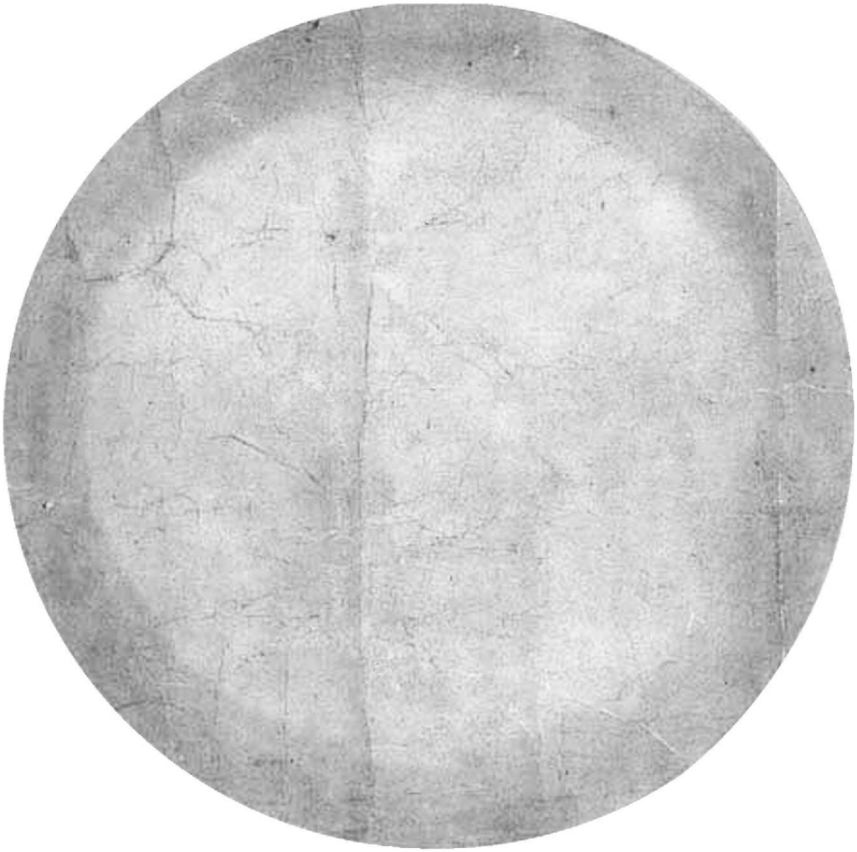
# Emptiness

## Panacea



## Philosophy & Experience

WIM VAN DEN DUNGEN

# Emptiness *Panacea*

## Philosophy and Experience

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'For whom emptiness is possible,
Everything is possible.
For whom emptiness is not possible,
Nothing is possible.'

Nāgārjuna, *Fundamental Verses on the Middle Way*, XXIV:14

'All of these practices were taught
By the Mighty One for the sake of wisdom.
Therefore those who wish to pacify suffering
Should generate this wisdom.'

Śāntideva, *A Guide to the Bodhisattva's Way of Life, IX:1*

# Preface

This book may be condensed into four words : 'no substance, only process.' If understood, quench the fire driving you to read it.

Emptiness (*śūnyatā*) is the heart of the Buddhayāna, the 'vehicle' (*yāna*) of the Buddha. *Śūnyatā* is the noun form of the adjective *śūnya*, meaning 'void, zero, nothing and empty,' from the root *śvi*, or 'hollow.' However, emptiness does not mean 'nothing,' and instead refers to the *absence* of something, to the fact an object has been negated, is deemed *not* to be present, and nowhere to be found. So, the 'zero' is not mathematical, as if emptiness would be nothingness, but stands for a second-order, pointing to what is *not* there amongst what is given. What is found wanting ? A certain common way of existence entertained by most of us ...

Subjectively, any enduring, settled sense of 'I' or 'me' is lacking. 'I-am-ness' (*asmitā*), giving rise to what Buddhist yogis call 'self-love' (*ātmasneha*), is the root of all possible 'foes' or mental and affective disturbances. When the base of the mind is turned (*āśraya-parāvṛtti*), a *liberated* state ensues. This mind no longer attends the aggregates (*skandhas*) as permanent but as impermanent ; not fixating or holding on to anything (the liberation of the Arhat).

Objectively, emptiness refers to the absence of inherent existence, to the fact that no independent, self-existent, and permanent material can be found anywhere. The Bodhisattva may fully awake to this ultimate property of all existing things called 'emptiness,' thus entering what is the case (*tathātā*) or Buddhahood.

At Bodh Gaya, Siddhārtha Gautama, the 'prince' of the clan of the Śākya's, wholly realized, without any sense of 'I' or 'mine,' the lack of inherent existence of all phenomena and entered *nirvāṇa* as Buddha Śākyamuni, the Awakened One (*bodhi*). Not long after, his excellent *dharma* about selflessness (*anātman*) –because of its salvic effect– touched all walks of Indian life, moved beyond the social system (of casts), appealed to both poor and rich, causing a social revolution, a new monastic system, and a strict nominalist mindset, contrasting starkly with Hindu substantialism.

After creatively interacting with Hinduism for many centuries, the bloody violence of an invading Islam would force Buddhism out of India, influencing countless nations and, finally, the world at large.

In Theravāda, *anātman* is the realization a self-sufficient, fixed self does not exist, *in casu* the non-existence of the Hindu *ātman* or *puruṣa*, contrasting with the Mahāyāna intent to realize the absence of any permanency, to identify an *impossible way for things to exist*. In the West, Madhyamaka literature expounding universal emptiness is mostly based on Indo-Tibetan logic, epistemology, and Buddhology, on the potent tenet-approach, and the insistence Nāgārjuna's view is definitive, and so the best philosophical view (*prajñā*). Suppose Western-based epistemology, linguistics, neurophilosophy were used to explain text and practice ...

In Tibet, the absence of 'self,' subjective as well as objective, or self-emptiness, is the view of Tsongkhapa's Gelugpas ; '*rangtong*' (self-emptiness). They are strong on logic, epistemology, and reason. However, at best, they realize a contrived, fabricated, proximate ultimate. This top-class understanding does not generate a *continuous* quasi unconscious (automatic) operator busy with ongoingly zeroing the reification of concepts in the cognizing mindstream. Mainly during Emptiness Meditation is the emptiness of this-or-that object realized. While extraordinary, it is still the mind fooling the mind.

Yogis maintain a contrasting view, called '*shentong*' or other-emptiness. This outlook is held by prominent members of various Tibetan monastic orders, like the Nyingmapas, Kagyupas, and Jonangpas, adhering to *mahāmadyamaka*, accepting the claim Nāgārjuna's view is definitive, but introducing a fully enlightened Inner Buddha (*tathāgatagarbha*). To avoid sectarianism, the approach of the non-partisan *rimé*-movement is helpful. While Rangtong proves to be the best philosophical approach (*prajñā* as *sophia*), Shentong is the best yogic take (*jñāna* as *gnosis*), explaining the path of direct, naked cognition (prehension), practicing mindfulness in every moment (the root *jñā*, to know, is the same as the root *gno* in *gnosis*). At worst, Shentong produces bad philosophy, and Rangtong a weak practice. Beyond wanting to explain the Tibetan Prāsaṅgika by also contrasting it with its opponents, the case Rangtong is definitive and Shentong provisional (interpretative) is very strong, if not finally

settled. However, those who recognize the Inner Buddha, no doubt, experience *gnosis* and are able to end all self-grasping irreversibly.

This book gives body to my intent to help understand emptiness, so its *salvic power* may benefit as many as possible. Healing mind is related to the fact common Emptiness Meditation clears emotional and mental afflictions, whereas 'seeing' emptiness is a nondual state of mind, fostering nondual perception, nondual thought, and nondual action. These aspects of the awake mind lack substance-obsession, heal the obscurations and end the conflicts resulting from a lack of actions uprooting suffering. Awakening brings in compassion in every moment, doing what Buddhas do.

It was a daunting task to try to find Ariadne's thread in a significant selection from the *corpus* of English texts on the subject published in the last 50 years by this vast assembly of Rinpoches, scholars, yogis, students and devotees of the five schools of Tibetan Buddhism.

I thank them from the bottom of my heart, in particular, H.H. the XIVth Dalai Lama. By mentioning him, I mention them all.

No doubt, this book is provisional, incomplete, and depending on the many limitations of my mind. I apologize for the mistakes and always remain open to learning.

I dedicate the merits of this effort to the Field of Merit. I pray that all sentient beings may benefit and recognize their Buddha Within and thus find *true* peace.

Wim van den Dungen

Brasschaat
September 2017

**Fig. 1** Buddha Śākyamuni

*OṂ MUNI MUNI MAHĀMUNI ŚĀKYAMUNI SVĀHĀ*

# Introduction

Over two and a half millennia ago, Indian thought was a *mélange* of spiritual teachings, mostly rooted in the *Vedas*. Philosophy, an integral part of spiritual inquiry, and ontology, in particular, sought to understand how phenomena (persons, things, events) existed. Have they something in common ? Or something they all share ? What is the ultimate reality of how they exist ? Answers (or views) served the path towards the fruit of salvation, the liberation (*mokśa*) from cyclic existence (*saṃsāra*).

In many ways, Buddha's teachings conformed to and developed from these orthodox Brahmin teachings. Brahmanism was the religion of the orthodox. Various religious groups rose in relation to and reaction against Vedic thought. Around 700 BCE, if not earlier, Brahmins, Jains, non-Vedic renunciants, and a variety of sects shared views concerning karmic law, cyclic existence and liberation. They trained in countless ethical guidelines and yogic practices and exchanged these with others. The Buddhadharma was part of this mix. What was its outstanding feature ?

Buddha Śākyamuni's message is simple : we all search for happiness and fail to find it because we are looking for it in the wrong way. To end this defect, an understanding of the nature of reality different than the habitual one is called for. His contemporaries either rejected the idea all existents share a common, ultimate property, rooting their understanding in nihilism[(1)], or they vehemently affirmed ultimate reality to be eternal and existing by its own power. Avoiding the extremes of luxury and abject mortification, Buddha proposed a Middle Way, later reformulated as steering away from both a self-sufficient ultimate reality (eternalism) and the total absence of common ground (annihilationism). The Middle Way is an expedient to enlightenment Buddha realized *after* his life as a prince, traditional yogi, and ascetic ! The wisdom of the Buddha is not speculative, for the need to realize *how reality ultimately exists* driven by salvic necessity ! Without this, our ignorance never stops. Given that delusion, craving, and hatred cannot be eradicated and happiness remains elusive. Without the wisdom realizing the ultimate nature of what exists, freedom is impossible. It all depends on eliminating the reification of self and others.

Born of delusion and natural law (*karma*), all sentient beings are caught up in cyclic existence. Without insight into how reality truly exists, we are powerless to break away from this vicious farce. Buddha's worldview is soteriological, not merely an understanding of the world. He seeks to *deliver* all sentient beings, *irreversibly* ending their suffering (*duḥkha*). This outlook he shares with other Indian spiritual teachers, but the way he goes about doing it is wholly different and unorthodox.

The cause of our ignorance is an ongoing *misapprehension*, misconceiving the correct way things exist. Instinctively and intellectually, we are *trapped* in an ignorance *ascribing existence to something which has none*. We are mostly not even aware of this misknowledge.

Buddha was revolutionary when he affirmed sentient beings to have 'no self' (*anātman*), i.e., that they lacked fixed, permanent, unchanging, solid, uncaused existence. In the Vedic context, such as assertion was outrageous, for all other spiritual teachers upheld the idea a transcendent, eternal essence existed. Realizing this soul or self (*ātman*), this 'great man' (*puruṣa*) was the only way to be freed from the chains of cyclic existence and its ongoing suffering. For Buddha, the absence of inherent existence is the pivotal property on which all of *saṃsāra* hangs on. Failing to see this, is the cause of it all. From this basic mental obscuration, two branches spring : on the one hand, craving, exaggerated attachment or attraction, and, on the other, hatred, exaggerated aversion or rejection. These two reactive tendencies of the mind, triggering affirmation and negation, acceptance and rejection, pulling in and driving out, give birth to a vast array of emotional afflictions.

'All desire, hatred, enmity, jealousy, and so forth are seen as relying on a false estimation of the nature of oneself, other persons, and other phenomena ; therefore, *penetration of reality is at the heart of the practice of purification* in that realization of the actual nature of things serves to undermine all afflictive emotions. The aim is to emerge as a source of help and happiness for other beings, who are viewed as close friends wandering in a prison of cyclic repetition of birth, aging, sickness and death.' – Hopkins, *Emptiness Yoga*, 1995, p.37, my italics.

The most significant hurdle is to *understand* what is at hand. The Eightfold Path leading to the cessation of suffering begins with the Right View. So to end our predicament, we have to *know reality the best way we rationally can*. This Right View has, throughout the millennia, been interpreted in many different and conflicting ways, giving rise to Buddhist logic and philosophy. Given the numerous disputes, complex literature unfolded, clouding a clean-cut exposition of the heart of the Buddhadharma.

This book brings into evidence that the correct elucidation of the Right View is given by the Middle Way School (Madhyamaka) founded by Nāgārjuna. In his *Mūlamadhyamakakārikā* or *Fundamental Verses on the Middle Way*, written in the second century of the common era, he lay the groundwork for Madhyamaka ontology, conventional and ultimate. In this work, he refutes *svabhāva*, essence, quiddity, or own-nature. Emptiness, the central topic of the present text, refers back to this view of emptiness as a lack of independent, inherent, essential, or substantial existence.

Some commentators wrongly accused Nāgārjuna of nihilism, claiming he identified emptiness or absence of inherent existence with non-existence. The fact is that vacating substance unconceals process, the dependent-arising of all that exists. Emptiness is not nothingness or non-existence. The less substance-obsession is active, the clearer the interdependent network of events, and the better-equipped one is to benefit (oneself and others).

Without the overlay of non-existent delusions, one runs into how dependent origination organizes the universal interconnectedness between all possible phenomena, the sea of interexistent actual occasions.

'The declarations that Nāgārjuna has no views, no thesis or position certainly sound like assertions that he knows nothing at all about how things actually are. Understood in this way, emptiness would be a remedy (*niḥsaraṇam*) for views about how things actually are. Emptiness would mean, then, that Nāgārjuna states that *he has no knowledge of entitites in their real nature*. Emptiness would be the emptiness of all knowledge-claims concerning how things really are.' – Burton, *Emptiness Appraised*, 1999, p.31, my italics.

To bring this intention to fruition, contrary to so many great Eastern teachers who extensively and profoundly taught on emptiness in accord with traditional procedures[2], Western strict nominalism (Ockham, Kant, Wittgenstein, Whitehead, and criticism at large)[3] and neurophilosophy[4] are made part of the present attempt at understanding the ultimate nature of phenomena in terms of the crucial points of the Middle Way School approach, and in tune with contemporary epistemology and general science.

An attempt is made to harmonize transcendental logic and critical epistemology (cf. *Regulae*, 2016) with the decisive teachings regarding how to develop the wisdom realizing the ultimate nature of what exists, namely emptiness. This wisdom is twofold : conceptual (*vikalpa*) and nondual (*nirvikalpa*). While yogic practice (Yogācāra) is key and so integrated, the logic used is derived from Middle Way philosophy in general, and Prāsaṅgika Madhyamaka, the Critical Middle Way, in particular.

Emptiness does not mean non-existence.[5] The wisdom conceptually realizing emptiness (*prajñā*) understands that all phenomena lack permanent, essential properties. When the cognitive error, causing the superimposition of permanency on what is impermanent, completely stops, dependent origination, in other words, the universal interconnectedness of all existents dawns ; this is interexistence fully prehended.

Where can things eternally fixed in their being be found ? With *anātman*, Buddha Śākyamuni merely vacates substantial existence, i.e., existence from one's own side (*svarṭpa-siddhi*), with own-nature, (*svabhāva*) or self-subsisting self (*ātman*, *puruṣa*) ; an existence by way of one's own character (*svalakṣaṇa-siddhi*). Under ultimate analysis, such existence cannot be found. Even to perfect yogis, it is nonexistent. That is what emptiness is all about. All possible things, whatever they are called and whatever they do, are not substance-based, but process-based. It is that simple.

Because phenomena are empty, they can only exist as relations ; they are other-powered. Emptiness is the motor of process, of creative advance in togetherness. The opposite view, attributing substantial form, precludes change, transformation, and relation.

When phenomena are not reified, their conventional and ultimate properties appear together, and the dependent origination of their names and functions is entirely understood (*prajñāpāramitā*).

Phenomena can only perfectly interconnect if they are empty, i.e., possess nothing from their own side. To connect, interaction, togetherness, and interpenetration must be possible. What is substantial is eternal. Fixed, it cannot change. Devoid of impermanence, it cannot transform into anything else.

Emptiness is not a noun, but an adjective, a *property* of every phenomenon. When realized by reason, the apprehended object, the apprehended knowledge, and the apprehender are cognized as impermanent, i.e., changing from moment to moment. This happens precisely because they are in no way fixed or eternalized, totally devoid of substantial form, empty of self. This momentary simultaneity of appearance and its emptiness is the proximate ultimate, for still mediated by the generic idea of emptiness (cf. infra). Logic and philosophy, bound to concepts (*vikalpa*), can do no more.

Emptiness is also the direct experience of the yogis, recognizing the supramundane properties of Bodhi-mind, the awake mind, affirming it to be empty of everything other than itself ; just existing. Of this 'seeing emptiness' (*jñāna*), nothing can be said (*nirvikalpa*).

With the Old Translation School (Tib. *snga 'gyur*), as early as the 8th-century CE, the stage was set for Tibet to become the storehouse of Indian Buddhism. This school produced the first grand synthesis of all available teachings, pioneering a ninefold vehicle. Thus, Himalayan Buddhadharma was naturally protected from the violent repression striking the subcontinent.

With the New Translation School (Tib. *gsar ma*), emerging in the 11th-century, a vast monastic and scholastic tradition took root, remaining relatively undisturbed until 1959, when the XIVth Dalai Lama fled to India, trying to rebuild the institutions outside Tibet.

Since then, the Dharma has been propagated on all continents. Monasteries have been built, and Tibetan Buddhist teachings propagated. The time has come to understand the teachings from a Western perspective.

Tibetan scholasticism integrated the early stages of Indian Buddhism (Lesser Vehicle), as well as Sūtra and Tantra (Vajrayāna). It adopted its specific categories, like *prāsaṅgika* versus *śvātantrika*, Rangtong versus Shentong, etc. Nyingma, Kagyu, Sakya, Jonang, and Gelug schools each profess specific practices, both in terms of study, reflection, and meditation.(6)

> When the iron bird flies, and horses run on wheels, the Tibetan people will be scattered like ants across the world, and the Dharma will come to the land of the Red Man.
> – *attributed to Padmasambhāva*

In terms of philosophy, I accept the definitive nature of the view on emptiness given by Nāgārjuna and his Middle Way Consequence School, the so-called Prāsaṅgika-Madhyamaka, known in Tibet as Rangtong, 'self-emptiness.' However, in terms of meditative experience, the view of the Great Middle Way School (Shentong, 'other-emptiness' or Mahāmadyamaka) is not lost out of sight. The yogis walk the path of devotion and direct experience, and are no longer preoccupied with preparation and dereification of conceptual operations. In this book, the focus lies on understanding the Right View. The following texts identify this as the non-affirmative negation of inherent existence :

- Nāgārjuna (2th CE) : *Mūlamadhyamakakārikā* (*Fundamental Verses on the Middle Way*), *Vigrahavyāvartani* (*The Dispeller of Disputes*) and *Śūyatāsaptatikārikānāma* (*The Seventy Stanzas on Emptiness*) ;
- Āryadeva (2th – 3th CE) : *Catuḥśataka* (*Four Hundred Stanzas*) ;
- Candrakīrti (ca. 600 – 650) : *Mādhyamakāvatāra* (*Entering the Middle Way*) ;
- Śāntideva (8th CE) : *Bodhicharyāvatāra* (*A Guide to the Bodhisattva's Way of Life*) ;
- Atīśa (980 – 1054) : *Satya-dvayāvatā* (*Intro to the Two Truths*) ;
- Tsongkhapa (1357 – 1419) : *The Great Treatise on the Stages of the Path to Enlightenment*, *The Ocean of Reasoning*, *The Essence of True Eloquence*, *Praise for Dependent Relativity* and *Illumination of Thought* ;
- Wangchuk Dorje (1556 – 1603) : *Feast for the Fortunate*.

Je Tsongkhapa (1357 – 1419), or 'Man from the Onion Valley,' was a renowned Tibetan Buddhist spiritual reformer, scholar, yogi, and tantric. Taking layman's vows at the age of three, he was ordained as 'Lobsang Drakpa' ('Sumati Kīrti' or 'Perceptive Mind') but called 'Je Rinpoche.' He is said to be a manifestation of Mañjuśrī. Founder of the doctrinal and influential Gelug school of Tibetan Buddhism, his direct inspiration came from the Kadam school, initiated by Atiśa (985 – 1054), as well as the Sakya school. He also had Dzogchen teachers.

'After I pass away,
And my pure doctrine is absent,
You will appear as an ordinary being,
Performing the deeds of a Buddha,
And establishing the Joyful Land,
The Great Protector,
In the Land of the Snows.'
*Mañjuśrī-mūla-tantra*

Based on Tsongkhapa's teachings, his 'Yellow Hats' of the Gelug School have two outstanding characteristics, namely an emphasis on the moral code of discipline and the unity of the paths of Sūtra and Tantra. When he was born in Amdo (northeast Tibet), the grand final compilation of the *Canon* of Tibetan Buddhism (*Kangyur* or *Translated Words* and *Tengyur* or *Translated Treatises*) had just been finished by Bustön (1290 – 1364). Tsongkhapa worked through these teachings thoroughly.

His work fills eighteen volumes, used as textbooks by succeeding generations. Mastery resulted from (a) the study of the Buddhist teachings (through hearing and reading), (b) their critical, reflective examination, and (c) their meditative realization. The significant results of this essential systematic and complete organization of the Buddhadharma (comparable to the *Summa Theologica* of Thomas Aquinas) were presented in the *Lamrim Chenmo* (*Great Discourse on the Stages of the Path to Enlightenment*) and the *Ngagrim Chenmo* (*Great Discourse on Secret Mantra*).

The influence of these writings of Tsongkhapa, both available in English, was and is enormous, decisive, and lasting. The great monasteries of Tibet, such as Sera, Ganden, and Drepung, saw the light because of him. In 1409, Tsongkhapa also initiated the Great Prayer Festival (*Monlam Chemno*).

As a Buddhist scholar, Tsongkhapa applied formal logic to the system of the Middle Way founded by Nāgārjuna, *in casu* the Prāsaṅgika-Madhyamaka school, and was, therefore, a skillful teacher of emptiness. His interpretation is 'critical' Madhyamaka, for its central preoccupations are (a) drawing the line between proper and improper objects of negation defining emptiness and (b) doing so without rejecting conventionality and the need for compassionate action. Tradition is not the ultimate authority but supportive. The final arbiter is reason, in particular, the coherence of the structure of the itinerary of the spiritual path (Tib. *lamrim*). Conceptual thought is not rejected but integrated.

In Gelug practice, eliminating the sense of inherent existence or own-form (*svabhāva*) or self, is the central cognitive task on the path to awakening, the way to the fruit. The Right View is the absolute absence of inherent existence. The path is the body of practices leading up to the realization of this view. The fruit is the direct experience of the Right View in the mind of a Buddha.

Wisdom is three-fold. The first level involves 'worldly' wisdom, referring to a supreme form of conventional truth. It is not salvic (does not cease suffering).

The second level is the wisdom realizing emptiness by way of concepts ; the best possible rational understanding (*prajñā*). It approximates the direct experience of emptiness, and because it is not direct, it is contrived, fabricated, and somewhat artificial but does end self-cherishing and nearly halts all acquired, intellectual grasping at inherent existence.

The third and final level of wisdom is the direct 'seeing' of emptiness, i.e., the nondual yogic experience of the absence of inherent existence. The latter involves special knowledge (*gnosis*), intuition,

exceptional yogic perception, or *jñāna* which, when trained on the Path of Meditation, leads up to Buddhahood.

*Prajñā* is knowledge (*jñā*) prefixed by *pra-*, cognate to 'pro-' in English, found in loanwords from Latin, and indicative of 'forward movement,' 'moving towards.' This is practical knowledge facilitating the concrete, effective breakdown of the obscurations (affective and mental), and represents the movement from ignorance to understanding emptiness.

In the Buddhadharma, *prajñā* refers to four types of activities.

(1) analytical scrutiny : focusing on an object and breaking it logically down into functions ;

(2) establishing, validating and using valid ways of knowledge : the rules of logic and epistemology are at hand, demarcating valid from invalid knowledge or unacceptable claims ;

(3) clear and efficacious articulation and understanding of the view of the Buddhadharma : this is not just a view, perspective or imposition of limits in terms of a specific object, but how views constitute how one is orientated to and has comprehension of what the world is about ;

(4) clear and penetrating insight : this insight into the ultimate nature of an object is the best possible conceptual insight facilitating any activity ; the aim of Madhyamaka.

This best possible knowledge is a conceptual, rational type of precise understanding. It is a 'know-how,' for this knowledge has only meaning unless it can be demonstrated. This wisdom is rational in the sense it always calls for concepts and reason. Hence, *prajñā* does not point to a wisdom 'seeing' emptiness, but to a wisdom realizing emptiness in a contrived, indirect, approximate way ; a crucial distinction. Only *jñāna* has *direct* access to the absolute, *prajñā* remains indirect, conventional, and relative. It is the basis for establishing Buddhist logic and philosophy (the most excellent conventional truth possible), while *jñāna* is the foundation for all direct, gnostic experiences of the ultimate.

So, *prajñā* is a means for acquiring ultimate understanding, rather than the end-product itself (*jñāna*).

If the fruit, viewed as the end of the path, is called *jñāna*, then the fruit itself, when savored, is *prajñā-jñāna*.

A consciousness paying attention to wisdom (as conceptual *prajñā* or non-conceptual *jñāna*) is a supreme virtuous phenomenon and heals all difficulties (is a *panacea*). Once fully realized (as *jñāna* on the highest levels of Bodhisattva training), there is no longer any need for the path. No More Learning or Buddhahood is at hand.

The approach of Tsongkhapa is outstandingly balanced. His criticism reminds of Kant, who also tries to bring critical truth and goodness together. Defining emptiness as an absolute lack of substantiality, absence of own-form, want of essence (Gr. *eidos* or substantial form) or non-existence of substance (Gr. *ousia*, Lat. *substantia*), Tsongkhapa, reminding us of Candrakīrti, finds *dependent origination* and so *compassion*. Conventional truth, valid or invalid, is always mistaken, for it conceals ultimate truth. Emptiness is the ultimate property of any phenomenon. If conventionality has some validity, then virtue is possible. In the mind of a Buddha, all is emptiness, but conventionality rises simultaneously.

The heart of emptiness is togetherness.

For specific crucial topics, like the status of conventionality (the seeming, relative world) or the state of existence of a Buddha, the view of the above authors, in particular, the Gelug approach, will be mainly contrasted with :

• the 'idealist' Madhyamaka of Gorampa (1429 – 1489), assimilating elements from the Mind-Only School, the so-called 'Yogācāra-Madhyamaka' and

• the *other*-emptiness view (Shentong) found in the *Mountain Doctrine* of Dolpopa (1292 – 1391) and *The Essence of Other-Emptiness* and *Twenty-one Differences Regarding the Profound Meaning* of Tāranātha (1576 – 1634).

Yogācāra-Madhyamaka focuses on ultimate truth. It claims there is only 'One Truth,' thereby downgrading conventional truth. An ontological rift exists between, on the one hand, the saṃsāric world, contaminated, compounded and conventional, and, on the other hand, the nirvāṇic realm of the primordially pure and luminously aware. The latter truly exists, all the rest not.

Conventional truth must, therefore, be *invalid*, demoting the necessity of mundane virtue and the cultivation of compassion to attain Buddhahood. Conventional truth is non-existent.

'... ultimate knowledge is not an object of knowledge in the sense that it can become known to its cognizing consciousness. It is simply an utter absence of anything empirical.' – Thakchoe, *The Two Truths Debate*, 2007, p.120.

Shentong's focus on the Buddha Within is based on yogic perceivers and the training of the nondual jñānic mind. The latter is nonconceptual, whereas Rangtong (Tibetan Prāsaṅgika) offers the best of the rational mind. When Shentong develops its view philosophically (by using conceptual elaboration), contradictions are unavoidable, while the definitive *prāsaṅgika* view is deemed superseded. However, what can be said about the nondual mind, and how ? Prāsaṅgikas do not posit a fully awakened Buddha Within. They ask : What mind is Bodhi-mind ? To these rationalists, Buddha-nature is merely the self-emptiness of the mind.

Being foremost epistemological, Rangtong understands ultimate truth to exist conventionally (pansacralism). Both truths operate the same object but yield different knowledge. Both truths reinforce each other, explaining dependent-arising and compassion. Because nothing substantially exists, all things may transform into other things, backing impermanence and so ongoing universal change. While conventional reality conceals the ultimate, always appearing different than things ultimately are, this functional illusion does not invalidate conventional truth as such and allows for valid conventional truths insofar as conventional reality goes. Compassion is the best conventional method to end self-cherishing and prepare the mind to end substance-obsession, no longer superimposing something eternal on the transient. The ultimate and eternal are to be

found in the relative and temporal. Without compassion, the mind is never calm, pliant, and supple enough to do extensive meditations on emptiness. Emotional afflictions need to be silenced before one can successfully probe the nature of reality.

This book has four parts.

In Part I, the philosophy of emptiness is at hand, approached by the didactical device of the Three Turnings invented by the Early Yogācāra. With the Second Turning, after foundational teachings and practices bear fruit, emptiness and compassion enter stage.

Chapter 1 advances the specifics of the *dharma* and the *yāna* of the Buddha. What distinguishes the Buddhadharma from other spiritual points of view (*darśanas*) ? How does this original core give rise to specific vehicles (of practice) ?

In Chapter 2, the First Turning lays down the foundations : the Four Noble Truths, the Two Truths, and the Eightfold Path, the higher trainings of ethics, meditation, and wisdom.

In Chapters 3 to 6, a neuro-philosophical epistemology is sketched, integrating *dharmic* epistemology with new information drawn from Western criticism, genetic epistemology, and neurology. These rather difficult chapters move away from the traditional account and launch alternative concepts to understand the absence of inherent existence in ways consistent with Western nominalism.

Chapters 7 and 8 present the Second Turning. To make the mind calm and supple, ready to investigate reality, compassion is necessary. Next, the *prāsaṅgika* view on emptiness is elaborated.

In Part II, ultimate logic repeats what has been covered in terms of the Consequentialist view, but formalizes this so the heart of the matter may become evident. It also revealed the preconditions of the *prāsaṅgika* view, namely an implicit acceptance of the three axioms of classical formal logic : identity, non-contradiction, and excluded third. A new formal approach is made known, one identifying the correct object of negation and its consequences with regard to six exhaustive instantiations of existence. By formalizing the issue at hand, the argument becomes more streamlined.

