

Vipassana: penetrating & protecting mindfulness

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Topic	Study of consciousness
Approach	trained phenomenology from vipassana meditation
Methodology [Spin off	to be verified by neurophysiology modelling aspects of neuroses and psychoses]

Mindfulness and its use

Vipassana Insight meditation from classical Buddhism

mindfulness *languageless* non-reactive meta-awareness
directed to one object at the time
being close to the object without sticking to it
observing 'There is sadness' without being sad

$$\frac{\text{mindfulness}}{\text{consciousness}} = \frac{\text{dna}}{\text{proteins}}$$

Applied with *discipline* and *concentration* towards *intuitive insight*

First directed on *breathing* and *footsteps*, then also on

'hindrances': *desire, ill-will, sleepiness, restlessness* and *doubt*

keeping distance even if one is **upset** or in **ecstatic bliss**; is purifying

The three fundamental characteristics

This way the *three characteristics* of existence may be revealed:

non-permanence *suffering* *selflessness*

chaos *disgust* *out of control*

dukkha = nausea/disgust for the void

Here one observes the 'atomicity' of mind (Abhidhamma)

with its strong effects, like being in panic, depressed or nauseated

Student may consult the teacher 24h/day for such cases of dissociation

Teacher encourages student to continue

Student does not want to, but has nothing better to do

understands that **all existential fears come from the three characteristics**

that they are the *cause of war*, that life acts as symptomatic cover-up

Protection

Continued practise brings equanimity, both for **ecstasy** and for **disgust**
mindfulness now acts as protection

developing calm & bliss and *surrendering*

one may obtain a view of underlying permanence (*nibbana*)

that purifies consciousness

eradicating the negative side effects of the three characteristics

The characteristics remain but do no longer **sting**

cf.

usual falling \longmapsto dizziness and panic

parachutist jumping \longmapsto no dizziness, no panic

Purification

Ordinary consciousness looks stylistically as follows

\\\\\\\\-----////////|\\\\\\\\\\-----_____/\\\\\\\\ (1)

Broken cognition looks like (— : strong effects)

\|— / - / _ _ - _ / \ -- — \\ _ _ - _ _ / || - \ - _ | - // _ _ | (2)

Cover-up with emotions

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 _ _ \ _ _ \ _ _ _ _ _ - _ _ _ _ _ / _ _ || _ _ - _ _ \ } (3)

or drugs (or self-induced depression?)

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 _ _ \ _ _ \ _ _ _ _ _ - _ _ _ _ _ / _ _ || _ _ - _ _ \ } (4)

purification

\| / - / _ _ / \ -- \\ _ _ - _ _ / || - \ - | - // _ _ | (5)

giving back (1)

Artist's Impression: Seurat & Ravel, *Lever du jour* from *Daphnis & Chloé*



73 Georges Seurat *A Sunday Afternoon on the Island of La Grande Jatte* 1884–6
Oil on canvas 81 × 128 ins: Art Institute of Chicago, Helen Birch Bartlett Memorial Collection

II.1 The Abhidhamma Model

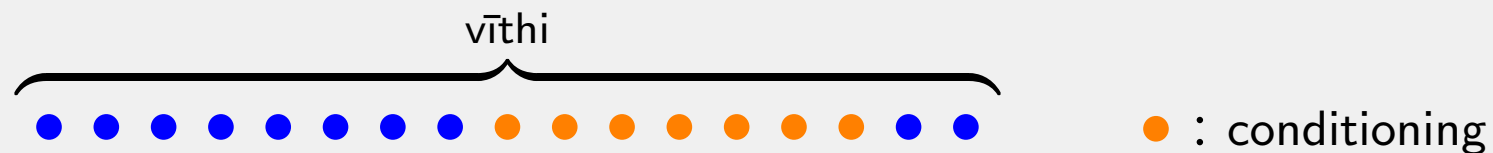
Main thesis in physics (Feynman):

Matter is not continuous, but atomic

Main thesis of the Abhidhamma:

Consciousness is not continuous, but discrete
acting on three levels

Cetas	‘mental atoms’	existing in time
Cetasikas	‘mental elementary particles’	acting in parallel
Vīthis	‘mental molecules’	acting in a serial way

