

Interpreting the Abhidhamma: ingredients of consciousness

Henk Barendregt & Erik Mulder

ICIS, Faculty of Science
Radboud University
Nijmegen, The Netherlands

Abstract

The Abhidhamma is one of the three parts of the Pali canon, the Tipitaka, the main texts of Theravada Buddhism and is sometimes described as ‘Buddhist Psychology’. It was compiled in the years 400-250 B.C. and comprises at least 6000 pages. The original Abhidhamma is rather abstract, consisting of many lists of concepts organized in systematic ways. There are several commentaries and subcommentaries (commentaries of commentaries), indispensable for an intelligent interpretation. The present paper is mainly based on Bodhi [2000], which is a modern edition of a 12-th century commentary by Ācariya Anuruddha. Next to this the first author has followed several study retreats with Dr. U Ñāṇamālabhivaṃsa in the oral tradition accompanying the Abhidhamma.

Three notions play an important role in the Abhidhamma as it came to us: *ceta*, *cetasika*, and *vīthi*. These notions are translated as ‘consciousness moment’, ‘mental factor’, and ‘cognitive/emotional unit’, slightly diverging from the terminology in Bodhi [2000]. This paper gives an introduction to these notions and presents them in what we call the ‘Abhidhamma Model’. Inspired by the view of Nyanaponika Thera [1998] we view the Abhidhamma as a model of consciousness that is open to growth and improvements. Thereby one can make use of classical means, such as texts, the oral tradition or meditation experience, but also of any fitting knowledge obtained by modern science. The goal is to gain insight in the human mind and its conditioning and possibilities to decondition in order to decrease mental suffering.

This paper presents the following contributions.

1. A notation system for *cetas* and *cetasikas* will be introduced.
2. To each *ceta* there corresponds a set of *cetasikas*. The notation system makes it easier to list this correspondence. In most cases this set of *cetasikas* uniquely determines its corresponding *ceta*. Attention will be paid to some groups of *cetas* for which this is not the case. A tree of logical possibilities will be presented how one can combine *cetasikas* into *cetas*.
3. The combination of *vīthis*, the cognitive/emotional units, into the full cognitive/emotional process, as we learned it in the oral Abhidhamma tradition, will be given.
4. The notation system for *cetas* will turn out to be handy in describing the functions that these states of mind play in the various cognitive/emotional processes.

1. Introduction

The Abhidhamma is one of the three parts of the Pali canon, the Tipitaka, the main texts of Theravada Buddhism. The other two parts are the Vinaya, dealing with the monastic life order, and the Suttas, describing the life and sermons of the Buddha.

The Abhidhamma, sometimes called ‘Buddhist psychology’, is a collection of seven volumes (some of which consist of several subvolumes) providing a model of the functioning of the human mind. Not only is the number of more than 6000 pages comprising the Abhidhamma overwhelming, also many of these pages are filled with concepts organised in lists or tables of certain dimensions. For that reason one usually studies the Abhidhamma in the form of ‘authorized commentaries’, providing a digestion of the text. One of these is Bodhi [2000]. Some of the notions that we describe can be found only in the commentaries and are considered as belonging to the Abhidhamma itself. This is common practise in the Birmese teaching of the theory.

Consciousness always has a *content*, also called *object*. The impression obtained after seeing, hearing, smelling, tasting, feeling (tactile impressions) or thinking. Next to this, consciousness always has a *type*¹, which is for example the affective coloring of the received content.

As the Abhidhamma is about consciousness, the origin of the theory is probably based on meditation experience. But it cannot be ruled out that even the original Abhidhamma, as it has come to us, is influenced by purely conceptual considerations.

Our methodological approach consists of understanding the subject matter of the Abhidhamma, based on insight meditation and text study guided by living scholars in the Abhidhamma tradition. Thereby one may extend or alter the theory, if there are good arguments for this. This attitude is also encouraged by Nyanaponika Thera [1998], but less common in the Birmese tradition. In the few cases that we make an extension or alteration of the theory, we will indicate this.

Cetas

The main thesis in the Abhidhamma model is that consciousness is not continuous, but comes in discrete packages of consciousness flashes. Each such flash is called a *ceta*². The duration of a *ceta* is short. What we call ‘thoughts’ consists of a specific sequences of *cetas*, to be discussed later. The duration of a *ceta* is termed, in the Abhidhamma, a *cetākkhana* (mind-moment). This is so short that ‘in the time that it takes the eyes to blink, billions of mind-moments can elapse’. (Of course this should not be taken literally.) Nevertheless, according to the commentaries, see Bodhi [2000], each *cetākkhana* in turn consists of three sub-moments: *uppāda* (arising), *thiti* (presence), and *bhanga* (dissolution). Within the breadth of a *cetākkhana*, a *ceta* arises, performs its momentary function, and then dissolves, conditioning the future *cetas*. The speed of consecutive *cetas* is so high that the sequence of mind-moments is perceived as continuous.

¹In computer science terminology one would call these *states* of the data processing system.

²Also spelled ‘*citta*’. We prefer the term ‘*ceta*’ as it maked easier to remember the related concept ‘*cetasika*’.

The main task of a *ceta* is to be concerned with some object. A *ceta* is said to be directed towards this content. What a *ceta* does further, is to contribute to the determination of future *cetas*. This is called the *kammic* effect of the *ceta*. How this is done depends partly on the object captured by the present *ceta*. But there are also different *types* of *cetas*. For example, a certain visual object can be the same input data of a *ceta* with desire and attachment, with disgust and hatred or with loving kindness and compassion. Both the type and the object of future *cetas* depend on those of the past ones. This leads to *accumulated kamma*, transferred and augmented from *ceta* to *ceta*. This kamma, in Sanskrit and English called *karma*, may activate something in the next *ceta*, or in a near or distant future *ceta*. The kamma is determined by the trace of the types of past *cetas*. It has the objects of the present *ceta* as side condition. Some types of *ceta* may have a direct effect on the following *cetas* (producing kamma), some have to collaborate with others (supporting kamma). Also the kamma force of some *cetas* can work against the effect of other *cetas* (obstructing kamma), and it is even possible that the potential action of a *ceta* is forever prevented by a later one (destructive kamma).

The Abhidhamma distinguishes 89 types of *cetas*. These types are divided into major subgroups: those *ceta* types with strong kamma that has a direct effect without the need of supporting kamma, and those with only indirect (supporting) effect. The *ceta* types with producing kamma can be subdivided into *unwholesome* and *wholesome*. Unwholesome *cetas* lead to attachment and increased suffering. Wholesome *cetas* lead to freedom (deconditioning) and decreased suffering.

Another division of the 89 types of *cetas* is that into *planes*. There are three of these: the *sensual*, *sublime* and *supramundane* planes. The sensual plane deals with *cetas* from daily life, in which one is directed to sensory input, with a strong preference for that input that is pleasant. The sublime plane deals with *cetas* related to exalted ‘mystical’ experiences. Finally the supramundane (not to be confused with supranatural) plane deals with purified consciousness, after which certain *cetas* no longer will be used.

plane\kind	Karma		Indeterminate		#
	Unwholsome	Wholesome	Resultant	Functional	
Sensual	12	8	23	11	54
Sublime	0	9	9	9	27
Supramundane	0	4	4	0	8
#	12	21	36	20	89

Figure 1: Classes of types of consciousness (*cetas*) and the number of their elements³

The class of Sublime consciousness states is further subdivided into Fine-Material (*Rūpa*) and Immaterial (*Arūpa*) sublime states.

³This table is inspired by similar tables due to the late Ven. Silananda in Bodhi [2000].

Cetasikas

Each *ceta* basically⁴ consists of the object it holds, together with a number of *cetasikas* occurring in parallel forming its type. Cetasikas are classified as unwholesome, variable and beautiful. Another classification is as universal or occasional. For example the universal variable cetasikas are always present, while the occasional variable cetasikas are only sometimes present.

	unwholesome	variable	beautiful	#
universal	4	7	19	30
occasional	10	6	6	22
#	14	13	25	52

Figure 2: Classes of mental factors (*cetasikas*) and the number of their elements.

In total there are 52 cetasikas mentioned in the Abhidhamma, see Figure 2. The variable universal *cetasikas* are present in all *cetas*. They can be extended in several ways, for example with a subset of the 6 variable occasional *cetasikas*. Also they can be combined either with the unwholesome or with the beautiful ones, but not both at the same moment. If one of the 4 unwholesome universal *cetasikas* is in use, then so are all of these. Similarly this applies also to each of the 19 beautiful universal *cetasikas*. Finally, the occasional unwholesome or beautiful *cetasikas* can be added, but only in certain combinations. For example unwholesome and beautiful *cetasikas* never come together in the same *ceta*.

It is stated that there are more cetasikas than the ones listed. There are 52 mentioned explicitly, as they play an important role in the meditation towards the purification of consciousness. How cetasikas and *cetas* are related will be discussed below in Section 4.

Vīthis

The *cetas* are momentary flashes of consciousness, having an object and a state. These *cetas* are grouped into a sequences of related ones, forming a cognitive-emotional unit. Such a sequences is called a *vīthi*. To give a glimpse of the role of the *vīthis*, the Abhidhamma distinguishes baseline consciousness from more elaborate cognitive/emotional streams. Baseline consciousness, called *bhavanga*, consists of an uninterrupted sequence of a *ceta* each having the same object and type. From this emerge cognitive/emotional streams in the form of *vīthis*: sequences of *cetas*. There are *vīthis* for sensory input and other ones for mental elaboration. The sensory *vīthis* consist of a sequences of 17 *cetas* the mental ones consist of 12 *cetas*. Each sensory *vīthi* starts with a preparatory phase of 8 *cetas* in which the sensory data presents itself and is received. Then during 7 *cetas* the object and state of consciousness are repeated. Finally two *cetas* end the *vīthi*. In mental *vīthis* the preparatory phase consists only of 3 *cetas*, thus adding up to 12 in total.

⁴We will come back to this below.

The cognitive-emotional process consists of four *vīthis* following each other in a articulated way. The first *vīthi* is for *input* that can be sensory or mental. The second *vīthi* looks up the received object in *memory*. The third *vīthi* contains the *name* of the object. Finally the fourth *vīthi* consists of the meaning of the object. The second, third and fourth *vīthi* in a cognitive-emotional process are always mental *vīthis* of 12 *cetas*.

Also the mental absorptions, high forms of concentration akin to mystical experiences, are described as special *vīthis*. During this type of consciousness-process perception is no longer going like a wave from baseline and down, but remains actively present.

Cetasikas as roots stabilizing the sequence of vīthis

Some *cetas* are said ‘to have a root’. This means that they correspond with one of the *cetasikas* from the set {**m**,**l**,**d**,**p**,**al**,**ad**} (these are *ignorance*, *desire*, *aversion*, and their opposites *wisdom*, *non-greed*, and *non-hatred*, see Section 4) that make them ‘stable’. We interpret this as follows. A root acts as a psychological hold. The idea is, that based on {**m**,**l**,**d**} one has a stable unwholesome *ceta*, while based on {**p**,**al**,**ad**} one has a stable wholesome *ceta*. Our interpretation is that the roots are persistent during the dynamics of the cognitive-emotional process of the *vīthis*. *Cetas* with a root have a larger chance to be followed by other *cetas* with the same root⁵. Unwholesome and wholesome are ethical categories, that are ultimately based on the criterion whether suffering will be increased or decreased, respectively.

Metaphor

In order to remember things, it is worthwhile to make the following analogy. We can compare *cetasikas*, *cetas* and *vīthis* to phenomena in music. *Cetasikas* are like tone intervals. A *ceta*, consisting of *cetasikas*, then can be compared to a musical chord. And a *vīthi* to a musical sequence, like a motive or a melody. In this metaphor the object of the *ceta* could be compared to the instrument that play the chord.)

