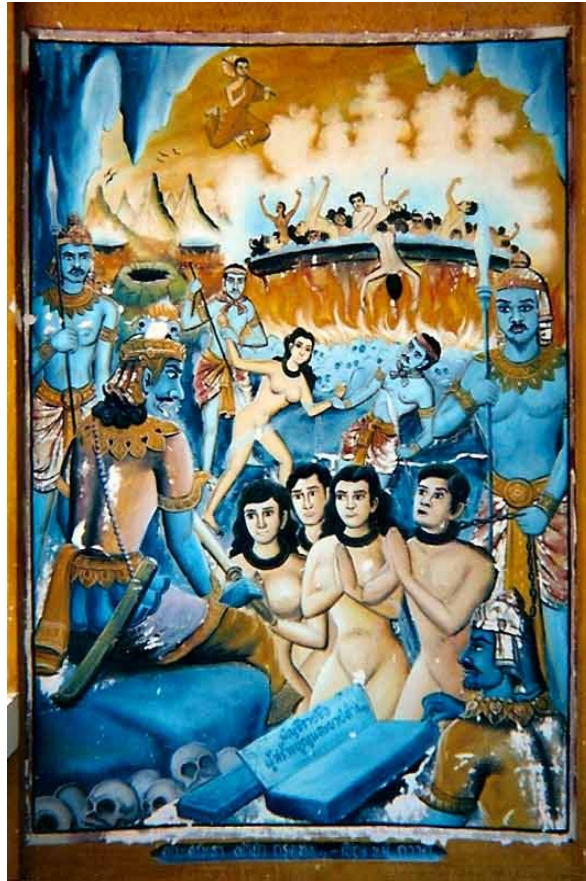


# Buddhist Hell and the Substratum in Vedic Physics

## नरक



By John Frederick Sweeney

### Abstract

Just as the Egyptian Book of the Dead and the Am Duat symbolize the substratum in the culture of Remotely Ancient Egypt (c. 14,000 BC), the concept of Buddhist Hell represents a devolution of Vedic Science. Indeed, Buddhism was formed because humanity had forgotten the lessons of the true spiritual science of the Vedas, Buddhism was an attempt to recover and reform the ancient science, albeit in a form more adapted to its time period. In this sense Buddhism is merely a derivative belief system of the Vedas, intended to compensate for the continued downfall of humanity. Buddhist descriptions of Hell may provide heuristic hints as to the state and condition of the Substratum.

# Table of Contents

|                                       |    |
|---------------------------------------|----|
| Introduction                          | 3  |
| Wikipedia on Naraka                   | 5  |
| (Buddhist Hell)                       | 7  |
| 18 Quarks in Physics                  | 24 |
| The 50/49 Equation                    | 26 |
| Planck Constant and Avogadro Constant | 29 |
| Conclusion                            | 33 |
| Appendix: Srimad-Bhagavatam           | 38 |

**Cover:** mural from a temple in northern Thailand depicting naked sinners climbing thorn-covered trees, pecked by birds from above, and attacked from below by hell guards armed with spears. mountains in the background, and [Phra Malaya](#) watches from above

---

# Introduction

In papers previously published on Vixra, the author has shown that black holes, Dark Matter and Dark Energy are all aspects of the Substratum, the invisible form of matter, from which all matter emerges and to which all matter returns in the form of decayed Photons, at the edge of the Universe. The Dao De Jing of Chinese Daoism clearly states that humanity has undergone a devolution since ancient times, at least since 14,000, prior to the last Ice Age.

Religions formed since that time have bastardized and malformed the concept of the Substratum for the purpose of subduing the evil in humanity, and so has resorted to distorting the Substratum concept into the concept of Hell. This has occurred in the major world civilizations, including Vedic, Tibetan, Chinese, Japanese, Egyptian with the steady distortion of the Osiris myth, which is the equivalent of Buddhist hell.

A. Crowley explains the necessity of the distortions in his translation of the Dao De Jing, the 81 - stanza poem which forms the essence of Daoism:

## CHAPTER XVIII

### *THE DECAY OF MANNERS.*

*1. When men abandoned the Way of the Tao, benevolence and justice became necessary. Then was need of wisdom and cunning, and all fell into illusion. When harmony ceased to prevail in the six spheres ((The solar system.)) it was needful to govern them by manifesting Sons.((Dhyana -- buddhas.)) When the kingdoms and races((elements, signs, etc.)) became((Self- conscious and therefore.)) confused, loyal ministers and archangels...*

A man who finds Mercury and Potassium Iodide 'good' for him, is a sick man.

In other words, if only humans would return to the Dao, then all else would turn superfluous. In the same way, if humans would return to Vedic Science, then mercury and potassium iodide would prove unnecessary in medicine.

While ostensibly done for a good purpose, the distortions have taught humans to live in fear, with the nadir of western civilization symbolized by the feudal serf of the Holy Roman Empire, which as the cliché states, was neither holy, Roman nor an empire. The feudal Church dominated the lives of most people,

while Reason slept, and the only intellectual activity consisted of monks inscribing religious manuscripts to perfect the image of hell for Catholics.

While the ascent from the feudalistic netherworld has been steady, from the Renaissance to the Enlightenment and the Industrial Revolution, humanity suffers still from the excesses of that modern religion, known as science.

Putatively a child of the Enlightenment, science has led us to reject the concept of Prana or Qi, as well as the Octonions, Sedenions and Trigintaduonions, while embracing the fallacies of General Relativity, Black Holes, Dark Matter and Dark Matter, as well as the Cosmic Microwave Background (CMB) and the rudimentary idea of a Big Bang to explain our universe. Science has even invented a series of non - existent sub atomic particles in order to proceed along its path.

Yet this path leads nowhere and explains nothing, which means it is no longer theoretical. If no longer theoretical, then “science” no longer becomes scientific, in much the same way that catholic, with a capital C known as Catholic, has come to represent the narrow world view of the feudalistic church.

In other words, “science” has come to actually refer to a belief system merely, which purveys such things as “global warming” ( a fiction maintained by UK “scientists”) and the idea that smoking is not dangerous to human health, a fiction maintained by paid “scientists” under the employ of the tobacco industry. In the same way, medical science in the USA has turned into nothing more than a profit - making racket of the gangsters who operate the AMA, and has nothing to do with human health or healing.

So modern science has divorced the Substratum from spiritual and moral concepts, and in fact declared that the Substratum consists of nothing more than Black Holes, Dark Matter and Dark Energy. Nietchze declared the death of God, and Sartre and the existentialists have made this into a fashionable belief. Marx declared religion the “opiate of the masses,” while substituting socialism as a replacement ideology that ended with the excesses of Stalin and Mao Ze Dong.

In truth, the Substratum functions as the karmic entity of the Universe, recording every human action. Like the monkey trying to escape punishment, fly as fast and as far as we might, we may not escape the karmic consequences of our actions, just as the monkey can never flee from the Buddha’s palm.

This is the basic teaching of Vedic Science, which has been misconstrued and

abused over the millennia to further the mundane purposes of humans associated with religion. In this sense, religion is nothing more than a man-made hologram, designed to frighten other humans into submission to the ghosts and spirits of their own evil imaginations.

Man has so devolved that today the Catholic Church represents nothing more than the world's largest gay bathhouse, with queer priests running from the Vatican to the gay bars which line the street next door. Rich and powerful on earth, the Catholic Church suffered so greatly from pedophile lawsuits during the late 20<sup>th</sup> Century that they refused to return the author's ancestral lands in Canada. Evidently the Catholic Church in Nova Scotia needs the land sales to make up for lawsuits against their fallen brethren.

When the Virgin Mary appeared to four young Spanish girls in the rural village of San Sebastián de Garabandal in the Peña Sagra mountain range in the autonomous community of Cantabria in Northern Spain in 1961, Her veiled warning apparently was intended for the closeted brethren within the church, and the Church was so shocked at the Third Prophecy of Fatima that they have never revealed the truth to the world, despite warnings from the Virgin.

