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विपर्ययः

Proof by the Reverse: Contraposition and the Control

डॉ. मन्था-श्रीनिवासुः · Dr. Mantha Srinivasu · 12 Nov 2026 · AŚ 15.1.36–37; Su. Utt. 65.21

Abstract

Viparyaya, "reversal", is the device by which a text establishes one thing by stating its opposite. Kauṭilya defines it as "establishing by the reverse" and gives the shortest example in all the tantrayukti lists: after setting out the signs by which a courtier can tell that the king is pleased with him, he adds only "the reverse for one who is not pleased." Suśruta defines it as "the reverse of whatever is stated here": when it is said that "the emaciated, the weak and the timid are hard to treat", the reverse is understood — the sturdy and the rest are easy to treat. Cakrapāṇi defines it as "an example in the contrary direction from what has been set aside", and cites a refrain from Caraka's chapter on *gulma*: "the things stated as its causes do not suit it, and their opposites do." This last example connects the device with *upaśaya*, the therapeutic test by opposites that Caraka counts among the five means of knowing a disease. This article shows that viparyaya rests on a polarity in the subject matter — pleased and displeased, weak and sturdy, cause and remedy — and answers three objections: that it is the same as arthāpatti, that reversal is a logical fallacy, and that the word means "error" in the philosophical schools. It concludes that viparyaya is the economy of opposites in a śāstra and the ancestor of the control group: knowing a thing by what happens with its contrary.

Keywords: viparyaya; tantrayukti; reversal; contrary; polarity; contraposition; upaśaya; therapeutic test; control group; differential diagnosis; Arthaśāstra; Suśruta; Caraka; gulma

1. प्रवेशः · Place in the lists

Viparyaya is sixteenth in Kauṭilya's list, fourteenth in Suśruta's and nineteenth in Caraka's. In Kauṭilya it follows prasaṅga (TY-16); in Suśruta it follows arthāpatti (TY-14), with which it is closely related. The word, *vi-pari-√i*, "to go round the other way", means turning over, inversion. In the philosophical schools it usually means error — taking a thing for its opposite — but in the tantrayukti it is the deliberate and correct use of the opposite.

2. लक्षणानि · The definitions

> प्रतिलोमेन साधनं विपर्ययः
>
> विपरीतमतुष्टस्येति
>
> "Establishing by the reverse is viparyaya." — Example: "The reverse for one who is not pleased."
>
> Kauṭilya, *Arthaśāstra* 15.1.36–37

> यद्यत्राभिहितं तस्य प्रातिलोम्यं विपर्ययः। यथा कृशाल्पप्राणभीरवो दुश्चिकित्स्या इत्युक्ते विपरीतं गृह्यते दृढादयः सुचिकित्स्या इति ॥
>
> "The reverse of whatever is stated here is viparyaya. For example: when it is said 'the emaciated, those of little vitality and the timid are hard to treat', the reverse is understood: 'the sturdy and the rest are easy to treat'."
>
> Suśruta, *Uttaratantra* 65.21

> विपर्ययो नाम अपकृष्टात् प्रतीपोदाहरणं; यथा- "निदानोक्तान्यस्य नोपशेरते विपरीतानि चोपशेरते" (नि.अ.३) इति।
>
> "Viparyaya is an example in the contrary direction from what has been set aside. For example: 'the things stated as its causes do not suit it, and their opposites do suit it' (Nidānasthāna 3)."
>
> Cakrapāṇidatta, *Āyurvedadīpikā* on Caraka, *Siddhisthāna* 12.41–44

3. लक्षणपरीक्षा · Testing the definitions

3.1 Three polarities

Authority	Stated	Reversed	Polarity
Kauṭilya	The signs of a pleased king	The signs of a displeased king	Pleased / displeased
Suśruta	The weak are hard to treat	The sturdy are easy to treat	Weak / sturdy; hard / easy
Caraka (Cakrapāṇi)	The causes aggravate	Their opposites relieve	Cause / remedy