In these chapters, ultimate analysis is formalized, and this alternative way to realize self-emptiness of persons and others is put forward, involving a set of six instantiations (or typical set of phenomena), covering all possible existence, contaminated (*saṃsāra*) or uncontaminated (*nirvāṇa*) and the logic of each. The pivotal logical difference lies between the actualizing and the essentializing quantor. The former merely posits an object using name and function ; the latter adds substantial existence.

Part III studies how actually to meditate on emptiness and brings its experience to the fore. It is made clear that study and reflection do not suffice. Meditation is paramount. Common and uncommon Analytical Meditations, Insight Meditation and Emptiness Meditation, are discerned, as well as the mind of superior seeing. The result is the realization of the proximate ultimate, the best intellectual apprehension (*prajñā*) of the emptiness of sensate and mental objects under scrutiny during Emptiness Meditation. Tools are given to deepen the Right View. This by contrasting the *prāsaṅgika* with other great schools : Great Exposition, Sūtra, Mind-Only and two variations on the Middle Way theme (Autonomists and Other-Emptiness).

Part IV investigates the Third Turning, in particular how to harmonize what yogic perceivers evidence as uninterrupted, non-conceptual intuition (*jñāna* or *gnosis*), with what the best, interrupted conceptual mind understands (*prajñā* or *sophia*). Other-emptiness, Buddha-nature, the Jonangpas, the status of yogic perceivers, Mahāmudrā and Dzogchen, are briefly discussed.

The idea is to balance the path of the scholar, training in the view, and the path of the yogi, meditating on the nature of mind. Hence, in a non-partisan mode, self-emptiness and other-emptiness are integrated. Such an approach is, however, possible if and only if the meditator has been able to recognize the 'original face' of the mind.

In the final chapter, emptiness is disclosed as the best possible antidote ; a *panacea*, universal cure, or sovereign remedy, allowing the mind to heal and end suffering and the causes of suffering.

**Fig. 2** Protector Mañjuśrī,
the Buddha of the Wisdom of all the Buddhas

*OṂ ĀḤ RA PA TZA NA DHĪḤ*

# PART I

# The Philosophy of Emptiness

'Here, monks, some misguided men learn the Dharma –discourses, stanzas, expositions, verses, exclamations, sayings, birth stories, marvels, and answers to questions– but having learned the Dharma, they do not examine the meaning of those teachings with wisdom. Not examining the meaning of those teachings with wisdom, they do not gain a reflective acceptance of them. Instead they learn the Dharma only for the sake of criticising others and for winning in debates, and they do not experience the good for the sake of which they learned the Dharma. Those teachings, being wrongly grasped by them, conduce to their harm and suffering for a long time. Why is that ? Because of the wrong grasp of those teachings.

(...)

Suppose a man needing a snake, seeking a snake, wandering in search of a snake, saw a large snake and caught it rightly with a cleft stick, and having done so, grasped it rightly by the neck. Then although the snake might wrap its coils round his hand or his arm or his limbs, still he would not come to death or deadly suffering because of that. Why is that ? Because of his right grasp of the snake. So too, here some clansmen learn the Dharma. Why is that ? Because of the right grasp of those teachings.'

*Majjhima Nikāya*, *Alagaddūpama Sūtra*, 22, §§ 10 – 11

## 1 The *Dharma* and *Yāna* of the Buddha

'Bhikkhus, there are these three things that flourish when concealed, not when exposed. What three ? (1) Women flourish when concealed, not when exposed. (2) The hymns of the brahmins flourish when concealed, not when exposed. (3) And wrong views flourish when concealed, not when exposed. These are the three things that flourish when concealed, not when exposed.

Bhikkhus, there are these three things that shine when exposed, not when concealed. What three ? (1) The moon shines when exposed, not when concealed. (2) The sun shines when exposed, not when concealed. (3) The Dharma and discipline proclaimed by the Tathāgata shines when exposed, not when concealed' – *Anguttaranikāya*, *Tikanipāta*, 131.

*Dharma* is derived from the verbal root *dhṛ*, 'to hold, to carry, to possess.' In Indian thought, this comprehensive term is used to refer to *the lawful order of the universe*. Hindus call their religion *sanātanadharma*, the 'eternal religion.' Used in individual contexts, the word is linked with *karma*, for realizing one's *dharma* can only be done to the extent given by one's *karma*. In the teachings of the Buddha, *dharma* has a variety of meanings :

- cosmic law (the 'great norm,' the Vedic *ṛta*) underpinning the world, in particular, the law of karmically determined rebirth ;
- the teaching of Buddha Śākyamuni, articulating the cosmic law for our age ;
- the ethical rules and norms of behaviour related to the community (*saṅgha*) practicing the Buddhadharma ;
- manifestation of reality, either in terms of outer phenomena, things or entities, or as mental content, an object of thought or reflection of entities in mind;
- the building blocks of the empirical person and its world.

The teaching (*dharma*) and the vehicle (*yāna*) of salvation proposed by Buddha Śākyamuni are *unorthodox* (*nāstika*), not adhering to the authority of the *Vedas*, proposing a view and path *different* from what was prevalent in the 6$^{th}$-century before the common era. Most Indian spiritual systems (each proposing a view, founding a path

and realizing a fruit) adhere to a self-powered, substantial and so inherently existing *ātman* (or *puruṣa*). The Buddhadharma uproots this idea by proposing the *anātman*, the 'no-self,' i.e., the absence of any kind of substantial self.

This selflessness is indeed something without any fixation or eternalization, a state lacking all possible self-power (autarchy).

'If at any moment a person has a mind void of grasping at and clinging to "I" and "mine", even if only for an instant, the mind has realized voidness. The mind is clean, clear and calm. It is one and the same as the heart of the Buddha, the Dharma and the Saṅgha. If there is a moment in which one's mind is void of "I" and "mine", in that moment, one has taken refuge and has reached the Triple Gem.' – Buddhadāsa, *Heartwood of the Bodhi Tree*, 1994, p.31.

To liberate one from suffering, Vedic spirituality and Hinduism today advance three options :

(1) ritual activity, as in the Vedic, Brahmanical tradition, involving a complex henotheist system of mythology, ritualism, and ceremony ;
(2) mystical devotion (*bhakti*) directed towards the Divine, felt to exist beyond and near (pan-en-theism) ;
(3) yoga, 'calling upon nothing but the will and personal powers of the ascetic' – Eliade, *Yoga : immortality and freedom*, 1973, p.76.

These ways promote different approaches and influence one another. 'Yoga evolves on the periphery of Vedic religiosity and beyond the parameters of mainstream Vedic orthopraxy. Yoga is clearly in tension with Vedic ritualism ...' – Bryant, *The Yoga Sutras of Patanjali*, 2009, p.xx.

The mystical strand of popular devotion and (neo)Vedic ascetics, calls to worship the omnipotent Creator-God with *pathos*, gaining deliverance thanks to Him. Brahmanism entertains a strictly regulated ritual relationship with God, thus guaranteeing the cosmic moral order of the world (*ṛta*) and their ascent to heaven in the afterlife. Brahman transcends Brahmā, the creator of the world. While this Supreme Being is self-powered, it manifests as a pantheon. Not

monotheism, but very sophisticated henotheism is at and. Brahman manifests as countless *devas*. Nevertheless, each *deva* derives its existence from the one creator, the sole creative principle.

The oldest school of the six schools, Sāṃkhya, the so-called 'sister school of Yoga,' rejects any concept of God (*Īśvara*), and deems Nature (*prakṛti*) to collaborate in man's deliverance. The cosmic substance itself causes the world to exist and delivers the innermost individual self (*puruṣa*), not God. The self is embedded in Nature, and only by ceasing the entanglement of consciousness with matter can this impersonal, metaphysical upaniṣadic self be realized. Sāṃkhya Yoga is dualistic, atheistic and intellectual. It does *not* posit God to deliver. By way of the *yogic will* is liberation achieved (cf. Aristotle's *'enkrateia,'* or 'to be in power over oneself').

Archaeology revealed the sophisticated ancient Indus-Sarasvati civilization or Harappan culture, covering modern-day northwest India and Pakistan, dating from circa 3000 to 1900 BCE. Figurines seated in yogic posture were found, suggesting yoga may have been practiced on the Indian subcontinent for well over four thousand years. Famous among these is the square seal in steatite of a nude male with three faces, seated in yoga posture on a throne, wearing bangles on both arms, and an elaborate headdress.

The oldest Vedic text, the *Ṛg Veda*, mentions ascetics practicing yoga. In the late Vedic age (1100 – 500 BCE), defined by the speculations of the *Upaniṣads*, practices also found in Pātañjala Yoga were first articulated. These involve techniques to realize Brahman as the universal, impersonal *ātman within us*.

Yoga is foremost a method of *training body and mind*, practical *science of life* aiming at deepening the direct experience of absolute reality, thereby ending suffering rather than a way to describe or explain the latter (in theology or Buddhology). Yoga is a cluster of techniques and procedures (instructions) pervading the spiritual practice of ancient India.

But the outstanding difference between the ātman-ontology advanced by the Indian schools of thought (*darśanas* true to the *Vedas*) and the Dharma of the Buddha, is the contrast between substance

(*svabhāva*) and its absence : *nirsvabhāva*, *niḥsvabhāva*, *asvabhāva*, *anātman*. While seemingly metaphysical or philosophical, this does have a severe impact on practice and salvic efficiency. In Hindu Yoga, Nature (*prakṛti*) is the root cause of our afflictions. So, control over Nature is supposed to cause liberation ; aloneness (*kaivalyam*).

In short, Hindu Yoga is substantialist, accepting essences existing from their own side, self-powered and self-contained, whereas mature Buddhist Yoga is strictly nominalist and so process-based, rejecting substances *in toto*. Hindu Yoga focuses on Nature to escape her. Buddhist Yoga focuses on the mind misrepresenting existence. In ātman-based approaches, the self is self-existent, independent, permanent, and isolated (procrustean). In process-based Buddhadharma, the self is other-powered, dependent, impermanent, and interconnected.

As in Sāṃkhya Yoga, Buddha Śākyamuni returns to the original, volitional sense of *yoga*, implying the empowerment or initiation of the individual to attain cessation of suffering *without* any help from God. However, unlike Sāṃkhya and Vedānta, he rejects inherent existence (*niḥsvabhāva*). While Buddha Śākyamuni does not reject the actual existence of *devas* (against atheism), he does not refer to them in his soteriology (nontheist) and proceeds to identify a supramundane, nirvāṇic alternative (transtheist).

We know from the *Saṃyutta-nikāya* (II.106) that the Tathāgata had 'seen the ancient way and followed it.' His teachers were advanced masters of Hindu Yoga. Āḷāra Kālāma taught a pre-classical Sāṃkhya at Vaiśālī, while Udraka Rāmaputra was an adept of Yoga.[7] Gautama rejected the exaggerated asceticism of these upaniṣadic ascetics because it did not end suffering irreversibly. He opposed Brahmanical ritualism. He moved beyond metaphysical formulas and mystical rules and regulations (deemed *idola mentis*). In the analysis of psychomental life, no *ātman* is found ... The self is a process, not a permanent nature. As a process, it is impermanent, as are all things, Buddhahood included. When Hindu Yoga turned theist, it did so in terms of an *inherently existing* Supreme Being. This is an eternal Being, the 'Creator of the Universe' (*sṛṣṭikartā*) and given lofty names : 'Brahman,' 'Īśvara,' 'Ādi puruṣa,' 'Ādi Daiva,' 'Paramātman,' 'Parama puruṣa,' 'puruṣa Viśeṣa,' 'Viśvacetana,'

'Antaryāmin,' etc. ; a perceiving, eternal, permanent, self-powered and self-existing, conscious Divine Self.

'This Brahman is without an earlier and without a later, without an inside and without and outside. This Self (Ātman) is Brahman, the all-perceiving.' – *Bṛhadāraṇyaka Upaniṣad*, 2.5.19
'... like the effulgence of the sun, Brahman has *eternal consciousness* by *Its very nature*, so that It has *no dependence* on the means of knowledge.' – Śankara : *Brahma-Sūtra-Bhāśya*, I.i.5, my italics.
'Īśvara is a special *puruṣa* untouched by the causes of sorrow, *karma* and its fruition and the deposit in the depth-memory.' – Patañjali, *Yoga-Sūtra*, 1.24
'Had there been no general recognition of the existence of the Self, everyone would have felt, "I do not exist". That Self is Brahman.' – Śankara, *Brahma-Sūtra-Bhāśya*, I.i.1

Buddha Śākyamuni advocated a strict nominalist view, a path to salvation, and a continuously present sacred fruit lacking any self-power from its own side. Some claim the man was nothing more than a Hindu sectarian. Not so. He introduced *anātman* to indicate he rejected the self-existing, inherently existing, unchanging (*avasthitam*) nature (*svabhāva*) of what exists, selfhood included. Not a theologian, but an experientialist, he did not find the permanent Beingness of the upaniṣadic *ātman*. What counted is to see the self *as it truly exists* (*yathā-būtham*), i.e., lacking inherent existence (empty of permanent self), but fully interconnected with all possible other phenomena. This interexisting self is not found to exist inside or outside the body, but is designated based on the impermanent body (form) and impermanent mind (will, affect, thought, sentience). Take away the body-mind-complex, and no self is found. In the Hindu view, the eternal 'great man' (*puruṣa*) is attained by ending the mind's entanglement with Nature. The Hindu yogi, to unite with the God Within, turns *away* from Nature, for God is radically different. However, how to recognize this given Divine ontology (the essence of God) has nothing in common with the mind part of Nature ? How, radically different and separate from Nature, is it possible to teach, be an example or interfere ? Such philosophical considerations echo not in the pious mind adhering to the Lord in blazing devotion and theist emotion serving the *totaliter aliter*.

The absence of *any* inherently existing self, be it universal, as in the *Upaniṣads* and the Advaita Vedānta or merely psycho-phenomenological, as an ontic ego of sorts, is in itself a remarkable view, breaking away from the Hindu fold and unorthodox (Jainism affirms substantialism). As most of both Eastern and Western philosophy is substance-obsessed, any process-driven view stands out, making a huge difference and going against the stream.

This absence of a permanent self is *not* the rejection of the self as such (as empirical ego or higher self), nor linked with the impossibility of absolute truth and reality to exist, as a datum of yoga practice (the ultimate existing conventionally). The Buddhadharma embraces bliss as long as it is *as continuously truly peaceful as it is impermanent*. The uninterrupted is found in the transient.

For Buddha Śākyamuni, salvation is the sole result of a *personal effort* to calm the mind and understand reality, i.e., experimentally know the Two Truths (*satyadvaya*), relative and absolute. The absolute truth says all phenomena are processes. Understanding must exceed mere speculation, and the experiential approach may never overwhelm the unconditional.

One is 'saved' by attaining *nirvāṇa'* moving beyond the plane of profane, mundane experience, being reborn (possibly in this life, so Mahāyāna affirms) into the supramundane *sacred life* one cannot define or describe. This station is not the plenitude of a permanent and transcendent Beingness *somewhere else*, but the *full-emptiness* of all what exists-as-becoming in every moment. In the Buddhadharma, this principle of universal relativity (*svabhāva-śūnyatā*) is carried through and even applies to Buddhahood.

Lesser Vehicle practice, seeking salvation for oneself alone, focuses on the absence of an inherently existing self. In Mahāyāna, seeking to awaken all sentient beings and to understand their ultimate nature, all phenomena are attended and scrutinized.

In the *Vedas* and the Brahmanical tradition unfolding it, the ultimate state is described in essentialist terms. The identity between the soul (*ātman*) and the absolute (*Brahman*) reveals how ultimate reality is viewed in terms of a theo-ontology, with Brahman as the

source of being. Brahman creates the world and the soul. Salvation, enlightenment, or union (*samādhi*) is returning to the original, primordial state of unity, and this enterprise needs, to understand Nature from where we need to escape, a system filled to the top by substances.

Rampant substance-obsession is found everywhere and seems to be the universal human condition. It was already at work in Ancient Egyptian religion (*Ancient Egyptian Readings*, 2016) and, thanks to the Greeks, got solidified (canonized) in monotheism (Judaism, Christianity, and Islam). It even infested epistemology (cf. Kant's ontological illusion) and can, in the actual method, not be divorced from valid scientific practice (*Regulae*, 2016).

In the West, this *philosophy of presence* was countered by only a handful of thinkers : Heraclitus, Ockham, Kant, Whitehead, Wittgenstein, and Derrida.

The Buddhadharma recognizes three vehicles (*yānas*), or ways to be transported from a cramped place of suffering (*duḥkha*) to a place of lasting openness, ease, and happiness (*sukha*) :

(1) the human vehicles : invented by human beings for human beings, these *secular* systems try to guarantee their basic needs : food, housing, health care, education, family life, social services, a system of law, democracy, etc.

Despite the numerous international organizations present on this planet, humanity has not yet been able to establish a just human vehicle worldwide. Even today, when this could already be the case, it is shamefully not so ! On the contrary, the division between those who benefit from such systems and those who do not is becoming increasingly broader. Social injustice is rampant worldwide ! Poverty, slavery, and discrimination are still fact. When will a global political consciousness devoid of nationalism solve this ? Should one doubt the stand-alone effectiveness of the human vehicles, their politics and economics ? It seems as if they incorporate the very causes of the suffering they intend to relieve. Although ending suffering, they do so conditionally and, therefore, without lasting effect.

(2) the Divine Vehicles : invented by the Divine for human beings, these paths call for a plurality of Deities (polytheism), one Deity with many faces (henotheism), or a single Deity opposing plurality (monotheism).

In the latter case, the Absolute Being (called 'God') is essentially One and Alone and establishes a covenant with humanity allowing it to be saved. The hidden essence or Absolute Being of the Judaic, Christian, and Muslim God is for God Alone, while Divine existence can only be experienced by exceptional individuals (like prophets, saints, and mystics). However, if the experiences of the latter conflict with their fundamental theology (based on the revealed scriptures of each monotheism), organized religion prefers Divine absence above new revelations. Buddha spoke of the 'Brahmā Vehicle,' containing meditative techniques aiming to achieve the highest possible form of heavenly life within *saṃsāra*. In particular, the Vedic vehicle promotes the concentrations and absorptions of the form and formless realms of cyclic, conditioned existence, aiming at the highest Jhāna, the so-called 'Peak of Saṃsāra' (or cosmic consciousness).[8]

References to these heavenly states are found in all spiritual systems and religions. This vehicle leads to Divine states of consciousness and, according to Buddha Śākyamuni, rebirth as a *deva* or Deity in the *deva*-realm of cyclic existence. He experienced why these states, although extremely blissful and lasting for a very long time, are, eventually, also transient and painful and so not the result sought. Indeed, Buddhists wish to attain the lasting peace of *nirvāṇa*, i.e., a condition of *true* peace that effectively never ends and to be found in this life ! In the final analysis, the power of death must be eradicated, implying one must be able to control one's rebirth or stop it altogether. These are the supramundane paths of liberation (Lesser Vehicle) and Buddhahood (Great Vehicle).

(3) the Buddha Vehicles : the Triyāna or 'Three Vehicles' taught by Buddha Śākyamuni are one vehicle, called 'Buddhayāna' or 'Buddha Vehicle.'

The Individual or Lesser Vehicle (original and Many-Schools Buddhism or Hīnayāna), the Great Vehicle (Mahāyāna) and the

Diamond Vehicle (Vajrayāna) are aspects of the singular Buddha Vehicle, leading those gone for Refuge in the Three Jewels to lasting, *true* peace or *nirvāṇa*, making them 'pass beyond suffering.'

<table>
<tr><td>Lesser Vehicle<br>Hīnayāna</td><td colspan="2">Hearer Vehicle<br>Śrāvakayāna</td></tr>
<tr><td>Middle Vehicle<br>Madhyamayāna</td><td colspan="2">Solitary Realizer Vehicle<br>Pratyekabuddhayāna</td></tr>
<tr><td rowspan="3">Great Vehicle<br>Mahāyāna</td><td colspan="2">Great Perfection Vehicle<br>Pāramitāyāna – Sūtrayāna<br>Bodhisattvayāna</td></tr>
<tr><td rowspan="2">Diamond Vehicle<br>Tantrayāna<br>Mantrayāna<br>Guhyamantrayāna<br>Vajrayāna</td><td>Outer<br>Tantras</td></tr>
<tr><td>Inner<br>Tantras</td></tr>
<tr><td colspan="2">Ati-Yoga<br>Mahāmudrā – Zen<br>Dzogchen (Mahāsandhi)</td></tr>
</table>

A mundane mind is no longer at work here, but an ineffable, transcendent, supramundane 'Body of Truth' or 'Dharmakāya,' a *way of life* introduced by the direct (yogic) experience of the absolute. Buddha did not introduce a pantheon, nor did he accept or reject the Vedic. He is a *nontheist experientialist* and a *transtheist mystic*.

Nontheism implies the devas are not deemed necessary to end suffering. Transtheism sees them as sublimely mundane, not supramundane, meaning they cannot bring the practitioner to the fruit : total and irreversible cessation of all possible suffering.

• listening to the teacher, the Hearer is liberated for himself alone, only realizing the identitylessness of persons ;

• having eliminated all ten fetters, the Arhat or Foe Destroyer is no longer subject to rebirth (liberated from cyclic existence), but not yet a Buddha ;

• on his own, by his efforts and for himself alone, the Pratyekabuddha or 'private Buddha' is liberated, realizing the identitylessness of persons. He does not teach the Dharma (except morality), does not bring others to enlightenment (except a few students drawn to him) and rises when there is no Buddha to teach ;

• the Sūtric Bodhisattva is dedicated to saving all sentient beings (bodhicitta), realizes the identitylessness of all existents, approaches the fruit by way of dual cognition (the Two Truths), but has to work very hard for an exceedingly long time before attaining the goal of final enlightenment, Buddhahood. The path causes the fruit ;

• the Tantric Bodhisattva generates relative and absolute bodhicitta, has a complete realization of emptiness, still approaches the fruit by way of the Two Truths, has the superior method of Deity Yoga, but may still need several rebirths before enjoying the fruit or possibly achieves it in a single lifetime. The fruit is part of the path.

• the Ati-Yoga Bodhisattva generates bodhicitta, has a correct view on emptiness and a non-causal, spontaneous, nondual, single introduction to the ultimate, the Buddha Within, self-liberating all possible thoughts immediately and uninterruptedly. He may achieve Buddhahood in a single lifetime and transcends both saṃsāra as nirvāṇa. The path is the fruit ...

The exercise of trying to find the best understanding of reality by way of study, reflection and meditation, this active inquisitiveness

and core curiosity in striving to know the ultimate reality of what exists, is also *prajñā*. Its practice belongs to the Great Perfection Vehicle, in particular, the Sūtrayāna, *in casu* the *Prajñāpāramitā Sūtra*. The word *prajñāpāramitā* also means 'having gone beyond,' to the 'other shore' or *nirvāṇa*.

<table>
<tr><td rowspan="3">Hīnayāna<br>vehicle of personal liberation<br>Lesser Vehicle</td><td>Hearer</td><td rowspan="2">view : selflessness of persons<br>path of purification</td></tr>
<tr><td>Solitary Buddha</td></tr>
<tr><td>Arhat or Foe Destroyer</td><td>fruit : liberation Arhathood</td></tr>
<tr><td rowspan="3">Mahāyāna<br>vehicle of universal awakening<br>Great Vehicle</td><td>Sūtrayāna</td><td>view : self-emptiness<br>path of renunciation<br>fruit : distant Buddhahood</td></tr>
<tr><td>Tantrayāna</td><td>view : self-emptiness<br>path of transformation<br>fruit : near Buddhahood</td></tr>
<tr><td>Ati-Yoga</td><td>view : other-emptiness<br>path of self-liberation<br>fruit : imminent Buddhahood</td></tr>
</table>

'Prajñā also includes the quality of compassion, but it is a somewhat merciless kind of compassion in that it cuts through wherever it is needed. It is not a type of "idiot compassion" that just wants us to feel better but it cuts through what needs to be exposed or what we need to let go of. In brief, prajñā questions everything that we are, everything that we think, everything that we perceive, and everything that we value. Prajñā is the ultimate destroyer of our

value systems, which is another reason why it is not so popular. Thus, prajñā cuts not only through delusion, but also through any tricky attempt by our ego to take credit for being on the path of a bodhisattva or the like. (...) In this way prajñā functions like a stage spotlight, highlighting the main factor.' – Brunnhölzl, The Heart Attack Sūtra, 2012, pp.26-27.

Depending on their ability to realize a view and its concordant path, the Buddha Vehicle foresees each type of practitioner to generate his or her co-relative spiritual fruit.

An ascending degree of salvic efficiency is present. In the Lesser Vehicle, Buddhahood is not attainable on Earth, only Arhathood is. In the Great Perfection Vehicle, full enlightenment or awakening in this life takes three cosmic eons to achieve (Buddhahood in three Big Bang's ?).

With the advent of Tantra, promoting lengthy alternative methods, and working with afflictive emotions, the fruit may be achieved in one lifetime. Only in Ati-Yoga is the immediate end of suffering feasible. This 'essence' perspective cuts right to the natural state of mind, but at best, a small minority of practitioners has sufficient capacity to train along those suddenist lines. In Buddhist literature, other enumerations of the yānas exist.

In the Lotus Sūtra and the Avataṃsaka Sūtra, one yāna (ekayāna) is advanced, uniting the different teaching into a single vehicle, a key aspect of the teachings and practices of Tiantai and Tendai Buddhism in China, Japan, Korea, and Vietnam.

Mahāyāna has three vehicles : Śrāvakayāna, Pratyekabuddhayāna, and Bodhisattvayāna. With the rise of Vajrayāna, a second classification came into use : Hīnayāna, Mahāyāna, and Vajrayāna. At times, this gave rise to a fourfold division : Śrāvakayāna, Pratyekabuddhayāna, Mahāyāna, and Vajrayāna.

In East Asian Buddhism, a fivefold is proposed : Puruṣayāna (the human vehicle at the very start of the path), Devayāna (the practice of ethics and meditation), Śrāvakayāna, Pratyekabuddhayāna, and Bodhisattvayāna. In Japanese Shingon, the Vajrayāna is added to the fivefold scheme.

In the Tibetan Buddhism's Old Translation School, a comprehensive and hierarchical classification in nine ensued : Hīnayāna (Śrāvakayāna and Pratyekabuddhayāna), Mahāyāna (Bodhisattvayāna) and Vajrayāna, divided in Outer Tantras (Kriyātantra, Caryā Tantra and Yogatantra) and Inner Tantras (Mahāyoga, Anuyoga, and Ati-Yoga). In this Nyingma School, the first eight vehicles are intellectually fabricated and so contrived. Only Ati-Yoga makes contact with the ultimate, the 'essence' of mind. Mañjuśrīmitra (8th-century CE), subdivided the Ati-Yoga teachings in 'series,' known in Tibet as Semde, Longdé and Mengagde, the three divisions of Dzogchen (mahāsandhi). Semde (cittavarga) or 'mind-series' focuses on the innermost, very subtle mind.

Longdé (abhyantaravarga) or 'space-series' emphasises the spaciousness of this natural state. Mengagde (upadēśavarga), the 'instruction' class related to the somewhat esoteric practices of Cutting-Through (Tib. trekchö) and Direct-Crossing or Leaping-Over (Tib. tögal). Adding these three subdivisions of Ati-Yoga to the Nyingma classification provides a division in twelve, which is the most complete, covering all aspects of the Buddhayāna.

**Fig. 3** *Buddhapada*
The Footprint of the Buddha
Great Stupa at Amaravati

## 2 The First Turning : the Basics

'"Enough now with trying to teach
What I found with so much hardship.

This Dharma is not easily understood
By those oppressed by lust and hate.

Those fired by lust, obscured by darkness,
Will never see this abstruse Dharma,
Deep, hard to see, subtle,
Going against the stream."

As the Blessed One reflected thus, his mind inclined to living at ease, not to teach the Dharma. Then Brahmā Sahāmpati, having known with his own mind the reflection in the Blessed One's mind, thought : "Alas, the world is lost ! Alas, the world is to perish, in that the mind of the Tathāgata, the Arahant, the Perfectly Enlightened One, inclines to living at ease, not the teaching the Dharma."

Then (...) he said to him : "Venerable sir, let the Blessed One teach the Dharma ; let the Fortunate One teach the Dharma. There are beings with little dust in their eyes who are falling away because they do not hear the Dharma." (...)

Having seen this, he answered Brahmā Sahāmpati in verse :

"Open to them are the doors to the Deathless :
Let those who have ears release faith.
Foreseeing trouble, O Brahmā, I did not speak
The refined, sublime Dharma among human beings."

Then Brahmā Sahāmpati, thinking, "The Blessed One has given his consent regarding the teaching of the Dharma," paid homage to the Blessed One and disappeared right there.'

Saṃyutta Nikāya, Brahmasaṃyutta, 6:1, my italics.

To organize the teachings of the Buddha, the Yogācāra or Yoga Practice School, the second branch of the Mahāyāna next to Madhyamaka, introduced the didactical scheme of the 'Three Turnings,' appearing for the first time in the Saṃdhinirmocana Sūtra, the Sūtra of the Explanation of the Profound Secrets. The First Turning was addressed to an audience of Hearers, the Second Turning (in Rājagṛiha) to a company of Bodhisattva's, whereas the Third Turing was delivered either to an audience of Bodhisattvas or in a subtle Buddha Land (as the Avataṃsaka Sūtra claims). The last two turnings encompass the Mahāyāna teachings.

'At Vārāṇasī, in the Deer Park at Isipatana, this unsurpassed Wheel of the Dharma has been set in motion by the Blessed One, which cannot be stopped by any ascetic or brahmin or deva or Māra or Brahmā or by anyone in the world.' – Saṃyutta Nikāya, Saccasaṃyutta, 56:11.

Delivered in the royal deer park near Benares (Vārāṇasī), the teachings of the First Turning of the Wheel of Dharma initiated the Buddhadharma for our times. These foundational teachings involve the Four Noble Truths, the Eightfold Path, and the Two Truths. They are the most open Dharma doors or entries into the Buddhadharma and the foundation of the Lesser Vehicle.

The Buddhadharma is deep, hard to see, subtle, and moves against the stream (of prevalent substance-obsession). The Four Noble Truths are 'noble' because not every man is called. A certain nobility of mind seems prerequisite. If absent, these teachings may be futile. Hence, Buddha first decided not to teach and to remain silent ! Brahmā convinced him otherwise. Humans with only 'little dust in their eyes' exist. They may be able to understand and practice the revolutionary path cleared by this new dharma.