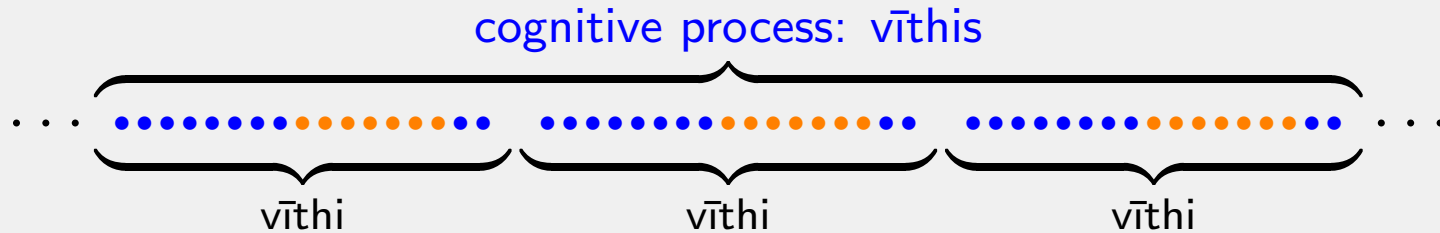


On all three levels consciousness is discrete

III.1 Consequences: Neuroses

Thinking is encoded in the cognitive process of consecutive *vīthis*

Feelings are present as *cetasika* in a repeated *ceta* ●



These two may conflict:

the *vīthis* may suppress the *ceta* feeling

but this starts to lead a life of its own

This is an implementation of Freud's notion of

fight between the id and the super-ego

Freud's observation was that the id can be very stubborn

This is consistent with the Abhidhamma notion of productive *kamma*

III.2 Consequences: Psychoses

If cognition is composed, then it may fall apart

This is a natural explanation of dissociation

The Abhidhamma model sees this as disidentification

A *jamaṣ vū* is the separation of sound and meaning

Here the cognitive process is separated in a decent way

If feelings are too strong, it may collapse in a more dramatic way
the *vīthi* may fall apart

This may cause secondary reactions of panic

Relatives, friends and even the medical model
may not know how to deal with this

causing a negative spiral often reinforced by anti-psychotics

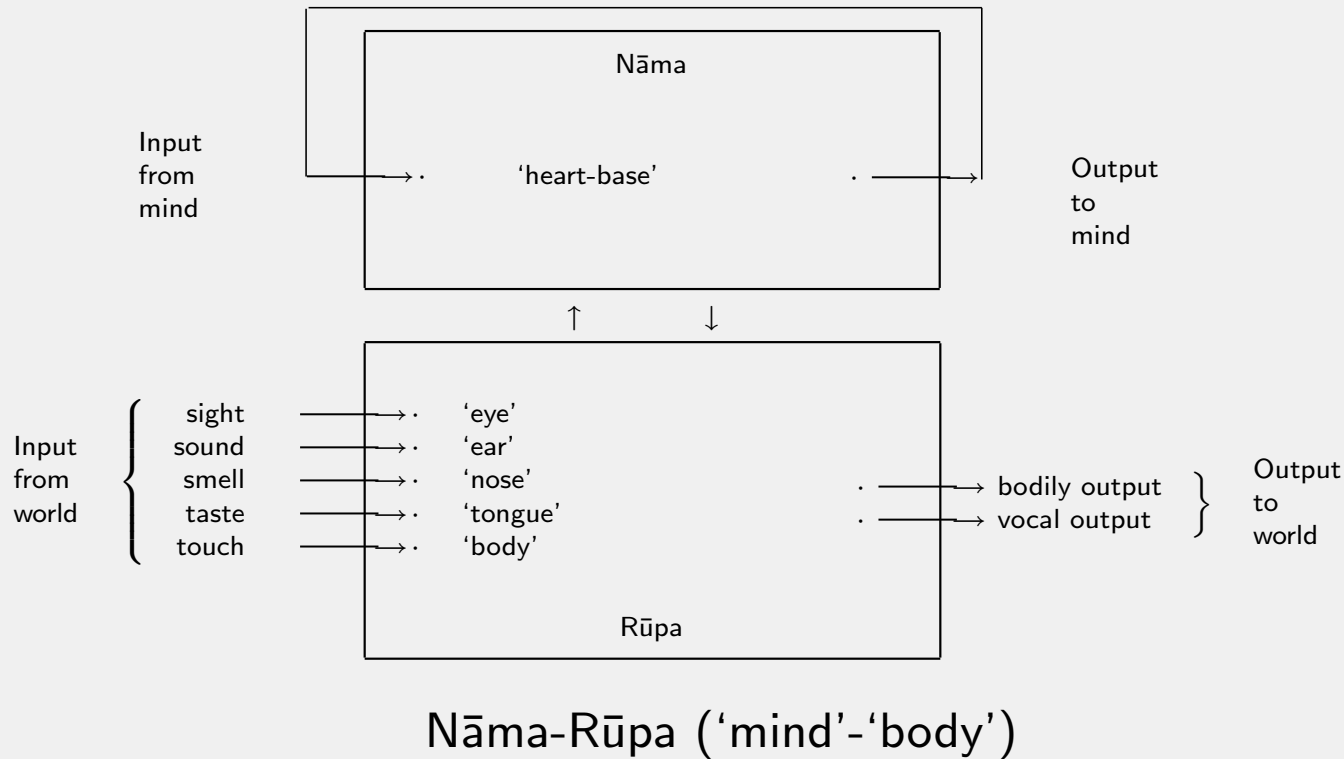
The Abhidhamma model shows that it may be worthwhile to study the
claim by some psychoanalysts that psychoses can be cured

The model also shows why a psychosis is serious: it is real!

