Searching for the Way

Theory of Knowledge in Pre-modern and Modern China

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Zhang Dongsun's 張東蓀 (1886–1973) plural epistemology
(*duoyuan renshilun* 多元認識論)

While Zhang Dongsun can also be considered as one of the leading Chinese philosophers of the twentieth century, his criticism of sinificated Marxist ideologies marked him as a political dissident and he was consequently consigned to oblivion for several decades; only recently has his work been rediscovered by a number of younger Chinese theorists, who have shown a growing interest in his ideas. During the first three decades of the twentieth century, Zhang was one of the most influential thinkers of the Republic of China, a reputation which rested, in part, on his extraordinary ability to introduce Western thought in a way which was compatible with the spirit of Chinese tradition.

His work indicates not only a profound understanding of Western theories, but also a comprehension of the linguistic structures that condition them. At the same time, Zhang also remained rooted in his own Chinese tradition of thought. As a youth, he benefited from a wide-ranging, exhaustive classical Chinese education, and he was one of the first philosophers who, as an alternative to Western, Hegelian dialectic, developed and elaborated the traditional system of correlative thought,

which was based on Daoist philosophy, as well as on certain theoretical paradigms of the *Book of Changes.*

The whole of his ontological and epistemological thought was also strongly influenced by the philosophy of Chan Buddhism, and his system represents one of the first coherent and complete synthesis of ancient Chinese and modern Western ideas. However, for most contemporary scholars his greatest contribution was in his role as the first modern Chinese philosopher who created his own theoretical system, especially in the field of epistemology (Jiang Xinyan, p. 57).

In contrast to most of his contemporaries, whose work was characterized by revisionism of traditional philosophy, Zhang's theory was a synthesis based on the assimilation of Western thought into the framework of traditional methodological and conceptual discourses. Epistemology is the core of Zhang's philosophy, which began with a pluralistic epistemology and culminated in a cultural one (Jiang Xinyan, p. 66).

Zhang's pluralism was based on a revision of Kant's philosophy, in which he followed his own system of so-called panstructuralist cosmology, which was to a certain extent also influenced by the Chan Buddhist philosophy on which his own worldview was based. Zhang Dongsun's cultural epistemology was founded on a pluralistic theory of knowledge (多元認識論), and proceeded from the premise that knowledge was culturally determined and therefore essentially of a cultural nature, an aspect of his philosophy which still remains quite actual, especially in the field of intercultural research. His cultural-philosophical studies are based on detailed comparative analyses of Chinese and European thought, with special attention on the influence of linguistic structures on various philosophical systems, and the connection between culturally determined differences and systems of logical reasoning in different traditions of thought. Although his comparative studies of Chinese and Western philosophy were written a half-century ago, they remain of great value. They will continue to throw light on current debates on cultural issues and to inspire comparative philosophy in our own time (Jiang Xinyan, p. 58).

21.1 The path taken by an opponent and its tragic conclusion

Zhang Dongsun was born in Zhejiang 浙江 province in southern China. After graduating from high school he left China for Japan, where he studied philosophy at Tokyo University for five years. After returning to

his homeland in 1919, he taught at various Chinese colleges and universities. During the period of the Republic of China, he worked in Nanjing as the general secretary of the Ministry of the Interior, where he founded a number of journals and newspapers which were very influential among the so-called "new intellectuals", and it was during this same period that he wrote a series of polemical articles on theoretical problems in Marxist dialectical materialism, which would have fatal consequences for him many years later. In 1934, together with Zhang Junmai he established the National Socialist Party (國家社會黨), which soon became the Social-Democratic Party (民主社會黨). During the early years of the PRC, he served in the new government as a member of the Central Governmental Committee, as counsellor at the Ministry of Culture and in various other high-level positions, while also maintaining his position as professor of philosophy at Peking University. However, in 1958, soon after the start of the Anti-Rightist Movement, which was aimed at the political control of intellectuals, he lost his professorship and was forced to work as a scavenger in the same university. At the beginning of the Cultural Revolution, he was imprisoned in one of the most infamous "re-education" camps where, after prolonged physical and mental hardship, he would die shortly before the end of this radical, integralist political movement.

Although Zhang was intellectually silenced after the 1940s, he had been an extraordinarily active writer until that time. Many of his works from that period still survive, testifying to Zhang's importance as one of the most penetrating and innovative Chinese thinkers of the twentieth century. His most important philosophical works include *Science and Philosophy* (科學與哲學), *Philosophical Alphabet* (哲學 ABC), *On the Culture and Philosophy of East and West* (讀東西文化及其哲學), *Epistemology* (認識論), *A New Formulation of Pluralistic Epistemology* (多元認識論重述), *Knowledge and Culture* (知識與文化), *Ideal and Society* (理想與社會) and *Ideal and Democracy* (理想與民主).

21.2 The critique of dialectical materialism

At the end of 1931, Zhang published a number of articles in which he criticized dialectical materialism.[57] His chief opponent in this polemic was the famous Marxist philosopher Ai Siqi, and the ensuing controversy earned him the dubious reputation of being a "reactionary" thinker. For this reason, Zhang would be either criticized, or not even mentioned in the

majority of Chinese textbooks and surveys of contemporary Chinese thought until the very end of the last century.

Censorship notwithstanding, the polemic was of great significance in modern Chinese intellectual history, for it generated great interest in the Chinese academic circles of the 1930s and contributed to the dissemination of Marxist philosophy at that time:

> 首先，唯物辯證法論戰是馬克思主義哲學的宣傳和普及運動，隨著論戰的不斷深入，馬克思主義哲學的科學原理為愈來愈多的人所認識，從而極大的促進了馬克思主義哲學在中國的傳播和發展。
>
> Firstly, the polemic on dialectical materialism was a means for propagating and spreading Marxist philosophy. The greater the polemic grew, the more people became acquainted with its scientific principles; so it contributed greatly to promoting the circulation and development of Marxist philosophy in China. (Liu Wenying 2002, Part 2, p. 875)

However, even Zhang's severest critics recognized the validity of his theoretical argumentation, and acknowledged his role in creating a more serious and profound approach to Marxist ideas in China:

> 除此之外，他對馬克思主義哲學所進行的批評，還涉及認識論和唯物史觀領域。由於他的批評和攻擊具有一定的理論深度，因此得以引導這次論戰向更深的層次發展。
>
> His critique of Marxist philosophy also referred to the fields of epistemology and historical materialism. Since we cannot accuse his critique and his attacks of lacking theoretical depth, this controversy developed into a theoretically well-grounded dispute. (Liu Wenying 2002, Part 2, p. 871)

Zhang's views were criticized primarily on the basis of the presumed infallibility of the prevailing interpretations of Marxist thought, which being considered as *a priori* true, did not require any further or more detailed substantiation on the part of their proponents:

> 張東蓀不承認世界的辯證運動在人們頭腦中的正確反映，割裂其中包涵的主客觀統一的原理……在他看來，黑格爾辯證法是以思想的法則代替存在的法則，而馬克思確認此法則純為存在的法則，張則看作是客觀存在的反映，則是「糊塗萬分」。
>
> Zhang Dongsun did not acknowledge dialectical development as a correct cognitive reflection of worldly movements. He denied the principle of the unity of subjectivity and objectivity, which is a part of it. . . . In his opinion, Hegel's dialectic is a cognitive law which Marx used to replace the laws of

being; he believed that Marx understood this law solely as a law of being, and as a reflection of objective existence. Zhang called it "a complete confusion". (ibid.)

For Zhang, dialectical materialism was problematic primarily because of its categorical and undifferentiated transfer of dialectic as a method of logical reasoning, to the comprehension of the development of concrete existing actuality:

辯證法即是事實界上的歷程，又是思想上的方法，則於二者如何溝通上又發生許多困難。

(Here), dialectic method (has been viewed) on the one hand, as a developmental process of factual reality, and on the other, as a method of reasoning. The question as to how these two (processes) are to be linked together, raises a lot of problems. (Zhang Dongsun 1933, p. 1)

According to Zhang, these levels differed from each other. In this respect, he also cautioned against an undifferentiated understanding of the concepts of opposition (相反) and contradiction (矛盾):

辯證法的人們，總是主張凡是相反都是矛盾，這顯然誤會了邏輯上的「矛盾」的意義……就性質來講，矛盾與負面是名學上的，而不是事實上感經驗是的……矛盾是一種特別的相反，這種相反在自然中是找不著的；這種特別的相反只存在於說話界。

The advocates of the dialectical method believe that every opposition is a contradiction. Here, it is obvious that they do not understand the meaning of logical contradiction. . . . In essence, contradiction in the sense of absolute negation is a logical concept, and not an actual or empirical state of being. . . . A contradiction is a special kind of opposition, which cannot be found in nature, since it only exists in the sphere of language. (Zhang Dongsun 1934a, p. 41)

Thus, in Zhang's view, the political aspect of the opposition between the exploiting and exploited classes was likewise unfounded and problematic, for it was based on the assumption that the latter class functioned as a Hegelian antithesis, annulling the thesis simply by representing its negation:

奧伏赫變是邏輯的變，而不是空間上的變、時間上的變，與事實的變。

Annulment (Aufhebung) is a particular kind of change in logic, not in space, time and actual reality. (Zhang Dongsun 1933, p. 18)

The differences or relations between the laws of the external world and the structures of our perception of this world were explained in detail by Zhang in his epistemology, in which he emphasized their structural inter-connectedness:

> 內界有個構造，外界亦有個構造，這兩個構造之交，便產生了許多空浮的東西⋯⋯感覺即不是外物的寫照，也不是外物的翻譯，乃是好像有幾分無中生有的樣子。

> The world of inwardness is structured in a certain manner, and the external world in another. The interaction of both structures produces many things, floating in emptiness. . . . Sensations are not simply a reflection of external beings, nor its translation. At issue seems to be something which is a presence (being), arising from absence (non-being or nothingness). (Zhang Dongsun 1934b, p. 48)

Zhang would provide a detailed exposition of the structure and relation between objective existing reality on the one hand, and its subjective perception, comprehension and transmission on the other, in his pluralistic theory of knowledge. However, before examining this theory, we must first acquaint ourselves with the ontological assumptions on which this epistemology is based.