2. Ethics and meditation

Ethics

Before the classification of consciousness can be given, we describe the foundation of ethical views that are present in Buddhist psychology. The main purpose of Buddhist way of life is to lessen and eventually eliminate *dukkha*, mental suffering. Mind-states that cause a decrease of suffering are called wholesome (*kusala*), those that cause an increase of suffering are called unwholesome (*akusala*).

⁵The process of insight meditation works against this, but requires a clear intention and energy.

Types of meditation

There are two major classes of meditation. With concentration (or *samatha*) meditation one strives for the increase of wholesome states, with as high-point the Buddhist sublime states, comparable to mystical states in other contemplative traditions. With insight meditation (or *vipassanā*), that needs to be combined with concentration meditation, one strives for the decrease of unwholesome states, with as high-point the supramundane states of purification (enlightenment), in which some or all of the unwholesome *cetas* have been eradicated. In short, concentration states give temporary relief; purified states give permanent relief. Both the sublime and supramundane states have several versions and degrees of depth.

Path of purification

Although the Abhidhamma describes these sublime and supramundane *cetas*, it does not describe how they can be obtained. The path of purification and its important milestones have been described in the meditation manual Buddhagosa [430] (888 pages) and has been neatly summarized in Bodhi [2000], using only 36 pages. Based on our own meditation practise, reading, the oral tradition and the experience of teaching vipassana meditation of one of the authors, we will try to give a flavor of what meditation is about.

With the view that the occurrence of unwholesome states are to become less frequent and eventually to be eliminated one starts the meditation process. One starts taking breathing as meditation object: observing one's raising and falling of the abdomen. If a breath is long one notices it; similarly if it is short. One has the intention to accept things as they come, without preference. Usually there come hindrances, disturbing this process of observation. In spite of the intention mentioned before, one develops desire or aversion. Other hindrances are sleepiness or its opposite restlessness. Finally there is the hindrance of doubt, the meditator wonders: "Is it really beneficial to do these exercises?" There are also five helpers. One collects some confidence, energy, mindfulness, concentration and wisdom: "Well, on my friend meditation had a good effect and the texts are really attractive; let's go for it! observing whatever is happening; again and again, with as little as possible intermission; and yes, it brings peace, so the exercises seem to be worthwhile." These and similar contemplations occur during various stages of the meditation process. The five helpers transform the hindrances into objects of meditation, always staying with one of the four 'foundations': sensory input ('body'), feeling (pleasant, unpleasant or neutral), mind (thinking or mind-states), and (urges to get into) action (output).

The three characteristics

In this way continuing, with patience and perseverance, the hindrances may loose their power. The trainee is capable of continuous mindfulness, without being bothered by one of the hindrances. Then the *jhānas*, the sublime *cetas* may arise. Their description is below. They are better than anything the trainee has experienced. The trainee interprets

this as being enlightened. But the teacher exhorts the trainee to continue practise. One should obtain insight. Insight turns out to be not so pleasant. One observes that consciousness is constantly changing (non-permanence, *anicca*), that this causes mental distress (*dukkha*), and that one has no grip on this situation (selflessness, *anatta*). Having clearly observed these three fundamental characteristics of existence, the trainee undergoes phases with fear, paranoia, and disenchantment. Gently stimulated by the teacher the trainee continues to practise. One obtains a desire to purify. Eventually one reaches a state of equanimity, in spite of the proximity of the three characteristics. Then gradually one develops a calm and even joyful mind.

Surrender

If the situation has become stable, then one is ready to surrender. That is surrender to mindfulness and trust it keeps acting as a protection. This surrendering, cannot be done by an active decision, but that has to happen. After surrendering one occurrence of path-consciousness appears and one observes that suddenly many mental vicious circles are completely being loosened, untight. It is said that during path-consciousness one has as object *nibbāna* (English 'nirvana'). Nothing specific is mentioned about this object. Later Buddhist teachers identify it with 'pure-consciousness'.

In this way one or more *cetas* are eliminated. This should happen in total four times, during which one eliminates all unwholesome *cetas*. Each path consciousness occurs only once and as a single *ceta*. They are immediately followed by a couple of occurrences of the so called fruition consciousness (*phala*) in which one can experience the degree of freedom obtained by eradicating some of the unwholesome *cetasikas* and hence *cetas*. By practise one can make the *phala cetas* occur for a longer time. The *phala ceta* has the same object as *magga*, namely *nibbāna*. The difference is that *phala* has not the effect of eradicating, as the eradication has already been taken place.

Buddhahood

After four times *magga* has occurred one becomes an Arahant, a fully enlightened being. In Mahayana traditions one emphasizes that even then the meditation work is not yet finished. One can develop beautiful states of mind based on compassion. Only when this is done, one has become a Buddha.

3. Cetas and a notation system

Cetas are moments of consciousness, where one abstracts from the content. What is left is the consciousness-type (or mental-state⁶). One does not distinguish in a *ceta* whether

⁶A state is a well-known concept in mathematical system theory and in computer science. A machine, but for that matter also an organism or even a human, is at moment t_1 in the same state as at moment t_2 , if for all possible input, the resulting internal and external reactions are the same. The states will be different if there is a particular input resulting in different reactions. Of course, the collection of all possible input (and also reactions) is huge and in a particular scientific discipline one restricts oneself to

one smells with happiness a flower or remembers with the same kind of happiness the sound of a frog jumping into a pond. The object, flower or memory, comes secondary⁷. The *cetas* will be described in a structured collection of 89 elements. Although it is mentioned that there are more than these 89 consciousness-types, the collection given below is considered as essential for describing the Buddhist goal of diminishing and eventual elimination of mental suffering and its necessary precondition: ethical behaviour for the path of purification.

The matrix of cetas

The collection of *cetas* will be classified in three ‘planes’: the sensual, sublime, and supramundane⁸ *cetas*. In daily life one is concerned with sensual objects. Typical sensual *cetas* are those directed to our sensual objects of desire, and those that want to avoid repulsive objects. Sublime *cetas*, also known as mystical states, occur during high forms of concentration, usually obtained through concentration meditation. Supramundane *cetas* mark the transition to purification (enlightenment). After this transition has occurred, some or all of the unwholesome *cetas* cannot be used any longer: they are eliminated. As said, this is the process of purification.

Consciousness can be classified also by way of nature into four classes: unwholesome, wholesome, resultant, and functional. Unwholesome consciousness (*akusala ceta*) is consciousness by one or another of the three unwholesome roots—greed, hatred, and delusion. Such consciousness is called unwholesome because it is mentally unhealthy, morally blameworthy, and productive of painful results. Wholesome consciousness (*kusala ceta*) is consciousness often accompanied by the wholesome roots—non-greed or generosity, non-hatred or loving kindness, and non-delusion or wisdom. Such consciousness is mentally healthy, morally blameless, and productive of pleasant results. Both wholesome and unwholesome consciousness constitute *kamma*, volitional action. Those *cetas* or states of consciousness that arise as a result of *kamma* are called resultant (*vipāka*). It should be understood that both *kamma* and its results are purely mental. The fourth class of consciousness, according to the division by way of nature, is called in Pali *kiriya* or *kriyā*, rendered in Bodhi [2000] as functional. This type of consciousness is neither *kamma* nor *kamma* resultant. It involves activity, yet this activity is not kammically determinate and thus is not capable of producing kammic results.

In the Abhidhamma itself each *ceta* was seen as an indivisible phenomenological unit, *samaya* or ‘occasion’. Later, in the commentaries one uses the term *khaṇa* or ‘moment’. Each *khaṇa* was seen as having three sub-moments—arising, presence, and dissolution. These three submoments are sometimes indicated by three asterisks: * * *.

a set of relevant inputs and reactions.

⁷The reason for this is the following. Although humans are usually concerned to have specific objects as content in their *cetas*, like a large house, a fast car, and an attractive partner (typical male values; women have similar lists), this is done with the tacit assumption that the objects lead to happiness. This is not necessarily true. A states of mind depend much more on its previous states than on its contents. Meditation has as purpose to influence the type of the *cetas*, independently of their content.

⁸Not to be interpreted as supranatural.

Sensual consciousness

Unwholesome sensual cetas

The Abhidhamma first classifies this consciousness by way of its most prominent unwholesome (*akusala*) root (*hetu*), which can be certain combinations of *lobha* (greed), *dosa* (hatred), or *moha* (delusion).

1. $A_{sda}^l, A_{sd}^l, A_{sa}^l, A_s^l, A_{da}^l, A_d^l, A_a^l, A^l$

Consciousness rooted in *lobha* (greed) is divided into eight types on the basis of the presence or absence of *somanassa* (mental joy), *ditthi* (wrong view) and *asankhārika* (literary ‘unprompted’ versus *sasankhārika* (prompted); we could call this ‘unprompted’ mode ‘spontaneity’, and will make use of this later). If one of the three qualities is present, we indicate this by using the first letter as subscript. The prompting may be imposed by others, or it may be originate from within oneself; the means employed may be bodily, verbal, or purely mental. In this way eight different *cetas* arise, all based on *lobha*, each of these corresponding to a subset of {s, d, a}. As an example one may want to steal; this can be done with or without mental joy, with or without the illusion that it is for a ‘good’ cause, and with or without being prompted. In three more cases there will be a similar list of eight types of related *cetas*.

2. A_a^d, A^d

Consciousness rooted in *dosa* (hatred) is divided into two types on the basis of *asankhārika* (A_a^d) or *sasankhārika* (A^d). It is always accompanied by *domanassa* (an unpleasant mental feeling) and associated with *patigha* (aversion). The good news here is that there are only two states of mind based on hatred. The bad news is that they are ubiquitous and occur over and over again. Notably when the object of lust cannot be obtained, as a consequence the following *cetas* may contain aversion or in its strongest form hatred.

3. A_v^m, A_u^m

Consciousness rooted in *moha* (delusion) is always accompanied by neutral feeling and associated with *uddhacca* (restlessness: A_u^m) or *vicikicchā* (doubt: A_v^m). Delusion is always present as a root in *cetas* accompanied by greed and hate. The function of *moha* in these *cetas* is subordinate. But in the *cetas* A_u^m and A_v^m delusion alone is present as an unwholesome root.

The function of these twelve *cetas* is to act in the ‘*jāvanas*’ of unwholesome *vīthi*s, the cognitive process. The literal meaning of the word ‘*jāvana*’ is ‘running swiftly’. It consists of a series of *cetas* (normally seven, all identical) which in a high tempo ‘scan’ the object in the act of apprehending it. The *jāvana* stage is the most important from an ethical standpoint, for it is at this point that wholesome or unwholesome *cetas* originate.

Wholesome sensual *cetas*

$K_{sna}, K_{sn}, K_{sa}, K_s, K_n, K_{na}, K_a, K$

This class is divided into eight types on the basis of the presence or absence of *somanassa* (mental joy versus neutral mental feeling), *ñāna* (insight), and *asankhārika* (spontaneity versus being prompted). The function of these eight *cetas* is to act in the *javanas* of wholesome *vīthi*s, similar to the function of the unwholesome *cetas*. We see that now the eight *cetas* in this list correspond to the subsets of {s, n, a}. The difference with the set {s, d, a} is that *d* standing for *ditthi* is less wholesome than having no view, which in turn can be improved to insight *ñāna*, which has the right view.

Resultant sensual consciousness

Resultant (*Vipaka*) sensual *cetas*.

1. Resultant *cetas* with root (*hetu*).

$V_{sna}^h, V_{sn}^h, V_{sa}^h, V_s^h, V_{na}^h, V_n^h, V_a^h, V^h$

The eight wholesome *cetas* $K_{sna}, K_{sn}, K_{sa}, K_s, K_n, K_{na}, K_a, K$, have as effect eight corresponding *cetas*: $V_{sna}^h, V_{sn}^h, V_{sa}^h, V_s^h, V_{na}^h, V_n^h, V_a^h, V^h$. To emphasize that these eight *cetas* contain roots, unlike the rootless *cetas* treated below, they are described as sahetuka, ‘with roots’. These eight *cetas* will have four functions, described in Section 5. *Cetas* may perform several functions completely different from the one with reference to which it is named. A *ceta* can perform only one function at a time.