II.2 Cetas: objects & types

Each ceta is directed to an *object* and has a *type*

Objects are 1. sensory input, 2. mental input, 3. concepts, 4. *nibbana*



Rūpa input from the senses is influenced by nāma

II.3 Cetas: objects & types

The same object can be in different ceta types

we can look at something with **calm joy** or with **restless desire**

There are 89 types of cetas

Plane	Kind	Direct effect		Indirect effect	#
		Unwholesome	Wholesome		
	Sensual	12	8	34	54
	Sublime		9	18	27
	Supramundane		4	4	8
	#	12	21	56	89

Classes of types of cetas and the number of their elements

Sensual directed to physical pleasure

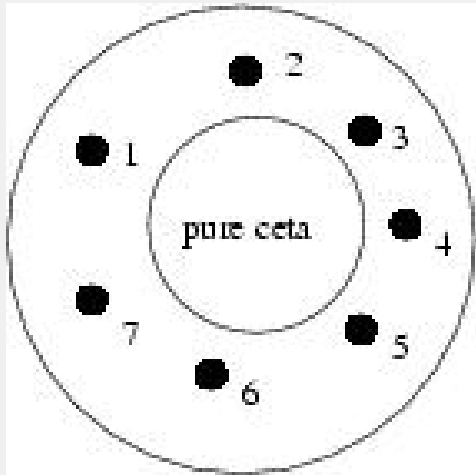
Sublime directed to mental pleasure (including mysticism)

mystical states are 'pipelined mental processing'

Supramundane directed to nibbana

II.4 Cetasikas

A ceta consists of **pure ceta** and mental factors (*cetasikas*)



1. Cooperation (synchronization)
2. Attention (choosing input)
3. Contact (obtaining input)
4. One-pointedness (focus)
5. Feeling (value judgement)
6. Perception (rudimentary distinctions)
7. Volition (motivation)

The minimal ceta consisting of pure ceta with the universal neutral cetasikas

The cetasikas act synchronously with the ceta

Pure ceta gives 'awareness', the qualia

Dennett	not necessary
Stapp	explainable in quantum physics
Chalmers	explainable in extend physics
Hut	treated axiomatically

II.5 Cetasikas

The ceta types are being determined by the cetasikas:

There are 52 cetasikas (14 **unwholesome**; 13 neutral and 25 **beautiful**)

Examples

unwholesome greed, hatred, attachment

neutral concentration, bliss

beautiful mindfulness, compassion

	unwholesome	neutral	beautiful
universal	ignorance restlessness shamelessness 4	input 'feeling' concentration 7	mindfulness detachment non-hatred 19
occasional	attachment hatred sleepiness 10	energy stronger concentration ecstasy 6	compassion shared joy wisdom 6

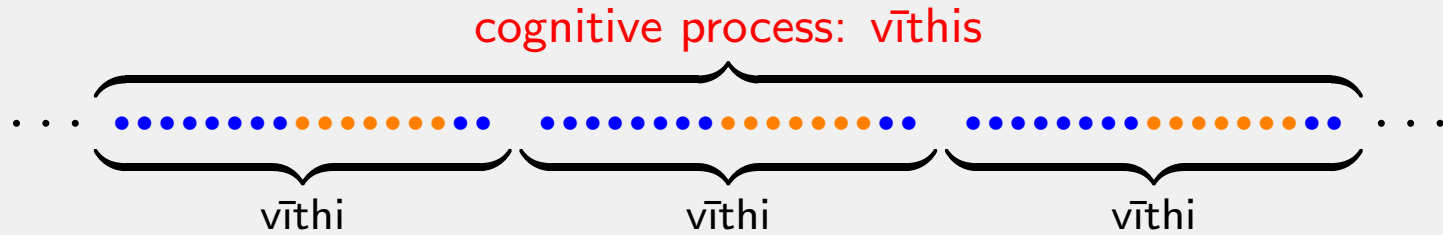
Meditation: development of neutral and beautiful cetasikas