21.3 *Panstructuralism* (Fanjiagouzhuyi 泛架構主義)

As we stated earlier, pluralistic epistemology represents the core of Zhang's philosophical system. His pluralism is derived from a revised version of Kantian philosophy. To justify such an epistemology, he proposed a new cosmology: panstructuralism (Jiang Xinyang, p. 58).

An important assumption of his theory of knowledge is the neo-realistic view that the external world exists independently of our consciousness, and that there is no exact correlation between external phenomena and our comprehension of them. Hence, we are unable to perceive these phenomena as they really are:

> 須知，我們普通所謂物，即是我們所看見的是顏色，所觸摸的是形樣。這些都是物的「性質」。可見離了性質就沒有所謂物。物有一類的性質如顏色與味道等，是倚著感覺的人的主觀而變的，所以有人主張是不屬於物的本身⋯⋯還有一類的性質如大小與方圓，有人亦說與前一類差不多，不能即斷定事物的本相。

> We should know that what we commonly call "a thing", is a color that we see,

and a form that we touch. These are the "qualities" of a thing. If we do not consider the qualities, then (for us) there are no things. Things possess particular qualities, like colors, scents, etc., which change according to the human senses; therefore, some people claim that they do not belong to things. . . . There are also some other particular qualities, like the largeness, angularity or roundness of things. These qualities are considered by some people as similar to those mentioned before, and therefore cannot define the original thing as such, either. (Zhang Dongsun 1929a, pp. 23–24)

To explain his own view of the cosmic order and its relation to our consciousness, Zhang often used examples drawn from the discoveries of early twentieth-century physics, such as the difference between our perception of a color and its "actual" substance, or light waves. He argued that color was something other than light waves: while color was the product of the interaction between waves and our senses, waves belonged to the "objective" qualities of being (Zhang Dongsun 1995b, p. 166). Zhang therefore divides reality into the "original state of things (物的本相)" and "things for us (我們所謂物)" (Liu Wenying 2002, Part 2, p. 866).

According to Zhang, the external cause for our sensation is not a substance, but the order or structure of the external world. What is transmitted to us through our sensory impressions is a modification of this external order (Jiang Xinyang, p. 59):

關於外物，我們不能知其內性，但能知其關係，而此關係卻是一種比較固定的架構。 若我們暫假定物質並無內性，而只是架構，則我們已可謂知道外物了。

As regards the external reality, we cannot know its internal nature (essence), but we can recognize its relations. These relations form a relatively fixed structure. If we presuppose that the qualities of things do not possess any inner nature (essence), and that things only exist as a structure, we have already recognized the external reality. (Zhang Dongsun 1929b, p. 32)

In interpreting the basic structure of reality, he also referred to scientific discoveries regarding atoms and their most elementary structures, which transcend the categorical boundary between particles of matter and non-substantial electromagnetic waves. Here, his critique of substance was quite radical, and he denied the real existence not only of the smallest particles of matter, but also of quanta, electrons and even electromagnetic waves:

其實我並不主張外界有如實存在的原子。須知之在物理學等於感覺論

之在心理學。他們都以為全體是由部分而推誠的。我名此為零屑論
(mosaic theory of particularism) 派。好像一堆散沙，每個沙粒是硬的實
體，是不變的單位。我們於心理方面即不承有所謂感相的獨立存在，
則我們在物理方面當然亦用不著把原子認為散屑的實質 (pieces of
substance)。姑不論原子尚可分為電子，電子尚可分為「波子」(wave
particle)，然而這些只可視為表示外界有原子性而已。須知所謂原子性
只是在構造 (structure) 上有「原子的」(atomic) 性質而已。並非說外界確
有原子其物。不但沒有原子，並且亦沒有電子，沒有波子。所有的只
是外界的構造上有分為若干單位的可能性罷了。

In fact, I do not believe that atoms really exist in the external world. We
should understand that the atomic theory in physics is the same as sensory
theory in psychology. Both theories are based on the assumption that the
whole consists of the sum of its parts. I call advocates of such theories
representatives of the mosaic theory of particularism. This "view" can be
compared to "the view of" a pile of sand, in which each grain is both a solid
substance and an unchangeable entity. I personally do not acknowledge any
independent existence of so-called sensory impressions in psychology; hence
there is no reason to acknowledge the existence of atoms as pieces of
substance in physics. Since there is no need to talk about atoms, why should
we bother to divide them into electrons, or to divide electrons into wave
particles? In my view, all this merely expresses the atomizing of external
reality, and not the actual existence of atoms as real things. Not only are there
no atoms, but there are no electrons or wave particles either. All this merely
means that the structure has the possibility of forming certain entities. (Zhang
Dongsun 1995b, pp. 168–169)

Similarly, the discovery of the Theory of Relativity was important
only in terms of recognizing structural laws, and not in terms of
recognizing any new essences in nature or the cosmos:

相對論出來以後只給了我們一些關於物理界的構造方式之知識，而不
關於其「內容」(content)。

The discovery of the Theory of Relativity only provides some knowledge
about the structural modes of the external world; it does not provide us with
any knowledge about its content. (ibid., p. 170)

The denial of substance also refers to the sphere of ideas. As in Chan
Buddhism, all that we perceive is not only empty in the sense of substantial
absence, but also illusory. Therefore, Zhang's cosmology is neither
materialistic, nor idealistic:

認識的多元論……勢必根本上否認「本質」(substance)，以為本體論上的唯心論唯物論兩元論全是不對的。

Pluralistic epistemology . . . rejects "substance" and is of the opinion that the dualistic theories of idealism and materialism are completely wrong. (Zhang Dongsun 1995b, p. 214)

In this respect, his approaches recall classical Chinese (especially Daoist and Chan Buddhist) cosmologies, but also certain recent Western ontological systems based on the Theory of Relativity and Quantum Theory:

時空的性質也說明了架構的性質。相對論認為，時空並不是絕對不變的，張東蓀由此也得出時空也是一種架構而非物質的存在形式的看法。

The constitution of time and space is also structural. The Theory of Relativity assumes that time and space are not absolute and unchangeable. On this basis, Zhang Dongsun developed his view that time and space were also a kind of structure, and not a form of matter. (Liu Wenying 2002, Part 2, p. 867)

One reason for our inability to recognize the essence of external things "as such" is thus to be found in the very nature of their existence; for Zhang, who did not acknowledge the existence of substance, reality was a process of constant changes that manifests itself in the interrelations of particular entities. His cosmology is not metaphysical. In his view, this constituted another difference between Kantian philosophy and his own. In Kant, metaphysics is not abandoned, even though the priority given to epistemology radically alters its role. Zhang's revision of Kant is, in fact, limited to the Kantian theory of knowledge. In his ontology, the Chan Buddhist impact is much stronger. In his early youth, his reading of Buddhist sacred texts got him interested in philosophy. Although he would criticize Buddhism severely later on, he always seemed to have accepted much of Buddhist cosmology, especially certain ideas from the Great Vehicle School (Mahayana) (Jiang Xinyang, p. 63).

If we reject the existence of substance, clearly the objects perceived by us cannot possess any "ontological status":

認識的多元論把感相認為非存在者，勢必謂感相在本體上無地位，即沒有「本體的地位」(ontological status)。

Plural epistemology advocates the view that sense impressions are non-being. Therefore, they are without a position in the ontological sense; they do not possess any "ontological status". (Zhang Dongsun 1995b, p. 215)

All beings exist in a process of constant change that manifests itself in a never-ending modification of structural connections, and the growth and decline of the qualities of the "essence" of particular entities. According to Zhang, our consciousness can only recognize certain aspects of these manifest changes.[58] However, this refers not only to the level of our perception and comprehension; according to Zhang, the structured order of relations is all that really exists in the cosmos. This structural order can be divided into the three basic levels of matter (物), life (生) and mind (心).