The radical change of mind Buddha teaches is not effortless. As there is nobody to do the job for us, we have to work diligently. To trigger radical change, the standard, nominal state of mind has to be altered from tense, excited, and confused to supple, tranquil, and clear. The ultimate nature of phenomena cannot be experienced as long as the chattering mind is engaged in creating fiction. First, establish calmness, then realize insight into reality.

Jhāna Yoga, the canonical yoga of the Lesser Vehicle, is based on Hindu yogas intended to pacify the four elements and consciousness(9). In this yoga, the fruit of Calm Abiding (śamatha) or concentration practice(10), meditative equipoise, is used to attain specific yogic goals using specific objects of concentration. As soon as the mind is calm (Fourth Jhāna), reality is investigated, and selflessness (anātman) is realized (Fifth to Eighth Jhāna).

'... it appears that meditation on the elements and formless spheres was an early Buddhist practice, and probably one that was thought to lead to liberation. We can conclude that in early Buddhism the practice of element meditation was thought to lead to states of abstract consciousness (the formless spheres) and finally liberation.' – Wynne, The Origin of Buddhist Meditation, 2007, p.31.

In the Pāli Canon, the wish to attain liberation from cyclic existence for oneself alone lies at the heart of the soteriology. The methods of the Theravāda do not focus on compassion (but on equanimity), nor are they dedicated to helping all sentient beings (as in the Mahāyāna). Only enlightened beings (Buddhas) can do this, and so the practitioner focuses on entering personal nirvāṇa or liberation. This station is Arhathood, not Buddhahood. Renunciation, equanimity, and emptiness-of-self are the pillars of this Individual Vehicle.

This yoga of liberation involves the breaking of a succession of 'fetters' (saṃyojana), ten in number. These Ten Fetters, divided in 'lower' and 'higher,' represent the total of all subtle causes of personal suffering, i.e., of all emotional and mental delusions rooted in personal selfhood and existential self-power.

Five Lower Fetters :

(1) separate selfhood, (2) skeptical doubt, (3) attachment to rules and rituals for their own sake, (4) sexual desire, (5) ill will ;

Five Higher Fetters :

(6) desire for existence in the world of form, (7) desire for existence in the formless world, (8) conceit, (9) restlessness, (10) ignorance.

These Ten Foes generate *hindrances* to spiritual progress. The fetters are indeed the *underlying tendencies* in mind acting as the root causes of the hindrances (to spiritual practice). These Five Hindrances (*pañca nīvaraṇi*) are : (1) sensual desire, (2) aversion or ill will, (3) sloth and torpor, (4) restlessness and worry, (5) doubt.

'... there are these five corruptions of the mind, corrupted by which the mind is neither malleable nor wieldy not radiant but brittle and not rightly concentrated for the destruction of the taints. What five ? Sensual desire is a corruption of the mind ... ill will ... sloth and torpor ... restlessness ... doubt is a corruption of the mind.' – *Samyutta Nikāya*, *Bojjhaṅgasaṃyutta*, 33.

These hindrances are the result of a large number of persistent unmerited actions of body, speech, and/or mind, causing karmic consequences chaining the mind to cyclic suffering. Their presence makes it possible to assess personal attainment.

(1) sensual desire : presenting alluring sense objects causing craving instead of a clear reflection, this is compared with colored dyes in a pot of water, preventing one to see one's face (its end is like a debtor paying his last dues) ;
(2) aversion or ill will : thoughts against this-or-that, censure, judgment, disliking and malice towards others, compared with boiling water (its end is like a sick person recovering from illness) ;
(3) sloth and torpor : dullness, boredom and lack of energy, sluggishness, sleepiness, compared with water covered over with slimy moss and water plants (its end is like a prisoner getting out of prison) ;
(4) restlessness and worry : agitation and distracting thoughts inhibiting calmness, remorse, anxiety, compared with water shaken by the wind, trembling and forming ripples (its end is like a slave freed) ;
(5) doubt : the absence of trust or confidence, lack of faith and unwise, virulent skepticism, compared with muddy water set in a darkened room (its end is like a desert traveler coming home).

The Arhat is a Foe Destroyer, ending all personal suffering forever, possible because a liberated mind no longer reifies the ego, i.e., has fully realized the impermanence of the aggregates of illusion

(skandhas), the selflessness (or emptiness) of the person (anātman). The Lesser Vehicle causes ontic, reified selfhood to cease. The hindrances point to what kind of practice is necessary to make the aspirant find the path. They define five types of wrong minds. Their presence brings to the fore what should be eliminated from the mindstream. If these wrong minds are cultivated or have become habitual, spiritual progress is impossible.

<table>
<tr><th>Fetters</th><th>Type</th><th>Stages</th><th>Rebirths</th></tr>
<tr><td>(1) separate self</td><td rowspan="6">lower fetters</td><td rowspan="3">stream-enterer</td><td rowspan="3">7 human lives<br>or in a pure abode</td></tr>
<tr><td>(2) skeptical doubt</td></tr>
<tr><td>(3) attachment to rules</td></tr>
<tr><td>(4) weakened<br>sexual desire</td><td rowspan="2">once-returner</td><td rowspan="2">once more<br>as human being</td></tr>
<tr><td>(5) weakened<br>ill will</td></tr>
<tr><td>broken<br>all first five fetters</td><td>non-returner</td><td>one more<br>in a pure abode</td></tr>
<tr><td>(6) desire for form existence<br>(7) desire for existence in<br>the formless world<br>(8) conceit<br>(9) restlessness<br>(10) ignorance</td><td>higher fetters</td><td>Arhathood</td><td>none</td></tr>
</table>

The stages of liberation are marked by the weakening and final eradication of the Ten Fetters. Liberated practitioners are identified according to the resultant degree of liberation achieved.

'Once you are sitting in a comfortable and alert posture, with a mind inclined toward qualities of ease, brightness, and spaciousness, apply an actively penetrative attention to experience the initial sensation of the breath touching the nostrils or upper lip. Choose a small point at the nostrils or upper lip area – wherever you feel the sensations of the breath most distinctly. The actual location will vary from person to person, depending on the angle of the nose, structure of the jaw, shape of the lips, and facial features ; there is no best or correct place. Feel where the breath naturally touches you. Whenever the attention drifts off that point of sensation, guide it back, simply and diligently. Each time the awareness wanders off with thoughts of past or future, simply drop this preoccupation with thoughts by reaffirming the directed focus of activity. Ignore everything else : environmental sounds, pain, thoughts, or plans. If emotions, great insights, a review of yesterday's shopping list, a plan for redecorating your kitchen, a replay of a movie you recently watched, or any profound or mundane thought should arise, invest no interest in these events and guide the attention perseveringly back to the breath. (...) Keep sequestering your mind close to the breath, abandoning the urge to move toward the various sensory experiences that will inevitably rise. This streamlined practice, sustained over time, creates a powerful momentum of concentration by connecting and sustaining the attention on a chosen object.' – Catherine, Focused and Fearless, 2008, pp.113-114.

After having practiced Mindfulness (satī), on trains Calm Abiding (śamatha) on various inner and outer objects. When concentration is spontaneous, special objects of placement are introduced, turning Calm Abiding into Jhāna Yoga with four concentrations and four absorptions. Intending to enter the Jhānas, specific 'totalizing' Jhānic objects of placement (kasiṇas) are used. Jhāna Yoga is a special type of Calm Abiding. Before the supramundane insight or wisdom accompanying the stages of personal liberation (the Ninth Jhāna), one walks the 'mundane path,' consisting of the Eight Jhānas, tackling the world in degrees. The 'supramundane path' (lokottaramārga) is the dedicated practice of the Eightfold Path. Together, these four stages define the Early Ārya-Saṅgha, the Community Jewel of Early Buddhism, the Lesser Vehicle.

Four stages mark this path of personal liberation :

(1) the 'stream-enterer' : has eradicated the first three fetters. He has only seven rebirths in the human or deva realms before liberation ;
(2) the 'once-returner' : reborn once more, has weakened the fourth and fifth fetter ;
(3) the 'non-returner' : has broken all the first five fetters and is reborn in the deva realm from where liberation is attained ;
(4) the Arhat or 'Worthy One' : has broken all ten fetters and won liberation (attained nirvāṇa in this life). The Kāśyapīyas, the Sarvāstivādins, and various Mahāsāṃghika sects believed the perfection of the Arhat to be incomplete, causing him to relapse ...

> I go for refuge to the Buddha. I go for refuge to the Dharma. I go for refuge to the *Saṅgha*. I do so attaining liberation from *saṃsāra*, realizing awakening for the sake of all sentient beings. – *Bodhisattva's Refuge Formula*

In the centuries after the Buddha's *parinirvāṇa*, Lesser Vehicle practitioners organized the teachings of the Buddha in numerous excellent points of doctrine and practice. The Abhidharma is an excellent example of an effort to philosophically canonize the so-called '84.0000 Dharma doors' ... However, regardless of the many Abhidharmic classifications and elegant categories, despite the scriptures, the logical reasonings elaborated by the countless generations of monks and practitioners, the yogic traditions, the lineages, etc. let us be mindful of what Buddha told the Kālāmas :

'Come, Kālāmas, do not go by oral tradition, by lineage of teaching, by hearsay, by a collection of scriptures, by logical reasoning, by inferential reasoning, by reasoned cogitation, by the acceptance of a view after pondering it, by the seeming competence (of a speaker), or because you think : "The ascetic is our guru." But when, Kālāmas, *you know for yourselves* : "These things are unwholesome ; these things are blameworthy ; these things are censured by the wise ; these things, if accepted and undertaken, lead to harm and suffering," then you should abandon them.' – *Aṅgutarra Nikāya*, *Tikanipāta*, 65, my italics.

In the Early Yogācāra of Vasubandhu (ca. 316 – 396), in particular, his *Triṃśika-vijñapti*, infusing Early Mahāyāna with the best of Sarvāstivāda (Vaibhāśika scholasticism and unorthodox Sautrāntika analysis), two causes of suffering are identified : mental and emotional obscurations (cf. *Thirty Verses on Conscious Life*, 2016).

| Eight Consciousnesses | Epistemology | Psychology | Soteriology |
|---|---|---|---|
| consciousness (C) : cognitive awareness (*pravritti-vijñāna*) | | | |
| five sense-consciousnesses | sensations direct, outer | momentary sensing C | purification renunciation compassion |
| *mano-vijñāna* thinking mind | coarse mentations indirect, inner | interrupted thinking C empirical ego | intellectual self-grasping |
| unconscious cognitive processes | | | |
| *manas* suffering mind | subtle mentations self-conceit | uninterrupted afflictive C | innate self-grasping |
| *ālaya-vijñāna* root-mind | universal neutral receptacle Great Completion | uninterrupted primordial C unobstructed | nescience entrenchment Buddha-nature |

Of the Two Obscurations, the first obscuration is the root cause : a mental delusion maintained by the deep mind, *in casu*, by *manas*, the suffering (unconscious) mind ; the seventh consciousness in the Eightfold Model of Consciousness advanced by the Mind-Only school (*citta-mātra*), distinguishing between conscious, unconscious, interrupted, uninterrupted and unobstructed minds. Ignorance is rooted in the unconscious and uninterrupted suffering mind, identifying the self as absolute. When *manas* exchanges and equalizes 'I' with 'others,' the 'turning of the base' (*āśraya-parāvṛtti*) may unfold. The second obscuration is the consequence : afflictive emotionality rooted in the false (unconscious) ideation of *manas*. Because 'I' do not equalize and exchange 'myself' with others, and

deem 'myself' as existing independent, separate and self-powered, 'I' suffer constant emotional upheaval and dissatisfaction, causing mental and, in the long run, physical disorders. Due to the belief in this substantial self (*ātmadṛṣṭi*), there is a self-conceit (*ātmamāna*) and self-love (*ātmasneha*), whereby *manas* considers itself as better as all others, causing a deep attachment to unique selfhood considered one's own. Especially *ātmagrāha* dominates consciousness as a whole. The *me*-mind does not equalize and exchange itself with others, and identifies itself as an independent and substantial ego (*ātman*), unable to open up to any other. 'The entire Yogācāra endeavor, it would appear, is aimed at evolving a critical understanding of consciousness that would ground the Prajñāpāramitā (and Mādhyamaka) insistence on emptiness within a critically understood notion of the structure and functioning of conscious interiority.' – Keenan, *The Summary of the Great Vehicle*, 2003, p.xiii.

The Yoga Practice School divides the path into five stages, gradually eliminating the habit of the mind *not* to equalize and exchange with others, sustaining and reinforcing the supposed self-power of the ego, the 'law of me,' of egology (Levinas). This egocentric reflex is done with through the Two Cessations (*samāpattis*) : (1) *āsaṃjñi-samāpatti* and (2) *nirodha-samāpatti*. Whereas *āsaṃjñi-samāpatti* (no conceptual thoughts as a result of yoga) ends all conceptualization, *nirodha-samāpatti* halts the seventh consciousness, *manas*, thereby ceasing both *ātma-grāha* (grasping at self) and *dharma-grāha* (grasping at nature, others). Both *samāpattis*, as direct yogic perceivers (prehensions), generate an obstructive *dharma*, like a dam. The first acts on the thinking mind, the second on the afflictive mind. The *samāpattis* are robust and wholesome yogic mental operators, purifying container consciousness from *manas*, allowing *ālaya-vijñāna* to become *ālaya-jñāna*, the living Great Mirror Wisdom of a Buddha. The Yoga Practice School is the 'yogic' branch of Mahāyāna. Its earliest sūtra, the *Saṃdhinirmocana Sūtra*, or *Sūtra of the Explanation of the Underlying Meaning*, dates from the 2nd-century CE. Madhyamaka, the 'philosophical' branch, was initiated by Nāgārjuna (2nd -century). Both are relatively independent. Yogācāra (also called 'Cittamātra', or 'Mind-Only') focuses on yogic practice and direct yogic experience, rather than conceptual reasoning.

It nearly vanished, but is still practiced today in Japan (as *hossō* at Kōfukuji Temple in Nara) and knows a revival in Western Buddhism, focusing on Early Yogācārins like Maitreya, Asaṅga, Vasubandhu, Paramārtha and Sthiramati, rather than Dharmapāla and Xuanzang (in China). In the 5th to 8th centuries, the Tathāgatagarbha doctrine became entirely part of Yogācāra, promoting absolute idealism.(12) This latter variant is the one mostly portrayed in Tibetan Gelug scholasticism, rather than the combination of Early Yogācāra and *tathāgatagarbha*.

Given *buddhānusmṛti* or the 'recollection of the Buddha,' the practice of meditation in front of images or paintings, Mahāyāna also started, earlier as the 1st-century, to integrate proto-Tantra.(13) Its maturation set in motion a fertile, ongoing interaction between, on the one hand, the best conceptual understanding (*prajñā*) of the Paṇḍita (Madhyamaka) and, on the other hand, the direct non-conceptual 'seeing' (*jñāna*) of both Yogi (Yogācāra) and Tantric (Vajrayāna). At times, these two aspects integrate, generating outstanding yogi-scholars like Tsongkhapa. Each of the Mahāyāna branches had its technical jargon. A complex system of Buddhist philosophy ensued, at times confusing and eclipsing the shared view. With the *Guhyasamāya Tantra* in the early 7th-century, Tantra began to be fully assimilated and, with the *Kālacakra Tantra* in the 11th-century, turned all-encompassing and encyclopedic, at which point the Buddhadharma, pressured by Islam, left India for Tibet, where it was preserved and elaborated. Despite the many variations on the tantric theme, *self-grasping* is their shared *bḥte noire*. This 'self' refers to the ego (personhood), as well as objects and other persons. Madhyamaka, Yogācāra, and Tantra have the wisdom realizing emptiness defined as the *absence of inherent existence* in common. Yogācāra and Madhyamaka both took the gradual path, in accord with Sūtra. There is no sudden awakening, but a slow process of discovery and learning in stages. Operating the new method of Deity Yoga and its sacred outlook, Tantra auto-sanctified its visionary texts (*tantras*). Seeking awakening *in this life*, it defied common practice. The tantric 'deity' is none other than the inner teacher allowing the devotee to cross over and recognize the 'secret guru,' the 'original face,' the Buddha Inside ...

- Sūtra results in the union of method and wisdom
- Yogācāra seeks a yogic experience empty of duality
- Madhyamaka in the unity of appearance and emptiness
- Tantra in the oneness of bliss/compassion and emptiness
- Ati-Yoga in the fusion of innate awareness and space

To cease the Two Obscurations, Mahāyāna Sūtra trains to increase merit (*puṇya*) by the Two Accumulations. On the one hand, skillful method (*upāya*) optimized as compassion (*karuṇā*) is needed, and, on the other hand, the wisdom (*prajñā*, and/or *jñāna*) realizing emptiness (*śūnyatā*). Buddhahood is approached sequentially.

Enlightened body (form – *rūpa*) and enlightened mind (*dharmakāya*) are *separately* assembled, and so only after an inconceivably long period do Bodhi-mind and body appear simultaneously, initiating enlightenment. Thanks to the Bodhisattvayāna, Buddhahood is possible, but still exceedingly far away. The cause of this is our human condition, the substance-obsessed existentials of our human existence, besotted by this nostalgia for being somewhere else than precisely in the moment at hand. The mind grasps at objects, possessing them. This tendency of the mind is inescapable. It is how it functions and not the cause of ignorance. On the contrary, because it grasps, it acquires knowledge, and without knowledge, the mind is blind. To know how things exist is the purpose of science and philosophy. They arrive at conventional truth about conventional reality or conventional existence. To know how things ultimately exist is the purpose of the wisdom realizing emptiness. Then self-grasping needs to be tackled.

Self-grasping always involves a false ideation (*vijñapti*) or *illicit* taking possession of the object, whereby the self-deluding mind superimposes a sense of *non-existent substantiality*, an impossible existence on what is known by the knower, be it one's ego or sense of 'I' and 'mine,' other persons or any other phenomenon. The object is experienced as independent, selfsame, separate, and existing from its own side. This experience is repeated again and again and becomes a manic substance-obsession. To become aware of this is already a great achievement, taking many years. To succeed rooting this out can, in terms of Sūtra, take several universa to clear !

The yogis and pundits of both Yogācāra and Madhyamaka take their time. The joyous effort required may seem Sisyphean ...

Ultimate analysis intends to prove this 'self,' own-form (*svabhāva*), essence (Gr. *eidos*) or substance (Gr. *ousia*, Lat. *substantia*) projected to exist, does *not exist*. Madhyamaka extends the meaning of no-self (*anātman*), so it included all possible phenomena.

> Self-restraint and benefiting others with a compassionate mind is the Dharma. This is the seed for fruits in this and future lives. – Nāgārjuna

Four stages of self-grasping are to be noted :

(1) self-cherishing : this is the crudest form, the egology of which spoke Levinas, a nominal mind *identified* with the First Person Perspective, the 'I,' the 'ego,' the 'me' of personhood, outwardly extended as 'mine.'

This is a sharp mind (as can be witnessed when in danger or under attack), and mostly, as Yogācāra proposes, unconscious insofar as it is uninterrupted (and even at work in dreams).

Under ultimate analysis, this substantialized, essentialized, ontic ego is found to be only designated upon a collection of aggregates (material form, volition, affect, thought, and consciousness). When the mind is under the spell of self-grasping, it mistakenly superimposes upon the sensate and mental objects it possesses the non-existent *persona* of something inherently self-existing from its own side, self-powered, self-identical and mostly independent of spatio-temporal changes.

While the attributes of anything may change, this essential, substantial core is deemed to remain the same, in no way changing over time, permanent.

Self-cherishing is the first, coarse level of self-grasping. Intellectual self-grasping is the second, subtle level and innate self-grasping the very subtle level.

With self-cherishing, life happens in a coarse psychosocial context, in terms of an enduring self-evident love of self or, worse, blunt narcissism or psychopathic self-inflation. The 'self' is cherished as being the most essential and distinct object around. Others enter the picture as possessions used in instrumental and strategic actions of body, speech, and mind. The ego and its own is all that is in existence.(11) The basis of all actions is the satisfaction of the needs of the ego first.

Ending self-cherishing is the first concern. We need to identify our self-love. Before the (mental) root cause can be cut, emotional turmoil needs to stop, achieved by Mindfulness, Calm Abiding, and bodhicitta, practicing compassion for all sentient beings. The manas must be turned by training it to equalize and exchange 'self' with 'others.' To succeed, mindfulness and the yoga generating bodhicitta is practiced. The yogi wants to benefit all beings. Merit has two sources : compassion and wisdom. By increasing both, causes are set in motion producing the form and the mind of a Buddha. Compassion (karuṇā) is the supreme method (upāya) or expedient means to generate a supple, calm mind and a good open heart, the first step, and generates the cause of the body of a Buddha. Based on such a great meditative mind, wisdom is the insight gained when the ultimate nature of what exists is investigated. Wisdom generates the mind of a Buddha.

When both 'wings' of compassion and wisdom flap together, the bird of liberation takes off. Taken together, these activities define the Path of Accumulation, preparing the ground for the radical change of mind wanted (cf. infra).

(2) learned (intellectual, acquired) self-grasping : in the course of our education, training, and enculturation, particularly in the West, self-cherishing is conceptually reinforced, and various ways are devised to introject the bad habit of continually grasping at ourselves as if we exist on our own. We are trained to misperceive. In the mistaken view taught, the self is deemed autonomous and autarchic. It commands free will and exists on its own, at best, responsibly. Moreover, besides a substantial or ontic ego, conceptual thought reifies its categories, and the phenomena they catch and label are also deemed to self-existent.

Such pestilent conditioning needs to be eliminated and nobody else, but the individual can do this, entailing nominalism instead of essentialism, process instead of substance, impermanence instead of permanence, variability instead of standardization. A nominalist pedagogy is a requirement.

The philosophical approach of the Middle Way, the outlook of the Paṇḍita, aims to destroy the intellectual edifice of substance-obsession. It does so by introducing the concept of emptiness gradually, combining study, reflection, and meditation, thereby deepening one's best understanding of it (prajñā).

When all sensate and mental objects are found to lack inherent existence and emptiness itself is understood to be empty, the meditative mind generates the generic idea of emptiness. This 'yogic dam' born out of yogic absorption (samāpatti) does not radically end all acquired, conceptualizing self-grasping, but merely prepares the conceptual mind thoroughly, trains it to operate during meditation in a strict nominalist fashion, thereby approximating (fabricating) the direct experience of emptiness. Taken together, the practices encompass the Path of Preparation.

The conceptual mind cannot cause the end of intellectual self-grasping, and so it only happens when emptiness is directly experienced by way of a yogic perceiver inducing jñāna (gnosis). This is a non-dual mode of cognition, prehension of what just exists, devoid of concepts, and conceptual elaboration.

When the gnostic operator is fully active, and under the will, the Bodhisattva has entered the Path of Seeing.

(3) innate self-grasping : as even animals, satisfying their need to survive, display some notion of selfhood, we may assume self-grasping is also innate, i.e., given at birth. Hence, although education refines it, nothing needs to be done to make the presence of self-grasping factual. To overturn this ingrained outlook or innate conditioning, defined by past karma, direct experience of emptiness is necessary, trained on the Path of Meditation.

The presence of innate self-grasping explains why it is so difficult to end substance-obsession. While preparing its cessation, it may

be possible to tackle conceptual reification by holding fast to strict nominalism (on the Path of Preparation) and then altogether end it (on the Path of Seeing) ; innate self-grasping remains untouched. A deepening of prehension (jñāna) is called for. This process is represented by the Ten Bodhisattva Grounds (bodhisattva-bhūmi), the stages of training of the Bodhisattva. The First Ground, the Joyous, is the Path of Seeing, finally ceasing intellectual self-grasping irreversibly and initiating the direct yogic experience of emptiness (rather than merely a conceptual idea of it). The Bodhisattva has become an ārya, a 'superior' being.

When stability on the First Ground is the case, the Path of Meditation may be entered, ending innate self-grasping ; the path from the Second to the Seventh Bhūmi. Innate self-grasping ceases on the Eight Bodhisattva Ground. The Bodhisattva is mahāsattvic. As the cause of innate self-grasping is pre-intellectual, uninterrupted and unconscious, it may be conjectured that the early stages of our cognitive development, at work before formal thinking arose around 12,(14) are key to cease this kind of mistaken ideation ... These ante-rational stages of cognition (myth, pre-rationality, and proto-rationality) are related to libidinal, tribal, and imitative patterns as seen addressed in Tantra ... This early mind is signal-based (mantric) and iconic (image-based, visual, maṇḍalic), with the circle and its divisions as the dominant icon. When the proto-rational stage has been reached, the ante-rational mind knows closure, enabling it to produce art and literature, as evidenced by what happened in Ancient Egypt (Ancient Egyptian Readings, 2016).

(4) the hindrances to omniscience : before finally realizing Buddhahood, entering the 'Path of No More Learning,' the Mahāsattvic Bodhisattva needs to end the reification of duality itself ; the central theme of the last stages of training (Eight to Tenth Bhūmi).

Insofar as people are fully immersed in self-grasping, they cannot correctly think, feel, or act in accord with the interconnectedness at work between all existents. As closed monads considered to be unique and different from all others, their singularity is rooted in their self alone. How can they consider others authentically ? Cherishing the singular self before the multitude of selves, the minority before the majority, a collection of selves before the vast complexity

of an extended variety, their mind is chained to the restricting pattern of 'contracted' space (duḥkha), disabling it to function adequately in terms of reality as it is (dharmadhātu).

Without the cage of alienation of substance thinking, no longer limited by the view the core of the self is fixed and static, one may appreciate the possibility of radical change and do away with thoughts like 'this is impossible for a person like me.' Although the latter may be temporarily true, it never is permanently valid.

Radical change is possible. People are not 'stuck' with themselves and their idiosyncrasies and habits (vāsanās). If the proper causes are introduced, maintained, and reinforced, personality will change. Moreover, even perfection is possible. Wisdom-mind, the mind realizing emptiness, is the highest possible virtuous mind, and so everything that is done with it (in it) is spontaneously perfected. Without wisdom-mind, even bodhisattvic qualities like patience, generosity, enthused diligence, ethics, and concentration are 'blind' to the fact agent, agency, and action are all three processes.

Tradition recorded the following notable incident in Gautama's early childhood (Mahāsaccaka-sūtra of the Majjhima-nikāya). As an encouragement to agriculture, his father Śuddhodana arranged for a 'ploughing festival.' Intended as a festive occasion, both nobles and commoners wore delicate garments to participate in the ceremony. On the appointed day, accompanied by his courtiers, he went to the field, taking the young Gautama with him. Placing the child on a screened and canopied couch under the cool shade of a rose-apple tree, he took part in the festival.

At its climax, Gautama's nurses left his presence to catch a glimpse of the beautiful spectacle. The thoughtful child, mature in intellect though young in age, sat peacefully cross-legged, concentrating on inhalation and exhalation. He spontaneously gained the unification of mind (ekodi-bhavam) and entered the First Jhāna, characterized by four factors : discursive thought (vicāra), reflection (vitarka), joyful rapture (pīti) and bliss (sukha).

Much later, at the end of six years of practicing extreme austerities unable to undo his suffering, he listened in as a sitar player was teaching his pupil optimal string tension, namely not too tight or too loose, making him suddenly remember the remarkable event underneath the rose-apple tree. He realized there and then how only a calm, supple mind and a pliant, healthy body are able to enter higher states of consciousness revealing reality as it is. Without real tranquillity, no insight into existence can be gained !

Only a calm mental state serves as a stepping-stone to enlightenment. If the mind is too agitated by afflictive emotions, stress, and unhappiness, it cannot penetrate the real core of what exists. Too tense, it cannot sufficiently relax to see things as they are. To awake, all extremes need to be avoided, and the 'middle way' is always to be maintained. Without physical and mental malleability, no constricting conditionings can be overturned. Of course, tranquillity (also mentioned in other darśanas) is but the first step, realizing emptiness the second.

Buddha Śākyamuni's approach is first to diagnose the existential human condition. How can this tense, agitated, excited, confused, and egological mind of *Homo normalis* introduce a radical change transforming the individual from a deluded into a sapient state ? First, the sickness has to be seen and accepted ; the aim of the First Noble Truth, the Truth of Suffering.

If one is not ready to confront the disease, the cure cannot take effect, and the Buddhadharma is unnecessary. Recovery is only possible if the initial state of misery is accepted. Only 'noble' minds are strong enough the understand the root cause of their predicament. Addiction cannot be ended if the one addicted does not accept there is an addiction in the first place.

The acceptance of the fact of suffering is at the core of renunciation, often confused with the rejection of the world and what it has to offer. However, nothing less is true ! Once the radical change of mind sought has taken effect (and true, before this happens, worldly concerns need to be adjusted), the virtues of this world can be truly and lastingly enjoyed. Without such a change of heart, the world is all about constriction, limitation, and suffering ...

With renunciation, the good things are not desired when they are absent, and deeply enjoyed when they are. What makes us suffer is faced. This attitude differs from merely rejecting worldly occupations, as asceticism proffers.

While the world is not rejected, exaggerated attachment and aversion, both extremes, are cast off. These two poisons branch out in eight worldly preoccupations : happiness and fear to lose it, fame and fear of being insignificant, searching for praise and avoidance of blame, seeking gain, and anxious of loss. Renunciation is not the same as abandoning our worldly ties, turning away from family, friends, our home, or occupation. It is stopping the mind from thirsting for worldly pleasures as if one's life depends on it. While monastics pursue a life of simplicity, restraining their worldly needs, lay practitioners train to let go, to release, and to unburden themselves.

While craving remains, no lightness of being can be arrived at. Renunciation calls us to be mindful of the world surrounding us. Without this, our incessant attachment to it cannot be identified and turned around.

**Fig. 4** *Aṣṭamaṅgala*
The Eight Auspicious Signs

## 1 | The Four Signs and the Four Thoughts

Sickness, old age, and death are signs something is fundamentally wrong with mundane existence. Having the good fortune to meet a genuinely spiritual person is the bright side of *saṃsāra*.

Buddha Śākyamuni was not ready to accept these conditions without ado. If one does, his path cannot be entered. For if and only if the deep distress caused by them is felt, can one start to comprehend the flawed nature of the human condition. Being contented to a fault does not lead to Buddhahood.