The Garabandal prophecies:

The June 18, 1965 apparition, in which Conchita heard the second message, was televised live by Spanish television.<sup>[3]</sup> Only Conchita González, regarded by most devotees of Garabandal as the "principal visionary", reported receiving the second "message":

*As my Message of the 18th of October has not been complied with, and as it has not been made known to the world, I am telling you that this is the last one. Previously, the Cup was filling; now, it is brimming over.*

*Many priests are following the road to perdition, and with them they are taking many more souls. Ever less importance is being given to the Holy Eucharist. We should turn the wrath of God away from us by our own efforts. If you ask His forgiveness with a sincere heart. He will pardon you. I, your Mother, through the intercession of St. Michael the Archangel, wish to tell you that you should make amends. You are now being given the last warnings. I love you very much, and I do not want your condemnation. Ask Us sincerely and We shall grant your plea. You must make more sacrifices. Reflect on the Passion of Jesus.<sup>[4]</sup>*

The girls of Garabaldi, all born in 1949, are now in their sixties, and all

supposedly will live until the return of the Virgin, although one passed in 2009. Thus, some time remains, but not much time remains. Will humanity continue to devolve until the Virgin's return? Nostradamus

In any event, we are all one, and the various depictions of "hell" and the "underworld" in the doctrines of the major world religions, including Zorasterism, all contain mistaken interpretations of the Substratum. Since this mistaken concept informs the core of all major religions, one might say that all along, we have been worshiping roughly the same concepts. When humanity realizes this, logically we should see an end to wars based on religious concepts.

# Wikipedia on Naraka (Buddhist Hell)

**Naraka** (Sanskrit: नरक) or **Niraya** (Pāli: निरय) is a term in [Buddhist cosmology](#)<sup>[1]</sup> usually referred to in English as "hell", "hell realm", or "purgatory". The Narakas of Buddhism are closely related to *diyu*, the hell in [Chinese mythology](#). A Naraka differs from the hells of [Abrahamic religions](#) in two respects: firstly, beings are not sent to Naraka as the result of a divine judgment and punishment; secondly, the length of a being's stay in a Naraka is not eternal, though it is usually very long.

A being is born into a Naraka as a direct result of his or her accumulated [karma](#) and resides there for a finite period of time until that karma has achieved its full result. After his or her karma is used up, he or she will be reborn in one of the higher worlds as the result of karma that had not yet ripened.

In the [Devaduta Sutta](#), the 130th discourse of [Majjhima Nikaya](#), the [Buddha](#) teaches about hell in vivid detail.

Physically, Narakas are thought of as a series of cavernous layers which extend below [Jambudvīpa](#) (the ordinary human world) into the earth. There are several schemes for enumerating these Narakas and describing their torments. The *Abhidharma-kosa* (*Treasure House of Higher Knowledge*) is the root text that describes the most common scheme, the Eight Cold Narakas and Eight Hot Narakas.

- **Arbuda** (頰部陀), the "blister" Naraka, is a dark, frozen plain surrounded by icy mountains and continually swept by blizzards. Inhabitants of this world arise fully grown and abide lifelong naked and alone, while the cold raises blisters upon their bodies. The length of life in this Naraka is said to be the time it would take to empty a barrel of [sesame seed](#) if one only took out a single seed every hundred years.<sup>[2]</sup>
- **Nirarbuda** (刺部陀), the "burst blister" Naraka, is even colder than Arbuda. There, the blisters burst open, leaving the beings' bodies covered with frozen blood and pus.<sup>[2]</sup>

- **Aṭaṭa** (𑖦𑖳𑖱𑖮) is the "shivering" Naraka. There, beings shiver in the cold, making an *aṭ-aṭ-aṭ* sound with their mouths.<sup>[2]</sup>
- **Hahava** (𑖦𑖳𑖱𑖮) is the "lamentation" Naraka. There, the beings lament in the cold, going *haa, haa* in pain.<sup>[2]</sup>
- **Huhuva** (𑖦𑖳𑖱𑖮), the "chattering teeth" Naraka, is where beings shiver as their teeth chatter, making the sound *hu, hu*.<sup>[2]</sup>
- **Utpala** (𑖦𑖳𑖱𑖮) is the "blue lotus" Naraka. The intense cold there makes the skin turn blue like the colour of an *utpala* waterlily.<sup>[2]</sup>
- **Padma** (𑖦𑖳𑖱𑖮), the "lotus" Naraka, has blizzards that cracks open frozen skin, leaving one raw and bloody.
- **Mahāpadma** (𑖦𑖳𑖱𑖮) is the "great lotus" Naraka. The entire body cracks into pieces and the internal organs are exposed to the cold, also cracking.<sup>[2]</sup>

Each lifetime in these Narakas is twenty times the length of the one before it.

Hot Narakas<sup>[edit]</sup>

---

- **Sañjīva**, the "reviving" Naraka, has ground made of hot iron heated by an immense fire. Beings in this Naraka appear fully grown, already in a state of fear and misery. As soon as the being begins to fear being harmed by others, their fellows appear and attack each other with iron claws and hell guards appear and attack the being with fiery weapons. As soon as the being experiences an unconsciousness like death, they are suddenly restored to full health and the attacks begin again. Other tortures experienced in this Naraka include having molten metal dropped upon them, being sliced into pieces, and suffering from the heat of the iron ground.<sup>[2]</sup> Life in this Naraka is  $1.62 \times 10^{12}$  years long.<sup>[3]</sup> It is said to be 1000 *yojanas* beneath *Jambudvīpa* and 10,000 *yojanas* in each direction (a *yojana* being 7 miles, or 11 kilometres).<sup>[4]</sup>
- **Kālasūtra**, the "black thread" Naraka, includes the torments of Sañjīva. In addition, black lines are drawn upon the body, which hell guards use as guides to cut the beings with fiery saws and sharp axes.<sup>[2][4]</sup> Life in this Naraka is  $1.296 \times 10^{13}$  years long.<sup>[3]</sup>
- **Samghāta**, the "crushing" Naraka, is surrounded by huge masses of rock that smash together and crush the beings to a bloody jelly. When the



rocks move apart again, life is restored to the being and the process starts again.<sup>[2]</sup> Life in this Naraka is  $1.0368 \times 10^{14}$  years long.<sup>[3]</sup>

- ***Raurava***, the "screaming" Naraka, is where beings run wildly about, looking for refuge from the burning ground.<sup>[2]</sup> When they find an apparent shelter, they are locked inside it as it blazes around them, while they scream inside. Life in this Naraka is  $8.2944 \times 10^{14}$  years long.<sup>[citation needed]</sup>
- ***Mahāraurava***, the "great screaming" Naraka, is similar to Raurava.<sup>[4]</sup> Punishment here is for people who maintain their own body by hurting others. In this hell, ruru animals known as *kravyāda* torment them and eat their flesh. Life in this Naraka is  $6.63552 \times 10^{15}$  years long.<sup>[citation needed]</sup>
- ***Tapana*** is the "heating" Naraka, where hell guards impale beings on a fiery spear until flames issue from their noses and mouths.<sup>[2]</sup> Life in this Naraka is  $5.308416 \times 10^{16}$  years long.<sup>[citation needed]</sup>
- ***Pratāpana***, the "great heating" Naraka. The tortures here are similar to the Tapana Naraka, but the beings are pierced more bloodily with a trident.<sup>[2]</sup> Life in this Naraka is  $4.2467328 \times 10^{17}$  years long. It is also said to last for the length of half an *antarakalpa*.<sup>[citation needed]</sup>
- ***Avīci***, is the "uninterrupted" Naraka. Beings are roasted in an immense blazing oven with terrible suffering.<sup>[2]</sup> Life in this Naraka is  $3.39738624 \times 10^{18}$  years long. It is also said to last for the length of an *antarakalpa*.<sup>[citation needed]</sup>

## Cold Narakas<sup>[edit]</sup>

- **Arbuda** – the "blister" Naraka
- **Nirarbuda** – the "burst blister" Naraka
- **Aṭaṭa** – the Naraka of shivering
- **Hahava** – the Naraka of lamentation
- **Huhuva** – the Naraka of chattering teeth

- **Utpala** – the "blue lotus" Naraka
- **Padma** – the "lotus" Naraka
- **Mahāpadma** – the "great lotus" Naraka

Each lifetime in these Narakas is twenty times the length of the one before it.