Zhang argued that all these structures are empty, for they possess neither substance, nor its qualities. The level of material being is thus a merely physical substantial phenomenality which cannot be equated with material substance but, at the most, with structural relations and the physical laws which determine its existence. For him, "matter" is a general concept comprising a total domain of many specific concepts about physical properties. There is nothing in matter itself which corresponds to our concept of matter. It is not the color, fragrance, sound or size that we perceive through our senses, because they tend to be subjective. Therefore, by "matter" he understood an object's volume, density or speed. Thus, in his view, matter becomes little more than a set of physics formulas. Therefore, there are only physical laws, but no matter (Jiang Xinyang, p. 64):

或換言之，即物是物理。但須知這些物理都是由「關係」（即一物與他物的關係）而見，並不直接關於一個物的本身。換言之，即物理只講物的關係，不講物的實質。所以質量、速率惰性、密度等等都是表示關係的樣式之一種。

In other words, things are physical laws. But we should know that these physical laws refer to relations (namely to the relations between a certain thing and other things); they do not refer directly to things as such. In other words, these physical laws refer to relations between things, and not to their essence. Therefore, attributes such as quality, speed, inertia or density are only different ways of expressing relations. (Zhang Dongsun 1995b, p. 215)

For Zhang, life (or living) is a category which includes everything, including biological phenomena:

「生」是甚麼呢？據生物學家説，生物有生命，所以異於無生物之點有四：第一是組織；第二是職司；第三是生長的能力；第四是適應的能力。對於這四點卻不能完全用物理化學來解釋。原來我們用物理化學來對付無機物亦不過對於它的一種測量（measurement）。我們拿了測量

無生物的物理方法而測量生物必覺有些不夠用。於是必須於解釋物質的概念以外，再添一些新概念。例如「有機性」、「發展性」、「自支性」，等等。就是密度、速率、質量、惰性等以外須再加有這些。不過這些新加的卻可左右排列已有的，換言之，即已有的居然為新加的所支配了。

What is life? According to biological theories, differences between living and non-living entities can be summarized by four characteristics: 1. community; 2. organization of work; 3. growth ability and 4. adaptation ability. These four items cannot be completely explained by physics and chemistry. The physical and chemical treatment of inorganic things is based on measurement. If we try to grasp living beings solely by subjecting them to physical measurement, it is somehow not enough. Thus, it is necessary to add some new concepts to the existing ones, for example, the concepts of "organicity", "developmentality", "autopoeticness" etc. However, in addition to applying these new concepts, we can also continue to use the previous ones. In other words, we can say that these new concepts actually organize the old ones. (ibid., p. 216)

Analogously, mind is a category that belongs to the overall concept of living, but it also implies psychological phenomena, which are different from biological functions:

至於「心」亦是如此。心的性質確有和生理作用不同的地方。換言之，即拿了解釋生命的那些概念而用以解釋心意必是有些不夠用。例如「覺」(consciousness) 便是一個有一無二的特徵。所以亦非加新概念不可。

The same holds true for "mind". The nature of mind differs from biological functions in certain respects. In other words, it is not enough to apply concepts which explain living, in order to explain mind. Let us take the notion of "consciousness" as an example. Consciousness is a unique feature, which can only be seized by applying some new concepts. (ibid.)

It is therefore better to replace "matter" with "psychic laws", "life" with "biological principles" and "mind" with "psychology". In other words, terms for substance as carriers of attributes should be replaced by terms for structures or orders (Jiang Xinyang, p. 64).

他還用「配列」(arrangement) 代替「架構」(structure)，同樣是為了強調宇宙的非實體性。

He also uses the term "arrangement" to replace the term "structure". Here, as well, he emphasizes the non-substantiality of the cosmos. (Liu Wenying 2002, Part 2, p. 867)

Hence, Zhang's cosmos does not imply any substance or essence; it exists solely as a relational process of structural order. However, even this order is not totally natural and objective, but also depends on our cognitive activities:

但這些構造方式固然不是完全屬於外物本身的⋯⋯以實質而言，本來就沒有外物。以構造與方式而言，大部分的方式仍是屬於認識作用本身的，換言之，即屬於主觀的。

However, these structural forms as such do not entirely belong to external things as such. . . . From the viewpoint of essence, there are no external things. But with respect to structure and form, most of the forms result from the process of comprehension. In other words, they belong to the domain of subjectivity. (Zhang Dongsun 1995b, p. 171)

All external structures are manifested in our mind, that (re)-establishes them in the process of forming structural patterns of thought and comprehension. However, Zhang's theory is not solipsistic, since the external reality for him is not an exclusive product of our recognition:

這些構造方式⋯⋯其中至少有若干是不由於我們的認識立法所造。

At least some of these structural forms are not just a product of the laws of our recognition. (ibid.)

The relation between the external world and our subjectivity is interactive and correlative:

我們這個宇宙並無本質，只是一套架構。這個架構的構成不是完全自然的，而必須有我們的認識作用參加其中。因為我們不能拔開認識以窺這個架構的本來面目。然而亦決不十分大虧其本質。所以仍可以說宇宙是個架構。

Our cosmos does not possess any essence; it is only a structure. Its constitution is not entirely natural, but inseparably connected with the function of our recognition. Without recognition we could get a glimpse of the original image of this structure. But it still cannot completely seize its essence. Therefore, we can still claim that the cosmos is a structure. (Zhang Dongsun 1995b, p. 218)

Zhang often compared his ontology to Chan Buddhist cosmology. What he called "structure", reminded him of the Buddhist concept of (necessary or causal) connection (因緣), in which the cosmos was seen as a complex network, consisting of innumerable, interdependent relations that are linked and separated from one another in innumerable ways and on

innumerable levels. He compares this to cosmic emptiness, which, as in the Buddhist view, cannot be equated with "nothingness", but only with the absence of a substance, an unchangeable nature, or a self-contained, self-sufficient being. Since cosmos only consists of relational connections, it does not imply any independent, autonomous entity. This is also one of the principal reasons why the existence of substance is impossible: the world is a series of functional relations. In Buddhist cosmology, the world, which is void in itself, is a universal, eternal and unchangeable law of causal relations. Zhang Dongsun equated this law with the real objectivity of being (Jiang Xinyang, p. 65).

Zhang connected this essentially Buddhist worldview with the idea of evolution, which implies the appearance of new species, as well as a hierarchy between lower and higher forms of being, with the higher forms controlling the lower ones. Here, Zhang was probably influenced by the theory of the evolution of appearances, developed by C. Lloyd Morgan (1852–1936)[59] and Samuel Alexander (1859–1938)[60] (ibid.). However, the new forms of being which appeared in this context were, in his view, a product of structural, and not of substantial changes:

> Combining the Buddhist idea of non-substance with a similar theory of evolution, Zhang held that the structures of the universe, although empty, are in evolution, and new kinds of structure may emerge due to changes in the combination of various structures. (ibid.)

But evolution, of course, cannot be equated with change as such. According to Zhang, evolution is a modification of simpler structures into more complex ones, and a joining of partial entities into more universal ones. While these structures still remain structures after their modification, they now differ from their previous forms not only quantitatively, but also qualitatively:

> 每一個組織在本身必定就是一個新東西……離開了這個微粒子的實質主義，當然使我們不能不承認凡是變化都是有所創新，否則我們勢必根本上就不承認有變化。
>
> Each formation as such is already something new. . . . If we reject this essentialism, which functions with micro-particles, we naturally have to acknowledge that every change creates something new; otherwise, we could not speak about any changes at all. (Zhang Dongsun 1995b, pp. 173–174)

Zhang's theory thus remains consistent, even though it denies substance, while advocating the idea of evolution.

21.4 Plurality of cognition

Zhang Dongsun called his theory "pluralistic", given the assumption that various elements that enable comprehension and reasoning were mutually exclusive and irreducible (無還元性); no individual elements could be reduced to any of the others:

> 我以為在根本上是五種互相獨立的。由感覺不能知外物；由格式不能知感覺；由設準不能知格式；由概念不能知設準。這便是我的主張所以與歷來認識論上各種學說不同之故。他們的學說可以名為認識論上的一元論或認識論上的二元論 (epistemological monism or epistemological dualism)，而我此說則當名之曰認識論上的多元論 (epistemological pluralism)。因為我承認感覺、範疇、設準、概念各有來源而不可歸併。

> I believe there are five kinds, and that they are mutually exclusive. We cannot recognize external things through our sensations; we cannot recognize sensations through *a priori* transcendental forms; we cannot recognize *a priori* transcendental forms through logical postulates; and we cannot recognize logical postulates through concepts. This is why my view differs from previous theories. Those theories belong either to epistemological monism, or to epistemological dualism. My theory, however, can be called epistemological pluralism. I follow the assumption that sensations, categories, logical postulates and concepts arise from separate origins, and hence cannot be treated as a unity. (ibid., p. 201)

His theory remains unsatisfactory in systematic terms, however, for during the last 25 years of his life Zhang was not allowed to write, let alone publish any philosophical works and therefore only his early works are available. In these early treatises, we can only observe the genesis and outlines of his new pluralistic epistemology, and Zhang never had the chance to polish or systematize his theory. It is not surprising, therefore, that in his various works we can find different affirmations concerning even the number of the basic elements of comprehension:

