An Early Buddhist Text on Logic: Fang Bian Xin Lun

Brendan S. Gillon

Abstract   The *Fang Bian Xin Lun* is a text on Buddhist logic which is thought to be the earliest one still to be extant. It appears in Chinese only (T1632). The great Italian indologist Giuseppe Tucci, believing that the text was originally a Sanskrit text, translated it into Sanskrit and gave it the title *Upāyahṛdaya*. The paper provides the historical background of the development of logic in Classical India up to the time of this text, summarizes its content and translates its first section.

Keywords   Buddhist logic · Chinese logic · Debate · *Fang Bian Xin Lun* · *Upāyahṛdaya* · Giuseppe Tucci

1 Introduction

The study of reasoning in India has a long history, dating back to at least the time of the Common Era. Unfortunately, the texts dating from that period are rare, many no longer extant; and of the few that are, they are found preserved in translation either into Tibetan or into Chinese. The Chinese texts appear, for the most part, in the Chinese Buddhist Canon, known as the *Taishō Daizōkyō*,[1] or *Taishō* for short. The first text pertaining to Buddhist logic and, presumably, translated from Sanskrit into Chinese is the *Fang Bian Xin Lun* (*Taishō* v. 32, pp. 23–28: T.1632).[2] The text was translated into Chinese in 472 CE (Funayama 1997, 75, fn. 13).

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[1] The Chinese title is (dà -zhèng dà-záng-jīng). Since the standard edition of this text was last printed in Japan over the period from 1922 to 1933, scholars refer to the canon by the Japanese pronunciation of its title.

[2] The texts which appear are numbered consecutively. It is customary to refer to the text by its number in the *Taishō* edition, prefixed by the letter 'T'. This text is number 1632. So, it is referred to as 'T.1632'.

B. S. Gillon (✉)
Department of Linguistics, McGill University, Montreal, QC, Canada H3A 1G5
e-mail: brendan.gillon@mcgill.ca

2 Background

Before turning to an exposition of the content of the *Fang Bian Xin Lun*, let me first provide the reader with some idea of the development of logic in India up to the time of the appearance of this text in China.

2.1 What is Logic?

Logic, at least as traditionally conceived, aims to distinguish good reasoning from bad. In particular, logic seeks to identify the general conditions under which what one concludes is true, having taken other things to be true. These conditions can be sought in the nature of things. One asks, then, under what conditions does the existence of certain facts require the existence of another fact. Insofar as facts are grasped in thought, one can also ask under what conditions does knowledge of some facts permit knowledge of another fact. Such conditions, once identified, would distinguish good inferences from bad inferences. Alternatively, insofar as facts are stated, one can ask as well under what conditions does the acceptance by someone of some facts require him or her to accept some other fact. These conditions, once identified, would distinguish good arguments from bad arguments.

We see then that the study of logic can be pursued from several points of view. It can be studied from the point of view of how facts are, an ontic point of view, from the point of view of what facts are known, an epistemic point of view, from the point of view of what facts are accepted, a dialectic point of view, or from the point of view of how facts are expressed, a linguistic point of view. Surprisingly, in spite of their deep grasp of linguistics, thinkers in classical India did not pursue the study of reasoning from a linguistic point of view. As Karl Potter has rightly emphasized, the study of reasoning in classical India was the study of the conditions under which some facts require other facts, or of the conditions under which knowledge of some facts permits knowledge of another fact, or of conditions under which acceptance by one person of some facts requires his or her acceptance of another fact. In other words, classical Indian thinkers were interested in reasoning primarily from the ontic, epistemic and dialectic points of view.

Since an argument is an expression of an inference, and to that extent, expressed in a language, it is natural to use the forms of linguistic expressions to identify forms of inferences and arguments and thereby to distinguish forms of good inferences and arguments from forms of bad inferences and arguments.

If logic is the study of forms of reasoning, then the history of logic is the study of the development of the study of these forms. And if one is interested in the historical origins of logic, one is interested in how the study of these forms began, that is, in how people became aware that reasoning embodies form. Thus, in looking at the origins of logic, it is natural to look to practices in which reasoning played a role and which, as a result, were likely candidates for reflection. The obvious starting points for such practices are all forms of rational inquiry.