### Hot Narakas[\[edit\]](#)

- **Sañjīva** – the "reviving" Naraka. Life in this Naraka is  $162 \cdot 10^{10}$  years long.
- **Kālasūtra** – the "black thread" Naraka. Life in this Naraka is  $1296 \cdot 10^{10}$  years long.
- **Samghāta** – the "crushing" Naraka. Life in this Naraka is  $10,368 \cdot 10^{10}$  years long.
- **Raurava** – the "screaming" Naraka. Life in this Naraka is  $82,944 \cdot 10^{10}$  years long.
- **Mahāraurava** – the "great screaming" Naraka. Life in this Naraka is  $663,552 \cdot 10^{10}$  years long.
- **Tapana** – the "heating" Naraka. Life in this Naraka is  $5,308,416 \cdot 10^{10}$  years long.
- **Pratāpana** – the "great heating" Naraka. Life in this Naraka is  $42,467,328 \cdot 10^{10}$  years long.
- **Avīci** – the "uninterrupted" Naraka. Life in this Naraka is  $339,738,624 \cdot 10^{10}$  years long.

Some sources describe five hundred or even hundreds of thousands of different Narakas.

The sufferings of the dwellers in Naraka often resemble those of the [Pretas](#), and the two types of being are easily confused. The simplest distinction is that

beings in Naraka are confined to their subterranean world, while the Pretas are free to move about.

There are also isolated and boundary hells called *Pratyeka* Narakas ([Pali](#): *Pacceka-niraya*) and *Lokantarikas*.

***Abhidharma-kośa*** (Sanskrit; Tibetan: *chos mngon pa'i mdzod*; English: *Treasury of Abhidharma*) is a key text on the [abhidharma](#) written in [Sanskrit](#) verse by [Vasubandhu](#), in the 4th or 5th century.<sup>[1]</sup> It summarizes the [Sarvāstivādin](#) tenets in eight chapters with a total of around 600 verses. The text was widely respected, and used by schools of [Mahayana Buddhism](#) in India, Tibet, and the Far East.

Vasubandhu wrote a commentary to his own work, called the *Abhidharma-kośa-bhāṣya*. In it, he critiques the interpretations of the Sarvāstivādins and others of the tenets he presented in that work. This commentary includes an additional chapter in prose refuting the idea of the "person" (*puḍgala*) favoured by some Buddhists.

However, later [Sarvāstivādin](#) master Samghabhadra considered that he misrepresented their school in the process, and at this point designated Vasubandhu as a [Sautrantika](#) (upholder of the [sutras](#)) rather than as an upholder of the [Abhidharma](#).

| English   | Tibetan                                 | Summary   |
|---|---|---|
| Ch. 1 Categories of Existence                         | Gns Dng Po Khms Bsdn Pa                 | Classifies existing things into stained and unstained phenomena                       |
| Ch. 2 Sense Powers                                    | Gns Gnyis Pa Dbng Po Bstn Po            | Describes how existing things are perceived   |
| Ch. 3 The Suffering World                             | Gns Gsum Pa 'jig Rten Bsdn Pa           | Describes the different realms and who inhabits them                                  |
| Ch. 4 Karma   | Gns Bzhi Pa Lam Bsdn Pa                 | Describes where the world comes from  |
| Ch. 5 How Bad Thoughts Motivate <a href="#">Karma</a> | Gns Lng Pa Phy Rgys Bsdn Pa             | Describes how we come to create the deeds that create our world                       |
| Ch. 6 How to Escape Suffering                         | Gns Drug Pa Gng Zg Dng Lam              | Describes how <a href="#">wisdom</a> can free us from suffering                       |
| Ch. 7 Wisdom  | Gns Bdun Pa Ye She Bsdn Pa              | Describes more thoroughly the <a href="#">wisdom</a> mentioned in Ch.6                |
| Ch. 8 Balanced Meditation                             | Gns Brgyd Pa Snyoms Par 'jug Pa Bsdn Pa | Describes a <a href="#">Buddha's</a> knowledge  |
| Ch. 9 Refutation of the Pudgala                       |   | This chapter is included in Vasubhandu's commentary only; it is not in the root text. |

## In Buddhist literature

---

Descriptions of the Narakas are a common subject in some forms of Buddhist commentary and popular literature as cautionary tales against the fate that befalls evildoers and an encouragement to virtue.<sup>[6]</sup>

The [Mahāyāna Sūtra](#) of the bodhisattva [Kṣitigarbha](#) (Dizàng or Jizō) graphically describes the sufferings in Naraka and explains how ordinary people can transfer [merit](#) in order to relieve the sufferings of the beings there.

The Japanese monk [Genshin](#) began his [Ōjōyōshū](#) with a description of the suffering in Naraka. Tibetan [Lamrim](#) texts include a similar description.

Chinese Buddhist texts considerably enlarged upon the description of Naraka ([Diyu](#)), detailing additional Narakas and their punishments, and expanding the role of [Yama](#) and his helpers, [Ox-Head and Horse-Face](#). In these texts, Naraka became an integral part of the otherworldly bureaucracy which mirrored the imperial Chinese administration



In [Buddhist mythology](#), **Yama** (Sanskrit: यम) is a [dharmapala](#) (wrathful god) said to judge the dead and preside over the [Narakas](#) ("Hells" or "Purgatories") and the cycle of [rebirth](#).

Although ultimately based on the god [Yama](#) of the [Hindu Vedas](#), the Buddhist Yama has developed different myths and different functions from the Hindu deity. He has also spread far more widely and is known in every country where Buddhism is practiced, including [China](#) and [Japan](#).

In [Hinduism](#), Yama was the son of [sun god Surya](#)<sup>[\[citation needed\]](#)</sup> and presided over [Naraka](#), the Hindu underworld. Adopted into Buddhism, Yama's exact role is fairly vague in canonical texts, but is clearer in extra-canonical texts and popular beliefs, although these are not always consistent with Buddhist philosophy.

In the [Pali canon](#), the [Buddha](#) states that a person who has ill-treated their parents, ascetics, holy persons, or elders is taken upon his death to Yama.<sup>[\[1\]](#)</sup> Yama then asks the ignoble person if he ever considered his own ill conduct in light of birth, aging, sickness, worldly retribution and death ([mrtyu](#)). In

response to Yama's questions, such an ignoble person repeatedly answers that he failed to consider the [karmic](#) consequences of his reprehensible actions and as a result is sent to a brutal hell "so long as that evil action has not exhausted its result."<sup>[2]</sup>

In the [Pali apocrypha](#), the scholar [Buddhaghosa](#)'s commentary to the [Majjhima Nikaya](#) describes Yama as a *vimānapeta* (विमानापता), a "being in a mixed state", sometimes enjoying celestial comforts and at other times punished for the [fruits](#) of his [karma](#). However, Buddhaghosa considered his rule as a king to be just.<sup>[3]</sup>

Modern Theravādin countries portray Yama sending old age, disease, punishments, and other calamities among humans as warnings to behave well. At death, they are summoned before Yama, who examines their character and dispatches them to their appropriate [rebirth](#), whether to earth or to one of the heavens or hells. Sometimes there are thought to be two or four Yamas, each presiding over a distinct Hell.<sup>[4]</sup>

### **Yama in Chinese, Korean, and Japanese mythology**

---

In [Chinese mythology](#), **Yan** (Chinese: [t](#): 閻, [s](#): 阎, [p](#): Yán) is the [god of death](#) and the ruler of [Diyu](#). From [Vedic](#) Sanskrit Yama Rājā (यम राज, "King Yama"), he is also known as **Yanluowang** ([t](#): 閻羅王, [s](#): 阎罗王, [p](#): Yánluówáng, [w](#): Yen<sup>2</sup>-lo<sup>2</sup>-wang<sup>2</sup> and [t](#): 閻, [s](#): 阎, [p](#): Yán). In both ancient and modern times, Yan is portrayed as a large man with a scowling red face, bulging eyes, and a long beard. He wears traditional robes and a judge's cap or a crown which bears the [character](#) 王, "king." He typically appears on Chinese [hell money](#) in the position reserved for political figures on regular currency.