II.6 Vīthis

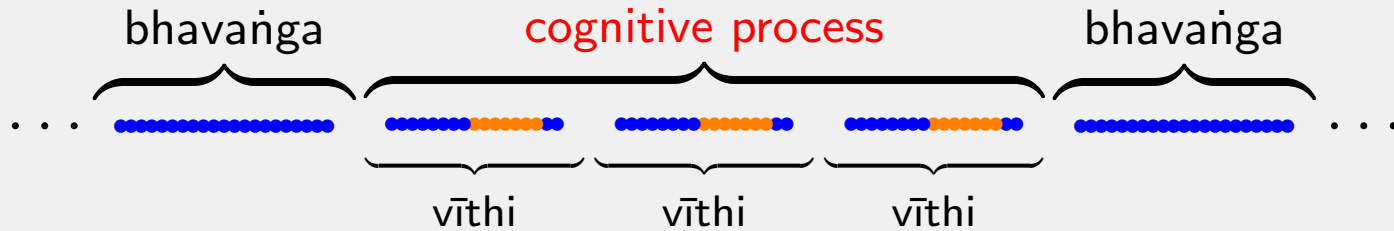
Cognitive-emotional unit



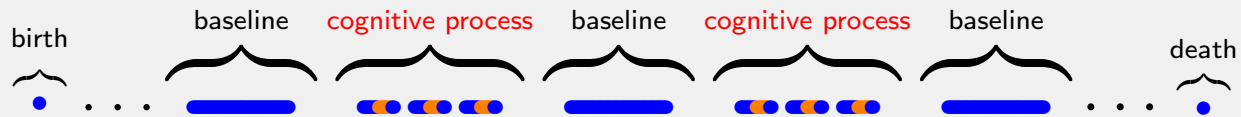
Cognition and emotion



Baseline (bhavaṅga: sequence of birth cetas)



Life-path



II.7 Classification of Objects

Classification of objects

	conditioned (<i>sankhata</i>)	unconditioned (<i>asankhata</i>)
absolute (<i>paramattha</i>)	matter mind (ceta, cetasika)	nibbana ●
conceptual (<i>paññatti</i>)	'existing' concepts 'non-existing' concepts	mathematical concepts

A ceta can observe matter as object

A ceta can also observe a (different?) ceta as object

A ceta can observe a cetasika as object

A concept is encoded as a *vīthi*

A ceta can take a (coded) concept as object

A ceta can observe nibbana as object

Nibbana has been identified with pure ceta by Nagarjuna

Then nibbana is the power that gives us the qualia

It is pure consciousness, without an object (white behind letters in a book)

II.8 Kamma

The object and type of a ceta play a role like the 'configuration' of a Turing machine: present tape-content and state

The law of kamma is like the transition table of the Turing machine present type and content of a ceta determine future ones

Types of kamma:

producing

supporting

obstructing

destructive

This leads to a store of accumulated kamma

IV. Plausibility

Action potential

Synchronicity

Synaptic networks

Volume transmission

MBSR-MBCT

IV.1 Plausibility: Action potential and synchronicity

Tests show that we are capable of parallel and serial tasks

A ceta is said to have three phases:

a beginning, an existence and a disappearing

This is consistent with the action potential in neurons

von der Malsburg postulated that objects are coded by sets of synchronously firing neurons

This fits with the parallelism in the cetasikas

Lehmann distinguishes mental atoms in multichannel EEG maps

There are 4 types of atoms, each of about 100ms

In schizophrenics: shorter duration and permuted order

IV.2 Plausibility: Synaptic nets & Volume transmission

Productive, supporting, obstructive and destructive kamma are exactly the ways neurons collaborate synaptically

Accumulated kamma fits with the expanding network of synapses

For the mechanism of moods to cover-up the chaos volume transmission (Nieuwenhuys) is a good implementation

Moreover, strong concentration (\mapsto one doesn't mind strong pain), has similar effects as putting opioids in the liquor

Compatible with volume transmission through the liquor

In fact opioid and stress-hormone cells are shown to contact the liquor

IV.3 Plausibility: Mindfulness-based therapy

Mindfulness-Based Stress Reduction (MBSR) developed by Kabat-Zinn is used in many hundreds of hospitals in the USA

Is adopted by Cognitive Psychotherapy (MBCT) E.g. at ICCP05

Mindfulness: meta-awareness

'O, there is desire'

$$\frac{\text{mindfulness}}{\text{consciousness}} = \frac{\text{DNA}}{\text{protein}} = \frac{\text{computer program}}{\text{computable function}}$$
$$= \frac{\text{observing}}{\text{reacting}}$$

Summary

Discrete consciousness acting on three levels

Parallel and serial

Selfless

Finite state

Deterministic

Neuroses

Psychoses

Cover-up

Purification

Neurons: action potential, synaptic transmission, neural nets

Synchronicity

Volume transmission