2. Resultant *cetas* without root, based on wholesome (*kusala*) kamma.

$V_C^k, V_S^k, V_G^k, V_J^k, V_K^k, V_R^k, V_I^k, V_{I_s}^k$

These eight types of consciousness are results of wholesome kamma and are without root. They contain an desirable (*ittha*) object. Five of them are associated with neutral feeling. They are based on the physical sensors (‘sensitive matter’) of respectively the eye (*Cakkhu*: V_C^k), ear (*Sota*: V_S^k), nose (*Ghāna*: V_G^k), tongue (*Jivhā*: V_J^k), and body (*Kāya*: V_K^k). Then there are three *cetas* with a special function: Receiving consciousness (V_R^k), Investigating consciousness (V_I^k), and its variant with mental joy ($V_{I_s}^k$). Because the effect of an object to the body is strong, the feeling associated with V_K^k is that of bodily pleasure (*sukha*).

3. Resultant *cetas* without root, based on unwholesome (*akusala*) kamma.

$V_C^a, V_S^a, V_G^a, V_J^a, V_K^a, V_R^a, V_I^a$

These seven types of consciousness are themselves not unwholesome, but indeterminate. They are based on unwholesome *kamma*, being the resultants of unwholesome actions. The objects of these *cetas* are unpleasant or undesirable (*anitttha*).

The first five are also based on the sensors ('sensitive matter') of the eye (*Cakkhu*: V_C^a), ear (*Sota*: V_S^a), nose (*Ghāna*: V_G^a), tongue (*Jivhā*: V_J^a), and body (*Kāya*: V_K^a). Then there is a receiving *ceta*: V_R^a and this time only one investigating *ceta*: V_I^a , both associated with neutral feeling. The only *ceta* in this class that has negative feeling is V_K^k . It is perceived as bodily pain (*dukkha*).

The function of V_C^- is seeing. The function of V_S^- is hearing. The function of V_G^- is smelling. The function of V_J^- is tasting. The function of V_K^- is touching. The function of V_R^- is receiving. The functions of the *cetas* V_I^- , V_I^k , and V_h^- are rebirth, bhavanga, death, investigating and registration. The functions of V_S^- are investigating and registration.

Functional sensual consciousness

1. $K_{sna}^{ar}, K_{sn}^{ar}, K_{sa}^{ar}, K_s^{ar}, K_{na}^{ar}, K_n^{ar}, K_a^{ar}, K^{ar}$

The eight wholesome (*kusala*) sense-sphere *cetas*, $K_{sna}, K_{sn}, K_{sa}, K_s, K_n, K_{na}, K_a, K$, arise in 'wordlings and trainees (*sekkhas*)', i.e. in not enlightened people. In Arahants, who have eliminated the unwholesome *cetas* there can arise eight types of consciousness which are 'copies' of the wholesome *cetas*, that perform their functions without any attachment. The function of these eight *cetas* is to act in the cognitive/emotional processes, like they do in worldlings.

2. H^{ar}

This is a *ceta*, called *hasituppāda*, peculiar to Arahants, including Buddhas and Paccekabuddhas⁹. It makes Arahants smile about sense-sphere phenomena. According to the Abhidhamma, Arahants may smile with one of following five *cetas*: $K_{sna}^{ar}, K_{sn}^{ar}, K_{sa}^{ar}, K_s^{ar}$, or H^{ar} .

3. D^5, D^m

The *ceta* D^5 , 'five-sense-door adverting consciousness', has the function of announcing an object at one of the five sense doors (*Dvāra*). The actual seeing, hearing, smelling, tasting, or touching the object is done by the *cetas* $V_C^-, V_S^-, V_G^-, V_J^-, V_K^-$, where $-$ stands for a or k, immediately following D^5 .

The *ceta* D^m , 'mind-door adverting consciousness', has two functions. It can arise in a 'mental *vīthi*', described in Section 5, to announce an object appearing at 'the mind door'. Its second function is to determine, or define, the object that has been cognized by sensory input.

⁹An Arahant is a fully enlightened person, i.e. a man or woman that has eradicated all unwholesome *cetasikas* and hence all unwholesome *cetas*. A Buddha is an Arahant that moreover has developed compassion and wisdom. A Paccekabuddha is someone that has arrived at the same level as a Buddha, but without realizing how this is done. They are called the 'lesser'-Buddhas. The level of enlightenment is the same as that of a Buddha, but they cannot teach how to reach this cultivation of mind.

Sublime consciousness

These are the Buddhist mystical states, the *jhānas*. There are two types: *rūpa* and *arūpa jhānas*. Both types of states come in three categories: wholesome, resultant and functional. The *jhānas* consist of exalted states. Although these states are the summits of concentration meditation, in the tradition of insight meditation they are called ‘defilements of *vipassanā*’. The danger is that one gets stuck in these states and avoids to continue towards insight in the three characteristics of life. The sublime states do not purify, i.e. do not eliminate negative states. They form an exemplary kind of consciousness in which the hindrances are temporarily removed. Saint John of the Cross gave similar advise to avoid spiritual gluttony and to go through the ‘dark night of the soul’, see translation of his work in Kavanaugh OCD and OCD [1991].

The *rūpa jhānas*

1. $J_{r1}, J_{r2}, J_{r3}, J_{r4}, J_{r5}$

These five states are all sublime. The first state J_{r1} has five of the so-called *jhāna* factors: initial application (*vitakka*, the mind is threshing the object), sustained application (*vicāra*, the mind is anchored on the object), rapture (*pīti*, the mind is ecstatic by the object), bliss (*sukha*, this should be interpreted that the mind is in a joyfull state; rapture occurs if someone thirsty finds water; bliss occurs after the water has been drunken) or optionally either compassion or shared joy (*karunā* or *muditā*, see Bodhi [2000], Chapter II, guide to §21), and one-pointedness (*sahitaṁ*).

In the second state J_{r2} initial application, being somewhat strenuous, is omitted, while keeping the other *jhāna* factors. This makes J_{r2} more stable than J_{r1} .

In the J_{r3} also sustained application is omitted: rapture, bliss and one-pointedness are maintained without.

Then in J_{r4} also raputure is omitted, keeping the bliss¹⁰.

Finally in J_{r5} also bliss, compassion, and shared joy are absent. The mind is only in a one-pointed equanimity.

These *jhānas* are used in sublime *vīthi*s, in which the hindrances are temporarily suppressed.

In Christian mysticism one distinguishes erotic and intellectual mysticism. As will be seen below, states J_{r1} - J_{r4} are described with words reminiscent of the erotic mysticism; state J_{r5} may be compared to intellectual mysticism, although meditation teachers would hasten to say that there is nothing conceptual about these states.

2. $J_{r1}^v, J_{r2}^v, J_{r3}^v, J_{r4}^v, J_{r5}^v$

These *cetas* are the resultants of the previous five J_{r1} - J_{r5} , respectively. According

¹⁰In a worldly version Baudelaire calls this “*La volupté calme*”, i.e. calm sensuality, without eagerness.

to the Abhidhamma Model these are used in baseline consciousness (*bhavanga*) of the beings in the heavenly fine-material abodes. One is said to be born here, when during the last javana (just before dying) of the previous life one has entered a *jhāna* of type J_{r1} - J_{r5} .

3. $J_{r1}^{jar}, J_{r2}^{jar}, J_{r3}^{jar}, J_{r4}^{jar}, J_{r5}^{jar}$

These *cetas* are the copies of J_{r1} - J_{r5} for Arahants in their sublime fine-material *javanas*.

The arūpa jhānas

1. $J_{a1}, J_{a2}, J_{a3}, J_{a4}$

The *ceta* J_{a1} is obtained from J_{r5} by transcending sensory input and only consciousness and mental factors remain. It is called ‘infinite space’.

Then J_{a2} is obtained from J_{a1} , by leaving the perceived space and focussing on perception. This state is called ‘infinite consciousness’.

After that J_{a3} is obtained from J_{a2} , by focussing on the perception of this latter *ceta*. It is called ‘nothingness’.

Finally J_{a4} is obtained from J_{a3} , by focussing on the perception of J_{a3} . It is called ‘neither-perception-nor-non-perception’.

These *jhānas* are used in sublime immaterial *javanas*, in which the hindrances are temporarily suppressed.

According to the Abhidhamma Master U Ñāṇdamalabhivamsa one cannot continue from J_{a4} in a similar way, ‘as it is too close to *Nibbāna*’.

2. $J_{a1}^v, J_{a2}^v, J_{a3}^v, J_{a4}^v$

These *cetas* are, respectively, the resultants of the previous four J_{a1} - J_{a4} . According to the Abhidhamma Model these are used in baseline consciousness (*bhavanga*) of the beings in the heavenly immaterial abodes (lasting respectively $20 \cdot 10^3$, $40 \cdot 10^3$, $60 \cdot 10^3$, $84 \cdot 10^3$ great eons¹¹). One is said to be born here, when during the last javana (just before dying) of the previous life one has entered a *jhāna* of type J_{a1} - J_{a4} . Of course this is not to be taken literally.

3. $J_{a1}^{jar}, J_{a2}^{jar}, J_{a3}^{jar}, J_{a4}^{jar}$

These *cetas* are the copies of J_{a1} - J_{a4} for Arahants in their sublime immaterial *javanas*.

The function of the J_- *cetas* is to act in the *javanas* of wholesome *vīthi*s. That of the J_-^v is as birth, baseline and death *cetas*.

¹¹A great eon is said to be a time longer than it would take for a man to wear away a mountain of 7 miles height and wide consisting of solid granite, by stroking it once a century with a silk cloth.

Supramundane consciousness

Path consciousness

M_{1-5}^{so} , M_{1-5}^{sa} , M_{1-5}^{an} , M_{1-5}^{ar}

These *cetas* occur at the moments of purification. They eradicate a well-defined set of conditionings. A similar *ceta* may occur again, but then no further purification is made. Then we have the so-called fruition *cetas*.

Supramundane wholesome consciousness comprises the following *cetas*: Path consciousness of becoming streamwinner (sotāpana) once-returner (sakadāgāmi) non-returner (anāgāmi) and Arahant (fully enlightened person). The function of these four *cetas* in the javana of a *vīthi* is to eradicate some of the unwholesome *cetasikas*, i.e. the moment of enlightenment. In each of the four stages (streamwinner, once-returner, non-returner, and arhat) a subset of the unwholesome *cetasikas* is eliminated, until they are fully gone in the Arahant. The Abhidhamma model states that this works as follows. At the level of streamwinner one eliminates doubt, the *ceta* A_v^m . At the level of once-returner one dilutes greed and hatred, but no *ceta* is eliminated. At the level of non-returner one eliminates (sensual) greed, hatred, and worry, the *cetas* A_-^l and A_-^d . Finally at the level of Arahant (fully enlightened person) one eliminates the (remaining forms of) greed and ignorance, the *cetas* A_v^m and A_u^m . In Section 4 a description will be given in terms of *cetasikas*.

The unique *magga ceta* usually arises after the longer lasting type of consciousness consisting of sequences of any of J_{r1} , J_{r2} , J_{r3} , J_{r4} , J_{r5} the five *rūpa jhānas*. If one distinguishes the resulting *magga cetas*, then one obtains M_1 , M_2 , M_3 , M_4 , M_5 for each of the levels M_{1-5}^{so} , M_{1-5}^{sa} , M_{1-5}^{an} , M_{1-5}^{ar} of purification. With this distinction there are 121 *cetas*, without there are 89 *cetas*.

Fruition consciousness

P_{1-5}^{so} , P_{1-5}^{sa} , P_{1-5}^{an} , P_{1-5}^{ar}

These *cetas* can occur in an absorption process, with the *jhānas* substituted by them. Then a so-called *supramundane absorption* is obtained.

Supramundane resultant consciousness comprises the following *cetas*: Fruition consciousness of stream-entry, once-returning, non-returning, and Arahantship. These four *cetas* perform in the cognitive process the function of *javana*.