2.2 Precursors to Logic in India

Rational inquiry comprises the search for reasons for publicly accepted facts, subject to public and rational scrutiny. This activity involves people both severally and collectively. It involves people severally insofar as people, individually, are the locus of inference. It involves people collectively insofar as arguments, the public manifestation of inferences, are sharpened by the scrutiny of others.

Though the origins in India of public debate (*pariṣad*), one form of rational inquiry, are not clear, we know that public debates were common in pre-classical India, for they are frequently alluded to in the early brahmanical literature, for example in various *Upaniṣads* (*Chāndogya-upaniṣad* 5.3.1; *Bṛhadāranyaka-upaniṣad* 6.2.1), and in the Buddhist literature, for example, in over half of the thirty-four *suttas* of the Buddhist *Dīgha Nikāya*, which are part of the *Sutta Piṭaka*, one of the three 'baskets' of the Buddhist canon (Manné 1992). Better known, but much later examples of such engagements are the Buddhist works, *Milinda-pañha* and *Kathā-vatthu*.

Public debate is not the only form of public deliberations in pre-classical India. Assemblies (*pariṣad* or *sabhā*) of various sorts, comprised of relevant experts, were regularly convened to deliberate on a variety of matters, including administrative, legal and religious matters. As reported by Solomon (1976, Chap. 3), much of the legal vocabulary for such deliberations includes the well-known terms of debate and argument found in the philosophical literature.

By the fifth century BCE, rational inquiry into a wide range of topics was under way, including agriculture, architecture, astronomy, grammar, law, logic, mathematics, medicine, phonology and statecraft. Aside from the world's earliest extant grammar, Pāṇini's *Aṣṭādhyāyī*, however, no works devoted to these topics actually date from this pre-classical period. Nonetheless, scholars agree that incipient versions of the first extant texts on these topics were being formulated and early versions of them were redacted by the beginning of the Common Era. They include such texts as *Kṛṣi-śāstra*, a treatise on agriculture, *Śilpa-śāstra*, a treatise on architecture, *Jyotiṣa-śāstra*, a treatise on astronomy, *Dharma-śāstra*, a treatise on law, *Caraka-saṃhitā*, a treatise on medicine, and *Artha-śāstra*, a treatise on politics.

2.3 The Beginnings of Logic in India

The first 500 years of the Common Era also saw the redaction of philosophical treatises in which proponents of diverse religious traditions put forth systematic versions of their world view. These latter works bear witness, in a number of different ways, to the intense interest in argumentation during this period. To begin with, the authors of many of these texts put forth arguments and, in doing so, explicitly appealed to such well-known logical principles as the principle of non-contradiction, the principle of excluded middle and the principle of double negation. Moreover, many of the arguments formulated in these texts correspond to such well recognized rules of inference as *modus ponens* (i.e., from α and $\alpha \rightarrow \beta$, one infers β), *modus tollens* (i.e., from $\neg\beta$ and $\alpha \rightarrow \beta$, one infers $\neg\alpha$), *disjunctive syllogism*

(i.e., from ¬α and α ν β, one infers β), *constructive dilemma* (i.e., from α ν β, α → γ and β → γ, one infers γ), *categorical syllogism* (i.e., from α → β and β → γ, one infers α → γ) and *reductio ad absurdum* (i.e., if something false follows from an assumption, then the assumption is false). This last form of argument, termed *prasaṅga* in Sanskrit, was extremely common.[3]

Awareness of the fact that the form of argument is crucial to its being good is found in a Buddhist work of the third century BCE, Moggaliputta Tissa's *Kathā-vatthu*, in which is found the refutation of some two hundred propositions over which the Sthaviravādins, one of the Buddhist schools, disagreed with other Buddhist schools. The treatment of each point comprises a debate between a proponent and an opponent. The refutations, of course, turn on demonstrating the inconsistency of a set of propositions. For example, in the passage below, the Sthaviravādin questions a Pudgalavādin with respect to the proposition of whether or not the soul is known truly and ultimately.