Yan is not only the ruler but also the judge of the underworld and passes judgment on all the dead. He always appears in a male form, and his minions include a judge who holds in his hands a brush and a book listing every soul and the allotted death date for every life. [Ox-Head and Horse-Face](#), the fearsome guardians of hell, bring the newly dead, one by one, before Yan for judgement. Men or women with merit will be rewarded good future lives or even revival in their previous life. Men or women who committed misdeeds will be sentenced to torture or miserable future lives.

In some versions, Yan divides Diyu into eight, ten, or eighteen courts each ruled by a Yama King, such as King Chujiang, who rules the court reserved for thieves and murderers.

The spirits of the dead, on being judged by Yan, are supposed to either pass through a term of enjoyment in a region midway between the earth and the heaven of the gods or to undergo their measure of [punishment](#) in the nether world. Neither location is permanent and after a time, they return to [Earth](#) in new bodies.

"Yan" was sometimes considered to be a position in the celestial hierarchy, rather than an individual. There were said to be cases in which an honest mortal was rewarded the post of Yan and served as the judge and ruler of the underworld. <sup>[[citation needed](#)]</sup>

Some said common people like [Bao Zheng](#), [Fan Zhongyan](#), [Zhang Binglin](#) became the Yama at night or after death. <sup>[[5](#)][[6](#)][[7](#)]</sup>

These Chinese beliefs subsequently spread to Korea and Japan. In Japan, he is called **Enma** (閻魔, prev. "Yenma"), **King Enma** (閻魔王, Enma-ō), and **Great King Enma** (閻魔大王, Enma Dai-ō). In Korea, Yan is known as **Yeomna** (염라) and **Great King Yeomna** (염라대왕, Yōmna Daewang). In [Vietnam](#) these Buddhist deities are known as **Diêm vương** and are venerated as a council of all ten kings who oversee underworld realm of **địa ngục**.

Yama in Tibetan Buddhism

---





## Yamantaka Vajrabhairav, British Museum

In [Tibetan Buddhism](#), **Shinje** ([Tibetan](#): *Gshin.rje*) is both regarded with <sup>horror</sup> as the prime mover of the [cycle of death and rebirth](#) and revered as a guardian of spiritual practice. In the popular [mandala](#) of the [Bhavachakra](#), all of the realms of life are depicted between the jaws or in the arms of a monstrous Shinje. Shinje is sometimes shown with a consort, [Yami](#), and sometimes pursued by [Yamantaka](#) ("Yama-Death"):

A holy man was told that if he meditated for the next 50 years, he would achieve enlightenment. The holy man meditated in a cave for 49 years, 11 months, and 29 days, until he was interrupted by two thieves who broke in with a stolen bull. After beheading the bull in front of the hermit, they ignored his requests to be spared for but a few minutes and beheaded him as well. In his near-enlightened fury, this holy man became Yama, the god of Death, took the bull's head for his own, and killed the two thieves, drinking their blood from cups made of their skulls. Still enraged, Yama decided to kill everyone in Tibet. The people of Tibet, fearing for their lives, prayed to the bodhisattva [Manjushri](#), who took up their cause. He transformed himself into Yamantaka, similar to Yama but ten times more powerful and horrific. In their battle, everywhere Yama turned, he found infinite versions of himself. Manjushri as Yamantaka defeated Yama and turned him into a protector of Buddhism. He is generally considered a wrathful deity.<sup>[[citation needed](#)]</sup>

Yama in culture<sup>[[edit](#)]</sup>

---



19th century *kagamibutanetsuke* depicting Enma

- "Enma face" (閻魔顔 *Enma-gao*<sup>?</sup>) is an idiom used to describe someone with a fearsome face.
- "If you lie, Lord Enma will pull out your tongue" (嘘をつけばと閻魔さまに舌を抜かれる<sup>?</sup>) is a [superstition](#) often told to scare children into telling the truth.
- A Japanese [kotowaza](#) states "When borrowing, the face of a [jizō](#); when repaying (a loan), the face of Enma" (借りる時の地藏顔、返す時の閻魔顔<sup>?</sup>). *Jizō* is typically portrayed with a serene, happy expression whereas Enma is typically portrayed with a thunderous, furious expression. The *kotowaza* alludes to changes in people's behaviour for selfish reasons depending on their circumstances.
- [Saimyō-ji](#), a [Shingi Shingon Buddhist](#) temple in [Mashiko, Tochigi, Tochigi Prefecture, Japan](#), is the only temple where one can see a statue of a laughing Enma.<sup>[8]</sup>

# Avici Hell

## Home of the Moolakaprithiki and the Purusha

In [Buddhism](#), **Avīci** ([Sanskrit](#) and [Pali](#) for "without waves" — [Japanese](#) and [Chinese](#): 無間地獄, *Wújiàn dìyù* and 阿鼻地獄, *Ābí dìyù*) or **Avichi**, is the lowest Level of the [Naraka](#) or "hell" realm, into which the dead who have committed grave misdeeds may be reborn.

It is said to be a cube 20,000 [yojanas](#) (120,000 to 300,000 km) to a side, buried deep underneath the earth.<sup>[1]</sup> *Avīci* is often translated into English as the "Non-returning" Hell, due to the idea that those beings which have been sent there languish there eternally. The other Hells function more like [Purgatory](#), where after perhaps a few eons of suffering, the being might be reborn as some sort of lowly life-form in a somewhat less horrible place; but, the beings in Avīci Hell are thought to be hopeless for any respite.

# Vedic Physics Explanation

Reality is truly a holographic phenomenon - for there is no way for any observer to detect the passive Purusha components directly, except through its vibrations! Three dimensional stresses due to interactions either remain as a cohesive, coherent and conglomerate group or otherwise seem in constant motion.

The former state, in a stable resonant configuration, get the title of particles etc. Otherwise, the harmonics are labeled as wave forms. The simple reason is, in reality; observer status is conferred only on a collective group of vibrations located on the Purusha!

The coherent, super-symmetric, super-conductive, quiescent state is maintained at a precise interactive level by a super heavy coherent black hole Purusha mass equivalent to  $10^{25}$  GEV, or 41million times heavier than the planck mass and is yet to be identified in particle physics.

In a holographic model all manifested “particles“, are only super - positioned sets of vibrations in the undetectable Purusha components in the Substratum. Hence all particles of any “mass” must “move” at the same rate like different sized objects move together at the same rate on an escalator, with each of its steps signifying a different state.

The coherent Purusha state (black hole) of maximum mass or inertia or delay or ‘static’ state per cycle is  $Kx = My$  ( Level 6) .

only the stationery field can have the maximum mass, in the form of a coherent potential. (  $L_p \times 2 \times D_p$ ) The insignificant point in the field is a singularity, represented by the elemental cube, the Purusha .

Summarising: the Purusha (nucleus) is a super - positioning of three dimensional oscillatory waveforms due to the mode of action of the Gunas in a static state of dormant potential in the undetectable, absolute substratum that is synchronised and coherent, perpetually dynamic but unmanifested. The period is determined solely by the time constant referred to in Theorem 3 that forms the self potential referred in Theorem 2. ]

18. Logical proof that the nucleus is a conglomerate. Since the causative action leading to aggregation and dissolution or creation and destruction are not simultaneous or instantaneous at the nuclear interface, the holistic

conclusion is that there must be many nuclei or individual core components (Purusha) and also because the reversal of interactions of the triad of interactions (Gunas) produce multiple types of phenomena, whereas it should have been singular, (had the nucleus been a singular or elementary object).