(1) the first sign : *sickness* : even a minor injury causes discomfort for a considerable time, while severe disease alters the way we are used to moving through life. Some people never experience health, while others are fortunate to be in good health for a long time and then suddenly lose it. A few remain healthy throughout their lives, except at the end. To be physically or mentally strong and active can be natural, but most of the time, lots of attention is required. Gautama saw a sick person and realized he too, at some point, was prone to become ill. It came as a shock, for he understood the vanity of thinking that if nothing is done, all will remain well. *He wanted to find a way to remain healthy throughout his life.* When physical sickness strikes, we experience the lunacy of self-cherishing, for ego-clinging is temporarily suspended. All attention goes to the body. Illness is a teacher forcing us to become aware of the lurking suffering and impermanence of it all ;

(2) the second sign : *old age* : in most, over time, the energy of the physical body declines. The beauty and force of youth are lost, and the body turns into something ugly and fragile. We may invest time so the vehicle of consciousness does not fall apart, but over time more and more grooming is necessary to shield the decay. Gautama saw older people and knew clinging to his formidable physical beauty was utterly ridiculous. *He wanted to find a way to longevity and remain vigorous despite the aging of his body.* Accepting old age will slowly arrive, and not burying our head in the sand about it, teaches us to appreciate every vigorous moment we receive. It also shows how this idea of us having a permanent self cannot be reconciled with a continually changing body. Body and mind change in time

and if nothing is done about it, we all end up silly and demented, if not worse. Old age points us to prepare well and to seek ways to experience a *golden old age* despite the inevitable loss of energy ;
(3) the third sign : *death* : the ultimate sign of our precarious situation is the demise of the physical body. When Gautama found a corpse and Chana, his charioteer told him this was the lot of all that lives. Gautama's distress was complete. From sickness, one could recover, and old age could be made very remote and short, but death, even with the best care, was inevitable ! How painful to have to leave everything and exit this world as one entered it : naked. When and how will it come ? Death is indeed a phenomenon striking at the heart of our clinging to the mind/body-complex, for nobody can escape it. *Siddhārtha Gautama wanted to find a way never to be born again and so to never have to die again.* Even after his enlightenment, able –if he so wanted– to sustain his life for thousands of years, the Buddha decided, out of compassion for his friends, to leave his body behind and enter *parinirvāṇa*. Although Superior (*Ārya*) and Mahāsattvic Bodhisattvas, by way of liberated longevity, may postpone and eventually choose the moment of their physical demise, as well as their next incarnation, they cannot circumvent death. Hence, death, precipitously ripping us away, is the ultimate lesson of suffering and impermanence, curtailing self-cherishing at its very root, showing how vain it all is ;
(4) the fourth sign : *the renunciant* : distressed by these three signs, Gautama lost all appetite for the luxury his father had offered continuously him. He understood Śuddhodana had done so to keep his mind attached to the best of this world, shielding him off from its dark and sinister side. Why so ? Because at his birth, the wise astrologer Asita had told Śuddhodana his son had the propensity to take the route of the ascetic renouncer (*śramaṇa*), those who cast off, give up and voluntary leave all worldly concerns behind. As the leader of his clan, he wanted an heir and could not envisage Gautama doing anything else but clinging to the worldly satisfactions of his own deluded, hallucinating self. However, when Gautama saw an ascetic, his mind grasped the possibility of finding, by following this radical, other way of life, a solution to his distress. At twenty-nine, surfeited by his worldliness, he left his beautiful palaces, lovely wife and new-born son Rāhula, namely everything 'normal' people consider to be good ! *Gautama wanted to find a way*

to end suffering permanently. He sought true peace. While this intent proved correct, the yogic methods proposed by his first teachers, as well as the extreme ascetic practices that followed, turned out incapable to cease suffering. Escapist comfortable abidings and harsh asceticism do not lead to the end of suffering, on the contrary, they end it only temporarily or add woe upon woe. Moreover, not all desires can be extinguished or are to be overcome, only those motivated by a reified ego are. Extreme forms of renunciation do not beat suffering. Even the highest meditative state (the Eight Jhāna of 'neither perception nor non-perception' introduced by Udraka Rāmaputra) was transient and unable to eliminate suffering thoroughly. To identify the Dharma with escapism, world-rejecting renunciation or bodily mortification is to misrepresent the teachings of the Buddha. Abject restraint may overcome many desires, but does not by itself undo the attachment to self, the root cause of our predicament. The first three signs depict the severe flaws present in nominal existence (vyavahārasattha). They are all three related to the physical body. The goal is to overcome the desire never to be sick, old or die. By dereifying the ego, the mild dissatisfactions people face daily must also be drastically reduced and eventually cease.

Because self-cherishing engenders actions causing afflicted emotions like anger, hatred, greed, stupidity, exaggerated attachment, arrogance, jealousy, pride, and feelings of superiority, one cannot begin realizing emptiness without at least attenuating these. Once this has happened, by cultivating calmness and compassion, their root, ignorance, can be dealt with. In this process, the first step is recognizing one's afflicted condition. To assist, the Buddhadharma proposes the Four Thoughts That Turn the Mind : our precious human birth, suffering, impermanence and the law of cause and effect (karma).

(1) our precious human birth : human existence is unique and of extraordinary value. A human being has exceptional physical, verbal, and mental endowments, as well as the free will or ability to choose and opt for a course of action. Other beings are not that fortunate. Most animals have to kill to survive and so perpetuate their situation by being unable to accumulate merit.

Liberation and awakening can be more readily appreciated and realized by human beings than by any other sentient being, be they hell-beings, ghosts, animals, demi-*devas,* or *devas*. These beings exist in the so-called Eight Unfavorable States of Existence.

The Eight Unfavorable States of Existence

1. Hell-beings continually suffering from heat and cold ;
2. Hungry ghosts tormented by hunger and thirst ;
3. Animals confused, tormented and so incapable of knowledge ;
4. Barbarians untouched by Dharma ;
5. *Devas* distracted by worldly pleasures and bliss, lacking interest in Dharma ;
6. Natural dislike for the Dharma due to wrong views ;
7. Born in an age without a Buddha ;
8. Mutes, ignorant of language, dumb and unable to turn towards the Dharma.

Humans may be subject to dehumanizing conditions (the Sixteen Unfavorable Conditions) and receive specific boons and responsibilities, allowing for spiritual growth (The Ten Blessings).

The Sixteen Unfavorable Conditions

Eight Unfavorable Conditions Based On Present Circumstances

1. mental disturbances due to the six emotional poisons (pride, jealousy, extreme attachment, stupidity, greed, and hatred) ;
2. influence of corrupting companions ;
3. false views and practices ;
4. extreme laziness ;
5. flood of obstacles due to previous evil deeds ;
6. being a slave or servant ;
7. entering the Dharma out of non-religious concerns ;
8. involvement in the Dharma for the sake of profit or renown.

Eight Unfavorable Conditions Cutting Mind From Dharma

1. great desire and attachment to body, wealth, etc. ;
2. coarse character and mean acts ;
3. not frightened of miseries of lower realms despite teachings ;
4. no faith in liberation despite teachings ;

5. delight in unwholesome actions ;
6. no inclination to practice Dharma ;
7. violation of vows ;
8. breaking commitments to teachers and religious companions.

The Ten Blessings

Personal :

1. a human body, reversing the Eight Unfavorable States ;
2. born in a land in which the Dharma is taught ;
3. intact sense organs ;
4. no wrong views and no counter-productive deeds ;
5. confidence in the Three Jewels (Buddha, Dharma, Saṅgha) ;

From Others :

6. born in the age of the current Buddha ;
7. receiving the teachings of this Buddha ;
8. the Dharma not declining but enduring ;
9. the Dharma having many followers ;
10. material circumstances assisting the practice of the Dharma.

If all these favorable conditions are met, one may conclude to be endowed with a *precious* human birth. Very rare indeed !

Prolonged Analytical Meditation on these conditions and blessings triggers a deep concern *not to waste our life* by plunging oneself in the Eight Worldly Concerns, characterized by variations on the themes of clinging (passion or exaggerated desire) and aversion.

1. Attachment to getting and keeping *material things* ;
2. Aversion of not getting these or being separated from them ;
3. Attachment to *praise*, hearing kind words, feeling encouraged ;
4. Aversion to getting *blamed, ridiculed, and criticized ;*
5. Attachment to having a good *reputation* ;
6. Aversion to having a bad reputation ;
7. Attachment to sense *pleasures* ;
8. Aversion to unpleasant experiences.

(2) impermanence : the utter groundlessness for our hopes to keep anything the grasping self now enjoys must be clean-clear.

The ultimate sign, death, and the fear it triggers are to be used to motivate our religious practice. The latter is the only viable antidote to the fearful experiences typically preceding, accompanying and following our physical demise.

The reason is simple : the state of mind before death is the primary factor determining what happens in the afterlife. Negative minds cause adverse 'karmic winds.'

In the Kadam school (integrated by Tsongkhapa in the Gelug sect), five critical thoughts were cherished :

1. nothing lasts : everything arising eventually ceases. Even the universe as a whole will perish (Big Crunch or Big Evaporation). A human life is quickly used up, and even the most intense worldly experiences end. Considering this, one meditates : 'Is there something better I could do now ?'

2. many other humans have died : in a century or so, all humans beings on this planet today will have died. In the past, countless beings perished. How often do happy people consider death ? They have no time to reminisce and are suddenly confronted with their end. What preparations have they made. Meditate : 'How can I prepare for the inevitable end of this life ?'

3. many things may cause death : our present condition is not without danger. We never know what may cause our death. Maybe our clothing, food, friends, or loved ones ? Meditate : 'How will I meet my death ? What will happen to me ?'

4. consider what happens at the hour of death : in most cases, death is always unwanted and uninvited. By itself, it is a blessing to be lucid when death approaches. Those who have done lots of bad things are terrified and experience the incredible pain of life being irreversibly cut-off. Apparitions appear. Body and mind become out of control. Even one careless negative thought may trigger rebirth in the lower realms (hell beings, ghosts, animals). When looking back, overwhelming feelings of regret occur, for one realizes one has squandered a sea of precious time. Hence, meditate : 'From now on, I will practice Dharma. Instead of grieving later, I will put in the proper effort to avoid a painful death !'

5. *consider what happens after death* : consider how after death, your feelings, volitions, thoughts, and consciousnesses (in short, your mind) will no longer be imputed on the (more static) physical vehicle, but on another, fleeting spirit-body. In the intermediate stage (Tib. *bardo*), lacking mental discipline, most will be like a wind-blown feather, wandering about following the results of their 'black' (evil) and 'white' (good) actions. An untrained mind cannot control these 'karmic winds.' Undoubtedly one should train ! So, meditate : 'Practicing now and during this life will allow me to control what happens to me after death.'

(3) *suffering* : as all mundane things are replete with suffering and devoid of lasting satisfaction, consider the shortcomings of cyclic existence ; the royal road to the Buddhadharma, and its First Noble Truth, the Truth of Suffering ;

(4) *cause and effect* : considering how no punishing or rewarding God can be found, we must conclude that no omnipotent Being can alter the inevitable consequences of good and evil actions. Even a Buddha is unable to stop ripening *karma*. We are the cause of our distress or happiness. Action, i.e., anything one does, says, or thinks, is the sole cause of what happens to us.

In this context, 'cause' is to be understood as a mental *intention* motivating us to act, and 'effect' is the experience arising from an act and its intention. According to the Buddhadharma, and in tune with cyclic existence and its tragi-comedy, effects are mostly experienced in the next life and even much later. Actions are cumulative, and negative accumulations explain the inertia typical for cyclic existence (cf. the doctrine of *karma*).

'Generally speaking, whenever we think something good or positive, it is not habit-forming in the same way as negative thinking, which is extremely habit-forming. Negative thinking is very narrow, structured, constricting, and constraining. Positive feelings and emotions are expansive and bring us out of ourselves, whereas negative feelings want to go inward.

Even when we express ourselves violently, which is an apparently outward expression, the feeling itself is locked in ; but when we are

feeling happy, we don't have to express it, it is already out. (...) karma, cultivated properly, teaches us how to get out of the predicament we have landed ourselves in, *through* karmic behaviour. We need to use karma to free ourselves from karma (...)' – Kyabgon, *Karma*, 2015, p.117.

Understood positively, the karmic law allows one to increase wholesome accumulations, as well as to purify the negative. By guarding the gates of body, speech, and mind, refrain from increasing the negative. By special techniques, such as meditation on the Thirty-Five Confession Buddhas or Vajrasattva Meditation, one may drastically cleanse the 'pool' of negativity engendered by bad *karma*, pointing to the *ever-existing possibility of change for the better* (eternal hell/heaven cannot be found, neither can original sin).

These considerations should not be seen as morbid brooding or signs of a pessimistic outlook. The Buddhadharma wishes to establish an honest perspective based on which to undertake the *radical transformation of mind* leading up to *true* peace.

Considering the world as permanent and happy, human life as self-evident and the pains of sickness, old age, and death as something to deny or turn away from, is not being true to the facts. Focusing on happy social engagements as an antidote to saṃsāric life's inherent distress, while soothing, is not effective in the long run, especially if the irreversible end of suffering is sought. It is merely a way to run away from what cannot be avoided.

Of course, to an immoral mind rejecting rebirth, the consequences of harmful activity may not seem as severe as to those who accept *all action causes an effect*, even beyond our physical demise. A wrong and evil mind may indeed avoid the outcome in this life, and so, insofar as this mind is concerned, nothing else is needed. Only those accepting rebirth take *karma* truly serious.

'Where can we go where our sins will not touch us ? No place on Earth – no place at all. Not in the sky, not in the midst of the sea, not in the rocky clefts of mountains.' – *Dhammapada*, 12 (8:127)

To lessen the grip of self-cherishing, wrong views are to be relinquished ; the main point of meditating on the above points. Buddha Śākyamuni's path aims at a permanent state of peace in this life and the next ; the true meaning of the radical change he seeks. If one is happy with saṃsāric life and one does not wish to confront it honestly, the Buddhadharma should not be practiced.

This is especially the case for those temporarily endowed with health, beauty, and wealth.

## 2 | Recognizing the Three Sufferings

'Now this, bhikkhus, is the noble truth of suffering : birth is suffering, aging is suffering, illness is suffering, death is suffering ; union with what is displeasing is suffering ; separation from what is pleasing is suffering ; not to get what one wants is suffering ; in brief, the five aggregates subject to clinging are suffering.' – Samyutta-nikāya, Saccasaṃyutta, 56.11

Although the identification of suffering is a pan-Indian spiritual concern, Buddha identifies the root cause of suffering to be ignorance. In Sāṃkhya and Hindu Yoga, Nature is the culprit. These yogis turn away from prakṛti towards puruṣa, transcending the world. Only in total aloneness (kaivalyam) is salvation found.

'Because of the sorrow present in the transformation of Nature, in its anguish, in its reactors and due to the conflict between the movements of Nature, to the discerner all is merely sorrow.' – Patañjali, Yoga-Sūtra, 2.15.

The Buddhadharma targets the mind, in casu the Three Poisons : ignorance (of anātman), clinging (exaggerated desire or passion), and hatred (exaggerated rejection or dispassion, clinging to the opposite). Note how only extremes are targeted.

The Four Noble Truths follow the pattern of a medical anamnesis :

(a) diagnose : what is at hand ? Suffering (duḥkha) ;
(b) identify cause : what feeds suffering ? Craving (tṛśṇā) ;
(c) cure : what ends suffering ? Wisdom (prajñā / jñāna) ;
(d) treatment : how to be wise ? Experience emptiness (śūnyatā).

The First Noble Truth involves recognizing and accepting the afflicted condition of nominal, conventional existence of sentient beings trapped in an unsatisfactory cycle of woe. The message of the truth of suffering is that conventional reality is contaminated. The root cause of ignorance is found, not in Nature, but in mind. Existence-as-suffering exists because of a category mistake.

In the Tibetan tradition, one meditates on suffering (duḥkha) in three steps : (1) the suffering of suffering, the experience of coarse physical and/or mental pain and/or anguish, (2) the suffering of change, noticing the subtle impermanence of peace and happiness and (3) the pervasive suffering, the very subtle woe underpinning cyclic existence as a whole, the root cause of suffering and ignorance. We all experience coarse suffering. Minor illnesses are inconvenient and unwanted. Moments of dissatisfaction happen every day. Mental disorders, so prevailing in the West, are common. Depression, burn-out, demotivation, lack of enthusiasm, joi de vivre, etc. are rampant. Sociopaths lead ... The global disaster we face is imminent and makes life even more difficult. Nagging physical and mental suffering makes life lose its luster. From the cradle to the grave, one feels haunted by constant dissatisfaction. The tragi-comic absurdity of saṃsāra is exemplary. Its tragedy has something of the burlesque, caricaturing the highest peaks of existence. The Three Signs are outstanding examples associated with suffering. We may overcome their negative associations, not the experiences themselves. Sickness, old age, and death are not the suffocating oppression of duḥkha, but the desire not to be sick, not to become older and not to die, isolates and substantializes the mind. On a subtle level, the ongoing change, the impermanence of it all, may cause, given the presence of what is disliked and the absence of what is liked, existential anxiety. However, the pain itself is not subtle suffering, only the desire not to be in pain is. Being poor or rich is not suffering, but the desire to possess what is lacking is. Desires are unavoidable, and not all desires cause suffering, on the contrary. Next to tackling the associations of suffering, we may try to overcome the desire itself. We enjoy it when present and seek not when absent. Even deeper, accepting physical, mental and existential desires cannot be avoided, the core-business of cyclic existence, the pin of the hub of the wheel, is to be seen.

Desires as such are not problematic, only craving or thirst (tṛśṇā) is ; a specific kind of desire. What is saṃsāra other than our projection of substantial permanence on impermanent existence and the resulting emotional afflictions ? Attributing what does not exist (inherent existence) to what exists (processes), all possible objects, be they sensate or mental, are ipso facto imbued with this false ideation accompanying their conventional ascertainment, halting process, arrests the ongoing togetherness, perverts the dependent origination of all actual occasions and ceases what never stops. The pervasiveness of suffering is caused by the entrenchment of our craving for a permanent nature. To realize pervasive suffering is to know saṃsāra violates existence. The craving mind is the root cause of duḥkha. This thirst always reifies. So, arresting suffering begins and ends with our state of mind, with our intent to cease our attachment to a permanent self.

## 3 | Not Putting Up With It

The Second Noble Truth, understanding why this suffering happens-, aims to heal. It betrays a therapeutic attitude, not putting up with the negative situation, but seeking a way out. The diagnosis is clear : suffering is everywhere, all the time, so what fuels this ? Take out the root cause, and the afflictive effect disappears. Although this seems a natural way to go about, in fact, the vast majority of sentient beings are disabled or unequipped to change radically, i.e., accumulate merit (puṇya) and escape cyclic existence. To begin with, all sentient beings, except humans, lack free will. They cannot make nondeterminate decisions and 'step away.' Unfree, they are chained by habit to repeat what they are doing. Because of the vast number of slavish sufferers, cyclic existence may never end. How many humans are willing or forced to accept their misery ? Because of lousy conditioning, or as the result of a wrong view, it is said nothing can be done about it anyway. Reinforcing adds to the problem. The truth of arising involves an analysis of the causes or arising (samudāya) of suffering (duḥkha), technically defined as ignorant craving or 'thirst' (tṛśṇā) for sensual pleasure, for self-annihilation (as in nihilism) or the supposed 'eternal' existence of the devas (as in eternalism). Sensual desire is based on attraction. Self-annihilation (denial) and eternalism (affirmation) is

the reactive mind, dualistically elaborating. The root of this *thirst for objects* is ignorance about the true nature of phenomena, leading to brontosauric reifications, like a self-powered soul (*ātman*, *puruṣa*), a substantial Nature (*prakṛti*) or a self-sufficient God (*Brahman*). Ignorance, the root of the emphatic 'yes' or 'no,' is the core poison contaminating the mind.

The Three Poisons or unwholesome roots (*akuśala*) form the hub of the wheel of suffering. Ignorance, the pin, designates objects as *inherently existing from their own side*. Craving firmly grasps (affirms) the object. Hatred, the reversal of craving, vehemently dislikes (negates) its object. Both presuppose a self-existing person.

'When we crave we do not just want with more emphasis, or with greater intensity. Again, craving involves attachment to self ; it involves the feeling or sense that *something is at stake for oneself* in one's desires (we might say it involves the sense of being a stakeholder in one's desires). Cravings are pursued in the interest of satisfying one's sense of self and unsatisfied cravings are felt as *suffered by this sense of self*.' – Panjvani, *Buddhism : a philosophical approach*, 2014, p.68, my italics.

The cause of suffering is not an abstract principle, but something active and purposive, i.e., and *agent*. Craving and hatred make each facet of experience *to be aflame*.

> People have a hard time letting go of their suffering. Out of a fear of the unknown, they prefer suffering that is familiar. – Thich Nhat Hanh

Non-afflictive desires and wants are not rejected, for only *ignorant* desires cause *duḥkha*. The root cause of afflictive emotions, the pin of the hub, is nescience, the absence of the wisdom-mind realizing the ultimate nature of phenomena, the *emptiness of self and others*. Instead, a sense of permanent selfhood is joined to the ever-changing aggregates.

The desirer's continuing self is supposed to be an existence of the same entity over time.

The truth of arising also shows how every effect has a cause, how everything comes into being in dependence on something else, in endless cycles of co-determination. This conditioned, interdependent-arising (*pratītya-samutpāda*) is known as the 'causal nexus,' the universal interconnectedness between all possible phenomena. In conditioned, cyclic, conventional existence, all arising phenomena (*dharmas*) bear the Three Marks of Existence (*trilakṣaṇa*), namely impermanence (*anitya*), suffering (*duḥkha*) and selflessness (*anātman*). They arise, stay for a while and cease. Because minds crave and hate, they suffer from painful emotions. Because phenomena never remain identical, they exist interdependently. What does not arise (like *nirvāṇa*) cannot cease. By knowing the causes of suffering, namely, on the one hand, the afflictive states of our emotions (craving and hatred), and, on the other, the deluded activity of our mind (ignorance of how the self exists), a cure can be sought. It is the message of the Second Noble Truth. Knowing what causes suffering, namely the thirst for permanency makes healing possible.

## 4 | Ceasing Suffering : the Two Truths

'Whatever is subject to origination is all subject to cessation.' – *Samyutta-nikāya*, *Saccasaṃyutta*, 56.11.

The Third Noble Truth, the truth of cessation (*nirodha*, also destruction, dissolution), advances Buddha's salvic intent : the Three Poisons (clinging, hatred and ignorance), causing all possible emotional afflictions and mental delusion, can be *irreversibly destroyed*. Cessation is the final end of suffering. There is no remainder.

Human and Divine vehicles (like Brahmanism and the monotheisms) have no supramundane exit, only a transient cosmic consciousness (cf. the Peak of Saṃsāra - the heaven of Brahmā). After diagnosis (unsatisfactoriness) and etiology (the Three Poisons) comes *curability*, the vital message a cure exists. 'In what is traditionally regarded as the Buddha's first sermon after his Enlightenment, he explains the third Noble Truth, the cessation of suffering, as "the fading away without remainder and cessation of that same craving, giving it up, relinquishing it, letting it go, not clinging to it". (...) Such synonyms are used ubiquitously in place of the word *nibbāna* throught Pali literature ; some more examples are:

the end, (the place, state) without corruptions, the truth, the further (shore), the subtle, very hard to see, without decay, firm, not liable to dissolution, incomparable, without differentiation, peaceful, deathless, excellent, auspicious, rest, the destruction of craving, marvellous, without affliction, whose nature is to be free from affliction, *nibbāna*, without trouble, dispassion, purity, freedom, without attachment, the island, shelter (cave), protection, refuge, final end, the subduing of pride (or "intoxication"), elimination of thirst, destruction of attachment, cutting off the round (of rebirth), empty, very hard to obtain, where there is no becoming, without misfortune, where there is nothing made, sorrowfree, without danger, whose nature is to be without danger, profound, hard to see, superior, unexcelled (without superior), unequalled, incomparable, foremost, best, without strife, clean, flawless, stainless, happiness, immeasurable, (a firm) standing point, possessing nothing.' – Collins, *Nirvana*, 2010, p.66.

With the truth of cessation, the fundamental teaching of Buddha Śākyamuni is at hand. It is the heart of his spiritual philosophy. Buddha lays bare the root cause of all possible unease and seeks to *irreversibly root it out*. For him, nothing less will do, and if this is not understood, his path is pointless. To end our sordid situation, we have to understand the cause : the flickering mind with its clinging and hating, rooted in the nescient projection of permanency on the impermanent. The Third Truth affirms suffering can cease.

'Just as a monkey roaming through a forests grabs hold of one branch, lets that go and grabs another, then lets that go and grabs still another, so too that which is called "mind" and "mentality" and "consciousness" arises as one thing and ceases as another by day and by night.' – *Saṃyutta Nikāya*, *Nidānasaṃyutta*, 61.

The common, easy way to state the Third Truth is to say suffering may end because afflicted emotions and a wrong view can stop. When this happens, one enters the peace of *nirvāṇa*. This uncomplicated explanation, identifying cessation of suffering with peace, invites the conventional mind to identify the fruit of the path as something quite understandable. Indeed, in most, if not all religions, the adjective 'peace' is invoked, and so it seems Buddha joins their ranks. However, this is *not* the case.

In the present study, *nirvāṇa* is defined as *true* peace, emphasizing it calls for *a very specific epistemological turn* absent in all other spiritual systems. Cessation is the outcome of realizing emptiness in the fullest possible way, i.e., both as understanding and vision.

'Only with the simultaneous realization of the emptiness, but conventional reality, of phenomena and of the emptiness of emptiness, argues Nāgārjuna, can suffering be wholly uprooted.' – Garfield, *The Fundamental Wisdom of the Middle Way*, 1995, p.3.

Note Buddhist philosophy is not exclusively erected on worldly convention or reason. Its religious take on life brings the *direct experience of the ultimate nature of phenomena* to the fore. This immediate, unmediated, and non-conceptual insight (*jñāna*), born out of meditation, is as crucial as philosophical understanding (*prajñā*). *Gnosis* gives direct cognitive access to ultimate truth, while *sophia* clears understanding. The mystic's way is part of the message. Without it, the Buddhadharma would be sclerotized ...

> The Buddha's teaching of the Dharma is based on Two Truths ; a truth of worldly convention and an ultimate truth. – Nāgārjuna

Recent comparative studies clarify the radical difference between mystical experiences and the processes of conventional, nominal, conditional conceptual thought. In the religious traditions of humanity, the religious, sacred, numinous, mystical peak-experience has following characteristics :

• unity : the nominal distinctions between object and subject dissolve. This either implies duality itself is totally lost, giving way to an unbounded state without distinctions, or bring about a *mysterium coniunctionis*, equally allowing for synthesis and separation (the dual-union of nondual cognition) ;
• noetic quality : there is a hyper-conscious state, capable of cognitive activity which is intuitive and non-conceptual, often interlaced with creative, contemplative conceptualizations ;
• spatiotemporal shift : everything happens in the eternal now, for both anticipation (future) and recollection (past), come to a halt ;

• paradox : the experience involves the conjunction of opposites, an incomprehensible merging of object and subject ;
• ineffability : the essence of the experience can not be verbalized, for it either exceeds every boundary established by conceptuality or invokes a series of paradoxical conceptual constructs leading to perplexity ;
• temporality : the state is in the majority of case impermanent, i.e. one returns to the nominal level without loss of memory. As has been explained, *nirvāṇa* is an exception, for it has the characteristic of non-arising and so never ceases.(15)

Buddha seeks to overturn temporality. Even the highest Jhāna ends. Is it possible to attain a station irreversible once realized ? Falling back is still to suffer. Peace is *true* when it never stops. We need to purify the root cause of the human condition. Only this leads to the experience of unbounded wholeness.(16)

Distinguished Western scholars say *nirvāṇa* means 'to blow out.' They base this on the Sanskrit *nir* as 'out' + *vāṇa* as coming from *vā*, meaning 'to blow.' The word would suggest the act of extinguishing, extinction, or unbinding. It is the image of *blowing out the flame* of a butter lamp. Here the action ending the fire comes from without, implying the agent is separate from the flame. In another interpretation, the flame is not blown out (as if one could *cause* an absolute state !). The end of the flame comes from within, i.e., part of the conditions causing the fire.

'Eternal salvation, to use a Christian term, is not conceived of as a world without end ; we have already got that, called *saṃsāra*, the world of rebirth and death : that is the problem, not the solution. The ultimate aim is the timeless state of *mokṣa*, or as the Buddhists seem to have been the first to call it, *nirvāṇa*.' – Collins, *Op.cit.*, 2010, p.31.

The notion of 'entering *nirvāṇa*' brings about the distinction between, on the one hand, the experience of the world as *ordinary sentient beings*, and, on the other hand, the experience of the world as *enlightened ones*, entailing the difference between, on the one hand, the conventional world or existence-as-suffering, i.e., the situation experienced by self-cherishing and self-grasping *Homo*

*normalis* and, on the other hand, the ultimate, prehended by those who enter the liberation of nirvāṇa like Hearers, Foe Destroyers, Solitary Buddhas, Superior Bodhisattvas and those who attain final enlightenment (Buddhahood) ; existence-as-peace. What is called the Two Truths (conventional truth and ultimate truth) is precisely based on this difference. Moreover, when Buddha, in his Third Noble Truth, says cessation is possible, he refers to his entry as the ultimate truth of nirvāṇa.

'Those who do not understand the distinction drawn between these two truths do not understand the Buddha's profound truth. Without a foundation in the conventional truth, the significance of the ultimate cannot be taught. Without understanding the significance of the ultimate, liberation is not achieved.' – Nāgārjuna, Fundamental Verses on the Middle Way, XXIV, 9-10

> The ultimate level points to and supports the conventional ; and the conventional points to and supports the ultimate. – Je Tsongkhapa

The wisdom realizing emptiness, the ultimate truth of phenomena, is two-fold : on the one hand, dual and conceptual (the best understanding called prajñā) and, on the other hand, nondual and nonconceptual (transcendent wisdom or jñāna). Madhyamaka understands (sophia), Yogācāra envisions (gnosis). Buddhas abide in prajñājñāna.

Yogic perceivers defy reason. When superstructured (as in Mahāmadyamaka), reason itself may come under attack, and conceptuality itself deemed invalid. It may lead to a radical (ontological) split between an invalid conventional world and a valid ultimate reality. This ultimate no longer contains any cognitive activity but deemed the only truth, i.e., the One Truth making all conventional knowledge defective.

'Unlike Gorampa, Tsongkhapa holds that even the highest level of wisdom preserves duality and diversity. He asserts that Prāsaṅgika Madhyamaka draws our attention to empirical dualities – among them the duality of morality and immorality – and takes them as

the indispensable basis for any genuine search for liberating wisdom. For Tsongkhapa, then, nonduality must be taken as a strictly epistemic process.' – Thrakchoe, The Two Truths Debate, 2007, p.119, my italics.

If wisdom cancels out any thoughtful engagement with others, then how to develop the virtues of an enlightened Buddha ? As in Plato, this depreciation of conventionality results in the ontological dualism between the 'true' ultimate thing and the 'false' conventional thing. Considering conceptual cognition as fundamentally incapacitated in terms of ultimate truth entails many serious consequences, as Tsongkhapa never stops to warn us about. The philosopher affirms reason, also in terms of the ultimate. Reason 'prepares,' 'introduces,' 'approximates', or 'clears the way' to ultimate truth (as it were a ladder to be thrown away once the top is reached, a method of training). The ultimate is then the nondual apex of the cognitive continuum. Here, a pluralism of sorts is given, and the question is how to integrate both perspectives (the ultimate and the conventional) without losing the vitality of both. We need to find a way to harmonize both aspects of the wisdom realizing emptiness.