> 知識究竟由幾「元」混而成，張東蓀說法不一。在〈條理範疇與設準〉一文裏，他認為有三元，即條理 (order)、範疇 (category) 與設準 (postulate)。在〈認識論的多元論〉一文以及《認識論》一書裏，他認為有五元，即當前 (the given)、條理 (order)、範疇 (category)、設準 (postulate) 及概念 (concept)。〈多元認識論重述〉一文……成七元之說 (感相、外在根由、格式、設準、主客、名理基本律、概念) ……在《知識與文化》一書中又有一個四元說 (外在者、知覺、概念)。

Actually, Zhang Dongsun himself did not have a unified view regarding the number of basic elements that compose knowledge. In his treaty "External Order, Categories and Logical Postulates" he claimed that there are three such elements, i.e. external order, categories and postulates. In his article "Pluralism in the theory of knowledge" and in his book *Epistemology* he wrote that there are five such elements: the given, external order, categories, postulates and concepts; in his article "A New Formulation of Pluralistic Epistemology" he described a theory of seven elements (sensory images, external reasons, transcendental forms, logical postulates, the relation between subject and object, basic logical laws and concepts). In his book *Knowledge and Culture*, he proposed a theory of four such elements: the external, comprehension and concepts.[61] (Zhang Yaonan 1994, pp. 24–25)

Given these difficulties, we shall examine the elements (*yuan* 元) proposed in Zhang's main epistemological treatise "A New Formulation of Pluralistic Epistemology", which represents the most complete, systematic and coherent treatment of his theory. The basic elements for the comprehension of reality and its external order (條理), which correlates with the mind through sensory perception (直觀，感覺) and sensations (感相), were *a priori* transcendental forms (格式) and logical postulates (設準); these in turn were divided into categories (範疇), relations with semantic logical implications (相涵的關係), and concepts and ideas (概念). In the following table, Zhang listed schematically the main features of these elements:

條理 (order)	格式 (form)	設準 (postulate)	概念 (concept)
自然的又內在的 (natural immanent)	認識上超越的 (epistemically transcendent)	名理上超越的 (logically transcendent)	經驗的 (empirical)
客觀的 (objective)	主觀的 (subjective)	主觀的 (subjective)	符號的 (symbolic)
不顯明的 (implicit)	不顯明的 (implicit)	顯明的 (explicit)	顯明的 (explicit)
唯一的 (unique)	唯一的 (unique)	可換的 (alternative)	種種的 (various)
間接的 (mediate)	間接的 (mediate)	直接的 (immediate)	直接的 (immediate)

條理 (order)	格式 (form)	設準 (postulate)	概念 (concept)
有效的 (valid)	有效的 (valid)	有效的 (valid)	可以無效的 (invalid)
是構造 (structure)	是條件 (condition)	是方法 (method)	是結論 (conclusion)
潛在所與中 (subsists in object)	與對象同存 (co-exists with object)	對付對象 (approach to object)	由對象而出 (derives from object)

Source: Zhang Yaonan 1994, p. 202.

In his theory, the content of recognition is not identical with the actual state of the objects of comprehension:

> 須知我們所有的感覺都不是外界存在的。所以我們絕對無法知道外界的「內容」。

> We should know that none of our sensations exist in the external world. Therefore, it is absolutely impossible for us to recognize the "content" of the external world. (ibid., p. 171)

Although we cannot comprehend the actual reality, we possess the ability to recognize its structural arrangement, which Zhang called the external order (條理). The relation between the external reality and our perception is thus structurally conditioned and has been established in accordance with certain laws:

> 我主張感覺不能給我們以條理的知識,這雖跟康德相同,但條理卻不能完全是心的綜合能力所產,這又和康德不同了。因此我承認外界有其條理;內界(即心)亦有其立法;內界的立法又分兩種,一為直觀上的先驗方式,一為思維上的先驗方式。(這一點與康德相似。)至於感覺,則不是真正的「存在者」。所以我此說有幾個方面,名之曰多元論。

> I believe that we cannot obtain regulated (structured) recognition by sensory perception—in this respect, I agree with Kant. On the other hand, this regulation (structuredness) cannot arise totally from the synthetic ability of our mind—in this respect, I disagree with Kant. Therefore, I acknowledge that the external world is ordered and that our inwardness (i.e. our mind) also functions in accordance with particular laws. This regulated constitution of our inwardness can also be divided into two kinds: the first can be called the *a priori* form of direct sensory perception, and the second the *a priori* form of

cognition. (Here, again, my view is similar to Kant's.) However, the sensations are not identical with "existing beings". Since my theory arises from many different aspects, I have named it a "pluralistic theory". (Zhang Dongsun 1995b, p. 165)

Besides, his pluralistic view cannot be identified with epistemological monism (which reduces the known to the knower), nor with epistemological dualism (which is based on the division of the subject and object of comprehension).

The external order (tiaoli 條理)

As we have seen, for Zhang, external reality was defined by the absence of any substance (實體); its existence manifests itself only through the structural relations (架構關係) that form the external order (條理). Our mind can perceive only some elements or aspects of this external order, which Zhang listed as the categories of atomicity (原子性), continuity (連續性) and creativity (創變性). These manifestations of the external order are present not only in the physicality of lifeless matter, but also in living organisms:

> 可見不僅在無機物上有這種條理的表現，即在有機物上亦然。
> Obviously, these manifestations of external order exist not only in inorganic, but also in organic beings. (Zhang Dongsun 1995b, p. 170)

Zhang explained the idea of atomicity with the example of the structural regulation of time and space:

> 我們於一方面千萬不可即認空間是集點而成，時間是轉瞬而成，然在他方面卻又不可不承認空間與時間確有可以分割的可能性。這便是所謂空間與時間上之原子性 (the atomic nature of space and time)。
> We must by no means think that space is composed of a sum of points, or time of united moments. However, we cannot ignore the fact that space, as well as time, are divisible. And this is precisely the atomic nature of space and time. (ibid., p. 169)

In his view, atomicity (i.e. "atomic nature") was not only an actuality of the physical (including the organic) world, but also a structural quality of the mind:

> 凡是我們的對象屬於物質界都是如此。此外，在心理方面，除了純粹主觀始終不為對象以外，凡可以為對象的亦都有這種原子性的構造。

這便是所謂「心態」(mental states)。每一個心態好像是一個單位。於是我們可知：凡是我們的對象，不論是物質、是生命、是心理，總是都具有這種原子性的條理。

Everything that represents an object of the physical world for us is like that. The same holds true for psychological aspects: everything which appears to us as an object has this structure of atomicity, except for pure subjectivity, which can never be an object. In this respect, it can be called "mental states". It seems that each mental state is a separate entity. Therefore, everything that is an object for us, regardless of whether it refers to lifeless matter, living beings, or to the mind, is ordered entirely by atomicity. (ibid., p. 170)

The structural feature of continuity, which represents the second manifestation of the external order, is inextricably linked to atomicity:

外界的條理固然有分斷可能的原子性，然同時必有不斷可能的連續性……凡一個東西能成為整個兒的，必是具有連續性……數學上有所謂「連續的係數」的係數 (compact series)。

The external order has the structural quality of atomicity, which is divisible, and also the quality of continuity, which is indivisible. Each thing that can compose a whole must possess this continuity. In mathematics, it is called "compact series". (ibid.)

Zhang affirmed that these compact series were composed of two successive numbers, with a third number in between; such divisions were always infinite, regardless of the minuteness of the difference between the two adjoining numbers. According to Zhang, this infinite series of fractions (分數) could be used to illustrate his comprehension of the structure of continuity of the external order:

須知連續存於系列 (series) 中的，並且連續性與無窮性 (infinity 即無限) 是相連的；亦可以說，二者本來是一。

Continuity exists in series and is linked to infinity; actually, they are the same. (ibid., p. 172)

The third manifestation of the external order is creativity. As we noted in our discussion of Zhang's specific view of evolution, the denial of material substance led him to assume that structural changes always represent a potential for new qualities of being (ibid., pp. 173–174):

因此我們必須把新東西所以出現的根由而歸於外界確有與其相應者。這個相應者便是一種條理，因為這樣的相應亦只在架構上，而不關於內容。於是我們於原子性連續性以外不能不有這個創變性。

Hence, we have to look for the reason for the appearance of new things precisely in its correlation with the external world. This correlation is a form of external order because it also only refers to structure, and not to content. Therefore, in addition to atomicity and continuity, there must also be creativity. (ibid., p. 174)

Zhang's critics accused him of providing an insufficient foundation for the "objective" existence of the external order. His belief in the existence of external order is very significant for his epistemology, although he did not provide a very sound basis for it. Zhang claimed that his postulating the existence of an external order distinguished his theory from Kant. He believed that Kant opined that the order of the objects of experience exists only within our consciousness. However, in this respect, his critique of Kant is very weak, for he did not show how we know that there is an external order and did not even try to explain why atomicity, continuity and creativity are external to us (Jiang Xinyang, p. 60).

However, this caveat is not particularly well-founded either for, as we have seen, Zhang affirms that the changes which we perceive have to have some reason, and that this reason could be found precisely in factual structural changes of the external reality, which were consciously comprehended as structural changes by the correlation of the external order with the laws of our mind. This also holds true in the opposite sense: each change of our consciousness is structurally conditioned and has likewise been expressed in structural changes of the external order. In this respect, Zhang's presuppositions were founded upon the interdependence, correlativity and interactivity of the inner and external worlds. Furthermore, Zhang never considered atomicity, continuity and creativity as elements which belonged exclusively to the external order; instead, he saw these structural qualities as a kind of bridge, linking the external and the inner sphere (Zhang Dongsun 1995b, /7/, pp. 170–171).