19. The complex nuclear state forms background for manifestation.

From previous Theorems, the nuclear state forms the background with particulate or inertial mass, in which it is neutral, unhindered and static.

20. Static and dynamic states sustained by interaction.

Given the proximity of the static and dynamic states, the static state seems dynamic. The dynamic seems to behave in a static mode that maintains a balance, through the action of the Guna.

Fundamental measurement of phenomena references nucleus.

Therefore the static nuclear state provides the basic background to detect or measure the first, (primary or fundamental) active (manifested) state as a comparative or relative difference. Manifestation of phenomena proceeds on the principle of fulfilling the need to maintain a balance, such as when a blind man and lame man team up to behave normally and effectively.

Mathematical derivation of the dynamic self-similar state. By the action of the primary interaction, a self - sustaining oscillatory state is established from which a series of measurable or detectable energy is radiated at a value that is at a sixteenth power of the primary value, and in a progressive series incremented to the sixteenth level that binds or condenses phenomena through five levels into five sets of manifested phenomena.

[Thus the need for Sedenions and G2 (so called 16<sup>th</sup> Dimension)]

# Radioactive Decay / Wikipedia

Corollaries of the decay laws [\[edit\]](#)

The above equations can also be written using quantities related to the number of nuclide particles  $N$  in a sample;

- The activity:  $A = \lambda N$ .
- The [amount of substance](#):  $n = N/L$ .
- The [mass](#):  $M = A_r n = A_r N/L$ .

where  $L = 6.022 \times 10^{23}$  is [Avogadro's constant](#),  $A_r$  is the relative atomic mass number, and the amount of the substance is in [moles](#).

# Conclusion

In a few brief pages, the Wikipedia pages provided within this paper have given many hints that the Buddhist concept of Hell originated with the Vedas. The following excerpts should prove obvious hints:

Although ultimately based on the god [Yama](#) of the [Hindu Vedas](#),

Quite clear here that Yama originated in the Vedas, but not the Hindu Vedas. The people who originated the Vedas were not Hindus, those people came later.

A second hint:

In [Hinduism](#), Yama was the son of [sun god Surya](#)<sup>[citation needed]</sup> and presided over [Naraka](#), the Hindu underworld.

Hinduism does not equal Vedas, they were an outside Aryan race which imposed its values on the Vedic society. Thus the Hindus may have imposed the concept of a Hell, but it does not exist in the Vedas per se, only the Substratum. The “Hindu” description of Hell may well prove an amalgam wrought of Vedic and Hindu sources.

The Vedas are the written form of an oral tradition which was committed to written form in the Sanskrit language, probably as the result of a global catastrophe, such as Pole Shift or an Ice Age. Since the transmission of an oral tradition depends upon the survival of Brahman sons, perhaps the creators of Sanskrit and the Vedas felt that a written form would more likely guarantee the survival of the knowledge.

The next bit of evidence obviously divides Hell into two equal 8 x 8 sections, which indicate the stable Raja form of matter. In addition, two sections of eight form sixteen, the “dimension” of the Sedenions, which implies a role for the Sedenions in the Purusha:

*the Eight Cold Narakas and Eight Hot Narakas*

Cold and Hot further imply binary relationships, positive and negative. The next fragment of evidence may refer to the series of combinatorial counts in Vedic Physics:

*In some versions, Yan divides Diyu into eight, ten, or eighteen courts each ruled by a Yama King, such as King Chujiang, who rules the court reserved for thieves and murderers.*

## 18 Quarks in Physics

There are 18 levels of Quarks in physics, which make up the Substratum part of a spectrum of energy, according to the understanding of Vedic Physics. Contemporary western physics has yet to discover the remaining twelve types of Quarks, or even to begin to suspect their existence. With regard to Di Yu, or Chinese Hell, the series of eight, ten and eighteen may form an isomorphic relationship to the series of combinatorial counts which match this series, or to Quarks, which are probably related to the counts which total eighteen.

A book on Vedic Physics states the following, which describes the series of combinatorial counts which lead to the formation (and decomposition) of matter in the Substratum:

Interactive changes in the compressive Substratum (Thaamasic state) proceed on the basis of 8 orders of change along one axis and increases by the same order when they synchronise with another axis at a deeper level.

$$8 + 8 = 16$$

At the next intermediate level they increase by 10 orders and at the final core level they increase by 18, and by another 18 at the deepest core level synchronisation.

That is,  $8 + 5+4$  , followed by (5) in each axis and finally (8+10) 18, a combinatorial process of incremental rates that synchronise and remain in balance only as even - numbered levels.

A cycle in Sankhya is defined through logic as 10 counts. There are three phases of an interaction, and two interfaces where the change of phase occurs, totaling five in one direction.



Another 5 similar phases in the opposite reaction totals a sequence of ten interactive events in a cycle. The product of such an interaction is  $10 \times 10 = 100$  and the sequence to equalise it is  $50 + 50 = 100$ .

A resonant sequential interactive reaction, for any balanced oscillation, must cover equal distance in equal times in both directions. This means that

$$50 / 100 = 2$$

forms a stable oscillatory cycle. Any deviation cannot be less than one count or the ratio of a one count deviation in the total cycle will be as shown ;  $50 / (50 - 1) = 50 / 49$ . In order to ensure that an oscillatory state continues, Level 6 must reduce to L within one count or a cycle ratio  $50 / 49$ .

Radiation is absorbed in space, and so for this reason, photons must decay in  $10^{18}$  interactive displacement of  $1/10$  of cycle or 0.6283.

How do we derive this equation? The reverse of the above: a cycle equals ten counts, and there are 18 levels, which equal 18 types of quarks. Therefore, one tenth of a cycle is just one beat out of ten, so a beat of the cycle, or say the "second" unit duration, is 0.6283

From the above, the reader may see in detail how counts are combined in combinatorial fashion to produce various numbers in Vedic Physics. That these numbers, derived axiomatically, pertain to concepts found in the architecture of Buddhist Hell, shows beyond reasonable doubt that Buddhism and its hell were derived from the Vedas and concepts within Vedic Physics. Otherwise, there would be no need to specify numbers.

# The 50/49 Equation

Wikipedia states:

A holy man was told that if he meditated for the next 50 years, he would achieve enlightenment. The holy man meditated in a cave for 49 years, 11 months, and 29 days, until he was interrupted by two thieves who broke in with a stolen bull.

After beheading the bull in front of the hermit, they ignored his requests to be spared for but a few minutes and beheaded him as well. In his near-enlightened fury, this holy man became Yama, the god of Death, took the bull's head for his own, and killed the two thieves, drinking their blood from cups made of their skulls.

This allegory fits an important equation in Vedic Physics, since it shows two numerals equal except for one minute portion. The same holds true in Vedic Physics:

A cycle in Sankhya is defined through logic as 10 counts. There are three phases of an interaction and two interfaces where the change of phase occurs totaling five in one direction.

Another 5 similar phases in the opposite reaction totals a sequence of ten interactive events in a cycle. The product of such an interaction is  $10 \times 10 = 100$  and the sequence to equalise it is  $50 + 50 = 100$  as a resonant sequential interactive reaction, for any balanced oscillation must cover equal distance in equal times in both directions.

It means that  $50 / 100 = 2$  forms a stable oscillatory cycle. Any deviation cannot be less than one count or the ratio of a one count deviation in the total cycle will be as shown ;

$$50 / (50 - 1) = 50 / 49.$$

In order to ensure that an oscillatory state continues, L6 must reduce to L within one count or a cycle ratio 50 / 49

$$1 + (2/100)^1 + (2/100)^2 + (2/100)^3 + ((2/100)^{\text{infinity}} = 1.020408163$$

Then L to L<sup>6</sup> must all equalise in  $50 / (50 - 1) = 50 / 49$  cycles to maintain the resonant state. The astronomical rate of power radiation needed to sustain the ratio  $L^6 / (1.020408 - 1)$  equals the value derived in physics is  $3.3e+52$ . Further it will be shown that there are still higher rates at smaller cyclic intervals which will be

Avici Hell is said to be a cube 20,000 [yojanas](#) (120,000 to 300,000 km) to a side, buried deep underneath the earth.<sup>[1]</sup> *Avīci* is often translated into English as the "Non-returning" Hell, due to the idea that those beings which have been sent there languish there eternally. The other Hells function more like [Purgatory](#), where after perhaps a few eons of suffering, the being might be reborn as some sort of lowly life-form in a somewhat less horrible place; but, the beings in Avīci Hell are thought to be hopeless for any respite.

