

Mysticism & Beyond reconditioning Mind-States

Henk Barendregt

L.E.J. Brouwer Instituut

Faculty of Science

Radboud Universiteit

Nijmegen, The Netherlands

Buddhist religion

Buddhist

~~religion~~ philosophy

Buddhist

~~religion~~ [philosophy] psychology (theoretical & practical)

Preferring Lao Tse and Buddha (virtue moral) over Confucius (duty moral)



input (seeing) →
liking (beauty) →
desiring (wanting to control) →
acting

*Worse than wine or opium
is the venom in your green eyes
that makes me fall into a deep abyss*

Baudelaire

Buddhist

psychology → religion
 → philosophy
 → clinical interventions
 → neuro-science

Goal conditioning [unicellular organism; insect; monkey]
 reconditioning [higher insects (evolution)]
 reconditioning [homo sapiens (meditation)]

Why? decrease suffering
 raise quality of life
 move towards triple peace [w. oneself, others & world]

Basis trained introspection via insight meditation
 color theory of Goethe extremely successful (multi-G\$)

Object what we see, hear, feel, smell, taste, or think

State how we do this with e.g.

flexibility, compassion, concentration, greed, hatred, restlessness

states can be positive, neutral, negative

Mind-states make the difference whether we

design the Taj Mahal

this Aria & variations in the Italian style

relativity theory

commit violence (others, in the family, ourselves)

cause a crime

the financial crisis

a world-war

Turing machine: Input \times State \mapsto Action \times State

Human mind: idem (my interpretation of the abhidhamma/abhidharma)

Many people focus on optimizing the objects

One also can focus on optimizing states

Two types of meditation:

concentration meditation	↑ positive states	mystical states
insight meditation	↓ negative states	deconditioning

This needs to be done together recursively

Needs preparation and care, like an expedition

discipline → concentration → insight

Based on

1. texts and their interpretation
2. oral tradition (→ confidence, motivation)
3. *personal experience*

Ten/thirty day intensive retreats

discipline \mapsto concentration \mapsto insight

Sensory deprivation: no talking, no eye contact

Pay attention to sensory input, notably the breathing

When disturbance comes, e.g. thoughts, say 'thinking'

This is *mindfulness*: meta-awareness with some distance

When the legs hurt, say 'pain'

Disentangle pain: pain = pure pain + reaction against it

Disentangle: input, feeling, states, actions

Being bored: make boredom part of meditation

Observing consciousness as a closed system

Concentrate on observing breathing (meditation object)

If mind wanders, then come back to meditation object

If feelings, thoughts or conditionings are strong,
then switch to them as meditation object

Right mindfulness: attention with distance

*If there is pain,
do not consider yourself as someone that has pain,
but as someone that sees pain*

This should be practised all the time (one uses qualia)

A process of non-interfering observation, disidentification

(Husserl: *epoché*; Varela: *bracketing*; Teasdale: *meta-awareness*)

'O, there is pain', 'O, there is sadness' Later language-less

Strong pain without minding it
Also beyond desire
Strong concentration
Effortless mindfulness
Rapture & bliss

} opioids?



In some traditions: identity with God (possibly with erotic flavour)

In insight meditation: high form of concentration and neutral feeling

Teacher: *Also dis-identify from mystical experiences*

Student: *May we not enjoy these for some moments?*

Teacher: *It is a waste of time!*

- One does not see everything
- One becomes dependent on the concentration

After diligent practise the meditator comes to see

the three fundamental characteristics

impermanence	mental storm	chaos
suffering	'nausea'	Angst
non-self	beyond control	dissociation

Emergency exit: strong feelings (**anxiety, paranoia, depression**)

This is the reason behind the Buddhist view on ego

One cannot say it exists

One cannot say it does not exist

It is both the case that it exists and not exists

It is neither the case that it exists and not exists

'tetra lemma'

Ego exists as a *process* not as a reified 'thing'; 'agency' is lost

The essential characteristic of existing

Drug User	<i>infinite turbulence, lightning for microbes</i> (Michaux)
Patient	<i>as if I'm a computer going out of hand; alive but non-existent</i>
Existentialist	<i>nausea</i> (Sartre), <i>das Grosse</i> (Rilke)
Mystic	<i>dark night of the soul</i> (St. John of the Cross); <i>the abyss of the mind</i>
Carl Jung	<i>One does not get enlightened by imagining beautiful light, but by looking to the darkness within</i>
Meditator	<i>worse than dying; utter desperation</i>
Abhidhamma	<i>impermanence, suffering, selflessness</i>