Full list of 89 (121) *cetas*

The *cetas* types are all represented in Fig. 3. For each type a code, a certain combination of letters and numbers, is introduced for quick reference.

Plane\Kind	With effect (kamma)		Indifferent	
	Unwholesome	Wholesome	Resultant	Functional
Sensual	$A_{sda}^l, A_{sd}^l, A_{sa}^l, A_s^l, A_{da}^l, A_d^l, A_a^l, A^l$ A_a^d, A^d A_v^m, A_u^m	$K_{sna}, K_{sn}, K_{sa}, K_s, K_{na}, K_n, K_a, K$	$V_{sna}^h, V_{sn}^h, V_{sa}^h, V_s^h, V_{na}^h, V_n^h, V_a^h, V^h$ $V_C^k, V_S^k, V_G^k, V_J^k, V_K^k, V_R^k, V_I^k, V_{ls}^k$ $V_C^a, V_S^a, V_G^a, V_J^a, V_K^a, V_R^a, V_I^a$	$K_{sna}^{ar}, K_{sn}^{ar}, K_{sa}^{ar}, K_s^{ar}, K_{na}^{ar}, K_n^{ar}, K_a^{ar}, K^{ar}$ H^{ar} D^5, D^m
Sublime Rupa Arupa		$J_{r1}, J_{r2}, J_{r3}, J_{r4}, J_{r5}$ $J_{a1}, J_{a2}, J_{a3}, J_{a4}$	$J_{r1}^v, J_{r2}^v, J_{r3}^v, J_{r4}^v, J_{r5}^v$ $J_{a1}^v, J_{a2}^v, J_{a3}^v, J_{a4}^v$	$J_{r1}^{ar}, J_{r2}^{ar}, J_{r3}^{ar}, J_{r4}^{ar}, J_{r5}^{ar}$ $J_{a1}^{ar}, J_{a2}^{ar}, J_{a3}^{ar}, J_{a4}^{ar}$
Supramundane		M_{1-5}^{so} M_{1-5}^{sa} M_{1-5}^{an} M_{1-5}^{ar}	P_{1-5}^{so} P_{1-5}^{sa} P_{1-5}^{an} P_{1-5}^{ar}	

Figure 3: The 89 (or 121) types of *cetas*

s: mental joy (*somanassa*), d: wrong view (*ditthi*), a: unprompted (*asankhara*);
n: with knowledge (*ñāṇa*);
C: eye (*cakkhu*), S: ear (*sota*), G: nose (*ghāna*), J:tongue (*jivhā*), K: body (*kāya*).

4. *Cetasikas* and a notation system

Each *ceta* is seen as coming together with a group of ‘mental factors’ called *cetasikas*, that arise and cease together (with that *ceta*) and have the same object and base (as that *ceta*). In the Abhidhamma model each *ceta* has its fixed set of *cetasikas*. Commentators say: ‘The *ceta* is like a king that always is accompanied by his attendants, the *cetasikas*.’ We could say that the *cetasikas* accompanying a certain *ceta* have the same duration in time and occur simultaneously.

This description can be slightly modified as follows. Our view is to consider the *ceta* as having an object and it is being colored by the set of its associated *cetasikas*. This coloring process determines the type of the *ceta*. There is no need to assign an object to the *cetasikas* themselves: they simply ‘look’ via the *ceta* being accompanied. Moreover, in our view, the *ceta* is even determined by its collection of *cetasikas*. The situation then can be simplified by stating that a *ceta* type consists of a phenomenon directed to an object and its set of accompanying *cetasikas*¹².

Unwholesome *cetasikas*

Universal unwholesome cetasikas

m, ah, an, u

m	moha	ignorance
ah	ahirika	shamelessness [for a wrong deed in present or past]
an	anotappa	fearlessness [for a wrong deed in future]
u	udacca	restlessness

Occasional unwholesome cetasikas

l, di, ma, d, is, mc, ku, th, mi, vk

¹²There are two remarks to be made here. First, a small class of *cetasikas* is called ‘unfixed’ (*aniyata-yogī*). This class is {ma,th,mi,is,mc,ku,k,mu,sv,sk,sj}. The *cetasikas* in this class are an optional part of the corresponding *ceta*. Second, there are some different *cetas* that have the same collection of associated *cetasikas*. This is e.g. the case with the prompted (K_{sn}, K_s, K_n, K) versus unprompted ($K_{sna}, K_{sa}, K_{na}, K_a$) *cetas*. We will come back to this later.

l	<i>lobha</i>	lust
di	<i>ditṭhi</i>	wrong view
ma	<i>māna</i>	conceit
d	<i>dosa</i>	hatred
is	<i>issā</i>	jealousy
mc	<i>maccariya</i>	stinginess
ku	<i>kukkucca</i>	worry
th	<i>thīna</i>	sloth
mi	<i>middha</i>	torpor
vk	<i>vicikicchā</i>	doubt

Variable cetasikas

Universal variable cetasikas

ph, v, sa, c, ek, ji, ms

ph	<i>phassa</i>	contact
v	<i>vedanā</i>	feeling
sa	<i>saññā</i>	perception
c	<i>cetanā</i>	volition
ek	<i>ekaggatā</i>	one-pointedness
ji	<i>jīvitindriy</i>	life-faculty
ms	<i>manasikāra</i>	attention

The *cetasika* v, feeling, can occur in three forms: pleasant, neutral and painful. These are denoted by the symbols v^+ , v^0 , v^- . Neutral feeling v^0 is called *upekkha*. This word has a second meaning: ‘equanimity’ that refers to a more global state of mind. For example one can have pleasant feeling v^+ with equanimity (in the second sense) or neutral feeling v^0 without equanimity (in the second sense), but with restlessness. Fortunately there is a Pali synonym for equanimity in the second sense: *tatramajjhataṭṭā*. We will use *upekkhā* for neutral feeling v^0 and *tatramajjhataṭṭā* for equanimity.

Occasional variable cetasikas

vt, vc, am, vi, pi, ch

vt	<i>vitakka</i>	initial application
vc	<i>vicāra</i>	sustained application
am	<i>adhimokkha</i>	decision
vi	<i>virīya</i>	energy
pi	<i>pīti</i>	zest, (mental) joy
ch	<i>chanda</i>	willingness

Beautiful cetasikas

Universal beautiful cetasikas

sd, s, hi, ot, al, ad, ta, kp, cp, kl, cl, km, cm, kk, ck, kn, cn, kj, cj

sd	<i>saddhā</i>	confidence
s	<i>sati</i>	mindfulness
hi	<i>hiri</i>	shame
ot	<i>otappa</i>	fear of wrong
al	<i>alobha</i>	non-greed
ad	<i>adosa</i>	non-hatred
ta	<i>tatramajjhataṭṭā</i>	equanimity
kp	<i>kayapassadhi</i>	tranquility of mental factors
cp	<i>cetapassadhi</i>	tranquility of consciousness
kl	<i>kayalahutā</i>	lightness of mental factors
cl	<i>cetalahutā</i>	tranquility of consciousness
km	<i>kayamudutā</i>	malleability of mental factors
cm	<i>cetamudutā</i>	malleability of consciousness
kk	<i>kayakammaññatā</i>	adaptability of mental factors
ck	<i>cetakammaññatā</i>	adaptability of consciousness
kn	<i>kayapāguññatā</i>	proficiency of mental factors
cn	<i>cetapāguññatā</i>	proficiency of consciousness
kj	<i>kayaujjukatā</i>	rectitude of mental factors
cj	<i>cetaujjukatā</i>	rectitude of consciousness

Occasional beautiful cetasikas

sv, sk, sj, k, mu, p

sv	<i>sammāvācā</i>	right speech
sk	<i>sammākammanta</i>	right action
sj	<i>sammājīva</i>	right livelihood
k	<i>karunā</i>	compassion
mu	<i>muditā</i>	shared joy
p	<i>pañña</i>	wisdom

Each *ceta*-type corresponds to a number of mental factors called *cetasikas*. The Abhidhamma states that a *cetasika* like a *ceta* has an object that it is cognizing. Moreover, the *cetasikas* corresponding to a *ceta* all have the same object as that *ceta*. To simplify matters it seems possible that one can abstract from the object of the *cetasikas* and just consider them as coloring that they give to a *ceta*. In the Abhidhamma the essence of a *ceta* is not elaborated. We will see that a *ceta* (almost) can be identified with the collection of corresponding *cetasikas*.

To give the idea of the role of *cetasikas*, consider looking at a flower. One can

be in an angry mood or in a peaceful mood while looking. The object of the resulting consciousness is the same, the flower, but the coloring by angryness or peacefulness makes a difference. The role of the *cetasikas* is to provide this coloring. Actually ‘coloring’ is an expression that tends to the meaning of ‘static quality’. But the *cetasikas* have a quite dynamic property, they are the agents of mind.

Eliminated cetasikas at moment of purification

The subsequent elimination of unwholesome *cetas* at the moment of purification can be described as consequences of the elimination of *cetasikas*. In Fig. 4 one sees the order according to the Abhidhamma.

path	eliminated <i>cetasikas</i>
M^{so}	di, is, mc, vk
M^{sa}	
M^{an}	d, l (for sensual pleasures)
M^{ar}	m, ah, an, u, l(remaining), ma, th, mi

Figure 4: The successive elimination of *cetasikas*

At the second purification M^{sa} no cetasika is being eliminated, but d, and l are being attenuated.

Full list of cetasikas

In Fig. 5 one finds a list of the 52 *cetasikas* described in the Abhidhamma. The subdivision in six groups has an important functionality. The *cetasikas* in the top middle (variable universals) are present in all mundane *cetas*. A subset of the variable occasionals may be added to obtain *cetas* with more mental factors. This happens when going into the direction of sublime consciousness found in the so called *jhanas*, the Buddhist mystical states. Another way of extending the set of *cetasikas* in going from the variable universals either to the left or the right, obtaining respectively the unwholesome universals or beautiful universals. It is not possible to mix the beautiful and unwholesome *cetasikas*. Having done this one may extend the set of mental factors present in one *ceta* by going down into the occasional unwholesome or beautiful set. In this proces one may also add some of the occasional variable *cetasikas*.

Apart from this functionality, there are several more issues in the Abhidhamma. For example the *cetasikas* sloth and torpor alwas come together. The main unwholesome kamma *cetasikas* greed and hatred are mutually exclusive and are always coming together with ignorance.