Sthaviravādin: Is the soul known truly and ultimately?
Pudgalavādin: Yes.
Sthaviravādin: Is the soul known truly and ultimately just like any ultimate fact?
Pudgalavādin: No.
Sthaviravādin: Acknowledge your refutation, If the soul is known truly and ultimately, then indeed, good sir, you should also say that the soul is known truly and ultimately just like any ultimate fact. What you say here is wrong: namely, that we ought to say (a) that the soul is known truly and ultimately; but we ought not to say (b) that the soul is known truly and ultimately just like any ultimate fact. If the latter statement (b) cannot be admitted, then indeed the former statement (a) should not be admitted. It is wrong to affirm the former statement (a) and to deny the latter (b).

One easily abstracts from this the following form,

Sthaviravādin: Is A B?
Pudgalavādin: Yes.
Sthaviravādin: Is C D?
Pudgalavādin: No.
Sthaviravādin: Acknowledge your refutation, If A is B, then C is D. What you say here is wrong: namely, (a) that A is B but that C is not D. If C is not D, then A is not B. It is wrong that A is B and C is not D.

Indeed, this form is repeatedly instantiated throughout Book 1, Chapter 1.

Clearly, the author presumes it is self evident: first, that the propositions assented to are inconsistent, satisfying the following inconsistent propositional schemata of α, ¬β, α → β; second, that it is wrong to hold inconsistent propositions; and, third, that if α → β, then ¬β → ¬α—that is, half of the equivalence of the principle of contraposition.

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[3] These rules refer to rules applicable to a system of notation. The Indians never developed a system of notation for argumentation. To say that they employed arguments of this form is to say that they made arguments in Sanskrit or Pali, whose counterparts in a notation system are called by these names.

The earliest passages concerned with argument and inference are found in *Caraka-saṃhitā*, a medical text, conjectured by some to have been redacted in its current form at the beginning of first century CE, on the one hand, and in the philosophical literature, both Brahmanical and Buddhist, on the other.

The best known brahmanical text pertaining to inference is the *Nyāya-sūtra* by Gautama Akṣapāda (cira second century CE), a treatise on rational inquiry, whose actual redaction is thought by some to date to the third century CE. Another Brahmanical work touching upon inference is the *Vaiśeṣika-sūtra*, a treatise of speculative ontology attributed to Kaṇāda (circa first century CE), thought by some to have been redacted in its current form perhaps at the beginning of the second century CE, though perhaps some of its passages date back to second century BCE. And still another Brahmanical work, which survives only in fragments, is a Sāṃkhya one, entitled *Ṣaṣṭi-tantra*, attributed by some to Pañcaśikha (circa second century BCE) and by others to Vṛṣagaṇa (circa after the second century CE).

These texts identify the form of argument used in debate. Thus, for example, the *Nyāya-sūtra* (NS 1.1.32), like the *Caraka-saṃhitā* (CS 2.8.31), defines an argument to have five parts: the proposition (*pratijñā*), the ground, or reason (*hetu*), the corroboration (called *dṛṣṭānta* in the *Caraka-saṃhitā* and *udāharaṇa* in the *Nyāya-sūtra*), the application (*upanaya*), and the conclusion (*nigamana*). The *Caraka-saṃhitā* furnishes the following example:

pratijñā: nityaḥ puruṣaḥ
proposition: the soul is eternal
hetu: a-kṛtakatvāt
ground: because of being un-created
dṛṣṭānta: yathā ākāśam
corroboration: like space
upanaya: yathā ca a-kṛtakam ākāśam tat ca nityam tathā puruṣaḥ
application: as the sky is uncreated and it is eternal, so is the soul uncreated
nigamana: tasmāt nityaḥ
conclusion: therefore, the soul is eternal

This form of the argument clearly reflects the debate situation. First, one propounds a proposition, that is, one sets forth a proposition to be proved. One then states the ground, or reason, for the proposition one is propounding. Next, one corroborates with an example which illustrates the connection implicit between the property mentioned in the proposition and the property adduced as its ground. The immediately ensuing step, the application, spells out the similarity between the example and the subject of the proposition. Notice that this part of the argument retains the vestiges of the analogical reasoning which is no doubt its predecessor. Finally, one asserts the proposition.