Because our structural functions are not essential entities, but merely represent modes of recognition or the perceptive-epistemological interaction of our mind with the external order, atomicity, continuity and creativity are, in essence, only three facets of the same thing; in other words, they represent three, inextricably interconnected aspects of being, as reflected by the reactions of our mind:

其實這三個條理乃是連在一起而不能分散的 。

Actually these three forms of external order are interconnected and cannot be separated. (Zhang Dongsun 1995b, p. 174)

For Zhang, sensory perception (感覺) cannot exist or function by itself, but is inextricably linked to comprehension (知覺). The objects produced by our mind in the process of interaction with the external order are impressions of sensory images (感相), which are void and illusory in essence, since they are not directly connected to the objective reality which they are representing. Sense impressions are a product of the interaction between the external order and comprehension. In the process of comprehension, these sensory images are cognitively structured by our mind in accordance with its inner order. The aforesaid elements of transcendental forms (格式), logical postulates (設準) and concepts or ideas (概念) are central elements of this inner order. While transcendental forms are of a universal nature and therefore belong to the general qualities of human mind, the second and third elements of the inner order, i.e. logical postulates (categories and implications) and concepts, have been culturally and linguistically determined:

直觀上的格式亦可勉強說是「生物的」。至於設準則不能不說是「文化的」或「社會的」。因為他和直觀上的格式 (即空時主客) 所以不同。即在於空時主客是任何知者所不可缺的；而設準視各種民族的文化而有增加或變化。所以設準是文化的，不能歸之於生物的。

The *a priori* transcendental forms can still be considered as determined by biology. But logical postulates should be considered as being defined by culture or society. The latter are completely different from a priori transcendental forms (i.e. from time, space, subject and object). Time, space, subject and object are absolutely necessary for obtaining any knowledge. Logical postulates, however, can be changed or increased by cultural influences. Therefore, postulates are culturally conditioned and cannot be treated as biological. (ibid., p. 215)

A priori *transcendental forms* (geshi 格式)

According to Zhang, transcendental forms as *a priori* forms of perception represent the first element of the inner order, which enables and regulates cognition, while also constituting the basic pre-condition that makes any kind of cognition possible:

在認識上凡有直觀，其材料雖是感相，然而確必先具有此種格式。因為設有這種格式，則感相雖印在我們上但不能織成經驗。

Although the materials of any kind of perception are sensations, they have to be based on such *a priori* transcendental forms. Without them, sensory

impressions would still be imprinted upon us, but could not be interwoven with experience. (Zhang Dongsun 1995b, p. 187)

Zhang completed Kant's view on *a priori* recognition, based on sensory perception, by presupposing the existence of two different kinds of *a priori* transcendental forms. While the first is cognitive in nature, the second belongs to the domain of logic:

我們應知上述的先驗格式只等於康德的先驗感性，所以還是不夠。康德即必須另外添上先驗的悟性，則認識的多元論於此不能不承認另有一種先驗格式是在名學上的，換言之，即在思維上與分別上，而不僅是在直觀上的。並且這兩種先驗的格式在性質上就有不同。一個是認知上的先驗格式 (the cognitive a priori) ；一個是名理上的先驗格式 (the logical a priori) 。

We should know that the above described *a priori* transcendental forms are equivalent to Kant's *a priori* sensory perception, which is not enough. Kant's assumptions must be completed by another *a priori* form of awareness. Therefore, the pluralistic theory recognizes the existence of another *a priori* transcendental form, which refers to logic and belongs to the domain of cognition and differentiation, and not only to the domain of (direct) perception. In addition, these two kinds of *a priori* transcendental forms are qualitatively different. The first belongs to cognitive *a priori* forms, and the second to logical *a priori* forms. (ibid.)

For Zhang, these *a priori*, universal forms of cognition were space, time and the subject-object relation:

這個與直觀有關的先驗格式果然是甚麼呢？我以為可列舉出來的只有三個。第一是空間，第二是時間，第三是能所的關係 (subject-object relation 或稱主客關係) 。

What are these *a priori* transcendental forms that are linked to perception? I believe that only three are demonstrable: the first is space, the second time, and the third is the subject-object relation. (ibid., p. 180)

Time and space are thus a necessary pre-condition for the possibility of experience, and all three categories are seen as necessary representations which define any kind of inner recognition. Space is nothing other than a sensory-determined form of all external appearances, while time is a form of our inner perception of the continuum. But, at the same time, both are seen as an inherent quality of our mind, which actually establishes them as representations:

牛頓主張空時是絕對的、唯一的、而又勻純的，並且屬於外界；康德
主張空時是主觀的、是格式的、而又是普遍的，並且屬於內界；至於
相對論則以為是屬於內界的與屬於外界的相聯合而成的一種結構……
我以為這句話似乎比較上最公允，而不偏於哪一派。

Newton believed that space and time were absolute and unique, but
equivalent, and that they belonged to external reality, while Kant claimed that
space and time were subjective, transcendental forms that are universal and
belong to the sphere of inwardness. The Theory of Relativity stated that they
were a kind of structure, connecting elements of the external and internal
world . . . I believe this view to be the most balanced, since it does not choose
either option. (ibid., pp. 181–182)

Time, as we perceive it, is only a form of our reaction to the quality of the
creativity of the external order. Perceived space likewise corresponds to its
continuity (ibid., p. 183).

With respect to the subject and object, Zhang argued that the
demarcation between them was a necessary pre-condition for every kind of
cognition and even for the most basic forms of perception. For him, the
relation between the known and the knower in cognition is internal and the
two are inseparable. If there is a cognitive experience or an apprehension,
there must necessarily be an object which is experienced and a subject
experiencing it (Jiang Xinyang, p. 60):

我相信沒有一個認識而不是把能知與所知含括成為一個存在。所以凡
是一個認識就自然而然具有主客在其中。

I believe that any kind of recognition without the existence of the connection
formed between the subject and object of comprehension is impossible.
Therefore, it is completely natural and self-evident that every comprehension
implies a subject and an object. (Zhang Dongsun 1995b, p. 185)

*Logical postulates (*shezhun 設準*)*

According to Zhang Dongsun, postulates and categories are the basic
principles of logical reasoning. These principles represent the further
developmental stage of the process of comprehension in the sense of a
logical elaboration of *a priori* transcendental forms. Postulates, which are
static, form one of the two aspects of this elaboration:

我以為名理上的根本原理 (即先驗格式) 有兩方面：一為動的，一為靜
的。靜的是一組一組的「設準」(postulates) 或稱「範疇」(categories) 亦無
不可。

I think there are two aspects of basic logical principles (or *a priori* transcendental forms): the first is dynamic, the second static. The static aspect represents a particular series of "postulates", which can also be named "categories". (Zhang Dongsun 1995b, p. 188)

The second, dynamic aspect of postulates manifests itself in semantic relations with logical implications, which, according to Zhang, do not result from logic. Instead, logical reasoning is conditioned by this aspect of postulates:

現在請討論動的方面，即講涵義吧……所以我主張涵義是名學之根本。若沒有了涵義則邏輯便為不可能。但不是涵義由邏輯而出，乃是邏輯由涵義而成。

Now we shall discuss the dynamic aspect, i.e. the semantic implications . . . I believe that semantic implications represent the basis of logic. If there were no semantic implications, logic would not be possible. Therefore, they do not arise from logic; just the opposite: logic arises from the basis of semantic implications. (ibid., pp. 191–192)

Hence, although postulates in the sense of categories are static in themselves, they are still closely connected to semantically determined logical implications, which are dynamic and "mobile"; specific logical implications can always change or replace one another, thereby still remaining part of the same, unique logical principle. Logical implications, which are the dynamic part of the postulates, represent the foundation of any judgments (sentences) and conclusions. Even propositions are not possible without them, for Zhang argues that every proposition is merely a particular expression of a logical implication (ibid.). Implicative relations are seen as logical laws or principles. Therefore, for Zhang, even the three basic laws of European formal logic, i.e. the Law of Identity (同一律), the Law of Contradiction (矛盾律) and the Law of the Excluded Middle (排中律) also belong to such implicative relations. For Zhang, logic is deduced from such relations, but these relations cannot be deduced from logic. Thus, implicative relations are the *a priori* foundations of logic that we cannot analyze further (Jiang Xinyang, p. 61).

Zhang disassembles postulates into various series. Each postulate exists together with its opposite, such as the opposition between right and wrong or simple and complex. According to Zhang, these oppositions do not exist in reality and are seen as completely arbitrary and interchangeable:

在實際上並沒有一而不能同時是多；並沒有同而同時不能為異；並沒
有正而同時不能為負。可見所謂同異一多正負純是我們為了解釋那對
象起見而立的規範……

則這種對偶性可謂正是設準所具有的特徵。根據這個特徵遂發生一個
極重要的分別：就是「可以替換」。因為對偶乃是名學上的特徵。可以
變換即證明其為工具與方法，這些都是人造的……

在這點上，確是外界的條理以及直觀上的格式都不相同。就是因為他
們都沒有交替性。因為他們是普遍的與必然的，所以他們在性質上不
能屬於名理。

In fact, there is no unity without diversity, no identity without difference, and no positive without a negative. All these oppositions are only patterns, established by us to explain various objects. . . .