In each case the subject matter has two poles, and a statement about one pole yields, by reversal, a statement about the other. Kauṭilya's example shows the economy at its extreme. In his chapter on the envoy, he lists the signs by which an envoy can tell that the king to whom he is sent is pleased:

> परस्य वाचि वक्त्रे दृष्ट्यां च प्रसादं वाक्यपूजनमिष्टपरिप्रश्नं गुणकथासङ्गमासन्नमासनं सत्कारमिष्टेषु स्मरणं विश्वासगमनं च लक्षयेत्तुष्टस्य, विपरीतमतुष्टस्य ॥
>
> "He should note, in the other's speech, face and glance, graciousness; respect for his words; inquiry about what he desires; delight in talk of his merits; a seat close by; honour; remembrance in times of pleasure; and the showing of confidence — (these) of one who is pleased; the reverse, of one who is not pleased."
>
> Kauṭilya, *Arthaśāstra* 1.16.12

A whole list of signs is reversed in three words, and the reader is trusted to invert each item. The courtier's chapter uses the same device again: "this very (list), reversed, (is the sign) of one not pleased" (AŚ 5.5.8).

3.2 Suśruta: reversal of every term

Suśruta's definition contains the word *prātilomya*, "going against the grain". In his example both terms of the proposition are reversed together: the subject (weak → sturdy) and the predicate (hard to treat → easy to treat). This double reversal is what distinguishes viparyaya from a simple negation. "The weak are hard to treat" does not yield "the non-weak are not hard to treat" but "the sturdy are easy to treat" — a positive statement about the opposite class.

3.3 Caraka: the test by opposites

Cakrapāṇi's example is a refrain that closes Caraka's description of the pitta and kapha types of gulma (Nidānasthāna 3.9, 3.11) and other diseases: *nidānoktāni cāsya nopaśerate, viparītāni copaśerate* — "the things stated as its causes do not suit it, and their opposites suit it." Its significance is diagnostic. Caraka counts among the means of knowing a disease *upaśaya*, which he defines in the first chapter of the Nidānasthāna:

> उपशयः पुनर्हेतुव्याधिविपरीतानां विपरीतार्थकारिणां चौषधाहारविहाराणामुपयोगः सुखानुबन्धः ॥
>
> "Upaśaya, again, is the use, with pleasant result, of medicines, diet and regimen that are opposite to the cause or to the disease, or that act to produce an opposite effect."
>
> Caraka, *Nidānasthāna* 1.10

The refrain thus turns viparyaya into a test. If a condition is aggravated by what is said to cause it and relieved by its opposite, the diagnosis is confirmed. Cakrapāṇi's phrase "from what has been set aside" (*apakṛṣṭāt*) points to this: the causes, already listed and set aside, are reversed to give the therapeutic example.

4. पूर्वपक्षः खण्डनं मण्डनं च · Objections and replies

4.1 Is viparyaya not the same as arthāpatti?

ननु अर्थापत्तौ अपि विपरीतम् आपद्यते — “प्रियहितद्वारेणाश्रयेत” इत्युक्ते “नाप्रियहितद्वारेण” इति; “नक्तं दधि न” इत्युक्ते “दिवा” इति। विपर्यये अपि विपरीतं गृह्यते। अतः द्वयोः भेदः नास्ति इति चेत्, न। अर्थापत्तिः अनुक्तं प्रतिपादयति, यत् उक्तस्य उपपत्तये आवश्यकम्; तत्र विपरीतम् उक्तस्य अर्थस्य अवयवः — विशेषणं व्यर्थं मा भूत् इति। विपर्ययः तु विषये स्थितं द्वन्द्वम् आश्रित्य एकस्य पक्षस्य वचनेन अपरस्य पक्षस्य साधनम् — “प्रतिलोमेन साधनम्”। तत्र विपरीतः पक्षः स्वतन्त्रः अर्थः — तुष्टस्य लिङ्गानि एकः विषयः, अतुष्टस्य अन्यः। अर्थापत्तिः वाक्याश्रया, विपर्ययः वस्त्वाश्रयः। किञ्च विपर्यये सर्वाणि पदानि प्रतिलोमीक्रियन्ते — “दृढादयः सुचिकित्स्याः” इति उद्देश्यं विधेयं च।