Most likely, this exponent refers to the decay life of a subatomic particle, and can be converted into an algorithm, which signals growth.

| Naraka             | Life Span                         | Meaning         |             |  |
|--------------------|-----------------------------------|-----------------|-------------|--|
| <b>Sañjīva</b>     | $1.62 \times 10^{12}$ years       | Reviving        |             |  |
| <b>Kalasutra</b>   | $1.296 \times 10^{13}$ years      | Black Thread    |             |  |
| <b>Samghāta</b>    | $1.0368 \times 10^{14}$ years     | Crushing        |             |  |
| <b>Raurava</b>     | $8.2944 \times 10^{14}$           | Screaming       |             |  |
| <b>Mahāraurava</b> | $6.63552 \times 10^{15}$          | Great Screaming |             |  |
| <b>Tapana</b>      | $5.308416 \times 10^{16}$ years   | Heating         |             |  |
| <b>Pratāpana</b>   | $4.2467328 \times 10^{17}$ years  | Great Heating   |             |  |
| <b>Avici</b>       | $3.39738624 \times 10^{18}$ years | Uninterrupted   | Antarakalpa |  |

This list of a power series of exponents can be inverted to form logarithms. Since this series of exponents refers to objects within the Substratum, then their inverses would perhaps correspond to visible matter.

What do these numbers correspond to? Probably to nuclear or radioactive decay, more than any other possibility.

The Avogadro number is an axiomatic parameter based on the time interval created by the nuclear density.

$$\left\{ \frac{Dp}{DD} \right\}^{\frac{1}{3}} \cdot \frac{DD}{(c^x)^3 \cdot Kx} \cdot \frac{Px}{KV} = 0.6647897608$$

$$\left\{ \frac{Dp}{DD} \right\}^{\frac{1}{3}} \cdot \frac{DD}{Pd} = 0.6647897608$$

Avogadro's Constant;

| Value of $N_A$ <sup>[5]</sup> in various units         |
|--|
| $6.02214129(27) \times 10^{23} \text{ mol}^{-1}$       |
| $2.73159734(12) \times 10^{26} \text{ (lb-mol)}^{-1}$  |
| $1.707248434(77) \times 10^{25} \text{ (oz-mol)}^{-1}$ |

## Planck Constant and Avogadro Constant

As may be observed in the table of 2006 CODATA values below,<sup>[17]</sup> the main limiting factor in the precision of the Avogadro constant is the uncertainty in the value of the [Planck constant](#), as all the other constants that contribute to the calculation are known more precisely.

| Constant                                | Symbol     | 2006 CODATA value                                 | Relative standard uncertainty | Correlation coefficient with $N_A$ |
|---|------------|---|-------------------------------|------------------------------------|
| Electron relative atomic mass           | $A_r(e)$   | $5.485\,799\,0943(23)\times 10^{-4}$              | $4.2\times 10^{-10}$          | 0.0082                             |
| <a href="#">Molar mass constant</a>     | $M_u$      | 0.001 kg/mol                                      | defined                       | —                                  |
| <a href="#">Rydberg constant</a>        | $R_\infty$ | $10\,973\,731.568\,527(73)\text{ m}^{-1}$         | $6.6\times 10^{-12}$          | 0.0000                             |
| <a href="#">Planck constant</a>         | $h$        | $6.626\,068\,96(33)\times 10^{-34}\text{ Js}$     | $5.0\times 10^{-8}$           | -0.9996                            |
| <a href="#">Speed of light</a>          | $c$        | 299 792 458 m/s                                   | defined                       | —                                  |
| <a href="#">Fine structure constant</a> | $\alpha$   | $7.297\,352\,5376(50)\times 10^{-3}$              | $6.8\times 10^{-10}$          | 0.0269                             |
| <b>Avogadro constant</b>                | $N_A$      | 6.022 141 79(30) $\times 10^{23}\text{ mol}^{-1}$ | $5.0\times 10^{-8}$           | 1                                  |

In [chemistry](#) and [physics](#), the **Avogadro constant** (symbols:  $L$ ,  $N_A$ ) is defined as the number of [constituent particles](#) (usually [atoms](#) or [molecules](#)) in one [mole](#) of a given substance. It has dimensions of reciprocal mol and its value is equal to  $6.02214129(27)\times 10^{23}\text{ mol}^{-1}$ .<sup>[1][2][3]</sup> Changes in the SI units are proposed that will change the constant to exactly  $6.02214\times 10^{23}$  when it is expressed in the unit  $\text{mol}^{-1}$  (see [New SI definitions](#), in which an "X" at the end of a number means one or more final digits yet to be agreed upon).

Previous definitions of chemical quantity involved **Avogadro's number**, a historical term closely related to the Avogadro constant. Revisions in the base set of units of the [International System of Units](#) (SI) necessitated redefinitions

of the concepts of chemical quantity. Avogadro's number was defined by Perrin as the number of molecules in one gram-molecule of hydrogen. It was later redefined as the number of atoms in 12g of the isotope carbon-12. [4] Thus, Avogadro's number is a dimensionless quantity and has the numerical value of the Avogadro constant given in base units.

| Naraka             | Life Span                         | Meaning |  |  |
|--------------------|-----------------------------------|---------|--|--|
| <b>Samghāta</b>    | $1.0368 \times 10^{14}$ years     |         |  |  |
| <b>Kalasutra</b>   | $1.296 \times 10^{13}$ years      |         |  |  |
| <b>Sañjīva</b>     | $1.62 \times 10^{12}$ years       |         |  |  |
| <b>Avici</b>       | $3.39738624 \times 10^{18}$ years |         |  |  |
| <b>Pratāpana</b>   | $4.2467328 \times 10^{17}$ years  |         |  |  |
| <b>Tapana</b>      | $5.308416 \times 10^{16}$ years   |         |  |  |
| <b>Mahāraurava</b> | $6.63552 \times 10^{15}$          | महारौरव |  |  |
| <b>Raurava</b>     | $8.2944 \times 10^{14}$           |         |  |  |

Most likely the process of nuclear decay of different types, because of the word Samghata.

Samghata definition: Atoms in agglomeration, 'aggregate-atom', akin to the modern conception of a molecule.

**Table of some elementary and composite particle lifetimes** [\[edit\]](#)

All data is from the [Particle Data Group](#).