It is interesting how the Abhidhamma analyzes certain states of mind as combinations of *cetasikas*. For example (*khanti*), often rendered as ‘patience’, but literary ‘ability to sustain one’s normal state of mind’ is seen as the follows.

	unwholesome		variable		beautiful	
Universals	Delusion (<i>moha</i>)	m	Contact (<i>phassa</i>)	ph	Confidence (<i>saddhā</i>)	sd
	Shamelessness (<i>ahirika</i>)	ah	Feeling (<i>vedanā</i>)	v	Mindfulness (<i>sati</i>)	s
	Restlessness (<i>uddacca</i>)	u	Perception (<i>saññā</i>)	sa	Shame (<i>hiri</i>)	hi
	Fearlessness of wrong (<i>anotappa</i>)	an	Volition (<i>cetanā</i>)	c	Fear of Wrong (<i>otappa</i>)	ot
			One pointedness (<i>ekaggatā</i>)	ek	Non-greed (<i>alobha</i>)	al
			Life faculty (<i>jīvitindriya</i>)	ji	Non-hatred (<i>adosa</i>)	ad
			Attention (<i>manasikāra</i>)	ms	Equanimity (<i>tatramajjhataṭṭā</i>)	ta
					Tranquility of mental factors (<i>kāyapassaddhi</i>)	kp
					Tranquility of consciousness (<i>cetapassaddhi</i>)	cp
					Lightness of mental factors (<i>kāyalahutā</i>)	kl
					Lightness of consciousness (<i>cetalahutā</i>)	cl
					Pliancy of mental factors (<i>kāyamudutā</i>)	km
					Pliancy of consciousness (<i>cetamudutā</i>)	cm
					Adaptibility of mental factors (<i>kāyakammaññatā</i>)	kk
					Adaptibility of consciousness (<i>cetakammaññatā</i>)	ck
					Proficiency of mental factors (<i>kāyapāggūññatā</i>)	kn
					Proficiency of consciousness (<i>cetapāggūññatā</i>)	cn
					Rectitude of mental factors (<i>kāyajukatā</i>)	kj
					Rectitude of consciousness (<i>cetajukatā</i>)	cj
	Occasionals	Greed (<i>lobha</i>)	l	Initial application (<i>vitakka</i>)	vt	Right speech (<i>sammāvācā</i>)
Wrong view (<i>diṭṭhi</i>)		di	Sustained application (<i>vicāra</i>)	vc	Right action (<i>sammākammanta</i>)	sk
Conceit (<i>māna</i>)		ma	Decision (<i>adhimokkha</i>)	am	Right livelihood (<i>sammāājīva</i>)	sj
Hatred (<i>dosa</i>)		d	Energy (<i>virīya</i>)	vi	Compassion (<i>karunā</i>)	k
Jealousy (<i>issā</i>)		is	Joy (<i>pīthi</i>)	pi	Shared joy (<i>muditā</i>)	mu
Stinginess (<i>macchariya</i>)		mc	Willingness (<i>chanda</i>)	ch	Wisdom (<i>pañña</i>)	p
Remorse (<i>kukkucca</i>)		ku				
Sloth (<i>thīna</i>)		th				
Torpor (<i>middha</i>)		mi				
Doubt (<i>vicikicchā</i>)		vk				

Figure 5: Mental Factors

$$\text{khanti} = \text{ad} + \text{s} + \text{vi} + \text{p}.$$

The first two components, anti-hatred (*adosa*) and mindfulness (*sati*), are part of the universal beautiful group. The latter two, energy (*viriya*) and wisdom (*pañña*), belong to the occasional variable and beautiful groups, respectively.

Relating *cetas* and *cetasikas*

An important issue is how a *ceta* of a certain type corresponds to a set of its accompanying *cetasikas*. In Fig. 6, inspired by the corresponding chart of Ven. U. Silananda in Bodhi [2000], this is shown. It comprises the methods of associations and combinations.

	cetasika	cetasikas																					
		unw-univ.	var-univ.	v ⁻	v ⁰	v ⁺	beaut.-univ.	l	di	ma	d	is mc ku	th mi	vk	vt	vc	am	vi	pi	ch	sv, sk, sj	k, mu	P
Akusala	A_{sda}^l	X	X			X		X	X						X	X	X	X	X	X			
	A_{sd}^l	X	X			X		X	X				[X]		X	X	X	X	X	X			
	A_{sa}^l	X	X			X		X		[X]					X	X	X	X	X	X			
	A_s^l	X	X			X		X		[X]			[X]		X	X	X	X	X	X			
	A_{da}^l	X	X		X			X	X						X	X	X	X		X			
	A_d^l	X	X		X			X	X				[X]		X	X	X	X		X			
	A_a^l	X	X		X			X		[X]					X	X	X	X		X			
	A^l	X	X		X			X		[X]			[X]		X	X	X	X		X			
	A_a^d	X	X	X								X	[X]			X	X	X	X		X		
	A^d	X	X	X								X	[X]	[X]		X	X	X	X		X		
	A_v^m	X	X		X										X	X	X		X				
	A_u^m	X	X		X											X	X	X	X				
	Ahuta	$V_{C, S, G, J}^{a, k}$		X	X																		
$V_{body}^{a, k}$			X	[X / X]																			
$V_R^{a, k}$			X	X											X	X	X						
$V_I^{a, k}$			X	X											X	X	X						
V_{ls}^k			X		X										X	X	X						
H^{ar}			X		X										X	X	X	X					
D^5			X	X											X	X	X						
D^m			X	X											X	X	X	X					
Sobhana	$K_{sna} \quad K_{sn}$		X				X								X	X	X	X	X	X	[X]	[X]	X
	$K_{sa} \quad K_s$		X				X								X	X	X	X	X	X	[X]	[X]	
	$K_{na} \quad K_n$		X				X								X	X	X	X		X	[X]	[X]	X
	$K_a \quad K$		X				X								X	X	X	X		X	[X]	[X]	
	$V_{sna}^h \quad V_{sn}^h$		X				X								X	X	X	X	X	X			X
	$V_{sa}^h \quad V_s^h$		X				X								X	X	X	X	X	X			
	$V_{na}^h \quad V_n^h$		X				X								X	X	X	X		X			X
	$V_a^h \quad V^h$		X				X								X	X	X	X		X			
	$K_{sna}^{ar} \quad K_{sn}^{ar}$		X				X								X	X	X	X	X	X		[X]	X
	$K_{sa}^{ar} \quad K_s^{ar}$		X				X								X	X	X	X	X	X		[X]	
	$K_{na}^{ar} \quad K_n^{ar}$		X				X								X	X	X	X		X		[X]	X
	$K_a^{ar} \quad K^{ar}$		X				X								X	X	X	X		X		[X]	
	Mahaggata	$J_{r1}^{\{-, v, ar\}}$		X			X	X								X	X	X	X	X	X		[X]
$J_{r2}^{\{-, v, ar\}}$			X			X	X									X	X	X	X	X		[X]	X
$J_{r3}^{\{-, v, ar\}}$			X			X	X										X	X	X	X		[X]	X
$J_{r4}^{\{-, v, ar\}}$			X			X	X										X	X		X		[X]	X
$J_{r5}^{\{-, v, ar\}} \quad J_{a\{1..4\}}^{\{-, v, ar\}}$			X				X										X	X		X			X
Lokuttara	$M_1^- \quad P_1^-$		X				X								X	X	X	X	X	X	X		X
	$M_2^- \quad P_2^-$		X				X									X	X	X	X	X	X	X	X
	$M_3^- \quad P_3^-$		X				X										X	X	X	X	X	X	X
	$M_4^- \quad P_4^-$		X				X										X	X		X	X	X	X
	$M_5^- \quad P_5^-$		X				X										X	X		X	X	X	X

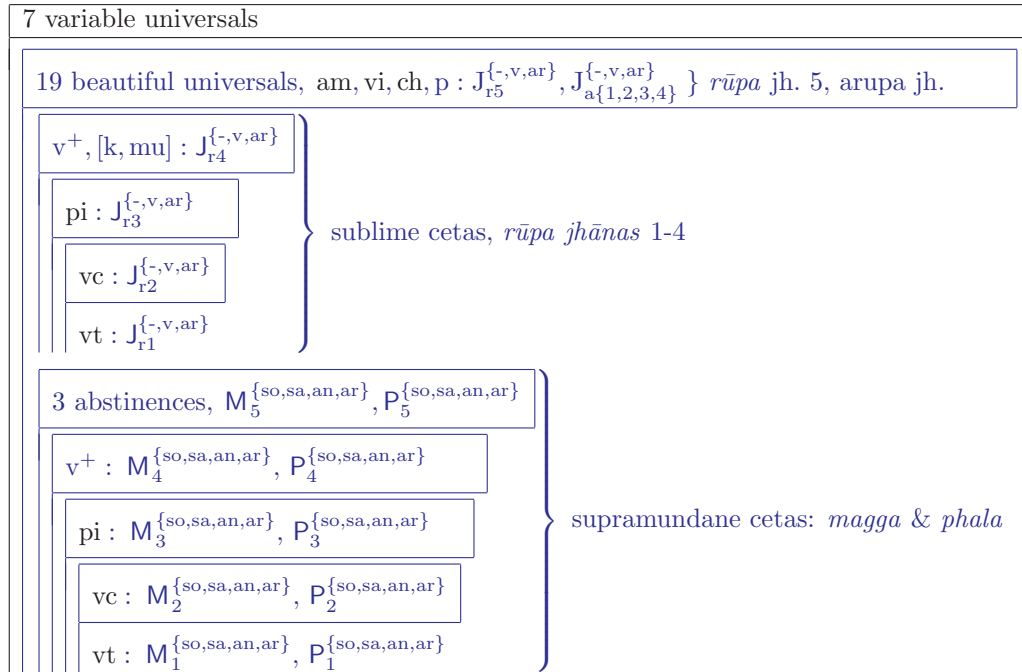
Figure 6: *Cetas* and their *cetasikas*

The 54 types of sensual cetās, including those for arhats, as built-up from cetāsikas. The 3 abstinences are right speech, right action and right livelihood (sv, sk, sj).

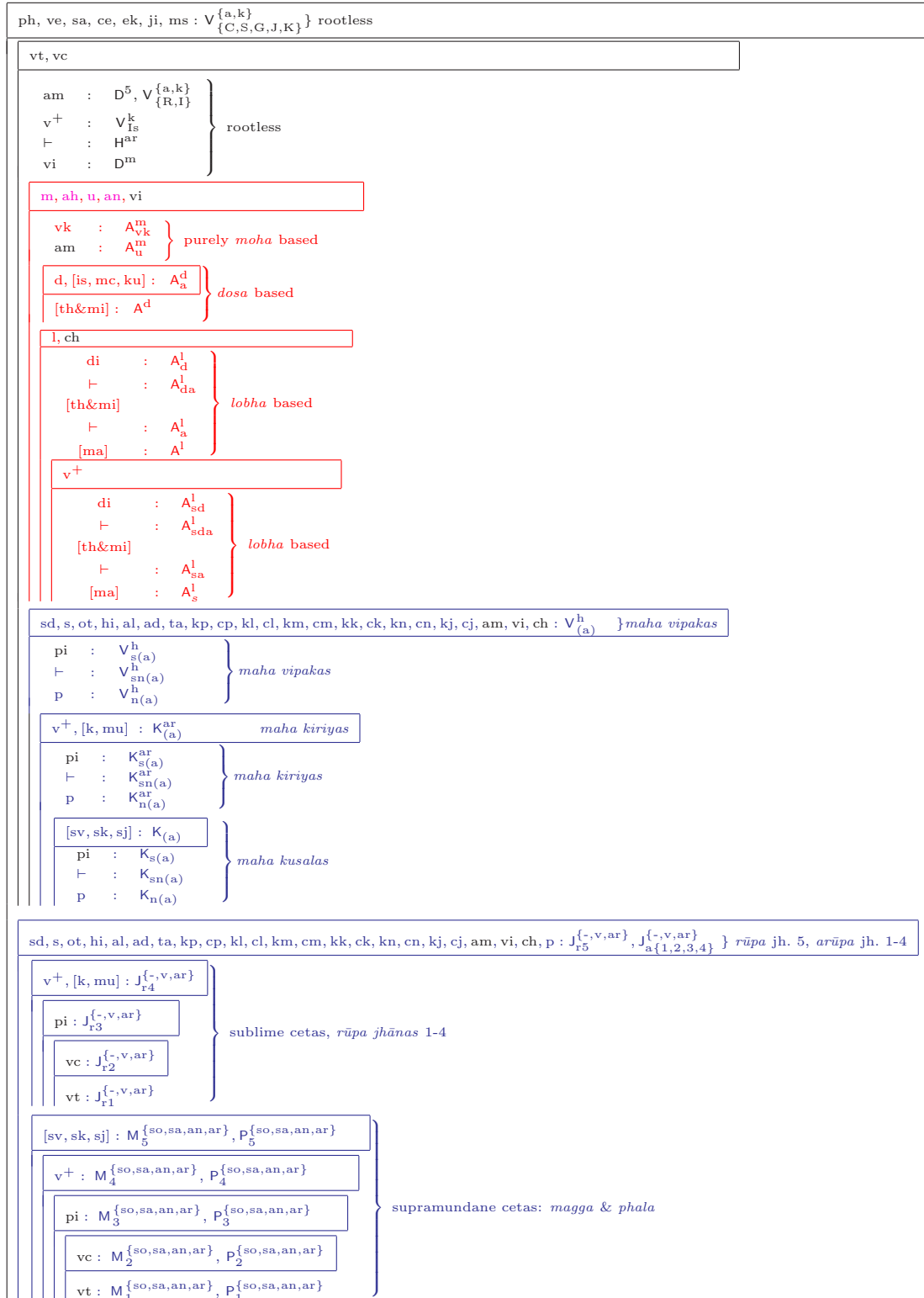
Instructions how to read this chart. If we like to know what cetāsikas correspond to a certain cetā, first look up this cetā. For example we can do this for K_{na} . This cetā is on the last line, where there are in fact two cetās intended: K_a and K_{na} , indicated together as $K_{(n)a}$. Going to the left of this cetā name, we see that we need the cetāsika p. But also we have to cross 5 lines. This means that there are more needed cetāsikas: those indicated at the ‘flag’ where the lines have originated. In the case of cetā K_{na} we get (from right to left) as total cetāsika collection: p, 3 abstinences, [optionally k and mu], 19 beautiful universals, am, vi, ch, vt, vc, 7 variable universals. This adds up to a collection of 35-37 cetāsikas. As second example consider H^{ar} , the type of a smiling arhat (fourth cetā from top). To the left of this cetā-name we see the symbol \vdash . It indicates that in this case *both* v^+ and vi are needed as cetāsikas. Adding up, the H^{ar} needs: vt, vc, vi, the 7 variable universals, of which v needs to be v^+ . To be completely explicit: the following set of 10 cetāsikas {ph, v^+ , sa, c, ek, ji, ms, vt, vc, vi} is needed for ‘*hasituppāda*’ the smile of an arahat. Note that in this case the arhat does not utilize sati (mindfulness)! Finally the notation $V_{\{C,S,G,J,K\}}^{\{a,k\}}$ indicates 10 possible cetās, varying between a and k and between C, S, G, J, K, the five physical senses. E.g. V_C^k is one of the intended cetās. Optional cetāsikas are written as for example ‘[ma]’.