The remaining texts are found in the Buddhist philosophical literature. The earliest text which contains passages pertaining to argument and inference and which has only recently been brought to the attention of scholars is the *Spitzer Manuscript*. The text, comprising about one thousand very small fragments, was discovered and studied by Moritz Spitzer in 1906. Eli Franco, who has studied and

edited the fragments, dates the text to the third century CE (Franco 2003). Another Buddhist text, one of unknown authorship, whose original Sanskrit has been lost, but whose translations into Tibetan and Chinese have been preserved, is the *Saṃdhi-nirmocana-sūtra*. This text, first translated into French by Étienne Lamotte (1935), contains in its tenth chapter a short section on reasoning.

The earliest identified Buddhist author to write on argument and inference is the idealist Asaṅga (circa fourth century CE). One passage occurs in his *Abhidharma-samuccaya*, another occurs at the end of a chapter of his *Yogācāra-bhūmi-śāstra* and a third occurs in a work which survives only in Chinese translation, *Shun Zheng Lun* (Treatise on According with What is Correct). Shortly after him, Vasubandhu (circa fifth century CE), another Buddhist idealist, thought to be the younger brother of Asaṅga, wrote at least three works on debate: the *Vāda-hṛdaya*, the *Vāda-vidhāna* and the *Vāda-vidhi*. No Sanskrit original survives of any of these, though Sanskrit fragments of the last have been collected by Frauwallner (1957).

As Katsura (1986a, 165) has shown, the works of the Buddhist philosopher Vasubandhu (fifth century CE) seem to be the earliest extant works which provide a formal characterization of inference. Vasubandhu holds that inference has only three parts, a subject (*pakṣa*) and two properties, one the property to be established (*sādhya*) in the subject and another which is the ground (*hetu*). Exploiting an idea ascribed by his coreligionist Asaṅga in his *Shun Zheng Lun* to an unknown school (thought by at least one scholar to be the Sāṃkhya school), he maintained that a ground in an inference is a proper one if, and only if, it satisfies three conditions—the so-called *trirūpa-hetu*, or the grounding property (*hetu*) in its three forms. The first form is that the grounding property (*hetu*) (*H*) occur in the subject of an inference (*pakṣa*) (*p*). The second is that the grounding property (*H*) occur in things similar to the subject insofar as they have the property to be established (*sādhya*) (*S*). And third, the grounding property (*H*) not occur in things dissimilar from the subject insofar as they lack the property to be established (*S*). These conditions can be viewed as a partial specification of the validity of inferences of this form:

> *thesis (pakṣa)*: *p* has *S*.
> *ground (hetu)*: *p* has *H*.
> *indispensability (avinābhāva)*: Whatever has *H* has *S*.

The first condition corresponds to the premiss labelled *ground* in the schema above, while the second two correspond to the premiss labelled *indispensability*. In his *Vāda-vidhi*, Vasubandhu makes clear that the relation, knowledge of which is necessary for inference, is not just any in a miscellany of material relations, but a formal relation, which he designates, in some places, as *a-vinā-bhāva*, or indispensability—literally, not being without (cp. the Latin expression *sine qua non*)—and in others, as *nāntarīyakatva*, or immediacy—literally, being unmediated (Katsura 1986b, 5).

Finally, there are three works of unknown author and of unknown date which have survived only in Chinese translation: one is *Xian Chang Sheng Jiao Lun* (Treatise which Reveals and Disseminates the Wise Teachings), whose Sanskrit title G. Tucci gives as *Prakaraṇa-ārya-vācā-śāstra* and E. Lamotte gives as *Ārya-deśanā-śāstra*; another is the *Ru Shi Lun* (Treatise on Truth), translated back into

Sanskrit by Tucci (1929) and given by him the Sanskrit title *Tarka-śāstra*; and the third is the *Fang Bian Xin Lun* (Core Treatise on Means), also translated back into Sanskrit by Tucci (1929), whose Sanskrit title Tucci renders as *Upāya-hṛdaya*, while Frauwallner renders as it *Prayoga-sāra*.