As we can see, this duality is a specific feature of postulates. It forms a basis for another, extremely important difference which manifests itself in the interchangeability (arbitrariness) of postulates. Since duality is a characteristic of logic, their interchangeability proves the fact that "postulates" are tools or methods, created by human beings.

It thus becomes obvious that postulates essentially differ from transcendental forms of perception. The latter are, in fact, not interchangeable. Since they are universal and necessary, they cannot belong to the domain of logic by their very nature. (Zhang Dongsun 1995b, pp. 190–191)

Postulates as logical patterns are therefore always valid; thus, the criterion for their application is not their validity, but their appropriateness (and the effectiveness of their explicative potential) with respect to specific features of the object of recognition:

我們的設準是好幾套可以替換的。我們可以用這一套設準去解釋；對
象有時解釋起來有些不便利，則便可以另換一套再去解釋。所以設準
雖總是有效的，然亦是可以替換的。因此一切設準雖是一律有用，總
沒有失效的時候，但確有便利與不便利或較便利之分。我以為這個對
偶性與這個可以更替性便是設準所以屬於名理範圍的緣故。

The series of postulates established by us are interchangeable. We can explain "a certain object" with a certain string of postulates. The same string may be inappropriate to explain other objects, and can therefore be replaced by some other strings. Thus, postulates are always valid, but interchangeable. Any one of them can always be applied, for they are never invalid. Nevertheless, they differ greatly from one another in terms of their appropriateness and

effectiveness. I suppose that the reason postulates belong to the domain of logic is precisely because of their interchangeability. (ibid., p. 191)

Hence, postulates belong to logical methods. In this respect, both of the aspects mentioned and both kinds of cognitive principles (i.e. semantic relations with logical implications as well as static categories) differ from their factual basis, or *a priori* transcendental forms, which belong to concrete existing actuality. In contraposition to these forms, which are of a universal and necessary nature, Zhang placed the arbitrary and culturally determined postulates.

Concepts (gainian 概念)

Zhang Dongsun's concepts are theoretically infinite and hierarchically structured. He divided this hierarchy into six basic levels:

（一）最高概念——屬於形而上學的有本體 (substance)、實在 (reality)、物 (matter)、心 (mind)、力 (force)，等；

1. The highest concepts, which belong to metaphysics, are: substance, reality, matter, mind, force, etc.;

（二）次高概念——屬於物理學的有動 (motion)、質子 (particle)、體積 (mass)、力 (energy)、澀力 (inertia)，等；

2. The next highest concepts, which belong to physics, are: motion, particle, mass, energy, inertia, etc.;

（三）次高概念——屬於心理學的有覺 (consciousness)、自我 (self)、人格 (personality)、意志 (will)，等；

3. The next highest concepts, which belong to psychology, are: consciousness, self, personality, will, etc.;

（四）次概念——屬於生物學的有生命 (life)、機體 (organism)、進化 (evolution)，等；

4. The next level of concepts, which belongs to biology, is: life, organism, evolution, etc.;

（五）次概念——屬於名學的有命題 (proposition)、推論 (inference)、歸納 (induction)、演繹 (deduction)、抽象 (abstraction)，等；

5. The next level of concepts, which belongs to logic, is: proposition, inference, induction, deduction, abstraction, etc.;

（六）次概念——屬於倫理學的有最高善 (the summum bonum)、自由意志 (free will)、不朽 (moral immortality)，等。

6.   The next level of concepts, which belongs to ethics, is: summmum bonum, free will, moral immortality, etc.

此外還有屬於美學的「調和」(harmony)，屬於化學的「親合力」(affinity)，等等。

In addition, there are also aesthetic concepts, such as harmony, affinity, etc. (Zhang Dongsun 1934b, p. 96)

As opposed to postulates, concepts, even at their highest, metaphysical level, are empirical, and are formed by the generalization of experience. In terms of logic, Zhang argued that concepts were not the premises of conclusions, but the logical consequences arising from them and that concepts are formed from experience through postulates, and not vice-versa. Therefore, his assumption that concepts were logical consequences of conclusions did not contradict his view that concepts were empirical. The different logical functions of postulates and concepts led to further distinctions between them: while postulates could never be totally invalid, concepts could become outmoded or false. Concepts were contents, while postulates formed conditions. Our recognition is through concepts. Concepts were formed through interpretations, while postulates represented their tool. Concepts were of a symbolic nature; in essence, each concept represented a symbol and a classification sign. Particulars, which are epitomized in a single concept, did not necessarily possess identical qualities, for we classify them in accordance with our relation to them and our application of them. Paper and pencil, for example, are two very different things, but both belong to the concept of writing materials (Jiang Xinyang, p. 61). Because each concept was a collection of our habitual, operational experiences, these subjectively established classification signs could not be equated with the "natural" appearances of external world. Hence, the contents of concepts did not exist in actual reality.

However, the fact that our classification of things is subjectively determined did not mean they were completely arbitrary. Because we decomposed reality based on certain, objective elements, the liberty of our classifications was limited. For example, we cannot classify a mule as a carnivore (Jiang Xinyang, p. 62). Although our classifications thus arise primarily from our relation with objects or with the applicability of those objects, our relations to or applications of them cannot be separated from their specific features. And while concepts as classification signs are thus subjective, Zhang did not completely reject their correlation with the external world.

The structure of comprehension

For Zhang, the nature of comprehension was extremely complex. In his view, the process of comprehension took place as an interaction between two poles, represented by the subject and the object of recognition:

> 這個中間普通人認為沒有東西存在，即好像是空的。所以能知與所知得以直接發生關係。我則以為在這個中間內卻有許多東西，換言之，即是複雜的。

> People commonly think that there is nothing between these two poles, that between them there is only empty space. This would mean that the subject and object of recognition were in direct relation with each other. But I believe that there are many things between them, that this "middle" in other words, is very complex. (Zhang Dongsun 1995b, p. 213)

For Zhang, the central task of epistemology was precisely the analysis of this intermediary space situated between the subject and object of recognition. He described this middle as "semi-transparent" (半透明的) and compared the process of comprehension to a ray of light focused on the object by the subject of recognition, but with this ray of light having to pass through multicolored layers of glass (ibid.). In addition, the process of comprehension was necessarily relative, since the absolute recognition of subject and object was impossible:

> 在所知那一端有個絕對不可知的外物，又有個相對可知的外界 (即所謂原子性等條理)；在能知一端有個絕對不可知的自我，又有相對可知的內界。

> At the extreme pole of the object there is external matter, which cannot be totally recognized, but there is also an external reality, which can be recognized in a relative sense (i.e. the so-called atomicity and other parts of external order). At the extreme pole of the subject there is a Self, which cannot be totally recognized, but also an inner world, which can be recognized in a relative sense. (ibid.)

Zhang illustrated the structure of the process of comprehension with the following scheme:

<div align="center">

真外物
actual external reality

↓

條理
external order

</div>
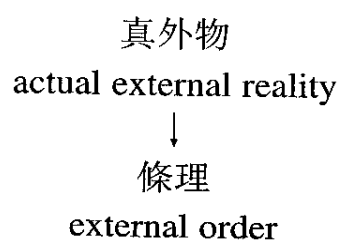
概念
concepts

以及其證實
and their evidences

設準
postulates

格式
transcendental forms
↑
真內我
real inner self

21.5 *Language and logic: Problems of comprehension and transmission*

Linguistic analysis is an important part of Zhang's philosophy, and his logic is also closely connected to the logic of language. In his treatise *Knowledge and Culture* (知識與文化), he argues that language can help us form our reasoning:

> 言語[62] 在一方面創造思想，或開闢思想，而在他方面卻又因新名詞而發生新問題。換言之，即又在人們困在這些名詞中使其思想有了固定的軌道，而一時無法解放。
>
> On the one hand, language creates thought, or opens new ways to it. But on the other, it also raises new problems by creating new expressions. In other words, through its expressions, language defines pathways of human thought, from which it is not easy to escape. (Zhang Dongsun 1995b, p. 253)

In this respect, many interpreters of Zhang's thought believed him to be seconding Sapir-Whorf's hypothesis that language defined the mode of thought (Li Xiankun, p. 352), a concept which remains extremely problematic in academic circles today. However, Zhang distanced himself from such an interpretation, and to a Japanese critic who had accused him of advocating such a linguistic determination in his article "Differences between Chinese and Western Philosophy from the Viewpoint of Linguistic Structures" (從言語構造上看中西哲學的差異) (ibid.), Zhang replied:

似乎譯者以為我主張言語決定思想，乃是本末倒置。我敢說評者依然
囿於舊觀點中。殊不知從涵數關係的觀點看，如說言語是因而思想是
果，固然不對。而說思想是因，言語是果，亦同樣不對。我只是主張
言語、邏輯與哲學思想，三者互相依靠 (interdependent)、互相關聯
(interconnected) 而已。