Grosso modo, the Middle Way School developed two different perspectives on the Two Truths :

(1) the difference between ultimate and conventional is 'mere mind' (Yogācāra Madhyamaka) : in this presentation, adhered to by the more yogic oriented Tibetan scholars like Sakya Pundita (1182 – 1251) and Gorampa (1429 – 1489), a major figure in the Sakya order, the distinction between conventional and ultimate is wholly subjectivist, situated in mind alone. Given a purified mind,ignorance is absent and the conventional merely appears to be an illusion, while only the ultimate abides as the One Truth. The Two Truths have no objective basis.

There are no two natures (a conventional one and an ultimate one), for only the ultimate is valid. Conventional truth can never yield valid knowledge. Ultimate truth is more authentic than conventional truth. Ordinary beings have no access to it.

(2) the difference between ultimate and conventional is objective (Prāsaṅgika Madhyamaka) : in this philosophical approach, defended by Tsongkhapa, every phenomenon has two natures (a conventional and an ultimate), and a mind attending to the conventional is valid insofar as conventions are concerned, while a mind attending to the ultimate is unmistaken insofar as the ultimate is at hand.

There are two modes of cognition, and the division between Two Truths is based on the object of knowledge. The difference merely consists of the category mistake by which conventional truth misrepresents its object (as inherently existing), while ultimate truth does not (attends emptiness). They do not form a hierarchy.

'Since the two truths and the two modes of understanding are mutually interlocking, so, despite the nonduality of experience during the meditative equipoise, this nondual experience still operates within the epistemic domain and therefore has to have an empirical ground. Thus, although nondual transcendent wisdom gives access to ultimate truth, Tsongkhapa argues that this wisdom does not do so in isolation from dual empirical wisdom. Nondual transcendent wisdom is itself an empirical phenomenon, and it is not therefore an empirically transcendent truth, as Gorampa would have it. (...) Just as seeing phenomena as empty and seeing them as dependently arisen interlock in all circumstances, so, Tsongkhapa contends, the nondual knowledge of ultimate truth and the dual knowledge of conventional truth universally interlock epistemologically and ontologically.' – Thakchoe, Ibidem, 2007, p.126, my italics.

Ordinary Bodhisattvas have conceptual access to ultimate truth (prajñā). Superior Bodhisattvas, as well as Buddhas, have non-conceptual access (jñāna). Emptiness does not exist ultimately, and cannot serve as the unchanging bed or underlying self-existing ground, like a substance of substances of sorts. Emptiness itself is empty of inherent existence ; the emptiness of emptiness. All phenomena are included in the Two Truths : ultimate, uncontaminated existence (emptiness) and conventional, contaminated existence (everything else). Both truths exclude one another, there is no third option. Both exist conventionally, i.e., the ultimate nature

of phenomena is always a property or characteristic of every thing, event, person, or phenomenon in every moment. Hence, ultimate truth is always immediately present as the final nature of every single thing. There is not some higher ontological 'realm of emptiness' out there, no procrustean stratum or World of Ideas existing above, next to or beyond the conventional world. Tsongkhapa does not advocate any form of Platonism but is a critical realist.

The path of the philosopher is preparative, representing the 'time of training.' Emptiness is conceptually approached. Emptiness Meditation is approximate. However, in meditative equipoise, the process-base of every object can be apprehended, making the conceptual mind generate countless Dharma paths. The path of the kusali is one of direct 'seeing' emptiness (kusali is the name of the grass used to make meditation cushions). Aided by the highest possible wisdom, the yogi is devoted to the Inner Buddha. The mind has changed direction. The 'time of meditation' is at hand. Meditatively deepening gnosis is the task.

## 5 | The Three Higher Trainings

'And what monks, is that Middle Way awakened by the *Tathāgata* ? It is this Noble Eightfold Path ; that is, Right View, right intention, right speech, right action, right livelihood, right effort, right mindfulness, right concentration. This monks, is that Middle Way awakened by the *Tathāgata*, which gives rise to vision, which gives rise to knowledge, and leads to peace, to direct knowledge, to enlightenment, to *Nirvāṇa*.' – *Samyutta-nikāya*, *Saccasaṃyutta,* 56.11

The wheel is an ancient Indian symbol of creation, power, protection, and the Sun. As a Solar symbol, it appears on clay seals found in the Indus Valley belonging to Harappan culture. The wheel also represents motion and change. As an Indian weapon of war, it had sharp blades and was rolled into the ranks of the enemy, swung on a rope, or hurled as a discus. Its destructive power was pertinent. The hub of the wheel symbolizes morality (*śīla*), the eight spokes the absorptions (*dhyāna*, *jhāna*) of Calm Abiding (*śamatha*), as well as the Noble Eightfold Path, whereas the rim is the wisdom (*prajñā*) attained by Insight Meditation (*vipaśyanā*).

The Fourth Noble Truth, the truth of the path, has a three-tiered structure : morality, meditation, and wisdom. These three levels represent the sequence of treatment or training ; first, change bad habits, then meditate and finally gain wisdom.

Philosophically, the eight factors are linked thus : right view causes right intent causes right speech causes right action causes right livelihood causes right effort causes right mindfulness causes right meditation.

1. Wisdom

(1) Right View (or Right Understanding) : acceptance and experiential confirmation of the teachings of the Buddha.

The teaching intended is, of course, *anātman*, selflessness. A mind that has stopped reification and can make this arrest continuous has attained the Right View. A mind able to halt reification in meditative equipoise using concepts has temporarily realized right understanding. This distinction is crucial. Ceasing reification can be intermittent or not. Only Bodhi-mind has steady, uninterrupted prehension of ultimate truth.

Ordinary Bodhisattvas are able to end ignorance in a contrived way. Āryas have an uncontrived cessation, but this is still intermittent. Buddhas continuously prehend emptiness.

(2) Right Intent (or Right Resolve) : the commitment to develop right attitudes ;

With a wrong view, the path is rejected before the cure can take effect, like a patient who rejects therapy. However, even if the cure is approached with the Right View, which is the primary cause of healing, *secondary causes* are necessary to bring this to fruition. Changing attitudes, contexts, and conditions are needed.

Wrong view causes wrong intent. If we consider things to exist permanently, our intentions will be to safeguard this. Knowing all things are impermanent assists to let go and move on.

2. Morality

(3) Right Speech : speak the truth in a thoughtful, sensitive way ;

(4) Right Action : abstain from wrongful bodily behavior (killing, stealing, mindless intoxication, and wrong sensual pleasures) ;

(5) Right Livelihood : do not harm others by one's occupation ;

Morality is a fence to protect the young, vulnerable shoots of daily practice. We opt to create the conditions assisting practice. Lying, wrong actions, and harming others, making a living, hinder progress.

3. Meditation

(6) Right Effort : control mind, speech, and body to gain positive states of mind and this by joyous effort. Wrong effort will not lead to wholesome states and thus cause suffering instead of eliminating it. Wrong spiritual practices do more harm than good. They may seem to be beneficial in the short term, but undermine progress in the long term, making it difficult for the mind to gauge their adverse effects.

(7) Right Mindfulness : cultivate vigilance and awareness, the capacity to be aware of *what happens as it is happening*. Wrong mindfulness does not relax while aware, turning the training into a fixating practice ;

(8) Right Concentration (or Right Meditation) : be mindful (Mindfulness Meditation), contemplate crucial topics (Analytical Meditation), cultivate tranquillity (Calm Abiding), and gain insight into reality (Insight Meditation).

Meditation is the method to realize calmness and insight.

The *first level* is in tune with the law of *karma*, stating how good (wrong) actions reap good (bad) results — avoiding unwholesome conditions good practice.

'As everything is interdependently arisen, we do not have the perspective of a solitary agent performing a variety of actions but a complex multifaceted individual engaged with many diverse roles, intersecting with a very complex world. This is the real core of it all and is really what is behind the great emphasis on the practice of

mindfulness and awareness, for it things were simple in themselves, there would be no real need of paying too much attention to them.' – Kyabgon, *Op.cit.*, 2015, p.41.

Ten Non-Virtuous Actions need to be avoided :

• Wrong physical actions : killing, stealing and sexual misconduct ;

• Wrong verbal actions : lying, slandering (divisive speech), abusing (hurtful speech) and gossiping (idle chatter) ;

• Wrong mental actions : malice, avarice, and wrong views.

The *prātimokṣa* vows bring these down to five : refrain from killing, stealing, false speech, sexual misconduct, and using intoxicants.

The *second level* involves yogic technology with which to realize the radical transformation : meditation. Rational, philosophical study and reflection are not enough, for the truths established in this way need to be repeatedly deepened and verified by way of concentration (*dhyāna*, *jhāna*, *samādhi*). Without this, nothing lasting will be achieved, for a direct experience of ultimate truth is not attained.

The *third level* is at hand when morality and meditation have become habitual, like a reflex of sorts. Spontaneously protecting the Three Gates (body, speech/energy, mind) and enjoying prolonged, daily meditation leads to a calm and supple mind. Then and only then may the last step be taken : accumulating the wisdom realizing emptiness, i.e., rationally understanding and directly experiencing the ultimate nature of all possible phenomena.

The Lesser Vehicle is about *personal effort*. Unwilling to train and break bad, ingrained habits, nothing can be gained, and liberation is impossible. Is the Buddhist path difficult ?

It seems more natural to accept a personal savior, someone willing to 'do the job for us,' either because we are not inclined to work for our salvation or because it is (wrongly) understood we are not capable ourselves to do so (because of primordial sin or some other reason invented by the mind).

Lesser Vehicle practitioners reckon the Buddha did not start 'Turning the Wheel' and teach for all of humanity. Is the Dharma not too profound and moving too much 'against the current' to be able to bear fruit ? Buddha knew how much effort he had put in and anticipated only very few, if anybody, would be able to do likewise. Because Brahmā showed him the few with only 'little dust in their eyes,' Buddha decided to teach anyway. These are the 'noble ones' to whom he addressed his revolutionary teaching.

Theravādins accept the journey to liberation to be very long indeed, the work of many lifetimes. Even Great Vehicle Sūtra teaches Buddhahood in three Big Bangs ! Are we willing to practice knowing the chances are that in this lifetime, we will only be able to book a marginal result ?

The message liberation is possible and that we can attain it by our efforts needs to be balanced with the reality of the high likelihood of the absence of immediate results. Only Tantra and Ati-Yoga claim a faster track is available.

The First Turning points to effort, discipline, work, and enduring Dharma practice. If we seek to cease suffering completely, nothing else can be done.

Do we accept this ?

'The first meaning of *suññatā* points out that all things are void, that voidness is the inherent characteristic of all things. The second meaning point to the mind that isn't grasping or clinging at anything. (...) Know that first, it is the essence of all things and, second, it is the character of the non-clinging mind. The first voidness is an object of knowledge or realization. The second voidness is this void mind, the quality of the mind that is void through realizing the truth of *suññatā*. It's the result of Dhamma practice.' – Buddhadāsa, *Op.cit.*, 1994, pp.60-61.

## 3 Perception and Sensation

In what follows, perception, sensation, and knowledge (its possibility and production) are understood by way of a critical epistemology rooted in Kant.

'There are limits to what we can conceive of, or make intelligible to ourselves, as a possible general structure of experience. The investigation of these limits, the investigation of the set of ideas which forms the limiting framework of all our thought about the world and experience of the world, is, evidently, an important and interesting philosophical undertaking. No philosopher has made a more strenuous attempt on it than Kant.' – Strawson, *The Bounds of Sense*, 1982, p.15.

Although Buddhist philosophy developed an extensive epistemology (based mainly on Indian sources),[18] its purpose was mainly soteriological and so focused on the relationship between the Two Truths, as well as on the various tenets regarding emptiness, the ultimate truth. Directing attention on wisdom-mind was the primary goal, and so a thorough analysis of scientific truth was not at hand.

The Buddha's take on conventional truth was not aimed at explaining science and the way conventional knowledge is produced. However, a critical understanding of the latter does not contradict the Buddhadharma. It allows for better integration of these teachings with contemporary epistemological thinking on the possibility and development of cognition. Once this epistemology of common sense has been accomplished, the aim is to have a clearer picture of how conventional truth and ultimate truth relate.

In *A Neurophilosophy of Sensation* (2007), I studied the transport of information from the PNS (Peripheral Nervous System) to the CNS (Central Nervous System), i.e., the afferent, sensory, incoming impulses from the five senses, crucial to distinguish perception from sensation. This distinction is vital to the task of the epistemology of conventionalities, answering the question : How are knowledge and its production possible ? For a more elaborate analysis of this, take note of *Book of Lemmas*, 2016 and *Regulae*, 2016.

In this chapter, the highlights of these findings are given, preparing the ground for an understanding of conventional truth. For if the Buddhadharma is to be in accord with contemporary science, it has to integrate the findings of critical epistemology, genetic epistemology, philosophy of language, quantum theory, neurology, and the physiology and psychology of observation.

Under 'perception' we understand all 'automatic' bio-physical afferent processes bringing sensuous information from the sensitive surfaces of the five senses to the CNS, in particular, the *thalamus* (with the exception of smell, first processed by the olfactory *cortex* of the limbic system before reaching the *thalamus*). All processes, even those happening *in* the *thalamus* before its contents are delivered to the *neocortex*, are defined as 'perception.' Perception is *not* a consciousness, and the processes determining perception are nominally speaking, unconscious.

'Sensation' is then what happens *after* the thalamic projection of these processed stimuli into the *neocortex*, making them conscious.

• perception : the S (stimulus) – R (response) model : the responsive acquisition of data from the five senses, implying a series of naked, natural, *automatic* processes starting at the sensitive surfaces of the senses and ending in the *thalamus* ;

• sensation : S – I (internal process) – R model : the reactive processing of the projection of ready-made data by the *thalamus* into the higher cortex or *neocortex*, characterized by primary, secondary, and tertiary association areas, and the 'fourth brain,' the prefrontal lobes. Sensation, the result of the sensory system, is therefore *not automatic*, but very user-specific, always implying an internal process (I). The latter includes consciousness (not to be identified with neurological processes, but merely interacting with these), as well as its executive cortical modules.

The neurophilosophy of sensation clarifies the difference between perception and sensation. We sensate objects as we do because of our *interpretation of perception* and, as long as conceptual rationality is at hand, this cannot be put to rest or eliminated. In the conceptual mind, this interpretation is not added to perception, like something

which, by some method, could be subtracted from it. The primary, secondary and tertiary association areas, as well as the prefrontal cortex, process *the construction in which the sensate objects appear to the conceptual mind* as entities (cluster of events) with accidents (quantity, quality, relation, and modality).

'Experiences arise *together* with theoretical assumptions *not* before them, and an experience without theory is just as incomprehensible as is (allegedly) a theory without experience ...' – Feyerabend, *Against Method*, 1975, p.168

Before they 'enter' these areas, they have *not* been introduced to the overall modular activity of the *neocortex*, the concert of interpretations with an attention area transmitting the will of the conductor, the sentient self.

Once this happens, the end relay of perception becomes a sensation, for there is interpretation (fabrication, labeling) by a subject of experience facing a sensate object of experience.

$S = P \cdot I$ (with $I > 0$)

S(ensation) equals P(erception) times I(nterpretation) with interpretation larger than zero.

According to the Buddhadharma, the awakened mind lacks interpretation (*nirvikalpa samādhi* or $I = 1$, hence $S = P$). Sentient beings are bound to conceptual thought (*vikalpa*). In other words, *gnosis* is direct, *sophia* indirect.

It reminds of verse 17 of Vasubandhu's *Triṃśika-vijñapti* :[18]

'The transformation of consciousness is discrimination. What is discriminated, therefore, does not exist (as such). So everything is representation-only.' – Vasubandhu : *Triṃśika-vijñapti*, 17.

This verse defines the project of the Yoga Practice School : all 'discriminations' or acts of cognition are *'transformations' of consciousness*, and therefore co-determined by the subject of experience, as well as by the objective facts we must assume the five sense-consciousnesses manifest.

However, despite the necessary assumption of critical realism (cf. *infra*), even the objective data of the senses 'happen,' 'occur,' 'eventuate' in the alterations of consciousness, in other words, consciousness is *never* a passive registrar, but *always* an *active co-generator* of sensate objects.

' ... observations, and even more so observation statements and statements of experimental results, are always *interpretations* of the facts observed' – Popper, 1965, p.107f.

It is the meaning of '*cittamātra*' as Vasubandhu's explains it. 'Mind-Only' refers to the omnipresence of awareness, not to the grounding of objective existence in subjectivity (as ontological idealism would have it).

> If the doors of perception were cleansed, everything will appear to man as it is, infinite. – William Blake

The distinction between Early Yogācāra and Yogācāra idealism (be it Chinese or Tibetan) is pertinent.

'Because conventionally speaking, human beings only cognize by way of conceptual mentation and/or sensation, the conditions determining mental and sensate objects co-determine what we identify as a conventional reality.

We thus prelimit objects in terms of the physical laws of perception, the psychophysical phenomenon of sensation, and the known cognitive mechanisms of positing mental objects with a conceptual, rational mind.

Conventional truth must accept the theory-ladenness of our observations, for a lot of objectivity does not eliminate subjectivity. In fact, the latter cannot be taken away. As long as object and/or subject are not hypostatized, duality by itself poses no problem. But conventional truth does reify both object and subject of cognition. Reified duality is always problematic.' – van den Dungen, *Book of Lemmas*, 2016, p.25.

## 1 | Naked and Natural Perception

The stretching and bending human body (touch) are always afloat in a pool of chemicals (smell and taste), air pressures (hearing), and electromagnetic radiation (sight). The chemical senses (smell and taste) produce odors and tastes, the mechanical senses (touch and audition) feels and sounds, and the visual sense transforms radiation into pictures of the world around and outside us.

Through them, an experience of a small part of the immediate environment becomes possible by way of processed stimuli. Molecules alter the chemistry of the nose and tongue. The mechanics of stretching and bending triggers somatosensory responses. Each second, compressed patches of air pass by our ears. Variations in electromagnetic energy stimulate the retina. It happens so fast and smoothly that we are hardly conscious of this.

Part of mindfulness training is to become acutely and alertly aware of the *minute changes* these inputs always move through, slowly making the filters put in place by innate mechanisms and education more transparent, enhancing sensory input-levels and upgrading attention to accommodate the rich pallet our afferent nerves process, lest important information is lost to our conscious attention and computed unconsciously. Our conscious efferent responses are then concordantly limited.

In each receptor organ, particular *transduction* is operational from, on the one hand, chemical (smell, taste, touch), mechanical (touch, audition) or electromagnetic energy (sight) to, on the other hand, encoded sequences of electric voltages running through neurons and their axons and dendrites.

• smell : transduction of chemical stimuli (odorants) by temporal coding (the timing of spikes) ;

• taste : transduction of chemical stimuli by membrane potential changes, either depolarizing or hyperpolarizing (voltage shift) ;

• touch : transduction of mechanical and chemical stimuli by membrane potential changes and mechanoreceptors (with mechanosensitive ion channels) ;

• audition : transduction of the mechanical energy (caused by air molecules) by changes in membrane polarization ;

• sight : transduction of electromagnetic radiation by changes in membrane polarization.[19]

Smell is the oldest and a rather uncommon sense. The axons of the olfactory bulbs run through the olfactory tracts and project *directly into the limbic olfactory cortex*. It happens *without* passing through the *thalamus* first, as is the case for taste (gustatory afferent axons), touch (somatosensory axons), audition (auditory nerve), and sight (optic nerves), projecting into the *neocortex* by a thalamic relay and this without first touching any cortex.

Smell is able to trigger massive limbic responses swiftly. Its primary sensory cortex belongs to the primitive cortex, part of the limbic brain, the nose brain. Olfactory afferent input and its projection into the primitive regions of the cortex (piriform cortex) are *nonthalamic*, making smell unique among the senses. This cortex has three layers, the *neocortex* six. From this old piriform cortex, many connections to various structures in the limbic brain are made. Many parallel pathways mediate the olfactory functions, such as odor discrimination, emotions, motivation, and behaviors from reproduction, feeding to imprinting, and memorizing.

Take away the vast array of the different sensory stimuli or disable the receptor organs altogether, partly or slightly, and perception is either absent, partial, or impaired. The receptor organs are the 'doors of perception' (Huxley) ... They have to operate appropriately for perception to be possible or adequate and are crucial to the appraisal of conventional sensation, designating sensate objects.

> Most people, most of the time, know only what comes through the reducing valve and is consecrated as genuinely real by the local language. – Aldous Huxley

The receptor organs of these five complex sensory systems, fed by impulses based on chemical substances, collisions and frictions, air

pressures and electromagnetic radiation are *the first cause of perception*, nothing else. Stimuli are the direct, external physical changes caused by a narrow band of material objects on the surface of the receptor organs of the sensory system. Throughout the sensory system, population-coding is used, implementing a threshold for combined action-potentials. This procedure enables broad responses to tiny changes in input.

The relay from stimulus to perception seems somewhat 'automatic,' and in many ways, it is. Although the inputs of the sensory organs are transduced, then relayed to the *thalamus* to be finally projected into the *neocortex*, what enters the *cerebrum* at any given moment is *the encoded effect* of the state-altering stimuli received, not the raw stimuli themselves. Perception is based on the S – R (Stimulus – Response) format, whereby the same stimulus, *in ceteris paribus*, causes the same response. In neo-Darwinian logic, these forms are the outcome of the countless 'trials and errors' of millions of years of evolution, eliminating inadequate paths and keeping the fittest. An imperative algorithm is implemented and stored in the cells. This code is like software permanently encoded on the hardware, reacting in tune with biological and electromagnetic laws.

We first smell, taste, touch, hear and/or see (perceive) and then *consciously experience* odor, taste, feels, sound, and light (sense). This distinction is central, if not fundamental, to our analysis of conventional knowledge. Between the moment the receptor organ changes (is hit by a stimulus or S) and the actual conscious sensation (response or R), several levels of interpretation (or I) exist, called naked, natural and conditioned. Hence, a temporal interval between perception and sensation always pertains.

• naked 'automatic' codation from the receptor organ to the *thalamus* : evolutionary, biological software integrated into the hardware of the PNS and CNS, involving transduction, coded relays, and reception by the *thalamus*. It is *naked* perception, the pre-thalamic (not thalamic, nor post-thalamic) processing of stimuli, i.e., preliminary, pre-cortical codation ;

• natural automatic thalamic code : in the *thalamus*, mammalian software takes over. Before entry into the *neocortex*, this 'inner

room' or 'storeroom' (of a Greek or Roman house) receives the coded messages of the five senses. This sensory information is spatiotemporalized, integrated, and finally projected into the primary sensory cortex, while the intensity of the flow to and fro the *neocortex* is monitored and, if needed, inhibited by the *thalamus*. It is called 'natural perception,' the thalamic gathering and preparation of sensory information before its projection into the *neocortex*, the highest cortical region of the CNS.

This 'automatic' level of perception is 'natural' because our brain shares it with all higher mammals. In humans, the complex *thalamus* not only acts as a receptor and an integrator-projector but also as the initiator of a series of higher cortical functions ;

• conditioned (processed, interpreted) perception : thalamic projection into the sensory cortex, leading up to the sensation of the prefrontal cortex. Here we have software resulting from evolutionary pressures as well as sentient userware, able to modify and auto-regulate the software and influence the hardware.

The projection moves from the primary sensory cortex to the secondary sensory cortex and from there to the association areas, the *angular gyrus* and finally to the pre-frontal cortex, the 'fourth brain' (next to the reptilian, mammalian and human cortex). The outcome is a sensation.

The *neocortex* is therefore *never directly informed* about the afferent data provided by the automatic processing involved in both naked and natural perception. Conscious sensation is entirely *posthalamic*.

• *Naked perception* is the *pre*-thalamic processing of stimuli and preliminary, pre-cortical computation. It is preliminary and pre-cortical (except for smell and its 'old' limbic cortex).

• *Natural perception* is the thalamic processing of naked perception before its projection into the *neocortex*. It is also pre-cortical (except for the smell, projected into a specialized limbic cortex).

• *Processed* or *conditioned perception* is the post-thalamic processing of the afferent data projected by the *thalamus* into the *neocortex*, in-

volving sensory areas, association areas, and many more interdependent and interrelated neocortical constellations. This perception is conditioned by the userware of the knower, who labels and names in accord with intellectual conditioning. Conditioned perception is the same as sensation.

## 2 | Conditioned Perception or Sensation

Sensation depends on perception, and perception depends on what happens on the sensitive surfaces of the five senses. Perception relates to the ability to smell, sense, hear, taste, and see an object. Without perception, there can be no sensation, and thus no sensate objects possessed by the five sense-consciousnesses.[20]

Sensation is the apprehension of the multi-coded afferent message entering the conscious mind. In the conceptual mind (formal-operatoric mode), this knowing is named, labeled, and categorized.

What we consciously sensate is different from what our senses have gathered. Sensation, the *terminus* of the perceptual process, always involves interpretation and perspective.

The yogi is not surprised. The influence of naming on what is perceived is accepted and extended. By labeling a designation is generated, a 'box' wherein the item can be 'placed.' By directly influencing natural perception, Yoga[21] intends to overcome this.

The *cerebrum* (measuring about 11 $m^2$) is divided into four lobes, situated underneath the corresponding bone of the skull. Gray cortical matter is found in the *cerebral neocortex*, a thin layered sheet of ca. 20 billion neurons lying just underneath the surface of the *cerebrum*, with lots of *uncommitted cortex* at birth and after that.

The research of Kaas (1995)[22] suggests the primordial *neocortex* (existing to some degree *in all living species*) consists of three types : the primary sensory cortex, the secondary sensory cortex, and the motor cortex.

These areas receive input from the thalamic nuclei relaying data from the basal *telencephalon* and the *cerebellum* and relay outputs to motor control neurons in the brain stem and the spinal cord.

• primary sensory cortex : receives as first signals from the ascending sensory pathways, relayed by the *thalamus* and project these signals into the secondary sensory areas ;
• secondary sensory cortex : very interconnected with the primary sensory areas, assisting computation ;
• motor areas : concerned with the control of voluntary movement.

The *neocortex* proceeds by shaping a neuronal sensation ladder :

• primary sensory area : processing the thalamic projection and the decodation of its information ;
• secondary sensory area : assisting in the decodation by the primary sensory area ;

In the human brain, even after assigning primary sensory, secondary sensory, primary motor, and secondary motor areas to the *neocortex*, a considerable amount of bark, particularly in the frontal and temporal lobes, remains.

These are the four so-called 'association areas' : visual, spatial, verbal, and volitional.

• association areas : process the recent, *human development* of the primate cortex, namely the ability to symbolize (label) and interpret in terms of unobservable mental states. Conscious sensation computes here, for sensations can be defined as interpreted, processed, conditioned, reconstructed perceptions. The volitional association area is the 'fourth brain,' the pre-frontal cortex.

'Human cognition is forward looking, proactive rather than reactive. It is driven by goals, plans, aspirations, ambitions, and dreams, all of which pertain to the future and not to the past. These cognitive powers depend on the frontal lobes and evolve with them. In a broad sense, the frontal lobes are the organism's mechanism of *liberating itself from the past and projecting into the future*.

The frontal lobes endow the organism with the ability to create neural models of things as a prerequisite for making things happen, models of something that does not yet exist but that one wants to bring into existence.' – Goldberg, *The New Executive Brain*, 2009, p.23, my italics.

The association areas of the human brain and their sophisticated *computation*, mediate all *higher-order* functions and operators. They define the overall activity of the *neocortex*, the human brain, to be distinguished from the mammalian brain –the limbic system– and the reptilian brain –the brain stem– (cf. MacLean, 1990).[23] They contain neurons able to 'associate' or 'gather together' neural states from *various parts of the brain*, not only the *neocortex*. Information from the sensory areas, memory systems and the *diencephalon* (emotional states) is *put together and integrated* in order to optimize the possibilities of the nervous system as a whole, and execute, process, compute, mediate and enhance a conscious *sensation* of the world. Some of these areas are interconnected with the *amygdala*, *hippocampus*, limbic system, and the autonomous nervous system. Emotional coloration of the data is taking place, involving risk-assessment, instinctive and iconic likes or dislikes, unconscious projection, etc. Because of what happens here, sensate objects are computed and apprehended by the knower. Neurology shows a lot is going on with the afferent data *before* anything is known. The idea observation is theory-laden is confirmed.

Sensate objects are designated by a subject, thanks to the afferent input or perception and the perspective of the observer. Its includes both perceptual capacity and mind frame. The sensate object rises within the framework of the knower or observer. No two observers share precisely the same perspective.

- the First Person : all *unshareable*, private experiences ;
- the Second Person : all *intimately shared* experiences ;
- the Third Person : all *publicly shared* experiences.

Science and philosophy aim to share valid knowledge with the largest possible audience. They represent a Third Person view. Although the observer does not create or generate the appearing sensate objects, the way the observer observes co-determines how the object appears. Even more so when subtle sensate objects occur.

' ... if we accept von Neumann's and Wigner's arguments about the role of consciousness in quantum physics, then our conscious selves become the most important things in the universe. Quite simply, without conscious observers, there would be no physical reality. (...)

However, we should not get too carried away. Despite this apparent changed role, if does not necessarily follow that we have such freedom of choice in quantum physics. If and when the wave function collapses, it does so *unpredictably* in a manner which would seem to be beyond our control. Although our minds may be essential to the realization of *a particular reality*, we cannot know or decide in advance what the result of a quantum measurement will be. We cannot choose what kind of reality we would like to perceive beyond choosing the measurement eigenstates. In this interpretation of quantum measurement, *our only influence over matter is to make it real.'* – Baggott, *Beyond Measure*, 2004, p.256, my italics.

## 3 | Establishing Sensate Objects

The frontal lobes compute experience *in a conscious way* and integrate all higher-order functions, such as cognition, affection, volition, and consciousness. At this level, the objects of the five senses are named and labeled. They are designated by only two vectors : name and function.

Four association areas have been discovered :

• visual association area : *inferior temporal cortex* : highest integration of visual function and analysis – end station of a system of visual recognition of specific and particular shapes and objects of interest, both cognitively as well as emotionally – interconnected with the *amygdala*, *hippocampus*, limbic system (olfactory cortex) and the autonomous nervous system ;

• spatial association area : *posterior parietal cortex* : highest integration of analysis and integration of higher-order visual, auditory and somaesthetic (touch and body position) information – three-dimensional image of the body in space – distinction between what is at arm's length (bodily sense) and what is further away (the world) – some neurons motivate and guide hand movements, including the grasping of objects within grasping distance ;

• verbal association area : *angular gyrus* : at the junction of the posterior-superior temporal and the occipital-parietal lobes : area of the *highest integration of all sensory input*, with rich interconnections with

all other association areas – processes abstract thought and their relation to words (Wernicke and Broca in the left hemisphere) – conceptual comparisons, ordering of opposites, naming of objects, higher logical operations ;

• volitional association area (also : attention association area) : *prefrontal cortex, frontal lobes* : receives fibers from all sensory systems (vision, hearing, touch, taste, smell), but has few connections with the primary sensory areas – very interconnected with the limbic system (emotional responses), and with the verbal and spatial association area (conceptual thought and egocentric spatiality) – coordinates highly complex movements and is the 'seat of the will' for all goal-oriented behaviors, actions, and intentions – able to focus on essential tasks through redundancy (screening out superfluous input) – planning, imagining, deciding and attention regulation throughout the *cerebrum* are computed here, but a complete functional picture is far from clear. It is called the 'fourth brain' (next to the traditional triune structure of MacLaen consisting of reptilian, mammalian, and human brains).