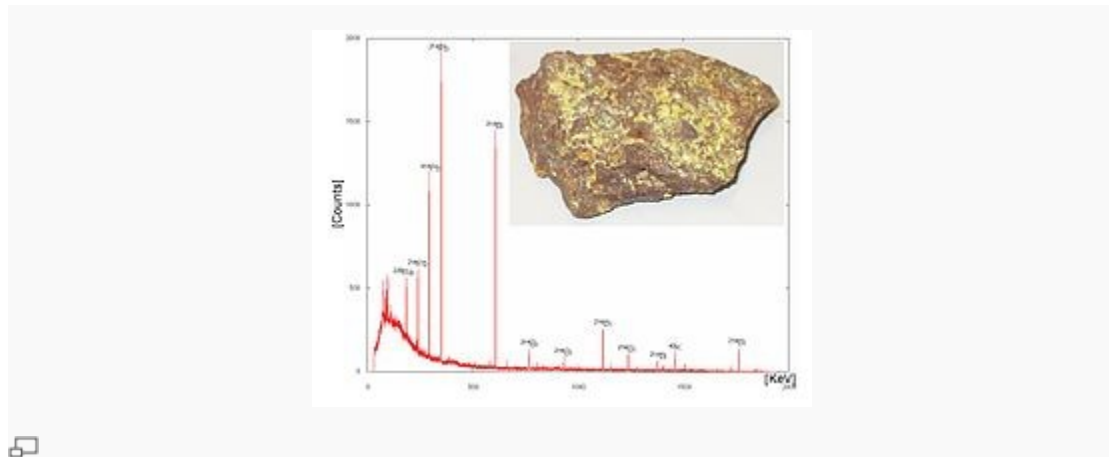
| Type   | Name                                  | Symbol            | Energy (MeV) | Mean lifetime                 |
|--------|---------------------------------------|-------------------|--------------|-------------------------------|
| Lepton | <a href="#">Electron / Positron</a>   | $e^- / e^+$       | 0.511        | $> 4.6 \times 10^{26}$ years  |
|        | <a href="#">Muon / Antimuon</a>       | $\mu^- / \mu^+$   | 105.7        | $2.2 \times 10^{-6}$ seconds  |
|        | <a href="#">Tau lepton / Antitau</a>  | $\tau^- / \tau^+$ | 1777         | $2.9 \times 10^{-13}$ seconds |
| Meson  | Neutral <a href="#">Pion</a>          | $\pi^0$           | 135          | $8.4 \times 10^{-17}$ seconds |
|        | Charged <a href="#">Pion</a>          | $\pi^+ / \pi^-$   | 139.6        | $2.6 \times 10^{-8}$ seconds  |
| Baryon | <a href="#">Proton / Antiproton</a>   | $p^+ / p^-$       | 938.2        | $> 10^{29}$ years             |
|        | <a href="#">Neutron / Antineutron</a> | $n / \bar{n}$     | 939.6        | 885.7 seconds                 |
| Boson  | <a href="#">W boson</a>               | $W^+ / W^-$       | 80,400       | $10^{-25}$ seconds            |
|        | <a href="#">Z boson</a>               | $Z^0$             | 91,000       | $10^{-25}$ seconds            |

**Particle decay** is the [spontaneous process](#) of one [elementary particle](#) transforming into other elementary particles. During this process, an elementary particle becomes a different particle with less mass and an [intermediate particle](#) such as [W boson](#) in [muon decay](#). The intermediate particle then transforms into other particles. If the particles created are not stable, the decay process can continue.

*Particle decay* is also used to refer to the decay of [hadrons](#). However, the term is not typically used to describe [radioactive decay](#), in which an unstable [atomic nucleus](#) is transformed into a lighter nucleus accompanied by the emission of particles or radiation, although the two are conceptually similar.

Note that this article uses [natural units](#), where  $c = \hbar = 1$ .

The daughter nuclide of a decay event may also be unstable (radioactive). In this case, it will also decay, producing radiation. The resulting second daughter nuclide may also be radioactive. This can lead to a sequence of several decay events. Eventually, a stable nuclide is produced. This is called a [decay chain](#) (see this article for specific details of important natural decay chains).



[Gamma-ray energy spectrum](#) of uranium ore (inset). Gamma-rays are emitted by decaying [nuclides](#), and the gamma-ray energy can be used to characterize the decay (which nuclide is decaying to which). Here, using the gamma-ray spectrum, several nuclides that are typical of the decay chain of  $^{238}\text{U}$  have been identified:  $^{226}\text{Ra}$ ,  $^{214}\text{Pb}$ ,  $^{214}\text{Bi}$ .

An example is the natural decay chain of  $^{238}\text{U}$ , which is as follows:

- decays, through alpha-emission, with a [half-life](#) of 4.5 billion years to [thorium-234](#)
- which decays, through beta-emission, with a half-life of 24 days to [protactinium-234](#)
- which decays, through beta-emission, with a half-life of 1.2 minutes to [uranium-234](#)



- which decays, through alpha-emission, with a half-life of 240 thousand years to [thorium-230](#)
- which decays, through alpha-emission, with a half-life of 77 thousand years to [radium-226](#)
- which decays, through alpha-emission, with a half-life of 1.6 thousand years to [radon-222](#)
- which decays, through alpha-emission, with a half-life of 3.8 days to [polonium-218](#)
- which decays, through alpha-emission, with a half-life of 3.1 minutes to [lead-214](#)
- which decays, through beta-emission, with a half-life of 27 minutes to [bismuth-214](#)
- which decays, through beta-emission, with a half-life of 20 minutes to [polonium-214](#)
- which decays, through alpha-emission, with a half-life of 160 microseconds to [lead-210](#)
- which decays, through beta-emission, with a half-life of 22 years to [bismuth-210](#)
- which decays, through beta-emission, with a half-life of 5 days to [polonium-210](#)
- which decays, through alpha-emission, with a half-life of 140 days to [lead-206](#), which is a stable nuclide.

Some radionuclides may have several different paths of decay. For example, approximately 36% of [bismuth-212](#) decays, through alpha-emission, to [thallium-208](#) while approximately 64% of [bismuth-212](#) decays, through beta-emission, to [polonium-212](#). Both [thallium-208](#) and [polonium-212](#) are radioactive daughter products of [bismuth-212](#), and both decay directly to stable [lead-208](#).

**Radioactive decay**, also known as **nuclear decay** or **radioactivity**, is the process by which a **nucleus** of an unstable **atom** loses energy by emitting particles of **ionizing radiation**. A material that spontaneously emits this kind of radiation—which includes the emission of energetic **alpha particles**, **beta particles**, and **gamma rays**—is considered **radioactive**.

Radioactive decay is a **stochastic** (i.e., random) process at the level of single atoms, in that, according to **quantum theory**, it is impossible to predict when a particular atom will decay.<sup>[1]</sup> However, the chance that a given atom will decay is constant over time. For a large number of atoms, the decay rate for the collection is computable from the measured **decay constants** of the nuclides (or equivalently from the **half-lives**).

There are many different types of radioactive decay (see table below). A decay, or loss of energy, results when an atom with one type of nucleus, called the *parent radionuclide*, transforms to an atom with a nucleus in a different state, or to a different nucleus containing different numbers of **protons** and **neutrons**. Either of these products is named the *daughter nuclide*. In some decays the parent and daughter are different **chemical elements**, and thus the decay process results in **nuclear transmutation** (creation of an atom of a new element).

The first decay processes to be discovered were alpha decay, beta decay, and gamma decay. **Alpha decay** occurs when the nucleus ejects an alpha particle (helium nucleus). This is the most common process of emitting **nucleons**, but in rarer types of decays, nuclei can eject **protons**, or specific nuclei of other elements (in the process called **cluster decay**). **Beta decay** occurs when the nucleus emits an **electron** or **positron** and a type of **neutrino**, in a process that changes a proton to a neutron or the other way around. The nucleus may capture an orbiting electron, converting a proton into a neutron (**electron capture**). All of these processes result in nuclear transmutation.

By contrast, there exist radioactive decay processes that do not result in transmutation. The energy of an excited nucleus may be emitted as a gamma ray in **gamma decay**, or used to eject an orbital electron by interaction with the excited nucleus, in a process called **internal conversion**. Highly excited neutron-rich radioisotopes (formed as the product of other types of decay) occasionally lose energy by **emitting neutrons**, and this results in a change in an element from one **isotope** to another. Another type of radioactive decay results in products which are not defined, but appear in a range of "pieces" of the original nucleus. This decay is called spontaneous **fission**. This decay happens when a large unstable nucleus spontaneously splits into two (and

occasionally three) smaller daughter nuclei, and generally immediately emits gamma rays, neutrons, or other particles as a consequence.