It seems that this interpreter thinks that I advocated the view that language determines thought. This is completely wrong, and this critic seems to be trapped in some old frames of thought. The fact that language cannot be seen as cause, nor thought as consequence, already follows from the aspect of functional relations. The contrary view, which claims that thought is the cause, and language the consequence, is equally wrong. All I said in my article was that language, logic and philosophical thought are interdependent and interconnected. (Zhang Dongsun 1995b, p. 383)

This interdependence and reciprocal influence of language and thought was the basis of all Zhang's logical and philosophical approaches, and can also be seen in his emphasis on the close connection between language and the laws of logic:

邏輯是由於言語上有了問題而開始發生的。所以邏輯不外乎是想調整
言語。為什麼言語會有調整的必要呢？乃是因為辯論。在希臘，其邏
輯的始祖就是修辭學 (rhetoric)，而這種修辭學卻為了辯論而設的，不
像後世那樣為了美文。在印度最古的邏輯亦只是辯駁之述。即在中國
卻從無所謂形式邏輯 (formal logic)，但最早即有辯學，這種學者名之
曰辯士。可見乃是因為有辯論遂有調整言語的必要。

Logic was created because of linguistic problems. Therefore, logic does nothing other than try to regulate language. Why does language need regulation? Because of disputation. The beginnings of logic in ancient Greece can be found in rhetoric. Rhetoric was originally developed because of disputation; at that time, rhetoric was not yet a doctrine for beautiful speech and writing. The oldest Indian logic also arose from disputation in the sense of argumentation and counter-argumentation. In China, formal logic was never developed, but the art of disputation dates from the earliest times. Those who dealt with the art of disputation were called dialecticians. The demand for a regulation of language therefore arose from disputation. (Zhang Dongsun 1995a, p. 240)

Zhang Dongsun argued that the logic of disputation (in the sense of arguments and counter-arguments, i.e. of thesis and antithesis) was also developed in ancient Greece, and that this form of logical method was not

elaborated later on because the European tradition focused on the development of formal logic instead. In the history of traditional European logic, even Aristotelian logic still implied two main methods: the method of evidences and the method of disputation; later developments, however, concentrated on syllogisms, based on the former method, while the latter was gradually forgotten (Li Xiankun, p. 353). A renewed research into the logic of argumentation by certain logicians[63] did not occur before the latter half of the twentieth century:

> 而張東蓀在40年代強調這一側面，以恢復亞里士多德邏輯的全貌，這是難能可貴的。
>
> Zhang Dongsun had already stressed this aspect during the 1940s, arguing for a re-examination of the entire framework of Aristotelian logic. This was a very rare and valuable effort on his part. (Li Xiankun, p. 353)

According to Zhang, the inextricably interwoven relationship between language and logic was already evident in the system of grammatical structures; in his view, the laws of logical methods also arose from the laws of linguistic structures:

> 所以這種邏輯，其主要用處在於整理言語。因為言語有因習慣而致有不合立法的。乃是出於一種需要，由這個需要就逼迫出來一個辦法。把不合乎立法的言語變為合乎立法的，就是把言語使其合乎邏輯了……這種需要乃是社會的，並不是如後來學者所想的那樣屬於理性的。
>
> Therefore, the main function of such logic is to regulate language. Due to customary modes of expression, language does not always correspond to rational principles. Thus, it became a kind of necessity, and this method developed out of this necessity. It tried to re-establish a correspondence between language and rational principles, i.e. logic. . . . This necessity is essentially a social one and does not arise from solely rational domains, as was thought by some later scholars. (Zhang Dongsun 1995b, pp. 388–389)

Here, we can see the influence of traditional Chinese epistemology which, on the basis of the relation between language and reality, tried to "rationally" (i.e. in accordance with the most appropriate structural regulation [道] of language as an expression of all that exists) standardize (常) linguistic structures in order to improve and harmonize political and social relations within society (see Part 2). However, his approach here can also be compared to some recent researches in linguistic logic, which focus on linguistic pragmatism (Li Xiankun, pp. 153–154):

我對於傳統邏輯的看法是以為這種邏輯是研究「人類說話」(human discourse) 中所宿有的「本然結構」(intrinsic structure)。

In my opinion, traditional logic is a discipline which deals primarily with the intrinsic structures of human discourses. (Zhang Dongsun 1995b, p. 389)

In terms of the rules of logic, Zhang Dongsun appropriated Karnap's theory of linguistic games:

邏輯本身就是一個玩藝或把戲 (game)。其所以能玩得有效就因為它自身所定的規則是自足的。如符號邏輯上的所謂 principle of permutation, addition, substitution, summation, association 等等那一條不是等於象棋上馬跳車走的規則。根據這些規則所演成的「演繹系統」(deductive system) 在本身沒有不是重言疊說的，當然是自足的與「自圓的」(consistent)。但須知這些系統都是所謂隨意的系統。

Logic as such is a game. Its effectiveness is due to its ability to establish self-sufficient rules. The principles of symbolic logic, such as the so-called principles of permutation, addition, substitution, summation or association etc., resemble the rules of chess, where the knight can jump over the castle. The deductive system that was developed based on these rules is essentially tautological and therefore, of course, self-sufficient and consistent. But we should realize that all such systems are essentially arbitrary. (Zhang Dongsun 1995a, p. 253)

For Zhang, the basic function of language is expressing and transmitting thought. For this reason, he established a new concept of the so-called domain or discourse of logic (名理界) which posited a sphere of structural principles that exist beyond the external (外界) and the internal (內界) worlds. This sphere was to be understood neither as some sort of formalized copy of external reality, nor as a psychological representation of the structure of consciousness. In Zhang's view, the domain of logic was an independent and inherently consistent, autonomous, "intrinsic" structure of rules (本有的規則), which also figured as the main subject of logical research. Thus, the domain of logic was seen as a series of *a priori* transcendental forms (格式):

張東蓀以這個名理上的先驗格式 (the logical *a priori*) 來補充康德的認知上的先驗格式 (the cognitive *a priori*)。

With these logical *a priori* transcendental forms, Zhang Dongsun supplemented Kant's cognitive *a priori* forms. (Li Xiankun, p. 354)

21.6 The universality and cultural conditionality of epistemology

However, logic is not only a discourse of language, but also a metaphysical tool for ideologies which bind and knit societies and cultures together internally:

> 從文化的觀點來看，邏輯、形而上學、道德、社會、政治都是在一個需要上打成一片。在打穿後壁來説，即表面是邏輯，而暗中只是一種社會思想；表面上是形而上學，而暗中只是一個道德問題；表面上是一個道德理論，而暗中只是一種政治運動。再換言之，即某種政治運動必需要某種道德為基礎；某種道德必需要某種形而上學為其保障；某種形而上學必需要某種邏輯為工具的。

> From the viewpoint of culture, logic, metaphysics, morals, society and politics are a unity which came into being out of the same necessities. If we break down the wall which surrounds it, we can see that what we considered to be logic is, in fact, a kind of social theory. What we considered to be metaphysics, in fact is only a question of certain morals. And what we considered to be a moral theory, in fact is nothing but a kind of political movement. In other words, each political movement needs to be based on a certain morality. Each moral system needs to be protected by certain metaphysics, and metaphysics, in turn, requires logic as a tool. (Zhang Dongsun 1995b, p. 419)

Culture was thus an entity composed of a number of specific discourses and relations. The interweaving and interdependence of these discourses form the specific cultural background, which is also expressed in the structures of language and logic:

> 邏輯是由文化的需要而逼迫出來的，跟著哲學思想走。這就是説，邏輯不是普遍的與根本的。並且沒有「唯一的邏輯」(logic as such)，而只有各種不同的邏輯。這種主張或許對於中國的邏輯學者是一個挑戰亦未可知。

> Logic arose from social needs and developed in parallel with philosophy. Therefore, logic is not universal and basic. In addition, there is no single "logic as such", since there are many different kinds of existing logics. Who knows, perhaps this viewpoint represents a challenge to Chinese logicians? (ibid., p. 388)

Hence, Zhang argued that logic was culturally determined; like language, it had developed on the basis of cognitive patterns which, at the same time, were formed by logic. Zhang very schematically distinguished

four elementary forms of existing logic: the first was Aristotelian, the second mathematical, the third was the Indian logic of double negation and the fourth he named social-political logic, which included Hegelian dialectics and Marxist dialectical materialism (ibid., pp. 387–401).