Although both subject and object of experience seem unconstructed, the neuronal processing enabling their manifestation betrays a complex modular sequencing. Insofar as the sensory system is concerned, the association areas bring in a wide range of inputs, from emotional coloration to verbal, spatial, volitional, imaginal regulations. It brings to the fore the constructed, fabricated, mediated, derived, conditioned, assembled, mapped nature of sensation and *mutatis mutandis* of all sensate objects. To express sensation, cognition, affection, volition, and consciousness, a wide range of neuronal areas are addressed. Indeed, at the higher levels of the nervous system, neuronal activity is secured by neurons arranged in colonies or neuronal modules, making neuronal parsimony highly unlikely. It has been estimated that the number of configurations possible between connected neurons equals the number of particles in the universe ($10^{80}$), while the number of connections equals the number of stars ($9.10^{21}$) ! This gives the age-old Hermetic Adagio 'So Above, So Below' a totally new meaning ... Sensation, the final integration of perception, involves interpretation and construction. Sensation is the result of *an active modulation*

of the thalamic projections, based on the coded relays of perceived inputs. Hence, conscious sensation can not do away or eliminate these interpretations, for the states processed by the *neocortex* never have any direct experience of perceptions, but only of sensations.

In the human *cerebrum*, the *angular gyrus* and hemispheric specialization (lateralization) are unique. Hominoids and other non-human mammals *lack an angular gyrus*, and their artistic, tool-making, and symbolic capacities are limited to hammering rock and throwing or manipulating leaves, sticks, and twigs (Fedigan, 1992).[23] The *angular gyrus* is crucial in all constructional tasks, in the control of sequential hand movements, in the manipulation of external objects and internal impressions, but also naming and labeling. Joseph[24] evidenced how the evolution of this area allowed humans to engage in *complex creative, symbolic and artistic activities*. Devoid of this *gyrus*, humans develop *apraxia*, the inability to perform tasks involving interrelated steps and sequences.

Besides naming and labeling, this *gyrus* is also involved in word-finding and grammatical speech organization, 'and is in part an extension of and links Wernicke's with Broca's areas' (Joseph, 1993).[25] Damage to Broca's Area (Broca's *aphasia*) prevents from producing speech, understand language, and correctly forming words, while speech is slow and slurred. Damage to Wernicke's Area (Wernicke's *aphasia*) results in loss of the ability to understand language or speak clearly (the words put together make no sense). A bundle of nerve fibers connects both : the *arcuate fasciculus*. Damage to this causes 'conduction *aphasia*' : one understands language, but speech is senseless and words cannot be repeated.

The *angular gyrus* computes *the highest neuronal integration of the perceptions of the five senses.* Rich in interconnections with all other association areas, the *angular gyrus* processes abstract thought (the form of identities and relationships) and their relation to words in terms of speech and the coordination of the making of correct acoustic sounds or phonemes (cf. Wernicke and Broca).

Conceptual comparisons, ordering of opposites, naming and labeling of objects, higher logical operations etc. are mediated by this area. As the verbal association area, this *gyrus* integrates sensation,

naming, and organizing as well as the production of the spoken word. In humans, sensation is used to categorize and talk.

For Joseph, the *angular gyrus* evolved over the last two million years, and this in parallel with the evolution of handedness and tool technology. Given the relationships between right-handedness, the left hemisphere, and language, he conjectures speech production also gradually arose over the same period, explaining the explosion of tool-making by the Cro-Magnon, who possessed an *angular gyrus* and large frontal lobes.

During human evolution, hemispheric specialization was probably a response to the unique demands made by language, speech, and tool construction, in short, infusing material media with conscious meaning, enabling a lasting 'sediment,' 'glyph,' 'label' or 'sign' (as signal, icon or symbol). Symbolization is conceptual glyph-making insofar as the sediment or material carrier is lasting enough to inform a new generation of listeners and talkers.

| **The Triune Brain : Three Brains In One** | | |
|---|---|---|
| reptilian brain | brainstem | signals |
| mammalian brain | limbic system | icons |
| human brain | *neocortex* | symbols |

The exceptional evolution of the human frontal lobes materialized language (symbolization), tool technology, and art. Branched to a wide array of modules, they are the 'senior executive' of the brain (Fuster, 1989, Passingham, 1993)[26] and are primary regarding all aspects of imagination, creativity, speech, language (via Broca's area) and symbolic thinking. In the frontal lobes, the *coordination* and *regulation* of attention, individuality, memory, and cortical activity are at hand. Intellectual, creative, artistic, symbolic, and cognitive processes get executed. They subserve the expression of melodic-emotional vocabulary-rich grammatical (well-formed)

speech. Consciousness and the sense of 'I' or personal identity (cf. the First Person Perspective) also compute in these frontal lobes.

At this level, conscious sensation, as the experience of a sensate object by the subject, is processed. This sensation is based on what the secondary sensory areas, motor areas, *angular gyrus,* and other areas relay (and not so much on the input from the primary sensory areas). Hence, sensation is *a highly fabricated phenomenon*, sharing characteristics with reptilian and mammalian emotional responses to specific perceptions, i.e., adding interest (brain stem and thalamic valve), emotional coloring (limbic) and, in the case of the human, symbolic interpretation (verbal association area) *before* conscious experience (prefrontal lobes).

Already in the *thalamus*, state-sensitive flow-reducing processes are at work, allowing the system to cancel the 'automatic' response of the afferent pathways running from the receptor organs to the *thalamus*. These highly complex mechanisms, sensitive to a gentle push, opening and closing major neuronal pathways at a moment's notice, are in number present in the *neocortex*.

Each of these association areas accommodates a particular cortical software, dealing with a modular representation of a set of problem-solving information-items. By continually interacting (cf. the ongoing, interdependent cortical process) and relaying information to the prefrontal cortex, they allow for a higher-order computation of a hierarchy of operations, *in casu*, of sensory inputs.

Nominal conscious sensation of *Homo normalis* is the neural product of two vectors : perception (P) and interpretation (I). The conceptual mind cannot experience an object of sensation *without* interpretation (identifying, naming, associating, etc.). It is the standard and nominal way of functioning in the waking state.

Maybe consciousness is to be 'expanded' or 'altered' to include what is today only 'unconscious' ? Can the liaison brain be more than the frontal lobe of the dominant cortical hemisphere ?

Let us speculate ultimate truth, and its direct experience relate to this, while meditation is the *via Regia* ...

Western depth psychology considers the unconscious as irreversibly 'closed' to consciousness, while the Yoga Practice School holds the whole mind may be turned, making all that was unconscious conscious (while under normal circumstances human beings do not remember their previous lives, Buddhas recall the complete history of their mindstream).

Next to the congenital code from receptor organs to *thalamus* (in accord with the S-R model), highly state-dependent cortical networks or modules invite free will (and volition) to alter ongoing procedures (based on the brain's actual and past functioning).

Directly influencing the probability-fields of vast populations of neurons (cf. Popper, 1982)[27] consciousness (via the prefrontal cortex or 'fourth brain' ?) alters the fabric of the brain itself, if not, at least influences it for the better (cf. downward causation).

Consciousness superimposing probability fields does not violate the physical conservation laws (for m = 0), but, *ex hypothesi*, co-determines the final momentum of matter and information and this hand in hand with the deterministic evolution of the physically determined vector, either as material states (particles, waves, fields, forces) or material glyphs (material states infused with meaning, information). Each nondetermined choice needs many sensitive and state-dependent states to influence, alter, modify, etc. the most likely outcome (the automatic result).

In a constructive sense, this calls for many nondetermined choices to alter the determined result. Sensation, the result of the sensory system, is therefore not automatic, but very user-specific, implying an 'internal process.' Designating sensate objects involves a process anchored in existence. There is, so we must assume, something 'out there' impacting the sensitive surfaces of our five senses, triggering a series of material, informational and sentient processes, leading up to recognizing and naming the object in the given moment. So, conventionality, the world of *Homo nominalis* cannot be forsaken.

It has bearing upon what is known. Even if this cannot be known for sure, we must –for conceptual knowledge to be possible– regard the object of experience as conveying the extra-mental (cf. *infra*).

'Tsong-kha-pa explains, painstakingly, that our ordinary conventional consciousnesses –when not impaired by optical illusions, drugs, bad philosophy, and so forth– are reliable sources of information about what exists and what does not exist. (...) Chandrakirti's own view, as Tsong-kha-pa explains it, is that there *is* valid conventional knowledge, but it is not knowledge of objects that exist by way of their own nature. Rather, conventional minds get at objects that are, in one important sense, false. A table is not an ultimate reality. It does exist, but it does not exist as it appears. When we search analytically, looking for this apparently independent table, we cannot find it. Thus a table exists, but it is at the same time "false" inasmuch as it does not exist in the manner in which it appears. It is these conventional, falsely appearing objects –objects that *do exist*– that are the object of conventional knowledge.' – Newland, *Introduction to Emptiness*, 2008, pp.52-53.

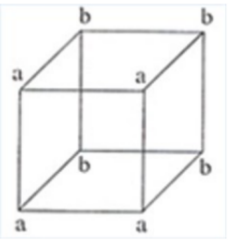
## 4 | The Argument of Illusion

Note the crucial difference between perception and sensation.

| **Perception** | **Sensation** |
|---|---|
| smell<br>chemicals | nose-consciousness of odors |
| taste<br>chemicals | tongue-consciousness of tastes |
| touch<br>ion channels | body-consciousness of feels |
| hear<br>mechanical energy | ear-consciousness of sounds |
| see<br>electromagnetism | eye-consciousness of lights |

Sensate objects are outstandingly overt. They enter consciousness because our senses got triggered. Without the base of sensation, perception, the mind would not identify a single sensate object. So, understandably, realism, and experientialism focus on them. Sensate objects, to quote Freud, constitute the reality principle (Gr. *Realitätsprinzip*), the ability of the mind to assess the reality of the external world. As there is, due to the logical conditions of conceptual thinking, the filtering of interpretation and the idiosyncratic ordering of perspective, no 'open access' to this outer reality, the ontology of realism fails. What remains is an apprehension *pro tem*.

Sensate objects always appear as they do because of perception and interpretation, and, as long as conceptual rationality is at hand, the latter cannot be put to rest or eliminated. Interpretation is not 'added' to perceptions, but computes perception into sensation. So this distinct superstructure cannot, by some conceptual operator, be subtracted from sensation to produce 'pure,' 'untainted' perceptions. Perceptions transform into sensations by the activity of information and sentience (consciousness). There is no perspective 'outside' interpretation allowing the latter to be apprehended, for this would again involve interpretation. One cannot escape the mind frame. Interpretation involves information and consciousness. Information is like a vast expert-system coding various solutions to a multitude of problems.




'To perceive a complex means to perceive that its constituents are combined in such and such a way. This perhaps explains that the figure can be seen in two ways as a cube ; and all similar phenomena. *For we really see two different facts.* (If I fix my eyes first on the corners a and only glance at b, a appears in front and b behind, and *vice versa*).' – Wittgenstein, *Tractatus Logico-Philosophicus*, 5.5423., my italics.

Sensate objects are defined by :

• matter : the afferent data collected by the senses, processed by natural code (involving numerous natural expert-systems), and projected by the *thalamus* on the *neocortex*, assimilated by the *cerebrum*, leading up to an apprehended sensate object ;
• information : the logic, code, architecture of the afferent data, starting with the quantum processes in each of the five transductions, the electro-magnetic organization of the nervous system, the overall logic of this quasi-automatic spatiotemporal and organic symphonic order allowing sensate objects to appear to the mind ;• consciousness : the use made by a knower of its objects based on identification and functionality, turning it into a cultural object possibly shared by other sign-interpreters ongoingly experientially participating and sharing sensate and mental objects.

> Experience is not what happens to You ; it's what You do with what happens to You. – Aldous Huxley

The association areas process the construction *in which the sensate objects appear* as entities (cluster of events) with accidents (quantity, quality, relation, and modality), and this by a subject of experience naming and labeling them. The moment this happens, the sensate object becomes as it were 'owned' by the subject's intentionality to know it in all possible ways. Before they 'enter' these areas, they have *not* been introduced to the modular activity of the *neocortex*, the concert of interpretations with an attention area mediating the will of the sentient conductor. They have yet no label and so no conceptual framework in which to appear. Once they appear as sensate objects to the various consciousnesses, the end relays of perception, the latter has already been transformed into sensate objects through fabrication and interpretation, i.e., they are already possessed by a subject of experience facing them as sensate objects of experience. In this fabrication mental objects (theoretical connotations) play a crucial role (cf. *infra*).

The fabrication is more than an integration. It is *assimilation* making the subsequent differentiation (of the rendition) impossible.

This distinction between the *noumenon* (Kant's *Ding-an-Sich*) and the *phenomenon* (or *Ding-für-uns*), or between the absolute, ultimate objects of knowledge (*saṃvṛiti-satya*) and the relative, commonsense, conventional objects of knowledge (*paramārtha-satya*) gives rise to the argument of illusion (*māyā*) crucial to all forms of Western and Buddhist critical thought.

'Tsongkhapa's ontology of ultimate truth has to accommodate the status of conventional truth, and consequently his nondual epistemology must encompass the understanding of conventional truth as well ; Gorampa's ontology of ultimate truth necessarily excludes the status of conventional truth, and consequently his nondual epistemology must exclude the understanding of conventional truth.' – Thakchoe, *Op.cit.*, 2007, p.140.

Given the Two Truths are both necessary and function on an equal footing, Tsongkhapa clearly shows how conventional truth misrepresents its object, allowing it to appear *as if* existing on its own, independent of the subject of knowledge, while ultimate truth does not. Our eyes are mistaken (Tib. *'khrul la*) but not wrong (Tib. *log pa*), for colors, sounds, tastes, smells, and textures exist.

Although it seems *as if* the Sun rises and sets, analysis shows this to be false, for what is seen is the mere revolution of the Earth on its axis. So, the Sun appears to rise and set, while this is not the case. We cannot say this appearance is non-existent, for we do see it. Nevertheless, it is illusory, different than what it truly is. In this sense, conventional reality is mistaken, while the appearance is not wrong (has identity and function). Illusion is not something non-existent, but something misrepresented. The content of this is non-existent (the snake seen when the rope is wrongly seen as a snake), but the object of the misinterpretation is not. Mistaken conventional truth occludes unmistaken ultimate truth.

The radical change of mind or *cognitive restructuring* sought seeks a 'Copernican Revolution,' the realization of what is *truly* permanent in the wake of what is continually changing but *falsely* seems fixed ; the insight that what appears is not what ultimately is the case. Likewise, sensate objects appear to exist so-and-so, but we know they are fabrications. Given the latter are often shared by other ob-

servers, conventional reality is a shared illusion. The argument of illusion has two sides :

(1) objective : the ordinary subject of experience never faces the totality of changes caused, *so we must assume*, by particles, waves, fields, and forces acting as a constant stream of stimuli on the surface of the receptor organs ; they are *unconscious*. Only after a series of complex, unconscious alterations (transduction, relays, integration, and projection) is the *neocortex* informed (primary sensory area), in its language, about the perceived states, events, occurrences, and objects. However, this thalamic projection, in accord with the language of the *cerebrum*, into the *neocortex* is not yet sensation. It only becomes this after the thalamic projection enters the *verbal association area*, immediately connecting it with the *attention association area* and relaying it to the frontal lobes. Our sensations, because of their irreducible and pertinent interpretative, constructive, conceptual, personal nature, could be a kind of *fata morgana* or mirage, composed of distorted sensory items.

Ambiguity, as rationalists have always stated, is the least one can say of the perception/sensation of objects. It is the core of Mādhyamika critique, for conventional truth misrepresents its objects, and so occludes their ultimate truth or 'suchness' (*tathātā*) ;

(2) subjective : cognition works in various modes (cf. *infra*). In the ante-rational mode, sensate objects irreducibly appear in contexts and have no meaning outside these. In rational, conceptual thought, which is formal (decontextualized) and critical (or transcendental), the theoretical connotations grasped by the subject of experience make it impossible to witness perception devoid of interpretation. Even if so-called 'subjective factors' are reduced or eliminated, it cannot be conceptually known whether a collective mirage is at hand or not. Likewise, in creative thought, the 'higher' self cannot be designated without its ideas, and while a panoramic view is established, at best, observation is but the view of one individual (higher) self.

Although nondual thought recognizes the nature of mind directly and hence moves beyond interpretation, its wisdom is non-verbal and/or poetical and is only shown in what is done and not done.

Western epistemology, in order to delimit what is science and what is metaphysics, has a lot to say about conventional truth, but its take on ultimate truth is exclusively negative, implying that (a) it considers no ultimate reality is possible (which in itself is a positive statement and so self-refuting), or (b) absolute truth is a limit-concept of the conceptual mind, one best approached by way of the *via negativa*. For Kant, the *noumenon* cannot be given any positive conceptual content. Like Critical Madhyamaka, he explains the absurd consequences of positing a self-sufficient ground for knowledge outside knowledge itself, namely ontological illusion, reifying concepts. The *groundless ground* he proposes remains within the confines of the subject of experience. While undelving the conditions of the possibility of knowledge, rooted in the subjective cognitive apparatus (this critique is called 'transcendental'), he makes apparent reason is *not equipped* to probe behind the surface of the mirror and face the transcendent, the *Hintenwelt* out of reach.

The criticism of Tsongkhapa, firmly rooted in the Sūtrayāna, cherishes no prejudices against ultimate truth, on the contrary. It tries to bring commonsense thinking *as close as possible* to it. Instead of denying conceptual reason to touch the ultimate, he argues how ultimate truth is a cognitive phenomenon, for *emptiness is an object of knowledge*. Conceptuality may approximate the ultimate.

Unlike others, he does not consider ultimate truth to be ontologically superior to conventional reasoning, entirely on the contrary. Ordinary beings only have a proximate rational take on ultimate reality, and this duly prepares them to trigger a direct, non-conceptual experience of it.

It does not mean Tsongkhapa posits any positive contents regarding the direct experience of emptiness by Buddhas. Only emptiness appears to them, but they simultaneously know all conventional truths insofar sentient beings are concerned.

Moreover, their direct nondual 'seeing' of emptiness is ineffable, i.e., beyond discursive description. The capstone of the cognitive system is an object of unsaying, but a cognitive act, i.e., Buddhas cognize but do so differently than sentient beings. The latter are always chained to substance-obsession.

'... for every phenomenon, there must be an ultimate truth and a concealer-truth existing together at the same time, inseparably bound, but distinct. This because emptiness (ultimate truth) is a quality possessed by conventional phenomena (concealer-truths). Just as a table, for instance, exists as a single entity with its color, so it also exists as a single entity with its emptiness of inherent existence. Nevertheless, the table is neither its color nor its emptiness, and neither the color of the table nor the emptiness of the table is the table. (...)

Concealer-truths are actually devoid of inherent existence, but appear as though they were inherently existent ; they are deceptive. Everything that exists must be either deceptive or non-deceptive, and thus everything must be one or the other of the two truths, while nothing can be found. Since the deceptive and the non-deceptive completely exclude one another, the two truths are mutually exclusive.' – Newland, *Appearance & Reality*, 1999, pp.86-87.

## 5 | The Body/Mind Problem

The changes recorded by the sensitive surfaces of our senses (perceptions - P) are interpreted (I), giving rise to conscious sensations (S). The stimuli causing perceptions are material and informational, while sensations are produced (generated) when these processed perceptions are projected into the *neocortex* by the *thalamus* and then given *conscious meaning* by the act of cognition executed by ware of the user. The cognitive act of recognizing, naming, and labeling these projections calls for another non-material factor : the mind, the totality of volitions, feelings, thoughts, and consciousness (sentience). This mind, as Dharmakīrti (ca. 7$^{th}$-century), says, has *clarity* and *cognizes*.[28] The question rises whether the mind is independent from the brain or not ? If not, then the mind dies when the brain dies. If independent, then the mind may attach itself to another brain. The Buddhadharma is unambiguous on the subject, for as the Third Noble Truth states, the end of suffering is cessation, not to be equated with physical death, but with the end of ignorance. *Ergo*, the deluded mind does not end with the demise of the body and so both, in the order of dependent- arisings, cannot belong to the same ontic category (although, like all other phenomena, body and mind share the same fundamental, ultimate nature). If both would belong

to the same ontic category, then they would share the same distinctions, characteristics or properties, which is not the case. The mind is singular, the body plural (the binding problem). The mind has functions not shared by the body (the symmetry problem).

'Mentality is a real and autonomous feature of our world.' – Putnam, *Philosophy and our Mental Life*, in : Moser & Trout, *Contemporary Materialism*, 1995, p.122.

The 'mind/body problem' refers to the relationship between the human brain and the human mind. It is deemed 'a problem' because mental phenomena (occasion, events, entities, objects) seem to be *sui generis*, unique in their characteristics, irreducible and not explicable in terms of physical phenomena only. Both phenomena interact causally, nomologically, and explanatorily.

Some do not agree and consider mental events fundamentally material and just another way to describe phenomena exclusively dependent on physical objects.

Carnap (1891 – 1970)[(29)] and others argue the problem does not exist, for the human mind is nothing else than the human brain. So, discussing the relationship is *a priori* unnecessary. The same logic applies if one argues the brain is merely a reflection of the (ideal) mind, but this position, although logically possible, is deemed untenable. The advances in physics, biology, and neurology seem to rule it out. The complexity of the operational domains explaining the human being is extraordinary.

To try to explain the facts of this individualized entity is not an easy task, if at all possible. In any case, process philosophy has a very subtle, deep, and extended view on this. In what follows, each time the words 'mind' and 'brain' are used, the case of the *human* mind and the *human* brain is at hand.

In a panexperiential view, designating finative considerations to all actual occasions, this distinction is not unimportant. We are *not* looking at an *ontological difference* between mind and brain *à la Descartes*, i.e., in mutual abandonment, but wish to understand their *distinctness* in the ongoing world-process. Both refer to individualized societies forming explicatory domains to grasp the human

being as an organic whole, namely matter (hardware), information (software), and consciousness (userware).

The human being is an individualized society of individual objects, events, and actual occasions. As a single entity, each human is a 'world' consisting of material, informational, and sentient events.

As each actual occasion has two modes or vectors of existence, so has the human being : an objective, physical existence processing efficient lawfulness (matter) and a subjective, mental existence, dealing with principles of intersubjective code and architecture (information), as well as conscious subjective experience (consciousness), i.e., the power to produce creative change and autopoiesis, letting these enter the existence of other occasions. Matter is the efficient vector, information, and consciousness the scalar, finative vector.[30]

The brain is an efficient, complex physico-informational object displaying (transmitting)[31] the activity of consciousness. It is more than matter, but a compound object, as much (if not more) defined by the information (architecture) it exhibits than the atoms, waves, fields, and forces at work in it.

> The brain does not produce consciousness ; it *transmits* and *displays* it. – Ervin Laszlo

The mind is the agent of actions done based on available knowledge (information) and undertaken by a *percipient participative identity*, a focus of consciousness existing in its own inner, private, cognitive and conscious life and communicating with other minds. This free choice individualizes the non-physical (finative) actual occasion needed to grasp what human life is all about. As a subjective focus, it refers to something more than just matter and information (*inter*-subjectively shared knowledge). Unlike the latter, the outer operators, it is an *inner operator* generating meaning, moving beyond shared intersubjective knowledge, for personal and intimate.

If consciousness is the First-Person Perspective, then intersubjectivity is the Second or Third-Person Perspective.

As brain and mind are both societies of actual occasions, the interaction between both is not an interaction between two *different* substances, but merely a *mutual exchange* between *distinct* operational domains, encompassing the physical (matter) and non-physical (information and consciousness) modes of occasions. The notion 'information' includes the idea of a super-code consisting of natural and artificial expert-systems (all possible knowledge) and weighting of possible choices. The notion 'consciousness' calls for *an actual choice* favoring the possibility with the highest probability in terms of (a) the reinforcement of the experience of a conscious unity and (b) the most excellent harmony for as many societies of individuals as possible.

Before elaborating upon this panexperiential interactionism,[32] let us summarize and discuss the various others, in my opinion, wrong positions in this vital debate. However, as in a ladder of tenets, they elucidate the proposed panexperientialism.

Ancient Egyptian Shamanism : Hylic Pluralism

The ante-rational stance of Ancient Egyptian cognition[33] makes it impossible to rationally explain their view on the body and the spiritual elements caught in its 'net.' In various texts they mention elements such as the *ka* (double), *ba* (soul), *ib* (heart), *khaibit* (shadow), *akh* (spirit), and the like.[34] In the *Pyramid Texts*, these play an essential role in the process of transformation and ascension of the divine king.[35] In the Amduat,[37] the *ba* of Re travels through the Duat to seek replenishment (in the Sixth Hour of the night). One engaging text, the *Discourse of a Man with his Ba*, a manuscript from the Middle Kingdom (XIIth Dynasty, ca. 1938 – 1759 BCE),[37] explains how a mad Egyptian viewed his *ba*.

Especially the *ka*, *ba*, and *akh* were crucial elements. While the body is alive, the *ka* and *ba* are caught in its net, but when it dies, they are released. During life, a man makes sure his *ka* was pleased, for this vital element would become crucial in post-mortem offerings. While alive, it is pleased as long as one lives in accord with Maât, the principle of cosmic harmony (cf. Ptahhotep and sapiential literature).[38] As soon as the physical body is shed, the *ka* escapes and

can be satisfied by mummification, funerary offerings and (voice) offerings made in front of the 'false door' by those alive. When the *ka* is thus replenished, the *ba* is gratified and its dynamic task of re-connecting the deceased with his or her spiritual core (*akh*) can commence.

However, before this happens, the mind (will, intention, consciousness) of the deceased, its 'heart' (*ib*), must be weighed against the Feather of Maât.[39] If found heavier, it is devoured and the process of transformation can not begin. Helped by the 'negative confession' (enumerating the faults *not* done by the deceased) and protective magic (placing a scarab beetle over the heart left in the mummy), this balance is found perfect, and the deceased may regain the divine state of a spirit (*akh*). This luminous spirit either abides – in the case of a commoner – in the Lunar heaven of Osiris (the highest state in the Duat) or, for royalty, in the Solar heaven of Re (the circumpolar stars).[40]

In this scheme, the distinction between the physical body and what could be called 'spiritual principles' is apparent. The afterlife depends on the latter. However, even during life on Earth, these register (*ib*) and sustain (*ka*) the moral psychological and spiritual activities of the human being. It cannot be said the *ka*, *ba* and *akh* are non-corporeal or immaterial. Instead, a hierarchy of states prevails, each being composed of intermingled physical and 'spiritual' stuff. As in Shamanism, ante-rational hylic pluralism is at hand.

While a rational discourse on these elements is absent, it is clear the functional distinction between, on the one hand, the physical body, and, on the other hand, the *ka*, *ib*, *ba* and *akh* is acknowledged. The impact of a 'heavy heart' and a revolted *ka* on this-life too.

The influence of Ancient Egyptian funerary anthropology on Greek religion and philosophy has, in the Hellenocentric approach of the academia, been sidetracked. But as the Greeks themselves acknowledged, it is pertinent.[41]

## Platonic Dualism and Peripatetic Hylemorphism

The doctrine of Plato (428 – 348 BCE) erects a strict ontological divide (*chōrismós*) between two separate worlds, namely a perfect, intelligible world of being and an imperfect world of becoming. Material processes belong to the latter and the soul of man to the former. Knowledge is remembering (*anamnesis*) what was encountered *before* being embodied. In this ontological dualism, the relationships between mind and body are far from ideal, for the body is the 'prison' of the mind or soul, the true, immortal person (a view elaborated by Plotinus and the neo-Platonists as *soma sema*).

In death, mind, and body, made of ontologically different stuff, separate. The latter decomposes into its original elements, but the mind or soul, not being a material compound, does not, providing a perspective on the survival of the person after the demise of the body.

Although Plato gave dualism an extended treatment, it was Pythagoras who was the first to posit the transmigration of the soul, i.e., the view the soul is immortal and only temporarily bound up with the body (*metempsychosis*). Purified after its separation from this temporary physical dwelling, the soul returns to its heavenly abode or transmigrates into another body. Here, the ontic *distinctness* of body and mind is affirmed hand in hand with their ontological *difference*, also found in Cartesian rationalism.

The impact of Platonism on Late Hellenism and the Judeo-Christian tradition was tremendous. It also influenced Arab philosophy.

To understand the psychology of Aristotle (384 – 322 BCE), his hylemorphism is crucial. From its inception, it exploits two distinct but related notions of form : in the first, 'form' is the essence of the material compound whose form it is, and in the second, it is the accident of its subject. The soul is an essential form, whereas perception involves the acquisition of accidental forms.

Entelechy (*entelecheia*) is a fullness of actualization requiring an ongoing or standing investment of effort in order to persist. It is opposed to energy (*energeia*), which is the activity of actualization not necessarily completed. Entelechy is the fullness of form and potency the material stuff which potentially holds the form.

Hylemorphism (or 'matter-formism') is a compound word composed of the Greek for matter (*hyle*) and form or shape (*morph*). The notions of 'form' and 'matter' are developed within the context of a general theory of causation and explanation. When we wish to explain what there is to know, for example, about a bronze statue of Hermes, a complete account necessarily alludes to at least four factors : the matter of the statue, its form or structure, the agent responsible for that matter manifesting its form or structure, and the purpose for which the matter was made to realize that form or structure. These four factors are the four causes (*aitiai*) :

• the material cause (*causa materialis*) : that from which something is generated and out of which it is made, the bronze of the statue ;

• the formal cause (*causa formalis*) : the structure realized by the matter, in terms of which it becomes something determinate, e.g., the Hermes shape by which this quantity of bronze is said to be a statue of Hermes ;

• the efficient cause (*causa efficiens*) : the agent responsible for a quantity of matter receiving form, e.g., the sculptor who shaped the quantity of bronze into its current Hermes shape ;

• the final cause (*causa finalis*) : the purpose or goal of the compound of form and matter, e.g., the statue created to worship Hermes.

When introducing the soul as *the form of the body*, which in turn is said to be *the matter of the soul*, Aristotle treats soul-body relations as a special case of a more general relationship existing between the components of all generated compounds, natural or artificial. He regards the body as the matter of a human being in the way the bronze is held to be the matter of a statue of Hermes.