For a summary table showing the number of stable nuclides and of radioactive nuclides in each category, see [radionuclide](#). There exist 34 mildly radioactive elements on Earth that are primordial nuclides, still decaying from the formation of the solar system (well known examples are uranium and thorium). Another 50 or so radionuclides can be detected in decay chains resulting from the primordial nuclides (such as radium and radon), and also new cosmogenic processes (for example carbon-14). Radionuclides can also be [produced artificially](#) e.g. using [particle accelerators](#) or [nuclear reactors](#), with about 650 of these characterized with half-lives over an hour, and several thousand more characterized with even shorter half lives. See [list of nuclides](#) for a list by half life.

---

## Appendix: Srimad-Bhagavatam

---

### SB Canto 5

**SB 5.26 Summary:** Those who kill different animals and birds and then cook them are put by the agents of Yamarāja into the hell known as Kumbhīpāka, where they are boiled in oil. A person who kills a brāhmaṇa is put into the hell known as Kālasūtra, where the land, perfectly level and made of copper, is as hot as an oven. The killer of a brāhmaṇa burns in that land for many years. One who does not follow scriptural injunctions but who does everything whimsically or follows some rascal is put into the hell known as Asi-patravana. A government official who poorly administers justice, or who punishes an innocent man, is taken by the assistants of Yamarāja to the hell known as Sūkaramukha, where he is mercilessly beaten.

**SB 5.26.7, Translation:** Some authorities say that there is a total of twenty-one hellish planets, and some say twenty-eight. My dear King, I shall outline all of them according to their names, forms and symptoms. The names of the different hells are as follows: Tāmisra, Andhatāmisra, Raurava, Mahāraurava, Kumbhīpāka, Kālasūtra, Asi-patravana, Sūkaramukha, Andhakūpa, Kṛmibhojana, Sandamśa, Taptasūrmī, Vajrakaṇṭhaka-sālmālī, Vaitaraṇī, Pūyoda, Prāṇarodha, Viśasana, Lālābhakṣa, Sārameyādana, Avīci, Ayaḥpāna, Kṣārakardama, Rakṣogaṇa-bhojana, Śūlaprota, Dandaśūka, Avaṭa-nirodhana, Paryāvartana and Sūcīmukha. All these planets are meant for punishing the living entities.

**SB 5.26.14, Translation:** The killer of a brāhmaṇa is put into the hell known as Kālasūtra, which has a circumference of eighty thousand miles and which is made entirely of copper. Heated from below by fire and from above by the scorching sun, the copper surface of this planet is extremely hot. Thus the murderer of a brāhmaṇa suffers from being burned both internally and externally. Internally he is burning with hunger and thirst, and externally he is burning from the scorching heat of the sun and the fire beneath the copper surface. Therefore he sometimes lies down, sometimes sits, sometimes stands up and sometimes runs here and there. He must suffer in this way for as many thousands of years as there are hairs on the body of an animal.

Punishment in the hell called Mahāraurava is compulsory for a person who maintains his own body by hurting others. In this hell, ruru animals known as kravyāda torment him and eat his flesh. The animalistic person who lives simply in the bodily concept of life is not excused. He is put into the hell

known as Mahāraurava and attacked by ruru animals known as kravyādas.  
(Srimad Bhagavatam----5:26:12----translation and purport).

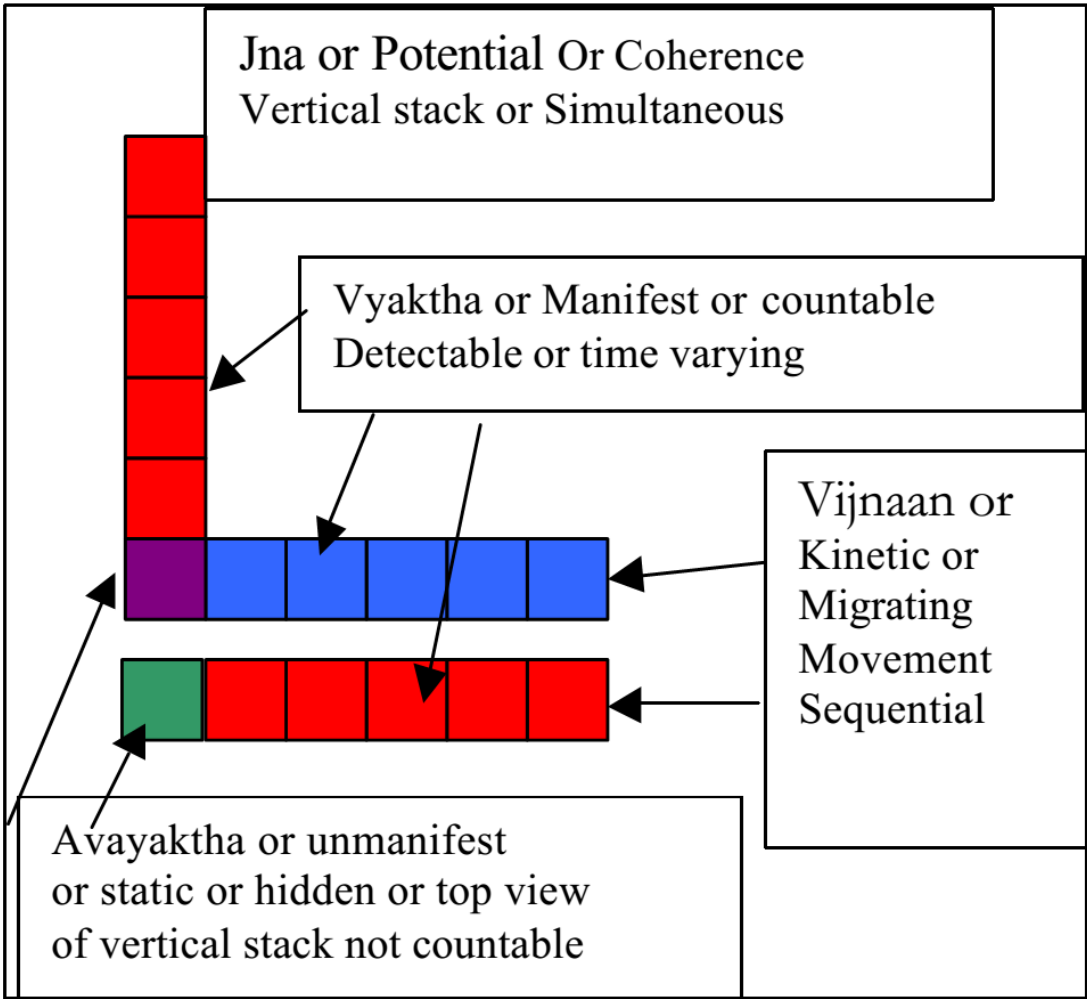
The Hari-bhakti-vilāsa cites the following quotation from the Skanda Purāṇa concerning the blaspheming of a Vaiṣṇava:

yo hi bhāgavatam lokam upahāsam nṛpottama  
karoti tasya naśyanti artha-dharma-yaśaḥ-sutāḥ  
nindām kurvanti ye mū

hā vaiṣṇavānām mahātmanām  
patanti pitṛbhiḥ sārdham mahā-raurava-samjñite  
hanti nindati vai dveṣṭi vaiṣṇavān nābhinandati  
krudhyate yāti no harṣam darśane patanāni ṣaṭ

In a conversation between Mārkaṇḍeya and Bhagīratha, it is said, “My dear King, one who derides an exalted devotee loses the results of his pious activities, his opulence, his reputation and his sons. Vaiṣṇavas are all great souls. Whoever blasphemes them falls down to the hell known as Mahāraurava, accompanied by his forefathers. Whoever kills or blasphemes a Vaiṣṇava and whoever is envious of a Vaiṣṇava or angry with him, or whoever does not offer him obeisances or feel joy upon seeing him, certainly falls into a hellish condition.”

(Sri Caitanya Caritamṛta----2:15:261----purport).



# Contact

The author may be contacted at jaq 2013 at outlook dot com



Some men see things as they are and say *why?* I dream things that never were and say *why not?*

Let's dedicate ourselves to what the Greeks wrote so many years ago:

to tame the savageness of man and make gentle the life of this world.

**Robert Francis Kennedy**