Sensual world *luxe, calme, volupté* (Baudelaire)

impermanence (chaos) vs calme

suffering (unbearable) vs volupté

selflessness (no control) vs luxe

Hiding the three characteristics with
objects, feeling, thinking, or acting

This has a lot of side-effects:

we become addicted to our habits
or to drugs (medical or recreational)

Proper exit: development of more mindfulness

Continued practise: development of **Equanimity, Calm, Bliss**

this in the proximity of the three characteristics

One learns not to mind them, even if they still cause some fear

Next goal: complete domestication of the three characteristics

Mindfulness is of non-interfering nature: just observing

The only interference allowed is changing the object of meditation

The meditator surrenders

When time is ripe, mindfulness becomes automatic
and the venom in the three characteristics disappears

This to a certain degree:

the purification work has to be repeated 3 more times

1. free from **insecurity, belief in self, superstition**
2. dilution of fear and desire
3. free from **fear and desire**
4. free from **pride, sleepiness, restlessness, attachment to existence, ignorance**

(Theravada) Decondition first, then compassion; (Vajrayana) conversely

Artist's impression 1. Fulfilled love

L'invitation au voyage

*Mon enfant, ma soeur,
Songe à la douceur
D'aller là-bas vivre ensemble!
Aimer à loisir,
Aimer et mourir
Au pays qui te ressemble!
Les soleils mouillés
De ces ciels brouillés
Pour mon esprit ont les charmes
Si mystérieux
De tes traitres yeux,
Brillant à travers leurs larmes.

Là, tout n'est qu'ordre et beauté,
Luxe, calme et volupté.*

Invitation to the Voyage

My child, my sister,
have a sweet dream
Of living together there!
Of loving at will,
Of loving till death,
In the land that is like you!
The misty suns
Of those angry skies
Have for my spirit the charms,
So mysterious,
Of your treacherous eyes,
Shining brightly through their tears.

There all is order and beauty
Luxury, peace, and voluptuousness.

Charles Baudelaire

Music: Duparc (*L'invitation au voyage* from *Chansons*)

Artist's impression 2. Broken love

La mort de l'amour (fragment)

...

*Le vent roulait les feuilles mortes; mes pensées
Roulaient comme les feuilles mortes, dans la nuit.*

*Jamais si doucement au ciel noir n'avaient lui
Les milles roses d'or d'où tombent les rosées.*

*Une danse effrayante, et les feuilles froissées,
Et qui rendaient un son métallique, valsaient,
Semblaient gémir sous les étoiles, et disaient
L'inexprimable horreur des amours trépassées.*

...

Maurice Bouchor

The death of love

...

*The wind rolled the dead leaves; my thoughts
rolled like the dead leaves, in the night.*

*Never had the thousands of golden roses, from which
fall the dews, sparkled so softly in the black sky.*

*A terrifying dance, and the crumpled leaves
which gave out a metallic sound, waltzed,
seemed to moan beneath the stars, and told of
the inexpressible horror of the perished loves.*

...

Music: Chausson (*La mort de l'amour* from *Poème de l'amour et de la mère*)

Artist's Impression 3. Chaos beyond control



Drawing: Marianne Kalsbeek

Music: Boulez (*Tombeau* from *Pli selon pli*)

Artist's Impression 4. Purified consciousness



Seurat: Un dimanche après-midi à l'Île de la Grande Jatte

Music: Ravel (*Lever du jour* from *Daphnis et Chloé*)

Main thesis in physics (Feynman):