3 Fang Bian Xin Lun

There have been various conjectures as to what the Sanskrit title of the *Fang Bian Xin Lun* might have been: *Upāya-kauśalya-hṛdaya*, *Prayoga-sāra* (Frauwallner) and *Upāya-hṛdaya* (Tucci). The text was translated into Sanskrit by Tucci (1929).

No author is attributed to the text either by Tucci (1929) or by the *Encyclopedia of Indian Philosophy* (Potter 1983, 449) or by the *Terminologie der frühen philosophischen Scholastik in Indien* (Oberhammer et al. 1996, 192). Recently, Kajiyama (1989) has suggested that its author is Nāgārjuna. His evidence are the similarities of such works as *Vaidalya-prakaraṇa* and the *Vigraha-vyāvartinī*, both thought to be works of Nāgārjuna. This attribution has been rejected by Lindtner (1987, fn. 45). He cites Ui (no citation) and Nakamura (1977, 85) as also disputing such an attribution. Lindtner points out that this text is not mentioned in any of the subsequent Svātantrika-Prāsaṅgika controversy. He also notes that, while Nāgārjuna always argued by *reductio ad absurdum* (*prasaṅga*), the *Fang Bian Xin Lun* nowhere discusses *reductio ad absurdum*. Even more surprising would be the fact that, while Nāgārjuna rejects the validity of debate in both of the texts above, the author of the *Fang Bian Xin Lun* argues for the utility of debate in helping to propagate Buddhist doctrine. (See the translation below.)

Prof. Masaaki Hattori, who is preparing a translation of the text into Japanese, has suggested that the text might be the result of a compilation various texts. This conjecture, if true, would explain many of the anomalies *Fang Bian Xin Lun* presents.

3.1 Outline

The following is an outline of the *Fang Bian Xin Lun*.
Chapter 1: Understanding Debate

1.0 Topic and Purpose of the Treatise
1.1 The Principles of Debate
1.2 The Eight Principles of Debate
1.2.1 Summary
1.2.2 Details
1.2.2.1 *dṛṣṭānta* (examples)
1.2.2.2 *siddhānta* (established theses)
1.2.2.3 *vākya-praśaṃsā* (excellence of speech)
1.2.2.4 *prāpta-kāla-vākya* (timely speech)
1.2.2.5 *vākya-doṣa* (deficiency of speech)

3.2 Sample Translation

Below is a translation of the opening and closing sections of the text. This translation is based on work done in collaboration with S. Katsura, which has benefitted from discussions with E. Prets. A scholarly translation of the entire text, in collaboration with these two scholars, will appear shortly.

Chapter 1: Understanding Debate
[Topic and Purpose of the Treatise]

If one is able to understand this treatise, one will grasp all the principles of debate. Thus, I shall now expound at length this deep and far reaching subject matter.

Question [23.2.6]:
One should not engage in debate. Why? All those who engage in debate, by and large, promote hatred, arrogance and pride. Their thoughts are confused and their minds are rarely gentle or peaceful. They point out what is bad in others and proclaim what is good in themselves. The wise denounce many such faults. Therefore, all spiritually noble (*ārya*) people use unlimited means to cut off

debaters. The wise are usually happy to keep them at a distance, just as they are (happy) to avoid vessels of poison. Furthermore, those who engage in debate, even if they are truly harmonious and gentle on the inside, evince many faults on the outside. Therefore, if one wishes to benefit oneself and others, one ought to avoid the principles of debate.

Answer [23.2.11]:

This is not so. Now I have not undertaken this treatise for the sake of victory or to increase profit or fame. Rather, I wish to reveal all features (*lakṣaṇa*), good and bad, [in debate]. Therefore I compose this treatise.