The following analogies run through his psychology : soul / body = form / matter = Hermes-shaped statue / bronze. However, it is difficult to appreciate this analogy fully. Indeed, while bronze can exist as an indeterminate lump, being potentially but not actually the statue of Hermes, the body is not so much stuff lying about waiting to be informed or animated by a soul. Rather, human bodies become human bodies *by* being ensouled.

'It is not necessary to ask whether soul and body are one, just as it is not necessary to ask whether the wax and its shape are one, nor generally whether the matter of each thing and that of which it is the matter are one. For even if one and being are spoken of in several ways, what is properly so spoken of is the actuality.' – Aristotle, *De Anima*, ii 1, 412b6-9

Aristotle does not eschew questions concerning the unity of soul and body as meaningless. They are readily answered or somehow unimportant. If we do not spend time asking whether the wax of a candle and its shape are one, then we should not exercise ourselves over the question of whether the soul and body are one ...

It should be emphasized, however, Aristotle does not decide the question by insisting the soul and body are identical, or even 'one' in some weaker sense. This he denies. He rejects materialism. The form of the body is not material, just like the candle is not the wax. Instead, just as one might well say the wax of a candle and its shape are distinct, on the grounds the wax could easily exist when the particular shape is no more, or, less obviously, the particular shape of the candle may survive the replenishment of its material basis, so one might equally deny the soul and body to be identical, i.e., of the same nature or made of the same 'stuff.' So hylemorphism is not a form of materialism.

Another way of appreciating this is to consider the question of the separability of the soul from the body at death, a possibility embraced by ante-rational thought, Pythagorism, and substance dualists from the time of Plato onward.

Aristotle answers : if we do not think the Hermes-shape of this particular statue persists after its bronze is melted and recast, we should not think the soul survives the demise of the body.

'It is not unclear that the soul –or certain parts of it, if it naturally has parts– is not separable from the body.' - *Ibidem*, ii 1, 413a3-5

So, unless we are prepared to treat forms in general as capable of existing without their material bases, as does Plato and ontological dualism with him, we should not be inclined to treat souls as exceptional cases. Hylemorphism gives us no reason to treat souls

as separable from bodies, even if we think of them as *distinct* from their material bases. So is an afterlife impossible ?

Aristotle does not appear to think his hylemorphism somehow refutes all possible dualism. For he appends to this denial of the soul's separability from the body the observation *some parts of the soul* may, in the end, be separable after all, since they are not the actualities of any part of the body (*De Anima*, ii 1, 413a6-7). This view prefigures his complex attitude toward mind (*nous*), a faculty he describes as exceptional among the capacities of the soul.

It is this faculty which, in his theory of knowledge, is linked with the *intellectus agens*, the active intellect 'abstracting' the essence of an object, and this by using the manifold gathered by the passive intellect based on the senses.

In general, the Hermes-form is the actuality of the bronze statue, since its presence explains *why this particular quantity of matter comes to be a bronze statue of Hermes as opposed to some other kind of artifact*. Looking at soul-body relations as a particular case of form-matter relations references the soul as an integral part of any complete explanation of living beings in general. So Plato and other dualists are right to stress the importance of the soul in explanations of living beings. However, their commitment to the separability of the soul from the body is unjustified merely by appeal to formal causation.

Aristotle allows the soul to be *distinct* from the body, namely as its actuality, but this does not provide the ground for supposing the soul can exist without the body. Neither does it justify the ontological *difference* between body and mind. His hylemorphism embraces neither reductive materialism nor Platonic ontological dualism. Instead, it seeks to steer a middle course between these alternatives by pointing out these are not exhaustive options, introducing many complexities ...

When Thomism integrated the Peripatetic view, the notion the soul came to its end with the demise of the body had, because of survivalist Christian theology, to be 'corrected.' It was done by supposing that after death, the soul became the form of a subtle, spiritual body (the same is proposed in Hindu and Buddhist Tantra). Thus hylic

pluralism saved the day. During the Middle Ages, variants of Platonism and Aristotelianism were developed, but nothing new was added to the discussion.

Cartesian Interactionism

René Descartes (1595 – 1650), the first modern philosopher, shaped the current understanding of the mind/body problem. He clearly and distinctly conceived his mind to exist without body and his body without mind and concluded they must be separable, different, irreducible self-existing substances. Matter was extended, mind not. Mind was non-physical and so different from matter.

As the body, like a clock, was a complex mechanical device of sorts, the mind became a 'ghost in the machine.'[42] For Descartes in *Le Monde*, a rational view on how body and soul, the spatiotemporally extended and the merely temporally extended, indeed form a unity can be arrived at by *studying both independently*. He wrote : 'and finally, that I show You how these two Natures have to be joined and united in order to compose humans who resemble us.' – Adam and Tannery, *Œuvres de Descartes*, 1964-1974, XI, p.120.

Cartesius seeks the *interaction* between the physically extended (*res extensa*) and the non-physical (*res cogitans*) in the pineal gland. However, as in this central argument, the presumed interactions, like a *Deus ex machina*, happened by way of a particular ontological category acting as their justifiable bridge, the reasoning was flawed (logically, because of Ockham's Razor, and scientifically because the pineal gland houses no such spirit-beings). Often ridiculed because of this weak conjecture to back a central question, Cartesian interactionism became a lousy start for interactionism as a whole. Later rationalists like Spinoza (1632 – 1677) and Leibniz (1646 – 1716) avoided interactionist strategies ... In this way, they did not need to explain how non-extended substance contacts extended substance (and this in the context of a mechanistic physics in which causation is by contact). Popper (1981)[43] tried to clarify why rationalism and materialism are incompatible, for the distinction between the extended thing and the thinking thing is fundamental to science.

Recently, the question of how body and mind interact is replaced by asking how interaction is possible without energy ? As the laws of thermodynamics apply, the non-physical, to have impact, is supposed to expend energy and so add energy, violating its principle of conservation. Although this problem has been addressed without violating energy-conservation, a definitive solution, identifies the activity of mind as *a mere weighting of propensities*, making certain outcomes more likely than others,(44) involving a rearrangement of the physical order by a change in its underlying propensity-structure of possible outcomes, not by any actual physical occasions (always in need of energy). Hence, this phenomenon can only occur in large populations driven by statistical laws and a chaotic phase-space allowing for the Butterfly-effect (small causes, large effects). What happens in neurons and at their synapses is a very suitable candidate for this conjectured propensity-bridge or immaterial 'liaison' between the brain and the mind.(45)

However, other, even more subtle neuronal structures have been proposed. The mind 'scans' the brain, makes a choice and alters by making specific outcomes more likely. It interacts with the propensity-field of the brain at any given moment. So *likelihood* allows mental and physical entities to interact (cf. *infra*, panexperientialism).

Psycho-Physical Parallelism and Panpsychism

In Spinoza's *Short Treatise on God, Man and his Well-Being*, the ontological dualism of Descartes is rejected and replaced by a single substance in its various states or modes. Nature (or God), possessing an infinite number of attributes, is understood by human beings as a unity of what is extended (matter) and what thinks. Of the infinite attributes of God, humans are only able to grasp two ... Understanding interactionism cannot be explained in the context of essentialism, Spinoza writes : 'if there were different beings in nature, the one could not possibly unite with the other' (*Short Treatise*, I, 2). True indeed. Their attributes distinguish substances. As no substance can be constituted by any attribute unless constituted by every attribute there is, there can only be a single substance, and it must be infinite.

Matter has an 'inside' aspect with a consciousness-like 'quality', in other words, both run parallel like the outside and inside of an egg-shell. Matter and soul are the outside and inside aspects, or attributes, of the same unique and singular substance, i.e., 'Nature' or 'God'.

'... all things are animate in various degrees.' – Spinoza, *Ethica*, II, XIII Scholium

Psycho-physical parallelism (or dual-aspect theory) regulates the world of attributes, both in the Divine substance and in its derived modes. The attributes of thought and extension are irreducible, and so any transition from one to the other is impossible. Still, the series of phenomena manifesting themselves in thought coincides perfectly with the series of phenomena of extension.

The order of ideas coincides with the order of bodies. This coincidence is rooted in the unity of substance of which such phenomena are the modes, appearances, or manifestation. Given the irreducibility of thought to extension, no interaction between soul and body is possible, nor necessary. Granted psycho-physical coincidence or agreement, every manner of being and operation of thought finds its equivalent in the being and operation of extension. Spinozistic parallelism is a panpsychism, for amorph aggregates like a rock are also in some way 'conscious'. Mind is the idea associated with a body, and all bodies have a mental aspect.

With this parallelism, an identity of order or correspondence between modes of different attributes is at hand. These modes of different attributes have not only the same order and the same connection, but the same being ; *they are the same thing*, namely modes of the one substance, Nature (God).

Attributes are really distinct, parallel series that have no causal action between them. There is no causal connection between the modes of one attribute upon modes of another. There is identity of order and connection between modes of different attributes.

Because attributes constitute one substance, corresponding modes differing in attribute form one modification.

In Leibniz' *Monadology* we find the following passage :

'Thus the organic body of each living being is a kind of Divine machine or natural automaton, which infinitely surpasses all artificial automata. For a machine made by the skill of man is not a machine in each of its parts. For instance, the tooth of a brass wheel has parts or fragments which for us are not artificial products, and which do not have the special characteristics of the machine, for they give no indication of the use for which the wheel was intended. But the machines of nature, namely, living bodies, are still machines in their smallest parts *ad infinitum*. It is this that constitutes the difference between nature and art, that is to say, between the Divine art and ours.' – Leibniz, *Monadology*, § 64

Breaking away from monism (Spinoza, focusing on God), dualism (Descartes, focusing on the *res cogitans*), Leibniz's strikingly systematic metaphysics posits a pluralism of substances. Inspired by physics, he focused on the *res extensa*. For Leibniz, 'monads' are *singular, partless substances*. There is an infinite number of monads or 'points,' and they are all substantially identical (pluralism) and non-extended intensities or 'souls.' However, in terms of quality and force, each monad is unique (having its unique logical combination). In the first monad (or God) are found all possible 'letters' in all possible logical combinations. Although inspired by physical atomism (dividing matter in smaller and smaller parts to arrive at the atom), Leibniz does *not* –contrary to Hobbesian materialism– designate a final term to this series of divisions of matter. The continuity among existing things is not based on indivisible material quantities, but *indivisible non-material monads*.

In the *Lehsätze über die Monadologie* published in 1720 by Köhler (based on Leibniz's *Opus Magnum*, his *Essay on Theodicy* of 1710), these immaterial monads are independent, unique, singular, all-comprehensive and imperishable. Each monad remains what it is, nothing can be added to it or taken away from it. It has no 'windows' (§ 7), meaning nothing can enter it or go out from it. Each is unique because each possesses a rich *qualitative structure* of accidents giving it its own nature, and this by a unique combination of properties and its logical sequence of development. Hence, each monad is *a living being* permanently actualizing in itself a

unique structure, lawfulness, active force, or design (§ 11). This uniqueness of each monad is not a universal or 'essence' of a species (as in the *causa materialis*), but the result of an *active force* attributed to each monad. This vitalism is associated –not with Cartesian mechanistic linear impulse–, but with a higher 'kinetic' force (cf. Huygens $E = m.v^2$). Matter is dynamical and energetic. In this monadic immaterial sufficient ground of empirical reality, a dynamical *force active* is present. Not quantity is what changes all the time, but quality, in other words, this *vital force*. This force serves a double purpose : (a) the realization of *increasingly complex forms of material organization* (the evolution of matter) and (b) an urge towards apperception, i.e., the reflective knowledge of the monad of its own inner conditions. Each monad is constantly changing from one state to the other, and this by the alteration of its inner properties and relationships with the other monads. This interconnection with other monads happens by virtue of the immanent law within each monad (regulating series or *series operationum*), for each monad is a mirror of the whole world (*esse partes totales*). The substantial form is a teleological principle, in that every substance 'sings' its part in the universal harmony by knowing and intentionally following its part of the universal 'score.' This part corresponds to its complete individual concept, built into its substantial form. Hence, each monad is self-referential, lonely and without any real connection with other monads. None of them acts on another, and so all substances are causally independent from each other. Only the first monad acts on the monads, causing their *existence*, though their *own natures produce their actual stat*es. The first monad created an infinite set of monads whose natures are so harmonious each successive state of a monad (though determined by the nature of each individual monad alone), mirrors the corresponding states of all other monads. Monads are imperishable because something without parts cannot be destroyed. They appear and disappear 'in one piece,' while all other entities do so in pieces (§§ 4 - 5). Monads are literally 'automatons,' i.e., something moving *on its own accord*. Appearing realities are merely the phenomena of the spiritual monads. These divisible bodies are organic wholes animated by monads. They are the outer side of the implicate *plenum* constituted by immaterial monads.

It leads to hylozoism. All things are alive, for, in all things immaterial, spiritual monads enter. And *vice versa*, for the indivisible appears as divisible. This outer, divisible side is not substantial (as Descartes and Spinoza thought). Divisible matter is reduced to being a mere representation (§ 61) of the indivisible spiritual monads. Matter is unable to think itself ; materialism is self-defeating.

'If there is no other principle of identity in a material body than the properties just named (i.e. extension, form and movement), then not a single body would exist longer than a moment.' – Leibniz, *Metaphysical Treatise*, 1686, § 12

As a function of their qualitative ability to 'perceive,' i.e., move from one situation of properties and combination to another, and 'apperceive,' i.e., know by way of reflection their inner conditions, a hierarchy of monads can be defined (starting with totally unclear to more or less clear, ending in absolutely clear).

This hierarchy of being has six tiers :

(1) inorganical aggregates (unconscious perceptions), (2) sleeping monads like plants (unconscious perceptions), (3) dreaming monads like animals (sensation and memory), (4) perceptive monads like humans (little conscious or very unconscious), (5) apperceptive monads like humans (rational souls and spirits) and (6) God, the *monad monadum* or 'primitive monad' (§ 47), the sufficient ground of everything, possessing a *completely clear concept* of all the actual and all the possible (§ 43), a monad able to oversee in a single thought *all possibilities in all possible combinations*.

Mental and bodily processes correspond not because they interact, but because they are fortuitous, having no cause. An agreement exists just as two clocks would be in agreement *if they had been started at the same time and were accurate enough*. God ensured the perfect correlation between mind and body at the beginning of time in a 'pre-established harmony' (*harmonia praestabilita*).

A modern version of parallelism is 'neutral monism,' found in Hume (1711 – 1776), Mach (1838 – 1916), and Russell (1872 – 1970). There is only a physical ordering of 'neutral' things or events and a mental ordering of the same things or events.

Things or events considered 'physical' or 'mental' are in fact named as a function of the context in which they are conceived. There is only an epistemological difference, not an ontological one. 'Physical' means something coming within the scope of physics, and 'mental' is explained with the help of psychology and human activity. There are only two realms of theories, two systems of ordering things. Every element belongs to both orderings, but it is possible an element belonging to the body does not belong to the mind. The main point claims that the physical world and the mental world are merely theoretical constructions of 'given stuff.'

Physicalism

'... a physicalist has only two genuine options, eliminativism and reductionism." – Kim, *The Myth of Nonreductive Materialism*, in : Moser and Trout, *Contemporary Materialism*, 1995, p.134.

Physicalism, as a revised form of materialism, replaces matter by 'all objects covered by physical theory,' either in actuality (incomplete) or prospectively (complete). Applied to the issue at hand, it says mental phenomena are just a special case of physical phenomena. Human beings are physical organisms with two distinctive kinds of states : physical and mental, the latter depending on the former (upward causation). In terms of the body/mind-problem, the two mainstream versions of physicalism are Analytical Behaviourism and the Identity theory.

• In Analytical Behaviourism, the mind is seen as merely (actual or potential) behavior of body, and so mind = physical behavior. Behavioral analysis should not contain unanalyzed mental items. However, this ideal condition can not be met for a residue of such items will always be left, causing more behavioral analysis (infinite regression). It cripples the argument. Moreover, insistence on reducing mental states to behavioral patterns or dispositions to engage in such, makes one deny the existence of 'inner' subjective states, as well as all First Person knowledge regarding mental states.

It results in anthropology and psychology unable to encompass free choice, freedom and other crucial human values. Denying black swans exist, Analytical Behaviourism is blind to what is obvious.

Each mentalistic statement is equivalent in meaning to a statement referring to patterns of behavior or dispositions to behave. This view rejects mental events, and properties are involved in causal explanations of other mental events and physical events. It considers it a category mistake to say mental events 'cause' behavior since mentalistic statements do not describe the neural happenings causing it. They merely describe either patterns of behavior or dispositions to behave (Ryle, 1949). (46)

This implausible, crude form of Analytical Behaviourism eliminates the importance of consciousness, intention, and inner life. It cannot explain the presence of these central phenomena. Neither does it explain how neuronal statements are able to solve problems involving mentalistic statements. The fact these problems also involve the conscious interpretation of neuronal statements makes the whole exercise hardly convincing and somewhat circular and self-defeating. Psychologists and philosophers alike have left the position.

• Central State Theory is a physicalist modification of parallelism : there exists an 'identity' between mental processes and specific brain processes. Every mental state is identical to some physical state, in particular, various sorts of neural states (Smart, 1963).(47) It is not a logical identity, but a *single* class of *material properties* describable by means of *two different vocabularies*, just as the planet Venus is both 'evening star' and 'morning star,' two different appearances of the same material object (linguistic parallelism). In other words, while mental predicates differ in meaning from behavioral and physical predicates, they merely refer to neurophysiological properties, and so descriptions of mental events refer to neurophysiological events. By finding the crucial 'bridge laws,' mental and physical predicates can be connected. Mental events (just another set of words for physical factors) may, therefore, cause material events for neurophysiological events cause behavior. Mental properties enter into the laws explaining behavior because they are neurophysiological properties, and these enter into laws ...

It leads to a problem with the *properties* of mental states. Suppose pain P is identical to a particular firing N in the brain. Although P is the very same state as the firing N, we identify P in two different ways : as the actual pain P and as the neural firing N. Regarding the

mental state P, two sets of properties emerge : mental properties identified as P and physical properties identified as N. A dualism at the level of the properties of mental states arises. So, identifying mental states with physical states does not eliminate the fact mental states have mental and physical properties. In other words, the two vocabularies do point to *different* properties, like the difference like Venus and Mars.

Mental states can be divided into propositional attitudes having content (I have the thought *that* it will rain), intentionality, and sensations. The above problem is most pressing for sensations, for even if mental states are all identical to physical states, the former appears to have non-physical properties.

For Smart, the distinctive properties of sensations are 'neutral' as between being mental or physical. Since thoughts and sensations are distinctively mental states, they perforce have some characteristically mental property, and this is lost if we construe these as 'topic-neutral.'

Although one may construe intentional properties as wholly physical, it is unlikely some properties will not turn out to be *non-physical*, even if we recast the identity theory as asserting mental states are identical to bodily states.

Another problematic consequence of the strong Central State Theory is that members of different species do not share mental properties. It can be solved by weakening the identity claim. Instead, every instance of a mental state is identical to an instance of some bodily state, of some type or other. Instances of a single mental state might then be identical to tokens of distinct bodily types (the token Identity Theory – Armstrong, 1968).[48]

For Davidson (1975),[49] an event token only belongs to a mental type relative to background assumptions about mentality, whereas tokens of physical events are considered to be independent of such a background. This claim is easily criticized, for even experiments have metaphysical backgrounds, depend on *ceterus paribus* clauses and other *a posteriori* conditions of knowledge production. Background assumptions do not suffice to back the difference made.

If mental events are just brain processes, then they must have the physical properties brain events have. Given the binding problem (the conscious experience of unity *versus* the manifold of neuronal happenings, free choice versus determinacy) and a-symmetry (the privacy of consciousness and intention *versus* the public nature of neurophysiological properties), this is *not* the case. Indeed, if this supposed identity would be the case, then brain events would have mental properties by virtue of which the mental events with which they are identical are the kinds of events they are. Then no differences could, in any case, be identified. However, difference there is.

Another problem is the absence of the supposed bridge-laws after many decades of Central State conjectures. The theory fails to explain how neurological events and their properties exemplify consciousness and intentionality. A complete understanding of neurophysiology (by itself a challenging goal to achieve), leaves the *qualitative* character unexplained (cf. Nagel, 1974 and Jackson, 1996).[50] Moreover, precisely this inner, private conscious life is the one individuals directly experience. One fails short in addressing the most important fact : reality-for-us is impossible without reality-for-me. Finally, how to explain intentional states neurophysiologically ? A concept of something, say X, refers to a semantic field defined by the person thinking the concept and the various features of his or her environment. Two people could be exactly alike in terms of their neurophysiology and nevertheless think, believe and so on different concepts, for these are causally connected to different semantic fields (cf. Putnam, 1975).[51]

Eliminativism, Epiphenomenalism, and Behaviourism

• Eliminativism (Rorty, 1976)[52] bluntly denies mental events and properties are instantiated. There are no such properties at all. Mentalistic statements are like mythical, fantastic, and fictional statements. Like statements designating supernatural powers, they are false. Nothing has mental properties, for all things are merely physical. Hence, identity cannot be established, for 'mental' and 'physical' are incompatible terms. This proposal depends solely on whether or not one holds the mental as non-physical. It can be avoided by saying current 'folk psychology' is a mistaken and defective conception of the mental.

However, this does not show mental states do not exist, nor that better psychology cannot be found.

Eliminative arguments always require some particular way to define the mental, one not in line with what is commonly understood by them. Without this, it turns into an Identity Theory.

Moreover, by denying inner life, eliminativism works with nothing more than physical behavior. However, logically, it fails to show its truth-value. For to justify itself, eliminativism must appeal to mental principles, norms and maxims of validation. So to prove itself correct, it must use what it denies. An ultimately self-defeating strategy. Of course, this sordid view has the merit to invoke a radical revision in our habitual conception of ourselves.

• In Epiphenomenalism, one does not wish to move to the extreme of eliminating the mental, avoiding being ridiculed by our self-defeating mental slapstick. The mental is a necessary by-product of the physical. Accepted as real, it is made passive and trivial. Mental events and states figure in causal relations as effects only, ever as causes ; a good mood in virtue of feeling happy cannot cause one's health to improve.

• Behaviourism, the psychological version of Physicalism, claims there is nothing to the mind but the subject's behavior and dispositions to behave (cf. the stimulus-response model, leaving out internal process). This total repudiation of the inner leaves out something real and important. Even behaviorists themselves agree an 'intractable residue' of conscious mental items, bearing no clear relations to the behavior of any particular sort, abides. Finally, it is possible two people to differ psychologically despite the total similarity of their actual and counterfactual behavior...

Anomalous Monism and Supervenient Emergentism

Anomalous Monism has only material substances, but they possess physical properties and mental properties. It accepts materialism but rejects the type-identities assumed by the Identity Theory, i.e., mental *versus* behavior types. Mental events are token-identical to physical events, i.e., individual instances considered material only.

Mental events can therefore subsumable under physical laws. Mental events depend on the physical but are not reduced to it.

Supervenient Emergentism has mental properties *supervene on* (come on top of) a more fundamental physical, subvenient, basal, ultimately physical phenomenon. There can only be changes in the supervenient mental phenomena if and only if there are corresponding changes in the basal phenomena and not *vice versa*. Supervenient phenomena emerge from and are asymmetrically dependent for their existence upon the basal structure. There is upward causality, no downward, and therefore, the mind does not change the brain (matter).

How mental phenomena, which *differ* from physical ones, can emerge from the basal material reality remains unclear. Again, the distinction between First and Third Person perspectives yields an unsatisfactory view on consciousness. However, there is more.

Although mental events are not reduced to material events (but viewed as so-called 'emergent properties' of matter), and this tenet endorses the irreducible nature of mental properties, these properties or predicates have no executive role to play and must be epiphenomenal ! However, this view is incompatible with there being no account of the physical basis of intentionality. Whatever the case, none is provide. If supervenience is accepted, then how come there is no physical account of intentionality ? How can one posit that changes in consciousness are only possible if and only if there are neuronal changes and then not explain the physicality of intentionality ? Indeed, both are distinct operators, and consciousness, just like matter and information, has its way to explain its operations. Materialism is too limited a view on what is happening.

Functionalism

In Physicalist Functionalism, the notion of the mind as an entity, as a substance, is rejected. The mind is a function of the physical brain. The function $y = f(x) = x^2$ allows one to derive values of y with any given x. A function is not physical (for it can be specified abstractly), neither is it non-physical, for it resists classification. In order to explain mental states, they are reduced to input/output structures.

However, genuine thoughts have meaning and intentionality, whereas the words displayed on a screen as I type this out have meaning to us as userware, but not to the 'functional' computer, who merely uses software running on hardware.

In a physicalist view, functional states (the mental) are always realized in physical mechanisms. Different physical states may realize the same functional state (solving one of the problems of the Identity Theory). If mental events are functional properties, then unless there are some 'special' considerations to be made about them, in terms of causation, they are at the same level of non-mental functional properties, say, being an eye. Insofar as mental properties are functions of physical entities, Physicalist Functionalism works. However, consciousness and intention do not seem to be functions. They seem not instantiated by matter (cannot be found as a material entity), and so cannot be a functional property. Again the physicalist, now in the guise of a functionalist, is trapped by the materialist monism so uncritically embraced.

Functionalism is compatible with Physicalism, but, unlike Behaviourism and the Identity Theory, it does not necessarily entail the physical nature of minds, for it might be the case minds are non-physical and functional (as long as they realize the relevant programs). The question is then whether mental states are necessarily functions of material states ? Perhaps mental states are also causally efficient and able to alter material states (downward causation) ?

Regarding intentionality, the question is how physical states can be sensitive to the semantic sensitivity of intentional states in a way conceptual thought is ? Moreover, as the process of reasoning from evidence has (so far) resisted computational commands (and some claim consciousness will never be computed), and changes of the mind involve changes in the relevance relations among mental events (the weighting of probabilities), Physicalist Functionalism steers in troubled waters.

If the restrictions imposed by this Machine Functionalism are lifted, and mental states are accepted as non-physical and not always realized in physical mechanisms (but possessing their psychic mechanism), then physical states can be functions of mental states

(downward causation). Moreover, mental states can be functions of physical states (upward causation).

With mind = f(body), the influence of the brain on the mind is restricted to causal efficiency by way of changes in executional (computational) and so energetic capacity.

With body = f(mind), the mind relates to the brain via final causality, weighting possibilities, deciding for the most likely outcome (free choice). It does not involve energy, for the process only entails a change in the valuation of possible outcomes in large populations of neuronal events. The mind influences the brain without adding or taking away energy from it, but merely makes specific physical outcomes more likely than others. This psychophysical Panexperiential Functionalism can be integrated into a process-based approach of Nature. The 'I' is merely designated based on ever-changing material and mental aggregates.

If brain and mind are two distinct domains of causation (on the one hand physical and efficient and on the other hand mental and finative), i.e., *distinct* but not *different* actual occasions, then the organic organization of the human being as a whole, its unity, is ruled by a Functional Interactionism, beginning with conception and ending with the last moment of the *bardo* of death. The end of this mutual functionality between brain and mind is not necessarily the end of the distinctness of these actual occasions.

The 'end' of the physical body is an 'entry' into the stream of efficient causation of new material occasions (recycling). The endlessness of matter and (evolving) information is the recurrent return of the same (eternity). Cosmologically, the latter idea leads to the hypothesis of an eternal multiverse, of which this cosmos is but a single contraction-point in spatiotemporal manifestation (cf. *tzimtzum* in Lurianic Qabalah).

The moment the mind stops being a function of this brain and the latter a function of this mind, in that rupture, that given moment of consciousness is followed by another moment of consciousness, one in which the mind enters it own subtle and very subtle aspects, riding more subtle energies.[53]

Indeed, this entry is not necessarily disembodied, for one may assume the mind to enter a functional relationship with more subtle forms of support (as in hylic pluralism). Physical death is then a gate, leaving gross material support for a subtle one.

Although the materialist account of the mind may attract some, it is clear that private accounts cannot be explained by public events. The distinction between our inner life and the neuronal activity of the brain is pertinent and remains so despite decades of materialist research trying to reduce mind to matter. Perhaps the time has come for science to relinquish its materialist metaphysics and embrace the notion mind and consciousness are irreducible.(54)

Panexperientialism

'Each portion of matter may be conceived as like a garden full of plants and like a pond full of fishes. But each branch of every plant, each member of every animal, each drop of its liquid parts is also some such garden or pond. And though the Earth and the air which are between the plants of the garden, or the water which is between the fish of the pond, be neither plant nor fish ; yet they also contain plants and fishes, but mostly so minute as to be imperceptible to us.' – Leibniz, *Monadology*, §§ 67-68

Panexperientialism embraces process metaphysics ; processes rather than substances represent the phenomena encountered in Nature. Process has primacy and priority over things. Relations have primacy over what is related. Existing things are happenings, not static 'material points' or substances existing from their own side (be they material, informational or sentient). Hence, as all things change, all things are impermanent and caught in continuous becoming with others (togetherness).

Process ontology rejects substances, and so is not an example of essentialist thinking. For substantialist, the principle *operari sequitur esse* holds. It means some substance owns every process. Here one thinks substance first and then views change and relationships with other things as accidental to it. Process thought inverses the principle : *esse sequitur operari* ; things are constituted out of the flow of process. So things are *what they do.*

Change is thought first, and things are momentary arisings, abidings, and ceasings of dynamical units always interwoven with others (i.e., other-dependent instead of self-dependent). A process is an integrated series of connected developments coordinated by an open and creative program of efficient and final determinations. It is not a mere collection of sequential presents or moments but *exhibits a structure* allowing a construction made from materials of the past to be passed on to the future. This transition is not one-to-one, not merely efficient, for the internal make-up of its occasions shapes a new particular concretion, bears *finality* allowing for creative advance or novelty. This thanks to the scalar vector at work in every single actual occasion. Not matter, information or consciousness are fundamental, but the actual occasion is.

The actual occasion, the unit of process, is the ontological principal shared by all existing things. These occasions are Janus-faced : they take matter from the past and, based on an inner, finative structure composed of information and sentience, transform states of affairs, paving the way for further processes. They are not merely *product-productive*, manufacturing things, but *state-transformative*. Although indivisible, actual occasions are not 'little things,' but a differential change explained in terms of efficient and final causation. Physical entities are in actuality physical-mental entities. While materialism advocates the closedness of the physical domain, meaning that physics can in principle give a complete account of the world, panexperientialism, rejecting this closure of physical theory, accepts that :

'... the causal efficacy can also occur by virtue of the mental aspect of an occasion of experience, meaning that aspect in which self-determination may occur.' – Griffin, *Unsnarling the World-Knot*, 2007, p.237.

> One cannot step twice in the same river. – Heraclitus

The standard bearer of process metaphysics in modern times is, of course, Gottfried Wilhelm Freiherr von Leibniz. The fundamental units of Nature are punctiform, non-extended, 'spiritual' processes

called 'monads,' filling space entirely and thus constituting a *plenum* (cf. *supra*). These monads or 'incorporeal automata' are bundles of activity, endowed with an inner force (appetition), ongoingly destabilizing them and providing for a processual course of unending change.