In his view, the cultural determination of logic was, to some degree, connected with the cultural conditionality of comprehension. Based on this assumption, together with elements of his pluralistic epistemology, Zhang developed his (inter)cultural theory of knowledge:

> Pluralistic epistemology reveals that knowledge is not an objective reflection of external things; and pan-structuralism argues that there is no substance for us to know. Knowing does not mean representing what there is outside of us, but signifies the construction or recreation of the contents of knowledge in relation to the structures of the universe. For this reason, the need for objective elements in knowledge is obvious. How, then, are the subjective contents of knowledge decided? Zhang believed that, in addition to the common structure of human knowledge as described in his pluralistic epistemology, culture plays a significant role in forming our knowledge, and that knowledge is culturally and socially determined. Therefore, in order to discuss knowledge, we must also discuss culture. In this sense, the knowing mind is a collective mind. According to Zhang, epistemology in the past only talked about the solitary mind, but there is no solitary mind. (Jiang Xinyang, p. 68)

Based on the premise of the close connection between various languages and the cultural determination of coincidental specific modes of logical reasoning, Zhang proceeded to develop his thesis on the linguistic foundations of European and Chinese philosophy. In his view, a key factor determining the specificity of "Chinese" thought was the fact that the Chinese language (especially ancient Chinese) made no clear distinction between subject and predicate, while in morphological terms it did not add suffixes to express categories of time, gender or number (Zhang Dongsun 1995b, p. 360). Zhang claimed that this grammatical feature had greatly influenced Chinese thought. Since in Chinese language the subject is not distinguished, the Chinese do not have the concept of a subject. And because the subject is not distinguished, the predicate is not distinguished either. In addition, the Chinese language generally does not use sentential subjects, as opposed to Indo-European languages which omitted sentential subjects only in exceptional cases. He pointed out that the Chinese language does not apply subjects and omits them quite often. Therefore, we generally conclude that the subject is not particularly necessary (ibid.

1995b, p. 363). Another difference is that Chinese lacks the equivalent of the expression "it":

> 中國言語上無論口語的「這」與文言的「此」或「其」，都不能與「it」相當。「此」只是英文的「this」。這個詞是有對待的。「此」是與「彼」相對的。不能成為一個「不定者」(the non-definite)。
>
> Neither the colloquial "*zhe*", nor the classical "*ci*" in the Chinese language is equivalent to the (English) word "it". The Chinese word "*ci*" merely means the same as the English word "this". This word has its contrary: the word "*ci*" (this) is opposed to the word "*bi*" (that), and therefore cannot be applied as the indefinite pronoun. (Zhang Dongsun 1995b, p. 363)

"It" is an indefinite pronoun, but "this" is not. Chinese lacks the form "it is", which expresses only the existence of something and not its attributes. This separation of existence from attributes is a basic condition for forming the concept of substance (Jiang Xinyang, p. 73).

But the most important difference Zhang noted was that between the Indo-European expression "to be" and the Chinese word "*shi* 是":

> 中國言語中沒有和西方動詞 to be 相當的詞。如口語的「是」便不能有「存在」的意思。至於文言的「為」反有「成」的意思，有幾分似英文的「to become」。而在英文 becoming 卻與 being 正相反對。
>
> The Chinese language does not have an equivalent to the Western word "to be". The colloquial "*shi*" does not express existence, while the ancient Chinese "*wei*" means the same as "*cheng*", as in the English phrase "to become". However, in the English language, the words "becoming" and "being" are contradictory. (Zhang Dongsun 1995b, p. 363)

Since Chinese lacks an expression for "to be", it has difficulty in forming the subject-predicate propositions of standard logic. Due to the absence of the linguistic (and thus also cognitive) category "subject" (主體) and the absence of the expression "to be" in ancient, as well as modern Chinese, traditional Chinese philosophy never established or developed the concept or discipline of "ontology" (本體論). Therefore, classical Chinese philosophy also never developed formal logic based on theorems (命題), and even the basic law of traditional European logic, i.e. the Law of Identity[64] was alien to specific Chinese thought:

> 中國人的名學系統不建築在同一律上的 (logic without identity)……西方名學上的分類因為基於同一律，所以必須為「二分」(dichotomous division)。

The Chinese system of logic was not based on the Law of Identity (logic without identity). Because the Western logical system of classifications is based on the Law of Identity, it necessarily developed dichotomous divisions. (Zhang Dongsun 1995b, p. 363)

However, this does not signify that traditional Chinese thought did not develop its own logic, which Zhang defined as "non-Aristotelian" (非亞里士多德的) logic:

中國人的思想是根本不能套入於西方名學的格式內，而中國人所使用的名學只好說是另外一個系統。

Chinese thought cannot be forced into the framework of Western logic; in fact, we must recognize that logic as it developed in China represents a completely different system. (Zhang Dongsun 1995b, p. 365)

The specificity of Chinese logic therefore cannot be found in the framework of Western cognitive patterns:

因為一定要按亞里士多德邏輯的「圖」去索中國邏輯之「驥」，必然會得出中國古代無邏輯的結論。

If we search for contributions of Chinese logic in the framework of Aristotelian logic, we will necessarily conclude that there was no logic in ancient China. (Zhang Dongsun, in Li Xiankun, p. 358)

Zhang Dongsun concluded that Aristotelian logic, based on the Law of Identity, developed the structure of dichotomies based on contradictions of the type "A and not-A". Such relations were mutually exclusive (Zhang Dongsun 1995b, p. 364):

但中國人的思想則不注重於此點。總是大小對稱，上下對稱，善惡對稱，有無對稱。並且把他們認為相依靠的。

But Chinese thought did not function in this way. Dual oppositions, such as big and small, above and below, good and evil, or presence and absence, were seen as mutually defining and interdependent. (Zhang Dongsun 1995b, p. 364)

The classification of the type "A and B", however, makes it possible for something not to be A or B; such non-exclusionary distinctions were quite common in Chinese logic. Logical definitions in the Aristotelian sense are equivalents, in which the symbol of identity connects the definiendum and the definiens (ibid.). Ancient Chinese logic lacked such definitions:

According to this logic, the meaning of a word can be understood or clarified by looking at its opposite. For this reason, definitions found in Western logic do not exist in Chinese logic. The meaning of a word is not made clear by a definition, but by contrasting it with its opposite. For example, a "wife" is a "woman who has a husband", and a "husband" is a "man who has a wife". This is not a strict definition but an explanation in terms of a relation. (Jiang Xinyang, p. 75)

Zhang Dongsun is the first philosopher we know of, who defined the conceptual basis of specific traditional Chinese logic. Its foundations were relational propositions, just as Western logic was based on the proposition of the subject-object structure. The correlation between dual, but complementary oppositions (such as above-below, before-behind, etc.) thus represented a specific approach of ancient Chinese logic.

Zhang named this specific logic, as it was formed and developed in ancient China, "correlative logic" (相關律名學) and "the logic of correlative duality" (兩元相關律名學) (Zhang Dongsun 1995a, p. 365). In contrast to the Hegelian method, which was based on mutually exclusionary contradictions, the methods of ancient Chinese dialectical logic (辯證名學) represented a dynamic interrelational process of inter-dependent and complementary poles, as could already be found in the theoretical approaches of the *Book of Changes* (Zhang Dongsun 1995b, p. 365). He was the first to understand that the *Book of Changes* represented orthodox Chinese thought and the beginning of the history of Chinese logic. This was a very creative insight, since the logic of the *Book of Changes* was created much earlier than Moist or dialectical logic (Li Xiankun, p. 358).

Due to his ostracism during the Cultural Revolution, Zhang Dongsun's theories were consigned to oblivion for many years. Recently, however, a younger generation of theorists has begun to rediscover his work, though often expressing reservations as to its more problematical aspects, since some of his conclusions are invalid from the viewpoint of contemporary theory (ibid.).

However, most contemporary thinkers acknowledge his valuable and often innovative contributions to the development of Chinese philosophical thought, and especially his pioneering role in the discovery and interpretation of correlative dialectic.

Zhang Dongsun was also one of the founders of the relatively new field of intercultural philosophy and methodologies for intercultural

research. His recognition that ancient Indian logic was of a different kind than Aristotelian logic, and that ancient Chinese logic was in many respects quite different from both, is doubtless true. His most valuable contributions are also to be found in his endeavors to elaborate the dialectical aspect of Aristotelian logic, to connect logic, language and methods of disputation, and to discover principles and formal elements of the logic of linguistic pragmatism. Recently, many Chinese and foreign theorists began to address these questions and their research has already produced some important results. However, Zhang was the first to see the far-reaching significance of these problems, and can be considered something of a visionary in this respect (Li Xiankun, p. 358).

Despite the fact that certain aspects of his thought are incomplete and insufficiently systematic,[65] Zhang Dongsun is definitely deserving of the attention currently being paid to his work by both Western and Chinese scholars. Thus, his comparative studies of Chinese and Western philosophy pointed out the relevance of cultural impacts upon cognition. His studies also provided many other valuable insights into the differences between Chinese and Western philosophy. His investigations of the influence of Chinese language on the development of Chinese philosophy are a very influential and pioneering work. Besides, he was the first philosopher who exposed correlative thinking as a main characteristic of Chinese philosophy and analogical argument as a specific Chinese mode of inference. Although he is still relatively unknown in the West, Zhang definitely deserves to be recognized for his contributions to Chinese and comparative philosophy (Jiang Xinyang, p. 78). But, most certainly Zhang's greatest contribution was the creation and development of a modern theory of knowledge, based on ancient Chinese and Chan Buddhist epistemology. His plural epistemology represents a felicitous synthesis of modern science and traditional Chinese thought.

— 22 —
Epistemology through the lens of the relation between *Dao* and the truth: Jin Yuelin (1895–1984)

In modern Chinese academic circles, Jin Yuelin is regarded as an important philosopher whose intelligible introductions to even the most complex contemporary systems of Western philosophy and logic had a profound influence on his fellow theorists. In terms of his own work, his sinification