If the world had no debate, the confused would be many. Then, due to people's perverse ideas and wily rhetoric, their general confusion would give rise to bad deeds and they would have evil incarnations and would lose real benefits. If, then, one who understands debate himself distinguishes its good, bad and useless features, then many devils and adherents of other views will not be able to vex and harm him, thereby putting up obstacles [to his *nirvāṇa*]. Therefore, to benefit people, I compose this corrective treatise. Furthermore, I wish to spread the true teaching of the Buddha all over the world. Just as, in order to cultivate the fruits of mango trees, one plants widely around them thickets of brambles so as to protect their fruits, now in writing [this] treatise I too act in the same way, for I wish to protect the true teaching of the Buddha (*dharma*) and I do not seek fame. Those whom you mentioned earlier as good at debate are not like this. In order to protect the teaching of the Buddha (*dharma*), I must write [this] treatise.

[The Principles of Debate]

Question [23.2.21]:

You said before [i.e., in the verse] that those who are able to understand this treatise will grasp all the principles of debate. You should state what they are [lit.: their defining features (*lakṣaṇa*)].

Answer:

In this treatise, I distinguish eight rubrics. If someone can grasp and understand their significance, then he can grasp and understand [the significance of] all other treatises. Just as when one plants rice and barley and waters them, good sprouts become luxuriant. [But] if one does not remove the weeds [lit. darnels], then good grain will not grow. Even if someone hears these eight rubrics but does not understand their significance, doubts will arise regarding [the significance of] all treatises. If someone clearly understands the significance of these eight [rubrics], he will definitely be able to understand all the principles of debate.

Question [23.3.1]:

You said that those who understand this treatise will definitely comprehend the principles of debate. Now, do all the non-Buddhist schools have principles of debate?

Answer:

They do. For example, the Vaiśeṣikas have six categories: substance (*dravya*), quality (*guṇa*), universal (*sāmānya*), particularity (*viśeṣa*), action (*karma*) and inherence (*samavāya*). These and similar things are all called principles of debate. Even if one grasps [them] well, still one will not comprehend all the other *sūtras* and treatises.

[Summary of the Eight Principles]

Thus [23.3.5], I should state briefly our eight profound principles of debate so as to open the door to all treatises and to eliminate sophistry: example (*dṛṣṭānta*), established thesis (*siddhānta*), excellence of speech (*vākya-praśaṃsā*), deficiency of speech (*vākya-doṣa*), means of knowledge (*pramāṇa*), timely speech (*prāpta-kāla-vākya*), specious and false reasons (*hetvābhāsa*) and equivocating objections (*vāk-chala*).

There are two kinds of examples: a complete example and an incomplete example. An established thesis is a final truth. Excellence of speech is said to be the accord of speech with fact. Deficiency of speech is said to be the opposition of speech to reason. The means of knowledge (*pramāṇa*) can be either of two reasons for knowledge: one is the reason for arising (*kāraṇa-hetu*) and the other is the reason for understanding (*jñāpaka-hetu*). As for timely speech, the case where someone first speaks of the elements (*dhātu*) and the sense fields (*āyatana*) and then speaks of the five groups (*skandha*) is called untimely speech. The case where someone understands well proper order in speaking is said to be timely speech. A specious reason (*hetu-ābhāsa*) is where the [rays of the blazing] sun appear like water but in fact they are not water. The case of a debater (*vādin*) who states with solemnity and polish that the rays are water is said to be a specious reason. Equivocating objection is where someone speaks of new (*nava*) clothes, [whereupon] one immediately then objects to this saying: clothes are not time (*vastram na kālaḥ*); why do you say 'new'? Such cases are called equivocating objections.

Now that I have stated briefly these eight rubrics, let me explain more fully what they are [lit. their defining features (*lakṣaṇa*)] in due order.

[Section 4.4: Conclusion]

The author says that he has already explained the essence of the principles of discussion earlier. The essence of this treatise is the basis for all debate. Because of this treatise, one can widely engage in questions and answers and increase wisdom. Just as when one plants seeds in good earth, their roots and sprouts flourish, and when one plants them in bad fields, there is no fruit. These principles are also the same. If one has wisdom and is good at reflection, then one can widely engage in (lit. give rise to) all (kinds of) debate. But stupid people, lacking in wisdom, even if they study this treatise, nonetheless cannot understand (these principles). They then are not said to be ones really gifted with insight. Therefore, all those who wish to produce real wisdom and to distinguish right from wrong, ought to practice assiduously debate (in accordance) with these proper principles.

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