Objection: in arthāpatti too the contrary follows — from “one should approach through what is pleasing and beneficial” follows “not through what is unpleasant and harmful”; from “no curd at night”, “by day”. In viparyaya too the contrary is taken. So there is no difference between them. **Reply:** No. Arthāpatti conveys something unstated that is needed for the stated sentence to make sense; there the contrary is part of the meaning of what is stated — so that a qualification is not idle. Viparyaya relies on a polarity in the subject matter, and establishes one pole by a statement about the other — “establishing by the reverse”. There the opposite pole is an independent matter: the signs of a pleased king are one subject, those of a displeased king another. Arthāpatti rests on the sentence; viparyaya rests on the thing. Moreover, in viparyaya every term is reversed — “the sturdy and the rest are easy to treat” — subject and predicate alike.

Śaṅkā–samādhāna composed for this article.

4.2 Is reversal not a fallacy?

ननु “कृशाः दुश्चिकित्स्याः” इत्यतः “दृढाः सुचिकित्स्याः” इति न नियमेन सिध्यति — दृढः अपि असाध्यरोगेण ग्रस्तः दुश्चिकित्स्यः भवति। तर्कशास्त्रे अपि “यदि अ तर्हि आ” इत्यतः “यदि न अ तर्हि न आ” इति हेत्वाभासः। अतः विपर्ययः अप्रमाणम् इति चेत्, न। विपर्ययः तत्र एव प्रवर्तते यत्र विषये द्वन्द्वं कारणभूतम् — बलं चिकित्सासाध्यतायाः कारणम्, अबलं दुःसाध्यतायाः। कारणस्य विपर्यये कार्यस्य विपर्ययः — “तुल्ये ऽन्यस्मिन्” इति अनुक्ता अपि शर्तः। अतः “दृढाः सुचिकित्स्याः” इति अन्येषु समानेषु, बलापेक्षया एव। उपशये अपि एवम् — निदानविपरीतम् उपशेते इति निदानस्य कारणत्वात्। यत्र द्वन्द्वं न कारणं, तत्र विपर्ययः न प्रवर्तते — स विपर्ययाभासः।

Objection: from "the emaciated are hard to treat" it does not follow necessarily that "the sturdy are easy to treat" — a sturdy person with an incurable disease is hard to treat. In logic, too, inferring "if not A then not B" from "if A then B" is a fallacy. So viparyaya is not valid. **Reply:** No. Viparyaya operates only where the polarity in the subject is causal: strength is the cause of treatability, weakness of difficulty. When the cause is reversed, the effect is reversed — with the unstated condition "other things being equal". So "the sturdy are easy to treat" holds other things being equal, with respect to strength alone. The same holds in upaśaya: the opposite of the cause relieves, because the cause was a cause. Where the polarity is not causal, viparyaya does not apply; to apply it there is the semblance of viparyaya.

Śaṅkā–samādhāna composed for this article.

4.3 Does viparyaya not mean error?

ननु योगसूत्रे "विपर्ययो मिथ्याज्ञानमतद्रूपप्रतिष्ठम्" इति, सांख्ये "विपर्ययाद्बन्धः" इति। विपर्ययः भ्रान्तिः। कथं भ्रान्तिः शास्त्रस्य युक्तिः भवेत् इति चेत्, न। शब्दः एकः, अर्थः भिन्नः। दर्शने विपर्ययः वस्तुनि अतद्रूपस्य ग्रहणम् — शुक्तौ रजतम्। तन्त्रयुक्तौ विपर्ययः विपरीतस्य जानतः विपरीतत्वेन एव ग्रहणम् — अतुष्टस्य लिङ्गानि तुष्टलिङ्गविपरीतानि इति। भ्रान्तः विपरीतं न जानाति; युक्तिप्रयोक्ता जानाति। भ्रान्तिः एकं अन्यत्वेन गृह्णाति, युक्तिः एकेन अन्यत् साधयति। अपि च विपर्ययज्ञानं भ्रान्तिनिवृत्तेः अपि साधनम् — तुष्टातुष्टलिङ्गयोः विवेकेन सेवकः भ्रमात् रक्ष्यते।