7 variable universals : $V_{\{C,S,G,J,K\}}^{\{a,k\}}$ rootless	
vt, vc	
am : $D^5, V_{\{R,I\}}^{\{a,k\}}$	} rootless
v^+ : V_{Is}^k	
\vdash : H^{ar}	
vi : D^m	
m, ah, u, an, vi	
vk : A_{vk}^m	} purely <i>moha</i> based
am : A_u^m	
d, [is, mc, ku] : A_a^d	} <i>dosa</i> based
[th, mi] : A^d	
l, ch	
di : A_{da}^l	} <i>lobha</i> based
\vdash : A_d^l	
[th&mi] : A^l	
[ma] : A_a^l	
v^+	
di : A_{sda}^l	} <i>lobha</i> based
\vdash : A_{sd}^l	
[th&mi] : A_s^l	
[ma] : A_{sa}^l	
19 beautiful universals, am, vi, ch : $V_{(a)}^h$	
pi : $V_{s(a)}^h$	} Together with $V_{(a)}^h$: <i>maha vipakas</i>
\vdash : $V_{sn(a)}^h$	
p : $V_{n(a)}^h$	
$v^+, [k, mu] : K_{(a)}^{ar}$	
pi : $K_{s(a)}^{ar}$	} <i>maha kusalas</i>
\vdash : $K_{sn(a)}^{ar}$	
p : $K_{n(a)}^{ar}$	
3 abstinences : $K_{(a)}$	
pi : $K_{s(a)}$	} <i>maha kusalas</i>
\vdash : $K_{sn(a)}$	
p : $K_{n(a)}$	

The 67 types of sublime and supramundane cetāsa, as built-up from cetāsikas.



The full tree of cetasikas leading to cetas.



Exceptional correspondences

Cetas with a variable collection of cetasikas

As we already remarked in footnote 4, there are optional *cetasikas* for certain *cetas*. That is, some *cetas* may have several variants: with or without the optional *cetasikas*. These are called *unfixed adjuncts* (*aniyatayogī*). There are eleven of them: **ma**, **th**, **mi**, **ku**, **mc**, **is**, **k**, **mu**, **sv**, **sk**, **sj**. The remaining forty-one factors are called *fixed adjuncts* (*niyatayogī*). In other words some *cetasikas* always arise in the *cetas* that contain them. An example of an unfixed *cetasika* is **ma**, *mana*. There is A^l (consciousness based on lust, unprompted, with equanimity, dissociated from wrong view) with or without **ma**, conceit. One could introduce a new *ceta* A^l_{ma} and discriminate it from A^l . In the tradition this is not done, perhaps since there already are several ‘dimensions’ in the *lobha*-based *cetas*¹³.

Cetas not fully determined by the corresponding cetasikas

In many cases a *ceta* is determined by the set of its corresponding *cetasikas*. There are, however, exceptions and the opposite may occur: more than one *ceta* corresponds to a given set of *cetasikas*. For example this happens with the set of 19 beautiful *cetasikas* together with {am, vi, ch} that correspond both to V^h and V^h_a . The difference between these two is that V^h is ‘prompted’, while V^h_a is ‘unprompted’.

It is stated in Bodhi [2000] that the collection of existing *cetas* and *cetasikas* is larger than the ones listed in the Abhidhamma model, but that this extension, however, is not needed for the description of the path to liberation. The collection of *cetasikas* is seen as “an open-ended class of mental phenomena, that can be used to specify any state of mind whatsoever”. We interpret this as an invitation to extend the Abhidhamma model in order to try to make the correspondence more unique: each *ceta* corresponds in a unique way to a mixture of *cetasikas*.

Inspired by this one could introduce a new *cetasika* for a mental factor ‘spontaneity’. For this new *cetasika*, we propose as symbol ‘as’ (*asankara*). It should be put in the class of occasional variable *cetasikas*. Then V^h_a can be described using as extra ingredient this *cetasika*. In style with the Abhidhamma one can delineate as by mentioning its *characteristic*, *function*, *manifestation*, and *direct cause*. As characteristic one can take “*arising by itself*”; as function “*the activation of body and mind, the intention to reaction*”; as manifestation “*directness*”; as direct cause “*bodily and mental fitness, nutrition, temperature, having done similar deeds in the past*”.

This mental exercise decreases the number of exceptions to the ‘rule’ that a *ceta* is determined by the set of its *cetasikas*. The remaining exceptions are with four groups

¹³In chemistry something similar happens. A protein is in principle uniquely described by its sequence of amino-acids. However, two different proteins may result from the same sequence. One difference, in the so-called prions, can be caused by a different folding. Another difference may be the result of adding some extra radical in one of the constituting amino-acids.

of *cetas* having each the same set of *cetasikas* (see the full tree of *ceta cetasika* relations).

- (i) $V_C^a, V_S^a, V_G^a, V_J^a$;
- (ii) $D^5, V_R^k, V_R^a, V_I^k, V_I^a$;
- (iii) $J_{r5}, J_{a1}, J_{a2}, J_{a3}, J_{a4}$;
- (iv) $M^{so}, M^{sa}, M^{an}, M^{ar}, P^{so}, P^{sa}, P^{an}, P^{ar}$.

These exceptions can be understood as follows.

(i) The first group is concerned with input from the senses: seeing, hearing, smelling and tasting having a rather different object as content, enough to distinguish the *ceta*.

(ii) Here we have no good explanation why there are different *cetas*. Perhaps it is the function of these *cetas* that matter: D^5 ‘knocks on the door’ to announce sensory input, then comes the actual input, then V_R^k and V_R^a make a ‘registration’ possibly diverging if the input is caused by wholesome or unwholesome *kamma*, see Section 5. Finally V_I^k and V_I^a do the registration, with the option to do this with joy, using the *ceta* V_{Is}^k .

(iii) The next group of higher sublime *cetas* also differ in their objects. The fifth *rūpa jhāna* J_{r5} has an object derived from ordinary sensory objects. The four *arūpa jhānas* on the other hand have concepts as object: infinite space, infinite consciousness, emptiness, and neither perception nor non-perception. Apparently this is enough to distinguish them as *cetas*.

(iv) Finally the ‘path’ *cetas* (*maggā*) of enlightenment M_i^{so}, M_i^{sa} , etcetera versus the ‘fruition’ *cetas* (*phala*) P_i^{so}, P_i^{sa} etcetera. These all have the same collection of *cetasikas*, depending on the index i . This class is the same as for the *rūpa jhānas* J_{ri} . The difference between for example M_1^{so} and P_1^{so} is that with M_1^{so} some deconditioning takes place, while it doesn’t take place at P_1^{so} , *as it has already happened*. The difference between M_1^{so} and M_1^{sa} is that by M_1^{sa} the deconditioning happens at a deeper level.

At the level of streamwinner one eliminates doubt **vk**, wrong view **di**, jealousy **is**, and stinginess **mc**. At the level of once-returner one dilutes greed **l**, and hatred **d**. At the level of non-returner one eliminates (sensual) greed, hatred, and worry **ku**. Finally at the level of Arahant (fully enlightened person) one eliminates the remaining negative *cetasikas*: (remaining forms of) greed **l**, conceit **ma**, sloth **th**, torpor **mi**, shamelessness **ah**, fearlessness **an**, restlessness **u**, and finally ignorance **m**.

5. *Vīthis*

A *ceta* as flash of consciousness is so short that in order to perceive something several of them are needed. In the commentaries to the Abhidhamma one speaks about *cetāvīthi*. A *vīthi* literally means street, and is used in the sense of sequence. Thus *cetāvīthi* is a sequence of *cetas*. During these sequences cognition occurs. There are six types of cognitive processes in the sense sphere: they are divided into two groups. These are the *pañcadvāravīthi* (the five-door process, which includes the five processes occurring at each of the physical sense doors); and the *manodvāravīthi* (the mind-door process which comprises all processes that occur solely at the mind door).

Baseline

Baseline consciousness, called *bhavanga*, consists of an uninterrupted sequence of a particular *ceta*-type, each having the same object. From this emerge cognitive/emotional streams in the form of *vīthi*: sequences of *cetas*. After such a cognitive/emotional process one falls back to baseline. This happens over and over again. Coming out from this *bhavanga* the phenomena of cognition, with their emotional components, arise and pass away.

The type and content of the *ceta* that constitutes the *bhavanga* determine the character of a person. According to the tradition it is determined during the last moments of the ‘owner’s’ previous life. *Cetas* that can function as *bhavanga* are: $V_1^k, V_1^a, V_{sna}^h, V_{sn}^h, V_{sa}^h, V_s^h, V_{na}^h, V_n^h, V_a^h, V^h, J_{r1}^v, J_{r2}^v, J_{r3}^v, J_{r4}^v, J_{r5}^v, J_{a1}^v, J_{a2}^v, J_{a3}^v, J_{a4}^v$.

The Abhidhamma has as colorful element the assigning different planes of existence according to the type of *ceta* at the moment of rebirth¹⁴.

The five-door process

Cognition coming from the five physical senses, eye, ear, nose, tongue and body, is called *pañcadvāravīthi*. Such a cognitive process consists of seventeen *cetas*.

$$\underbrace{\dots \mathbb{B} \mathbb{B}}_{bhavanga} \underbrace{\mathbb{B}_1 \mathbb{B}_2 \mathbb{B}_3 D^5 \mathbb{V} R_c \mathbb{I} D^m}_{5-vīthi} \underbrace{J J J J J J J R_g R_g}_{kamma} \dots$$

Let us denote the *ceta* of *bhavanga* by \mathbb{B} . Now suppose a visible form as object enters the the eye. Then the following happens. First $\mathbb{B}_1, \mathbb{B}_2, \mathbb{B}_3$ constitute a transition from *bhavanga* to perception (‘baseline vibrates for two mind-moments and is arrested’). Then arises the five-door adverting *ceta* D^5 and ceases, announcing that some sensory-input arises.