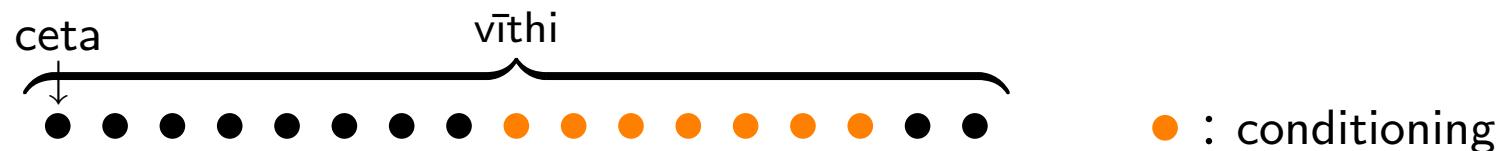
Matter is not continuous, but atomic

Main thesis of the Abhidhamma:

Consciousness is not continuous, but discrete

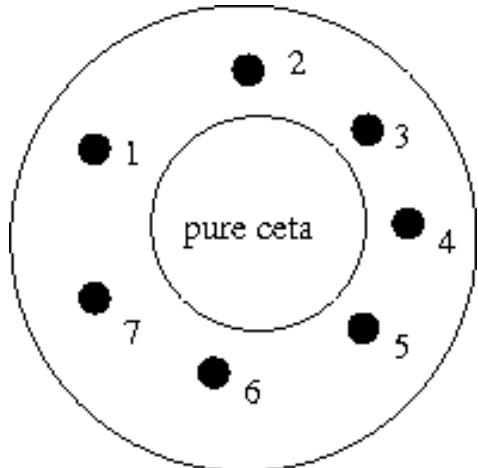
acting on three levels (in physics: molecules, atoms, elem. particles)

Cetas	'mental atoms'	existing in time
Cetasikas	'mental elementary particles'	acting in parallel
Vithis	'mental molecules'	acting in a serial way



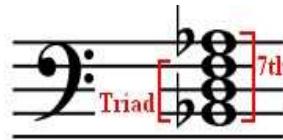
On all three levels consciousness is discrete

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 judgment)
6. Perception (rudimentary distinctions)
7. Volition (motivation)

parallel input



sequence of chords

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

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

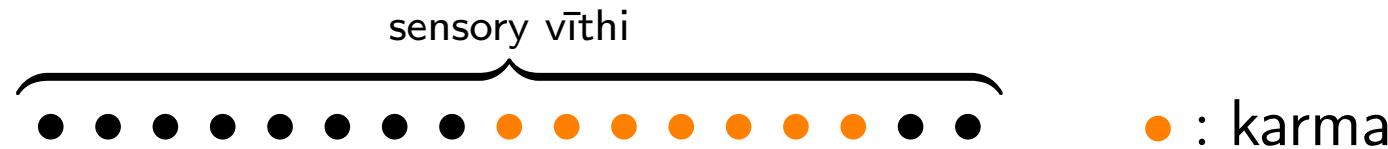
neutral concentration, bliss

beautiful mindfulness, compassion

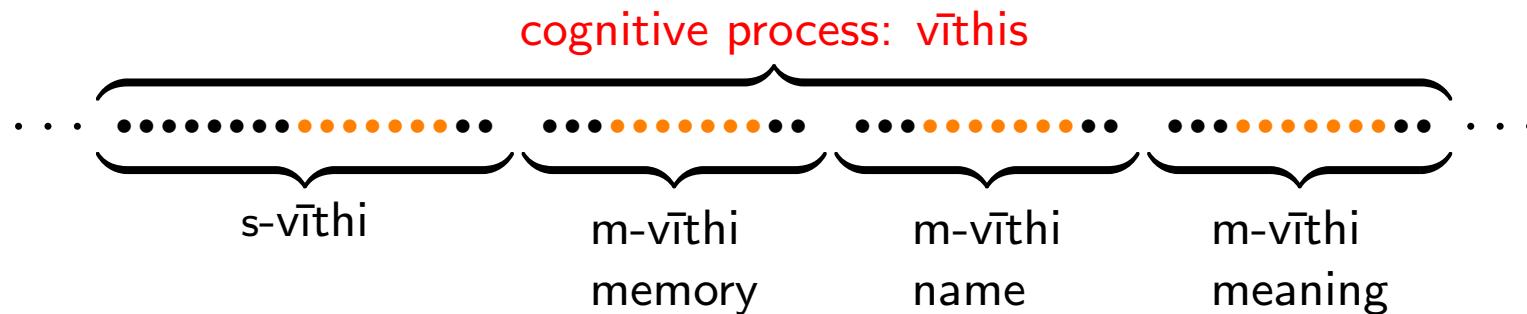
	unwholesome	neutral	beautiful
universal	ignorance restlessness shamelessness 4	input 'feeling' concentration 7	mindfulness detachment non-hatred 19
occasional	attachment hatred sleepiness 10	energy stronger concentration ecstasy 6	compassion shared joy wisdom 6

