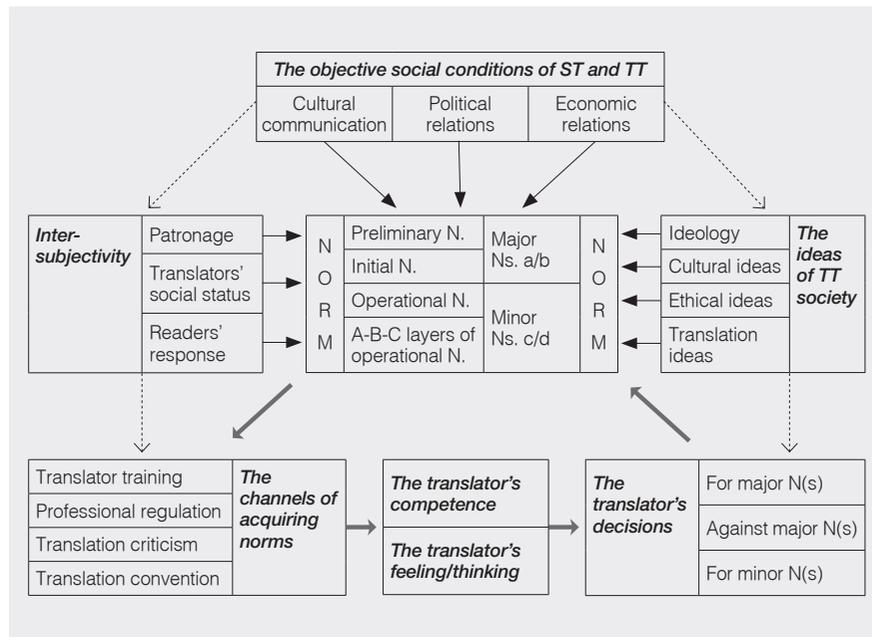
[4] Figure 3 (cf. Zhu 2009: 359). Note: "A-B-C" in the center part "NORM" in Figure 3 represents different layers of operational norms: norms of translation manners (such as cooperative translation, localization, and machine translation), matricial norms (including genre features), and textual-linguistic norms. Of course, this is not a clear-cut division. In practical operation, different layers are interrelated and each layer presents a certain inner hierarchy because of the bidirectional thinking (top-down and bottom-up directions) in textual analysis and construction. In addition, the four letters "a/b/c/d" standing for norms in the same part signify the diversity and competition of major norms and minor norms in a certain historical period.

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becomes both the center and the periphery according to given research focus.

A last point to be clarified. Translatological integration, generally speaking, can be conducted in two aspects: one is the horizontal integration of relevant theories for a certain approach to translatology; the other is the vertical integration of the theoretical achievements of different approaches for the explanation of the translation process and the mechanisms involved in it. The above-mentioned several channels of integration belong to the latter aspect.

5. Conclusion

The ecological wisdom, as argued in this paper, offers ecological epistemology and methodology that can deepen our thinking about the interdisciplinary construction of translatology in general and the translatological integration in particular. The above analysis has indicated that we cannot rest our hope for translatological integration on any single theoretical approach alone. What we need most should be some proper research principles that can touch the nature of translation and translatology, as inspired by the ecological philosophy. In addition to the above-mentioned open, systemic and hierarchical theorization outlooks developed out of ecological wisdom, we need to further translation research at least in more culturally- and psychologically-aware ways, and more practice-oriented and translator-centered directions (Zhu 2010: 214). Any possible theoretical framework of translatological integration undoubtedly presupposes these progressive research principles.

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