Immediately afterwards a *ceta* \mathbb{V} with sensory input arises. The *ceta* \mathbb{V} may stand for any of the following ten *ceta*-types: $V_C^a, V_S^a, V_G^a, V_J^a, V_K^a, V_C^k, V_S^k, V_G^k, V_J^k, V_K^k$. The V_a stand for sensory input caused by unwholesome *kamma*, while the V_k stand for sensory input caused by wholesome *kamma*. The Abhidhamma model states that

¹⁴If rebirth consciousness is V_1^a , then one is reborn in a woeful place. There are four types of woeful places. It can be one of the 168 possible hells, with freighting names like *Avīca*, *Mahā Roruva*, and *Tāpana*. It can be the animal kingdom, where one is reborn as an animal. It can be the peta world, where one is reborn as a hungry ghost, near the humans. Finally it can be the world of asuras, titans, that are in a fight with the gods in the Tāvātimsa heaven.

If rebirth consciousness is V_1^k , then one is reborn like a human with defects, like being handicapped, blind, or deaf, or one is reborn as a lower kind of god.

If rebirth consciousness is one of the $V_{sna}^h, V_{sn}^h, V_{sa}^h, V_s^h, V_n^h, V_{na}^h, V_a^h, V^h$ *cetas*, then one is reborn as a human. If it is $V_{sna}^h, V_{sn}^h, V_{na}^h, V_n^h$, then one has three roots and has the possibility to become enlightened. If it is V_{sa}^h, V_s^h, V_a^h , or V^h , then one has only two roots and cannot become enlightened. Meditation still makes sense: one can develop enough good *kamma* to be reborn as a humen with three roots.

Finally, if rebirth consciousness is among the set $\{J_-\}$, then one is reborn in the deva world as a god.

the V_-^a have as *cetasika* v^0 or v^- (neutral or negative feeling), while the V_-^k have as *cetasika* v^0 or v^+ (neutral or positive feeling). Neither form of the V have wholesome or unwholesome *kamma*. We will discuss the notion of *kamma* in a sequel paper.

If we focus on eye-consciousness, then V can be only V_C^a or V_C^k , eye-consciousness seeing that input. Then the *ceta* \mathbb{R}_c ‘receives’ this input; it may be either V_R^k or V_R^a . The investigating *ceta* \mathbb{I} may be one of V_I^a, V_I^k, V_{Is}^k .

These eight mind moments ($\mathbb{B}_1\mathbb{B}_2\mathbb{B}_3\mathbb{D}^5\mathbb{V}\mathbb{R}_c\mathbb{I}\mathbb{D}^m$: ‘preparation’ and input) form a passive autonomic process without ‘mental choices’. Following this, generally seven *cetas* occur, the so-called *javanas*. Here \mathbb{J} stands for one of the *cetas* $A_{sda}^l, A_{sd}^l, A_{sa}^l, A_s^l, A_{da}^l, A_d^l, A_a^l, A^l, A_a^d, A^d, A_v^m, A_u^m, K_{sna}, K_{sn}, K_{sa}, K_s, K_{na}, K_n, K_a, K, K_{sna}^{ar}, K_{sn}^{ar}, K_{sa}^{ar}, K_s^{ar}, K_{na}^{ar}, K_n^{ar}, K_a^{ar}, K^{ar}$, and H^{ar} . These are seven occurrences of the same *ceta*-type with the same visual object as the first one. During the seven *javanas* there is an affective coloring and an act of will directed on a fixed object, according to the commentaries. In this phase there arises an ‘emotional reaction’, by the *cetas* that ‘run through the object’, ‘mentally scan the object’, give it a ‘mental impulse’, and activate an ‘emotional coloring’. Hence by the Abhidhamma model, every act of consciousness has an emotional valence. The *javanas* form the most essential and dramatic part of the *vīthi*. After the *javanas*, two registering *cetas* \mathbb{R}_g occur. These can be one of the following *cetas*: $V_{sna}^h, V_{sn}^h, V_{sa}^h, V_s^h, V_{na}^h, V_n^h, V_a^h, V^h, V_I^a, V_I^k, V_{Is}^k$.

This terminates the sensory *vīthi*. This type of *vīthi* is also called a 5-*vīthi*, referring to the five physical senses (*pañcadvāravīthi*).

Function of *cetas*

The Abhidhamma posits altogether fourteen functions performed by different kinds of consciousness. These are exercised either at distinct phases within the cognitive process or on occasions when consciousness is occurring outside the cognitive process, that is, in process-free consciousness. The fourteen functions are: rebirth, baseline (*bhavanga*), advertent, seeing, hearing, smelling, tasting, touching, receiving, investigating, determining, javana, registration and death. A given type of consciousness may perform several functions completely different from the one with reference to which it is named. Consciousness can perform only one function at a time. We have rearranged the fourteen functions into six main classes, indicated by different letters. We indicate how we do it differently. Rebirth, base-line, death by \mathbb{B} . We do not use the class ‘advertent’ as its two instances $\mathbb{D}^5, \mathbb{D}^m$ are given explicitly in describing the 5-*vīthi* and the *m-vīthi*. The functions of sensory input, viz. seeing, hearing, smelling, tasting, and touching are collectively indicated by the letter \mathbb{V} . Again we do not use the class ‘determining’ as it has only one element, the *ceta* \mathbb{D}^m . The functions receiving, investigating, javana, and registration have been kept as in the commentaries; for these we use the letters $\mathbb{R}_c, \mathbb{I}, \mathbb{J}, \mathbb{R}_g$, respectively.

function	<i>cetas</i> having that function
\mathbb{B} (baseline, rebirth and death)	$V_I^k, V_I^a,$ $V_{sna}^h, V_{sn}^h, V_{sa}^h, V_s^h, V_{na}^h, V_n^h, V_a^h, V^h,$ $J_{r1}^v, J_{r2}^v, J_{r3}^v, J_{r4}^v, J_{r5}^v,$ $J_{a1}^v, J_{a2}^v, J_{a3}^v, J_{a4}^v$
\mathbb{V} (sensory input)	$V_C^a, V_S^a, V_G^a, V_J^a, V_K^a,$ $V_C^k, V_S^k, V_G^k, V_J^k, V_K^k$
\mathbb{R}_c (receiving)	V_R^k, V_R^a
\mathbb{I} (investigating)	$V_I^a, V_I^k, V_{I_s}^k$
\mathbb{J} (javana)	$A_{sda}^l, A_{sd}^l, A_{sa}^l, A_s^l, A_{da}^l, A_d^l, A_a^l, A^l,$ $A_a^d, A^d, A_v^m, A_u^m,$ $K_{sna}, K_{sn}, K_{sa}, K_s, K_{na}, K_n, K_a, K,$ $K_{sna}^{ar}, K_{sn}^{ar}, K_{sa}^{ar}, K_s^{ar}, K_{na}^{ar}, K_n^{ar}, K_a^{ar}, K^{ar},$ H^{ar}
\mathbb{R}_g (registration)	$V_{sna}^h, V_{sn}^h, V_{sa}^h, V_s^h, V_{na}^h, V_n^h, V_a^h, V^h,$ $V_I^a, V_I^k, V_{I_s}^k$

Figure 7: Functions of *cetas*.

In Fig 7 we summarize how various *cetas* are being used (this is called ‘the function of a *ceta*’ in Bodhi [2000]) in the *vithis*. These notions are also coming from the Abhidhamma commentaries.

Analog-digital translation

The Abhidhamma describes an interesting analog-digital translation between intensity of signals and the discrete *vithi* reactions.

B ₁	B ₂	B ₃	D ⁵	V	R _c	I	D ^m	J	J	J	J	J	J	J	J	R _g	R _g
B ₁	B ₁	B ₂	B ₃	D ⁵	V	R _c	I	D ^m	J	J	J	J	J	J	J	J	B
B ₁	B ₁	B ₁	B ₂	B ₃	D ⁵	V	R _c	I	D ^m	J	J	J	J	J	J	J	J
B ₁	B ₁	B ₁	B ₁	B ₂	B ₃	D ⁵	V	R _c	I	D ^m	D ^m	D ^m	B	B	B	B	B
B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B ₃	D ⁵	V	R _c	I	D ^m	D ^m	D ^m	B	B	B	B
B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B ₃	D ⁵	V	R _c	I	D ^m	D ^m	D ^m	B	B	B
B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B ₃	D ⁵	V	R _c	I	D ^m	D ^m	D ^m	B	B
B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B ₃	D ⁵	V	R _c	I	D ^m	D ^m	D ^m	B
B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B ₃	D ⁵	V	R _c	I	D ^m	D ^m	D ^m
B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B ₂	B	B	B	B	B	B
B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B	B	B	B	B
B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B	B	B	B	B
B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B	B	B	B
B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B	B	B
B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B	B
B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₁	B ₂	B	B

The tabel shows perception with, say visual, objects of varying intensity. If the input is sufficiently intense (‘great-object’, top line), then its processing is an ordinary *vīthi*. If the intensity is less, the *vīthis* is modified as in the figure. Below a certain threshold, the *javanas* are even completely absent.

The mind-door process

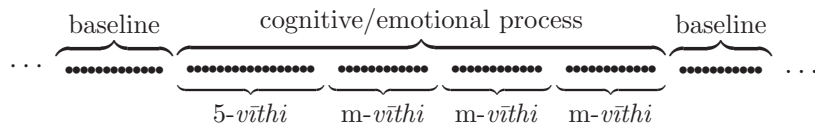
Cognition coming from the mind (for example, think about the Eiffel tower) causes a mental *vīthi*, also called a *manodvāravīthi*. In this case the process consists of 12 *cetas*.

$$\dots \underbrace{B_2 B_3 D^m J J J J J J R_g R_g}_{m\text{-}vīthi \text{ of a mental process}} \dots$$

Interestingly now the D^m is not considered as the determining *ceta*, but as the ‘mind-door adverting *ceta*’.

The cognitive/emotional process

According to U Ñāṇdamālabhivaṃsa in his lectures on Abhidhamma each 5-*vīthi* is followed by 3 m-*vīthis*. The 5-*vīthi* is concerned with the *input*, the first m-*vīthi* with *memory*, the second one with the *name* of the object perceived, and the third m-*vīthi* is concerned with *meaning*. Therefore each *vīthi* is a cognitive/emotional unit and the four *vīthis* in sequence form the cognitive emotional process. This process is embedded in baseline: every now and then it emerges from baseline, determining our life. Then the *ceta*-stream slides back into the *bhavanga*.



For a cognitive process to occur, all the essential conditions must be present. According to the commentaries, the essential condition for an eye-door process are: *cakkhup-pasāda* (eye-sensitivity); *rūpārammana* (visible object); *āloka* (light); *manasikāra* (attention). This is one aspect of the Abhidhamma Model that is found in the commentaries but not in the Abhidhamma Pitaka itself.

Absorptions

The absorptions, also known in several contemplative traditions as mystical states, are described as special kinds of *vīthis*. In the ordinary *vīthis*, both the sensory and mind ones, the *javanas* are all uniform: having the same object and type. In the absorption *vīthi* (also called *appanajavana-manodvāravīthi* ‘the process of absorption *javanas* in the mind door’) the *javanas* can be heterogenous, consisting of *cetas* of different types and even of different planes. *Jhānas* are typically occurring in advanced concentration meditation. They can also occur in insight meditation, where one is warned that one has to go beyond these *cetas*.

Rūpa-jhānas

The *rūpa-jhānas* arise when a visual object, the *kasina*, is taken as object of meditation. Usually one takes a disc made of clay. Then one visualizes this object with closed eyes. It is then, provided that the hindrances of meditation¹⁵ are overcome, that the *rūpa-jhānas* may appear.

Important in the *rūpa-jhānas* ‘fine material absorptions’, are the ‘jhana factors’: vt initial application, vc sustained application, pi zest, v⁺ happiness, ek one-pointedness and ta equanimity, see Fig. 8. Here ‘initial application’ is a kind of effortful concentration and ‘sustained application’ is a kind of concentration that keeps itself automatically. In the first *jhāna* one has all five factors; in each successive *jhāna* one has less of these factors.