It was in the writings of Leibniz that Alfred North Whitehead (1861 – 1947), the dominant figure in recent process thought, found inspiration. Like Leibniz, he considered physical processes as of first importance and other sorts of processes as superengrafted upon them. The concept of an all-integrating physical field being pivotal in his view on matter. However, unlike Leibniz, the units of process are not substantial spiritual 'monads,' but psycho-physical 'actual occasions.' Process philosophy is not a materialist, for although matter individualized first, with information individualizing out of it (and consciousness out of matter and information), particles, waves, fields, and forces are not the ontological principal. The primordial plasma at work seconds after the Big Bang was already a complex phenomenon, not a simple building-block. Taken on its own, it is a set of actual occasions determined by a dominant efficient vector, but also characterized by information (quasi latent) and sentience (latent), i.e., a certain (lowest possible degree of) finality. With the Big Bang, all three operators came into existence, matter being dominant, soon followed by information (the first architectures in the primordial plasma, leading to stars and life) and much later by consciousness. It took stars like our Sun (ca.5 billion years old) to bring about the first chemical structures preparing life (ca.3.5 billion years ago Sun-worshipping single-celled organisms came about) and the individualization of information into a relatively independent and irreducible functional domain. On planet Earth, the stand-alone cycle of human consciousness began relatively late (ca.2.5 million years ago, we find the earliest samples of chipped pebbles, the work of *Homo habilis*, but we have to wait until ca. 600.000 years. to see proto-Neanderthal traits).

Actual occasions, unlike monads, are not closed (not self-sufficient like substances), but fundamentally *open to other occasions*, by which they are entered and in which they enter. Their perpetual perishing is matched by their perpetual (re)emergence in the 'concrescence'

of new occasions. Like Leibniz, these occasions 'prehend' (Leibniz spoke of 'perception' and 'apperception') their environment, and this implies a low-grade mode of sentience (spontaneity, self-determination, and purpose). They are *living and interacting units of elemental experience*. They are part of the organic organization of Nature as a whole, but constitute themselves an organism of sorts, with a constitution of its own. Nature is a manifold of diffused processes spread out but forming an organic, integrated whole. As was the case in the ontology of Leibniz, macrocosm and microcosm are co-ordinated. Not because each actual occasion mirrors the whole, but because they reach out and touch other occasions, forming, by way of complexification, aggregates and individualized societies of occasions.

Panexperientialism is not panpsychism. Everything is not alive. While a single occasion, which is not substantial or thing-like, but the common unit of process, possesses, besides a physical, objective mode (efficient causation in terms of matter), also a mental, subjective, experiential mode (final causation in terms of information and consciousness), non-individualized aggregates or mere compounds of these occasions do not and are therefore insentient (like rocks). The presence of these rules out panpsychism, i.e., the claim *all* things are alive.

Moreover, the mental mode of a single actual occasion has the *lowest possible degree of freedom*. This low-order experience should not be compared with the activity of societies of occasions like the high-order conscious experience of human beings, nor even with atoms or molecules. Only when an actual occasion, by entering into another actual occasion (adding its concretion or internal make-up to others) helps to bring actual occasions *together*, can the creativity of the sea of process eventually bring about *individualized societies* consciously experiencing their unity (as in atoms, molecules, minerals, plants, animals, humans, ...). Here the process of evolution is at work, producing more complex organizations of actual occasions, interpenetrating each other. However, this evolution is not only ruled by laws of efficiency, but also by finality. Even at the level of quanta, a strict division between matter and the other two operators is pertinent.

'... every quantum event is associated with an element that cannot be adequately conceptualized in terms of the precepts of classical physics, but that resides in a realm of realities that are not describable in terms of the concepts of classical physics, but that *include* our conscious thoughts, ideas, and feeling.' – Stapp, *Mindful Universe*, 2007, p.98.

This does not imply that the mind determines the reality we perceive ; the mind merely makes things real.

For panexperientialism, 'physical entities' are always physico-mental (or, what comes down to the same, psycho-physical). Focusing on efficient causation, and the emergence of an independently functioning mental realm out of the physical, actual occasions are physico-mental. However, insofar as final causation is concerned, and because of the downward causation effectuated by high-order minds on physical processes, actual occasions are psycho-physical.

The organic togetherness of actual occasions has various levels, ranging from a single actual occasion to events, entities, insentient compounds, and individualized societies with varying degrees of freedom. On Earth, the highest level is the dominant occasion of sentient experience constituting the human mind. As even a single actual occasion, with at least an iota of self-determination, provides the lowest-level example of the emergence of a higher-level actuality (namely the creativity resulting from the incorporation of the decision characterizing its mental mode in the efficient causality entering another actual occasion, appropriating data from its vicinity), we may understand, in comparison, brain cells as highly complex *centers of experiential creativity*. So, in terms of efficient causation, we may say the mind emerged from the brain. However, in terms of final causation, we may say the possibilities offered by the brain are chosen by the mind (emerged from the brain).

The emergent property (the mind as an actual entity in its own right), can exert a causal influence (final and efficient) of its own. Mental causation is not epiphenomenal, for, besides the upward causation from the body to the mind, there is the self-determination by the mind, and based on this, downward causation from the mind to the body. It is possible because the mind and body are not two

*different* kinds of things, but both highly complex individualized and *distinct* societies of actual occasions.

Mind and body are discrete conventional entities, not different (for both are empty and psycho-physical), but distinct (both have specific properties). The former is non-material, the latter material. These two phenomena should *not be identified or reduced to one another*. Consciousness does not 'emerge' from neuronal activity, but is computed (executed) by it. The brain interacts with the mind and *vice versa*. The challenge is to understand the *neocortex* as *the executive organ* displaying human consciousness.

In this new cortex, there is –at birth– lots of 'empty space' to be filled in by our parents, peers, and teachers, and eventually by ourselves by realizing the 'freedom' to 'think for ourselves' ... Usually, many changes have to be made to allow our brain to be the proper conduit for who we are (in the C-world). Crisis, catastrophe, and turbulence force us to face new aspects of who we are. Each time, we force our brain to act according to our conscious will (just as our brain forces our muscles with efferent enervation). We may also undermine our brain and/or be subjected to the negative conditioning enforced on it by others. It causes it to be limited in expressing our full potential. We may train it and allow it to compute more conscious awareness (neurofeedback).

Practice alters the brain. With enough effort, these changes trigger new connections and constellations and so become permanent. The brain reacts as any physical system in our body.

• M-world of hardware : the mature, healthy, triune, material human brain can process, compute and execute complex algorithms, integrate all kinds of incoming data and be subjected to neuronal changes (repatterning) – its vast capacities are largely underused ;
• I-world of software : the inherent and acquired software or information (wiring) of the brain, its memory, and processing speed - in its 'programming phase,' the first five years are crucial ;
• C-world of userware : the conscious individual mindstream interacting meaningfully with his or her brain and surrounding physical world.

How does the psycho-material mind interact with the physico-mental brain ? In principle, this 'interaction' happens between two entities, both defined by physical (matter) and non-physical operators (information and consciousness). The mind is mostly non-physical (organized sentience), but also minutely physical (the momentum between two moments of consciousness). The brain is mainly physical (highly complex states of matter), but also non-physical (organic architecture and an elementary consciousness of the body itself). Because they are not substantially different and closed-up (as in Cartesian interactionism), the possibility to communicate between both entities cannot be *a priori* ruled out as long as the principle of the conservation of energy is not violated. Interactionists conjecture the mind to be actively engaged in reading out from the multitude of active centers at the higher-order levels of the CNS. They postulate particular 'liaison' areas of the *neocortex*, i.e., neurons characterized by an interacting property defined in terms of electromagnetism or the superimposition of probability-fields (which have no mass). From moment to moment, according to conscious intention, the mind chooses and integrates this selection. It means the mind has a superior interpretative and steering role upon the neural events. Because of the 'binding problem' (*multiple* regions of the brain are simultaneously combined into *a single* experience), the unity of conscious experience is not provided by the neural machinery, nor by the liaison areas of the neocortex. This unity belongs to the C-world, not to the I-world or the M-world. 'It is proposed that the self-conscious mind is actively engaged in searching for brain events that are if its present interest, the operation of attention, but it also is the integrating agent, building the unity of conscious experience from all the diversity of the brain events. Even more importantly it is given the role of actively modifying the brain events according to its interest or desire, and the scanning operation by which it searches can be envisages as having an active role in selection.' – Popper and Eccles, *The Self and Its Brain,* 1983, p.373.

The principle of the conservation of energy, a consequence of the homogeneity of space-time, implies *any change requires an expenditure of energy*. This physical law is to be accepted.

The causal effect implies that the event must make a difference every time it occurs. This difference is the 'material' factor relaying the effect. Accepting this law implies that if matter acts on mind, energy must disappear. If the mind would act on matter, energy must be added. An immaterial mind can only move matter by creating energy, i.e., adding energy to the whole.

'It is shown that the magnitude of the disturbance required is significantly greater than allowed for under quantum-mechanical uncertainty. It is concluded that violations of fundamental physical laws, such as energy conservation, would occur were a non-physical mind able to influence brain and behaviour.' – Wilson, *Mind-Brain Interaction and Violation of Physical Laws*, 1999, p.185.

So, this argument, backed by physics, refutes interactionists conjecturing a kind of 'one-to-one' interaction between a single thought (or configuration of thoughts) and a single neuron (or module of neurons). Also, those like Popper and Eccles (1981), who try to use Heisenberg's indeterminism to allow non-material events to act on matter, run into serious problems. Only by answering the conservation-argument decisively can interactionism in any form prevail. For Beck and Eccles (1992),[55] mental intentions act through a *quantum probability field*, altering the probabilities and thus the material outcome. Moreover, of course, the energy of a probability field is zero ! It was Eddington (1935)[56] who first speculated the mind may influence the body by affecting quantum events within the brain, in particular, a causal influence, *not on any energetic process* requiring energy-conservation, but *on the probability of their outcome*. For Mohrhoff (1999),[57] electromagnetic fields are a more likely candidate. Such a field is *a summary representation of effects on the motion of particles,* and as we know, the brain always functions with many neurons simultaneously (cf. population-coding). A combination of both is not excluded. Penrose (1994)[58] conjectured quantum-effects in the cytoskeleton and microtubules of neurons.

'There is no reason whatever for having *probabilities determined twice over*, once during their deterministic evolution by the physically determined vector potential, and once at the end through a superimposed probability field *generated by the self*.' – Mohrhoff, *The Physics of Interactionism,* 1999, p.182, my italics.

Earlier, Popper (1982)[59] speculated about the existence of probability fields (cf. his propensity interpretation of the equation of Schrödinger, called in to solve the particle/wave paradox of quantum theory) and considered these fields to be as real as particles, gravity or electromagnetic fields, i.e., to be 'kickable' (by changing experimental arrangements) and 'kick back' (by changing the outcome of what eventuates : particle or wave). These fields, like the photon, have *no mass* and so there is no possible violation of conservation whatsoever.

If consciousness itself is a set of propensities (virtual, potential, or possible meanings) existing as a 'field' in a non-spatial complex realm or Hilbert C-space, then interactionism proposes mental states calculate (intend) specific probabilities. In this way, they co-determine, through the ongoing superimposition of the likelihood of an intended design and architecture, the overall parameters of the activity of the 'liaison brain' (causally open to non-material shifts in valuations, propensities or probabilities). In this way, the mostly non-material mind becomes *physically effective* by modifying the electromagnetic interactions between constituents of the 'liaison brain,' and this at the end of every vector *without needing energy*.

'In our present understanding of the mode of operation of neural machinery we emphasize ensembles of neurons (many hundreds) acting in some collusive patterned array. Only in such assemblages can there be reliability and effectiveness (...)

The modules of the cerebral cortex are such ensembles of neurons. The module has to some degree a collective life on its own with as many as 10.000 neurons of diverse types and with a functional arrangement of feed-forward and feedback excitation and inhibition. (...)

By definition there would be restriction to the modules of the liaison brain, and only then when they are in the correct level of activity. Each module may be likened to a radio transmitter-receiver unit. (...) It can be conjectured that the self-conscious mind scans this modular array, being able to receive from and give to only those modules that have some degree of openness.' – Popper and Eccles, *Op.cit.*, 1983, pp.366-367.

Combining the view of Eddington, Popper, Eccles, Beck, and Mohrhoff, we conjecture the largely non-material mind to scan the largely physical cortex for 'open' modules and to modify its behavior by tiny deviations of its electromagnetic fields. If probability fields are taken in, then these small deviations are caused by recalculating the chances and superimposing this probability field at the end of each electro-magnetic vector *eventuating a physical potential in deterministic evolution*. It is in accord with Heisenberg's equation and the law of energy conservation. Probability fields, with zero mass, fall outside the limitations imposed by indeterminacy.

The distinction between sensate and mental objects is pertinent. Mental objects are not emergent properties of sensate objects like the brain, but exist as part of their domain of actual occasions, weighing the dice. The mind interacts with the brain and does so without violating the Heisenberg's principle of indeterminacy *by altering probable outcomes*, requiring no material energy, only a mental act involving observation *altering possibilities*. Because of the vast amount of neurons, connected neurons, and configurations of connected neurons, this happens very quickly and smoothly. Sensate objects are derived from perceptions but are possessed and designated by the mind (turned into a sign).

Neurophilosophically, perception *precedes* sensation, and mental objects are superimposed upon processed perceptions *after* the latter have been projected upon the *neocortex* by the *thalamus*. The projected perceptual content is transformed by naming. Mental objects, defining personal perspective and interpretation, turn perception into sensate objects.

In a given biophysical organism, consciousness is intimately mounted on a distinct coarse spatiotemporal tensor-curvature of space, namely the physical body/brain. In Tantra, when the coarse body is dying, coarse consciousness retreats in steps, carrying with it its mental characteristics (or karmic imprints). Due to this process, the subtle mind is mounted upon subtle forms of matter.[60] Rebirth is the reconnection of a specific stream of consciousness to a new coarse spatiotemporal executant, determined not by coarse physical constituents, but by the state of mind at death and the wholesome seeds watered.

'... *we need a dream-world in order to discover features of the real world we think we inhabit* (and which my actually be just another dream-world). The first step in our criticism of familiar concepts and procedures, the first step in our criticism of the "facts", must therefore be an attempt to break the circle. We must invent a new conceptual system that suspends, or clashes with the most carefully established observational results, confounds the most plausible theoretical principles, and introduces perceptions that cannot form part of the existing perceptual world. This step is again counterinductive. Counterinduction is therefore, always reasonable and it has always a chance of success.' – Feyerabend, *Op.cit.*, 1982, p.32.

Sensations or observations are the only perceptual data about the 'outer world' available to *Homo nominalis.* They are the irreversible product of (a) afferent data relaying what the sensitive receptor surfaces register or perceive and (b) ongoing interpretation.

'... what is given are *our conscious experiences of such-and-such data*. We never come upon an unexperienced thing ; we never catch things as they are apart from being experienced.' – Griffin, *Op.cit.*, 2007, p.175.

In the East, epistemology explains the distinction between ultimate and conventional cognition. Contrary to Western critical thought, focusing on a thorough analysis of conventionality, Indian pundits and yogis do not reject the existence of intuitional knowledge. The three means of acquiring knowledge (*pramāṇa*) are : direct knowledge (*pratyakśa pramāṇa*), valid inference (*anumāna pramāṇa*), and invalid inference (*abhāva pramāṇa*).

Direct knowledge is a yogic perceiver, not requiring comparison or deduction. It has access to the realm of suchness, is non-conceptual, nondual, and unmistaken. Inferential knowledge always needs duality and concepts. It is valid when correctly representing relativity and invalid as imaginations based on images. Both are mistaken for substance-based.

By combining critical realism with the experiential data available through meditation and *gnosis*, the 'Sword of Wisdom' wielded by the Prāsaṅgika-Madhyamaka view only sharpens.

## 4 The Seven Stages of Cognition

Critical epistemology since Kant investigates the possibility and growth of conceptual knowledge, considering the latter as a given. Whether something *preceded* conceptual thought, or if anything *higher* than reason was possible, remained outside focus. For Kant, reason was the apex of cognition, and he rejected the rationalist claim intuitive knowledge was possible or relevant to the advancement of knowledge.

'All our knowledge begins with the senses, proceeds thence to the understanding, and ends with reason. There is nothing higher than reason for working up the material of intuition and comprehending it under the highest unity of thought.' – Kant, *Critique of Pure Reason*, B355 ('intuition' here means 'based on the senses').

In the West, and this since Greek concept-realism,[61] conceptuality was mostly at the forefront. Intuitional insight, while at times accepted, never became friends with scientific thought, embracing argument and experiment. It is backed by the explanation that intuition is either non-existent, non-conceptual, or irrelevant to the advancement of knowledge. The fact non-conceptual, intuitive insight could *indirectly* impact conceptual reason was not seen.

In the 20th-century, studies evidenced that the cognitive system of humans goes through several stages of development. Genetical epistemology was born. Conceptual cognition was found to be preceded by earlier, less conceptual strata. Children, but also so-called 'primitive' societies, evidenced an approach of reality different from what rationality proposed. Genetical epistemology tried to define these strata by characterizing how cognition operates in these earlier stages. The champion of this approach was Jean Piaget (1896 – 1980). He studied children world-wide and formulated a new take on cognitive growth. In the same line, Lawrence Kohlberg (1927 – 1987)[62] empirically showed how moral growth is also stage-bound, while Abraham Maslow (1908 – 1970),[63] investigating human motivation, came to his hierarchy of needs, comprising a five-tier model : biological and physiological needs, safety needs, belongingness and love needs, esteem needs and self-actualization needs. A meta-model could be derived.[64]

In Piaget's theory on cognitive development, two general functional principles (invariants), rooted in biology, are postulated : *organization* and *adaptation*. *Organization* implies the tendency common to all forms of life to integrate (physical and psychological) structures into systems of a higher order. *Adaptation* (to be divided in assimilation and accommodation) shows how the individual not only modifies cognitive structures in reaction to demands (external), but also uses his own structures to incorporate elements of the environment (internal). Organisms *tend toward equilibrium* with their milieu. Centration, decentration (crisis), and re-equilibration are the fundamental processes forcing the cognitive texture of humans to complexify.

> Act the way you'd like to be and soon you'll be the way you act. – Leonard Cohen

Mental operators are the result of the *interiorization* and *centration* of this cognitive evolution. An original, archaic sense of identity is shaped. After prolonged exposure to new types of action –challenging the established original centration and its equilibrium– a crisis ensues, and *decentration* is the outcome. Eventually, because a higher-order equilibrium was found by way of *auto-regulation* (autopoiesis), a *re-equilibration* occurs. Over time, various strands, levels, layers or planes of cognitive texture unfold :

(1) repeated confrontations with a novel action involve motor functions (an original, initial coordination of actions) ;

(2) action-reflection or the *interiorization* of this novel action employing *semiotic factors* : this is the first level of permanency, the so-called '*pre-concepts*' which have no decontextualized use ;

(3) using these pre-concepts, anticipation and retro-action happen. These are valid insofar as they symbolize the original action, but always regarding the initial context ;

(4) final level of permanency : formal concepts rise. They are valid *independent* of the context of the original action and trigger the formation of permanent cognitive (abstract) operators.

In this way, and based on his experimental work with children worldwide, Piaget defined four layers of cognitive growth :

(1) sensori-motoric cognition, birth until 2 years of age ;
(2) pre-operational cognition (2 – 6) ;
(3) concrete operatoric cognition (7 – 10) ;
(4) formal-operatoric cognition (10 – 13).

'One important aspect of cognitive development is the appearance of the *semiotic function*. This refers to the fact that from 2 to 4 years the child begins to develop the ability to make something –a mental symbol, a word, or an object – stand for or represent something else which is not present.' – Ginsburg and Opper, *Piaget's Theory of Intellectual* Development, 1979, p.70.

The first three levels correspond with 'ante-rationality', whereas formal-operatoric cognition is identical to formal reason (the conceptual mode of science and philosophy).

In *Le Structuralisme* (1970), Piaget defines 'structure' as *a system of transformations* abiding by specific laws and sustaining or enriching itself by *a play of these transformations*, occurring *without* the use of external factors. The auto-structuration of a complete whole is defined as 'auto-regulation.' In the individual, the latter is established by biological rhythms, biological and mental regulations, and mental operations. These are theoretically formalized. Piaget refuses to accept that 'real' dialectical tensions between physical objects are the 'true' foundations of thought and cognition (its possibility, genesis and progressive development). Contrary to most other types of psychologies and pedagogies attuned to realism and materialism, he never *fills in what reality is like* and maintains no ontological view on reality-as-such, considered to be the *borderline* of both the developing subject and its objective world, *stage after stage*.

Cognitive activity is approached as *a process*, for rationality grows in developmental steps, each calling for a particular cognitive structure on the side of the subject. What reality is, is left open. Why ? Every objective observation implies an observer bound by the limitations of a given stage of cognitive development, i.e., a subjective *epistemic form*, containing idiosyncratic, opportunistic and particu-

larized information. This form works like Kantian categories, but without the latter's universal, foundational intent. Neither did Piaget choose for a strictly transcendental approach. Conditions existing *before* cognition itself (like in Foucault) are not introduced. What Popper called the 'problem-solving' ability of man, may be associated with Piaget's 're-equilibration.' Popper introduced the triad : problem, theory (hypothesis, conjecture) and falsification (refutation). In his dynamical and actional anthropology and psychology, Piaget introduced : activity, regulation, crisis and re-equilibration (auto-regulation).

This psychogenesis shows how knowledge *develops a relationship* between a thinking subject and the objects around it. This relationship grows and becomes more complex. Stages of cognitive development are defined by means of their typical cognitive events and acquired mental forms. This development is not *a priori* (pre-conditions), nor *a posteriori* (empirical) but *constructivist* : the construction eventuates *while it is in process*, in other words, the system has been, is and will always be (re) adapting and (re)creating new cognitive structures, causing novel behavior and different environ-mental responses, which may be interiorized, forming new internal cognitive forms, etc. The root of this process is *action itself*, the fact its movements are *not random but coordinated*. It is the *form* of this coordination, the order, logic, or symbolization of the *pattern of the movements* which stabilizes as a permanent mental operator.

Two main actions are distinguished :

• sensori-motoric actions exist *before* language or any form of representational conceptualization ;
• operational actions ensue as soon as the actor is conscious of the results and goals of actions and the mechanisms of actions, i.e., the translation of action into the forms of *conceptualized thought*. These operations are either concrete (contextual) or formal (decontextualized). The latter constitute rational thought.

The last decades have seen the many applications of these crucial insights into the functional, efficient (educative) side of the process of cognition. An example is schema theory, at work across the fields of linguistics, anthropology, psychology, and artificial intelligence.

The schema, frame, scene, or script is primarily a set of relationships, some of which amount to a structure, generating pictorial, verbal, and behavioral outputs. In cognitive sciences and ethnoscience, they are used as a model for classification and generative grammar (syntax as an evolutionary process). Schemata are also called mental structures and abstract representations of environmental regularities. Events activate them, allowing us to comprehend ourselves and the world around us. So they define *a structured set of generalizable characteristics of a particular action*. Repetition, crisis and reformation yield strands of co-relative actions or stages of cognitive development. Knowledge begins with the coordination of movements.

In genetic sequence, six *types of schemata* emerge :

(1) sensori-motoric, *mythical thought* : aduality implies only one relationship, namely with immediate physicality ; object and subject are not reflexive, and the earliest schemata are restricted to the internal structure of the actions (the coordination) as they exist in the actual moment and differentiate between the actions connecting the subjects and the actions connecting the objects. The *action-scheme* can *not* be manipulated by thought and is triggered when it practically materializes ;

(2) pre-operatoric, *pre-rational thought* : object and subject are differentiated and interiorized ; the subject is liberated from its entanglement in the actual situation of the actions ; early psychomorph causality. The subjective is projected upon the objective, and the objective is viewed as the mirror of the subjective. The emergence of pre-concepts and *pre-conceptual schemata* does not allow for permanency and logical control. The beginning of decentration occurs and eventually, objectification ensues ... ;

(3) concrete-operatoric, *proto-rational thought* : dual conceptual structures emerge which provide insight into the essential moments of the operational mental construction :
(a) constructive generalization ;
(b) the ability to understand each step and hence the total system (1 to 2 to 3 ...) and

(c) auto-regulation enabling one to run through the system in two ways, causing conservation. The *conceptual schemata* are 'concrete' because they only function in contexts and not yet in formal, abstract mental spaces ;

(4) formal-operatoric, *rational thought* : these are abstract conceptual structures positioned in mental spaces independent of the concrete, local environment. Substance-obsessed, the conditions of knowledge are rooted outside the cognitive apparatus itself ;

(5) transcendental, *critical thought* : abstract, strict nominalist concepts explaining how knowledge and its growth are possible, rooted in the 'I think,' the transcendental unity of apperception (or transcendental self) ;

(6) *creative thought* : the hypothesis of a possible (arguable), conceptual immanent metaphysics and a higher self, generating creative hyper-concepts encompassing totality ;

(7) *nondual thought* : the possibility of an experiential, non-conceptual, meta-rational, intuitive, gnostic insight into the ultimate nature of what is ; a transcendent metaphysics.

These modes of cognition show the presence of two crucial demarcations : the lower threshold defines the border between ante-rational thought (mythical, pre-rational and proto-rational) and reason. Ante-rational modes of cognition are mainly found in the concrete conceptualization of Antiquity. The higher threshold declares the difference between reason (formal and transcendental) and metaphysics (creative and nondual thought). It is the distinction between reason and intuition, between the best of understanding (*sophia*) and direct, nondual prehension (*gnosis*). Each time a threshold is crossed, the potential of the mind has been expanded, deepening the subtle complexity of the cognitive texture and enlarging its ability to communicate with its environment and to continue to grow. Between ante-rationality and rationality, the lower balance between *instinct* and *reason* is at hand. One cannot repress instinct (as depth psychology showed). Nor can it be made to rule (as irrationalism puts into evidence).

Between rationality and meta-rationality, the higher balance between apprehension and prehension is imminent. The higher modes of cognitive growth (creative and nondual thought) were rediscovered by transpersonal psychology, comparative religious studies, and those practicing altered states of consciousness (meditators, yogis, shamans, mediums, healers).[65] This higher distinction is also found in Western philosophy (reason versus intuition), as well as in Eastern Yoga (*prajñā* versus *jñāna*, the former being *savikalpa*, the latter *nirvikalpa*).

'Like Kant, Searl doubts that it is possible to experience "things-in-themselves" apart from linguistic categories, but the linguistic approach seems to leave the door open in a way that Kant did not : since language is learned, isn't it possible to "unlearn" it, as the Buddha's program for "restraint of the senses" suggests ? If so, and if Searle is right that language determines "what counts as reality", then the world experienced in such a way would be very different indeed from the world as we normally perceive and understand it. If we take Searle's phrase literally, then the nirvikalpa elimination of language implies that the category of *real* would no longer be applicable to any particular – just as Mahāyāna, Advaita and Taoism insist.' – Loy, *Nonduality*, 1988, p.47.

In Western philosophy, intuition is *conceptual*, e.g., Spinoza's *scientia intuitiva* and Hegel's 'absolute knowledge.' Alternatively, mystics stress the non-conceptual, ineffable status (the *via negativa*) of direct knowledge, prehension or *gnosis*. Despite its non-verbal standing, nondual cognition remains a cognitive act and so generates direct insights impacting the contents of the conceptual mind. While not conceptual, intuition and its creativity act as a heuristic.

In the sevenfold model of cognition, the five conceptual modes are pre-rationality (pre-concept), proto-rationality (concrete concept), formal reason (formal concept), transcendental reason (critical concept), and creative thought (creative concept). The far ends of the spectrum touch. Myth is a conceptual. Nonduality non-conceptual. Both are non-verbal. Myth is not reflexive (adual), while nonduality is selfless and super-reflective. The sign of myth is signal and sound. Pre-rationality and proto-rationality develop icon and image. Formal, critical, and creative cognition use symbols and ideas.

<table>
<tr><th colspan="4">HUMAN COGNITION : 3 STAGES and 7 MODES</th></tr>
<tr><td rowspan="3">I<br><br>pre-<br>nominal</td><td rowspan="3">ante-<br>rationality</td><td>1. Mythical<br>libidinal ego<br>notion<br>signal / sound<br>physiological and<br>safety needs</td><td>irrational<br>aconceptual<br>sensori-<br>motoric</td></tr>
<tr><td>2. Pre-rational<br>tribal ego<br>pre-concept<br>icon / image<br>safety and<br>security needs</td><td rowspan="2">INSTINCT<br>(imaginal)<br><br>pre-<br>operational</td></tr>
<tr><td>3. Proto-rational<br>imitative ego<br>proto-concept<br>icon / image<br>belongingness needs</td></tr>
<tr><td colspan="4">barrier between ante-rationality and reason<br>to satisfy reason, do not repress instinct</td></tr>
<tr><td rowspan="2">II<br><br>nominal</td><td rowspan="2">rationality</td><td>4. Rational<br>formal ego<br>abstract concept<br>symbol / idea<br>esteem needs</td><td rowspan="2">REASON<br>(rational)<br><br>operational</td></tr>
<tr><td>5. Critical<br>transcendental ego<br>critical concept<br>symbol / idea<br>esteem needs</td></tr>
<tr><td colspan="4">barrier between reason and intuition<br>thinking reason, do not reject intuition</td></tr>
</table>

| | | | |
|---|---|---|---|
| **III**<br><br>**post-nominal** | meta-rationality | 6. Creative<br>higher self<br>creative concept<br>meta-symbol<br>self-realization needs | INTUITION<br>(intuitional) |
| | | 7. Nondual<br>selflessness<br>non-symbolic<br>self-realization needs | |

The paradigm used in hermeneutical studies [66] is the synthesis of Piaget's genetical epistemology and the historical approach of civilization, seeking the general form or forms underscoring the economic, socio-political, scientific, artistic, spiritual and symbolical (codified, written) expressions of a given civilization in general and its overall, standard cognitive structure (or cultural form) in particular. Its main principles are :

(1) conceptual thought originates from action, i.e., coordinated movements ;
(2) discursive thought is based on an indirect, mediated functional contact with the physical, informational and sentient domains ;
(3) it is a finite process, an integrated part of a particular living organism but also the extension with which consciousness may touch the universal, unconditional, infinite and absolute ;
(4) its development depends on the successive improvements of the variety of its abstract forms of equilibration ; a historical process ;
(5) the construction of more stable cognitive forms becomes necessary to resolve the tensions characterizing the previous stage ;
(6) to explain the historical development of these equilibrations, both individual as social factors are to be taken into consideration. Society is a system of activities based on actions which influence each other reciprocally ;
(7) the rise and development of a cultural form, especially its cognitive features, is understood as a collective, historical equilibration on a higher, more stable level of civilization.