Objection: in the Yogasūtra "viparyaya is false knowledge, resting on a form not its own"; in Sāṃkhya "bondage comes from viparyaya". Viparyaya is error. How can error be a device of a śāstra? **Reply:** The word is one, the meaning different. In philosophy, viparyaya is grasping in a thing a form that is not its own — silver in mother-of-pearl. In tantrayukti, viparyaya is grasping the opposite, knowingly, as the opposite — the signs of the displeased king as the reverse of those of the pleased. One in error does not know he has reversed; one using the device does. Error takes one thing as another; the device establishes one thing by means of another. Indeed, knowledge by reversal is a means of removing error: by distinguishing the signs of pleasure and displeasure, the courtier is protected from misreading his king.

Śaṅkā–samādhāna composed for this article.

5. सिद्धान्तः · The settled view

विषये कारणभूते द्वन्द्वे सति, एकस्य पक्षस्य वचनेन, सर्वेषां पदानां प्रातिलोम्येन, अपरस्य पक्षस्य — अन्येषु समानेषु — साधनं, सः विपर्ययः।

"Viparyaya is the establishing, where the subject has a causal polarity, of one pole by a statement about the other, through the reversal of all its terms — other things being equal."

Definition composed for this article.

The three conditions — a causal polarity, reversal of every term, and "other things being equal" — gather Kauṭilya's form, Suśruta's *prātilomya* and the answer to the charge of fallacy. Caraka's therapeutic test is the case in which the polarity is between a cause and its remedy.

6. आधुनिकसंवादः · The modern counterpart

Classical form	Modern counterpart
Kauṭilya: "the reverse for the displeased"	Defining a category by its contrast class; checklists with paired positive and negative indicators
Suśruta: reversal of subject and predicate	Prognostic factors stated as a gradient (poor prognosis ↔ good prognosis)
Caraka: causes aggravate, opposites relieve	The **therapeutic trial** as diagnostic test; dechallenge and rechallenge in pharmacology
"Other things being equal"	The **control group**: comparing outcomes under opposite conditions with other factors held constant
The semblance of viparyaya	The fallacy of denying the antecedent; confusing correlation in one direction with causation

The logic of a controlled experiment is viparyaya: if a factor causes an effect, its absence (or opposite), other things equal, should produce the opposite. Caraka's refrain applies the same logic at the bedside.

7. प्रयोगाः · Uses

7.1 In research

When a finding concerns one pole of a variable, ask whether the reverse holds at the other pole, and test it rather than assume it. In designing studies, use the control as Caraka uses upaśaya: what happens under the opposite condition? In writing, use Kauṭilya's economy — state one side fully and the reverse briefly — but only where the polarity is genuinely causal.

7.2 In teaching

After teaching the signs or causes of one condition, ask students to state the reverse, and then to find a case where the reverse does not hold. They learn both the economy of opposites and its limit.

7.3 In daily life

If something makes a problem worse, its opposite often helps — the common sense behind Caraka's refrain. But not always: "other things being equal" is the clause to remember before reversing advice.

8. अभ्यासः · Exercise

1. Read the list of signs of a pleased king in AŚ 1.16.12 (or 5.5) and write out its reverse in full. Are there any items whose reverse is not a sign of displeasure?
2. Find a proposition in your field of the form "X-type cases are hard to …". State its viparyaya and the evidence for or against it.
3. Design a simple study in which Caraka's upaśaya logic serves as the test: what is the factor, what is its opposite, and what is held equal?

9. उपसंहारः · Conclusion

Viparyaya establishes one thing by stating its opposite. Kauṭilya reverses a list in three words, Suśruta reverses every term of a prognostic rule, and Cakrapāṇi's example from Caraka turns reversal into a diagnostic test. The device differs from arthāpatti because it rests on a polarity in the thing rather than a requirement of the sentence; it is not a fallacy where the polarity is causal and other things are equal; and it is not error, because it knows its reversal as reversal. The control group and the therapeutic trial are its modern heirs.

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