Meditation: development of neutral and **beautiful** cetasikas, avoiding **unwholesome** ones

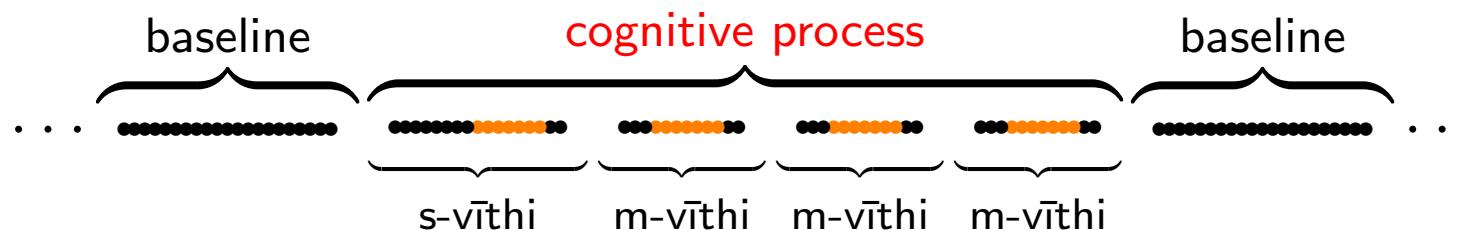
Cognitive-emotional unit



Cognition and emotion



Baseline (sequence of birth cetas)



Life-path



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

The model mixes the Simon-Newell and the connectionist approach to AI: discrete rulebased & connectionist

Turing-machine, with transition rules determined by a neural network

Process brain is discrete and deterministic

Cover-up Volume transmission

Purification MBSR-MBCT

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

In meditators longer duration

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

Moreover, strong concentration (\rightarrow 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

Calle et al. opioids in the brain electro-microscopy seems to indicate exocytosis

Other evidence: Miyan, Nabiyouni & Zendah (2002); Sowards & Sowards (2003)

Development of the brain: a vital role for cerebrospinal fluid Can J Physiol Pharmacol. 2003 Apr;81(4):317-28.

Veenig-Barendregt: Brain states regulated by neuropeptides via the flowing cerebrospinal fluid? Accepted in CSF research

Mindfulness-Based Stress Reduction (MBSR) developed by Kabat-Zinn is used in many hospitals world-wide

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

Mindfulness: meta-awareness

'O, there is desire'

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

Using mindfulness one can get close to the feeling/thought/emotion without getting sucked away by it

Mindfulness is related to attention, equanimity, flexibility, memory

Paul van den Hurk, Stephen Whitmarsh, Yowon Choi

1. **Greater efficiency (i.e. chance of being correct if equally fast) in attentional processing (ANT)**
Orienting attention better ($p < 0.05$)
2. M-meditation related to reduced reactivity (increased equanimity) at reflexive level; evidence from a visual-auditory startle experiment
3. Second component of mindfulness (i.e. general attentional processing, openness & acceptance) related to clinical improvement
4. M-meditation related to increase in openness and decrease in neuroticism
5. M-meditation associated to a more positive emotional bias
6. Meditators have thicker sensory-motor cortex.
7. Mindfulness meditation leads to greater happiness in all three measures: Self, Informant, and Video.
8. Long term mindfulness meditators do not differ in Self or Informant measured happiness, but do differ in Video ratings: long term meditators looked happier significantly.

Heleen Slagter et. al.

Less attentional blink after a 3 month M-meditation retreat + EEG explaining why

Summary

We have a brain that acts discretely and in a deterministic fashion

In our mind we can see similar activity

Our feeling of agency wants to stop it but cannot: strong resistance

Often the resulting existential fear is treated symptomatically

As side effect one becomes addicted to our behaviour

Combined concentration and mindfulness can domesticate this fear

This sets us free