J _{r1}	vt	vc	pi	v ⁺	ek & ta
J _{r2}		vc	pi	v ⁺	ek & ta
J _{r3}			pi	v ⁺	ek & ta
J _{r4}				v ⁺	ek & ta
J _{r5}					ek & ta

Figure 8: The *jhāna* factors

We have indicated ek & ta in all the *jhānas*, while this is not done e.g. in Bodhi [2000]. But ek occurs in all forms of consciousness (*cetas*) and is probably mentioned in the Abhidhamma as it is present in a particular strong form in a *jhāna ceta*. Based on Fig. 6 and personal meditation experience we have added ta in this table, as present in each (*rūpa-*)*jhāna*.

¹⁵Desire, aversion, restlessness, sleepiness and doubt.

During insight meditation one may obtain the so-called *vipassanā-jhānas*: these are not based on a visualized *kasina*, but on daily objects. The distinguishing feature is that the *jhāna*-factors are present.

Arūpa-jhānas

The *arūpa-jhānas* are modifications of the fifth *rūpa-jhāna*. In the first *arūpa-jhāna* the object is being transformed into ‘infinite space’. In the second *jhāna* it becomes ‘infinite-consciousness’. In the third *jhāna* ‘nothingness’. In the fourth and final *jhāna* it becomes the enigmatic ‘neither preception nor non-perception’.

The *arūpa-jhānas* start from the fifth *rūpa-jhāna*, that was still having an object the *kasina* (often a disc) coming originally from a visual object. One imagines the disc to grow beyond all bounds and thus obtains ‘infinite space’. Then one considers not the space itself, but the consciousness of that space, entering the second *arūpa-jhāna*: ‘infinite consciousness’. After that one is said to transcend that object and observes the consciousness observing it, reaching ‘nothingness’, the third *arūpa-jhāna*. Finally observing the consciousness with nothingness as object, one reaches the fourth *arūpa-jhāna*: ‘neither preception nor non-perception’. At the question why one cannot go on and take this form of consciousness as object the answer was “it is too close to *nibbāna*”.

Structure of a jhāna as vīthi

The first time one perceives a *jhāna* (‘absorptions for the beginner’) the *jhāna ceta* occurs only one time. This happens in a *vīthi* with the following structure.

$$\mathbb{B}_1 \mathbb{B}_2 \mathbb{D}^m (\mathbb{J}_p) \mathbb{J}_u \mathbb{J}_a \mathbb{J}_g \mathbb{J}_{jhana} \mathbb{B}\mathbb{B}$$

The four occurrences (\mathbb{J}_p), \mathbb{J}_u , \mathbb{J}_a , \mathbb{J}_g are named as follows.

- \mathbb{J}_p preparation (*parikamma*)
- \mathbb{J}_u access (*upacāra*)
- \mathbb{J}_a conformity (*anuloma*)
- \mathbb{J}_g change of lineage (*gotrabhū*)

These *quetas* belong to the subset of those that can have the function of *jhavana*. They all have wholesome kamma and are accompanied with knowledge:

$$K_{sna}, K_{sa}, K_{na}, K_a, K_{sna}^{ar}, K_{sa}^{ar}, K_{na}^{ar}, K_a^{ar}.$$

It is said that someone of average faculties needs the \mathbb{J}_p , while someone with keen faculties may skip it. The *ceta* \mathbb{J}_{jhana} ranges over the set

$$\begin{array}{l} \mathbb{J}_{r1}, \mathbb{J}_{r2}, \mathbb{J}_{r3}, \mathbb{J}_{r4}, \mathbb{J}_{r5}, \mathbb{J}_{a1}, \mathbb{J}_{a2}, \mathbb{J}_{a3}, \mathbb{J}_{a4}, \\ \mathbb{J}_{r1}^{ar}, \mathbb{J}_{r2}^{ar}, \mathbb{J}_{r3}^{ar}, \mathbb{J}_{r4}^{ar}, \mathbb{J}_{r4}^{ar}, \mathbb{J}_{a1}^{ar}, \mathbb{J}_{a2}^{ar}, \mathbb{J}_{a3}^{ar}, \mathbb{J}_{a4}^{ar}, \\ \mathbb{P}_k^{so}, \mathbb{P}_k^{sa}, \mathbb{P}_k^{an}, \mathbb{P}_k^{ar} \end{array}$$

if the P are used in a *jhāna*, then this is called a ‘supra-mundane’ *jhāna*. In Bodhi [2000] the ceta $\mathbb{J}jhana$ also ranges over $M_k^{so}, M_k^{sa}, M_k^{an}, M_k^{ar}$, for $1 \leq k \leq 5$. But then not only an absorption is obtained, also an absorption which is in fact a path attainment. We will treat this below.

After some exercise one may become well-trained in obtaining the absorption and can make the *jhāna* moment arbitrarily long:

$$\mathbb{B}_1 \mathbb{B}_2 D^m (\mathbb{J}_p) \mathbb{J}_u \mathbb{J}_a \mathbb{J}_g \mathbb{J}^\infty jhana \mathbb{B}\mathbb{B}$$

This is the reason why mystical experience in all traditions is considered as special: in ordinary wordly consciousness *vīthi* raise and fall from *bhavanga* (baseline). During the mature absorption one does not fall back to *bhavanga* but keeps consciousness up¹⁶, effortlessly. Probably this can be done because the elaboration of consciousness is done in a lean way: the above mentioned hindrances are absent.

Attainment of Path and Fruit

Next to the absorptions there are the attainments of the path (moments of purification or enlightenment). This happens in a *vīthi* that in structure is very similar to one attaining a *jhāna*. The big difference is that the unwholesome *cetasikas* acting as hindrances are not only temporarily absent (suppressed) but fully eliminated (one by one). Attaining the first level of enlightenment one is a *sottapanna*, a streamwinner. This person has eliminated **di** (wrong view, believing in a fixed ego), **mc** (avarice), **is** (jealousy), and **vk** (doubt). At the second level one is *sakadāgāmi*, a once returner. This person has not eliminated any *cetasika*, but only diluted the strength of the *cetasikas* **d** and **l**. Then comes the *anāgāmi*, the non-returner. This person has eliminated **ku** (remorse), **d** (hatred), and **l** (lust), albeit only the elimination of lust for sensual (physical) pleasures. Finally the Arahant, fully enlightened person, has eliminated **th** (sloth), **mi** (torpor), **ma** (conceit), **l** (mental greed), **u** (restlessness), **an** (fearlessness of doing wrong), **ah** (shamelessness of doing or having done wrong), and **m** (ignorance). The successive consciousness moments of becoming (more) enlightened are denoted by M^{so} , M^{sa} , M^{an} , and M^{ar} , respectively.

The *maggacetas* can occur while being in a specific *rūpajhāna*. From an *arūpajhāna* path consciousness is not possible. As alluded to in Section 3, these *maggacetas* are given indices according to the (*rūpa*)*jhāna* from which one has entered. The first two *maggacetas* can occur also without having reached a *jhāna*. One has to work towards a *jhāna* and just before reaching it to enter *maggā*. Then that *maggā* also gets the index of the *jhāna* that would have been obtained otherwise. The criterium being the collection of *jhāna*-factors that is left.

¹⁶Something similarly happens during pipelining in a supercomputer, in which numbers are represented in a light way so that many of them can be added in a very short time.

Structure of attainment as *vīthi*

Path or *magga* is reached as follows

$$\mathbb{B}_1\mathbb{B}_2\mathbb{D}^m(\mathbb{J}_p)\mathbb{J}_u\mathbb{J}_a\mathbb{J}_g\mathbb{M}\mathbb{P}\mathbb{P}$$

It is said that someone of average faculties needs the \mathbb{J}_p , while someone with keen faculties may skip it. The ceta \mathbb{M} ranges over the set

$$\mathbb{M}_k^{\text{so}}, \mathbb{M}_k^{\text{sa}}, \mathbb{M}_k^{\text{an}}, \mathbb{M}_k^{\text{ar}}$$

One sees that there is no \mathbb{R}_g in the *vīthi* reaching *magga*. The *magga* cetas have the same mental factors as the *jhānas*, except that the *cetasikas* μ and k may not be present¹⁷. The distinguishing factor between the *jhānas* and the *maggas* is that the latter have *nibbāna* as object. This is one of the few cases in which the object of the *ceta*¹⁸ matters.

After one has obtained *magga* its fruits *phala* may arise.

$$\mathbb{B}_1\mathbb{B}_2\mathbb{D}^m(\mathbb{J}_p)\mathbb{J}_u\mathbb{J}_a\mathbb{J}_g\mathbb{P}\mathbb{P}\mathbb{P}$$

It is said that someone of average faculties needs the \mathbb{J}_p , while someone with keen faculties may skip it. The ceta \mathbb{P} ranges over the set

$$\mathbb{P}_k^{\text{so}}, \mathbb{P}_k^{\text{sa}}, \mathbb{P}_k^{\text{an}}, \mathbb{P}_k^{\text{par}}$$

Each *phalaceta* is like its corresponding *magga*. The difference this time being that the work of eliminating the unwholesome *cetasikas* already has taken place.

Continuing

After the attainment the trainee (or *Arahant* if all unwholesome *cetasikas* are eliminated) continues to live using sensual or sublime *cetas*. As some *cetasikas* have been eliminated, also some *cetas* will no longer be used. For example, a *sottapanna* does not use any longer the *ceta* \mathbb{A}_q^l . The *anāgāmi* will no longer use the *ceta* \mathbb{A}_q^d . The *Arahant* will not use any longer any of the unwholesome *cetas* found in Fig. 3. The *cetas* they do use are no longer the wholesome ones: there is nothing to improve. For this reason there are the *kiriya*cetas. These ‘functional’ *cetas* can be considered to be a ‘copy’ of the wholesome *cetas*, while the work has been finished.

6. Conclusion

In this paper we have presented aspects of the Buddhist Psychology (the Abhidhamma). We have been inspired by Bodhi [2000], a well-known commentary of the traditional Abhidhamma, and the oral transmission brought to us by U. Ñānamālabhivaṃsa. We

¹⁷During the path towards *magga*, the *cetasikas* μ and k are important. Also after having reached *magga*, these two beautiful *cetasikas* will be used frequently.

¹⁸Also in the *arūpa*jhānas the object is relevant.

present the theory in a compact way. We introduce what we call the Abhidhamma model (AM₀), which includes the following. 1. The theory that consciousness consists of consciousness flashes (*cetas*) following each other rapidly in time. The *cetas* are distinguished by their specific states. In fact we identify a *ceta* with a momentary consciousness state. 2. Then there are the mental factors (*cetasikas*) that accompany the various *cetas*. We argued that in most cases the *cetasikas* essentially can be seen as components of the *cetas*. 3. We gave systematic abbreviations for the *cetas* and *cetasikas*. 4. We described the modelling of cognition in the AM₀ as specific sequences of *cetas*, the so called *vīthi*s. 5. Also we show how in AM₀ the absorptions (similar to mystical states) are modelled as such. 6. Also the four possible moments of enlightenment and their effects are described.

The AM₀ makes it clear what is the purpose of various forms of Buddhist meditation, samatha and vipassana, and why in different branches of Buddhist practice different forms of meditation are used. In Theravada with its vipassana meditation one emphasizes the development of the *cetasika* s, mindfulness. In Zen Buddhism one emphasizes *vc* and *vt*, high forms of concentration. In Vajrayana (Tibetan Buddhism) one emphasizes *k*, compassion. Both traditions have a point. Compassion without protection by equanimity may become pitty. Mindfulness without compassion may become dry. So actually it is best to practise both. Interestingly, in order to practise compassion, one needs mindfulness. So this practice seems preferable. The point of the Theravadins to emphasize mindfulness is that at the moment of enlightenment *M*^{so} (or for that matter *M*^{sa} *M*^{an} *M*^{ar}), one should not have compassion, as that *ceta* is directed to other persons and not to *nibbāna*.

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