

Methodology and observations

Trained empirical phenomenology (through intensive Vipassana meditation)

Universe of discourse: our potential consciousness (see Barendregt [1988], [1996])

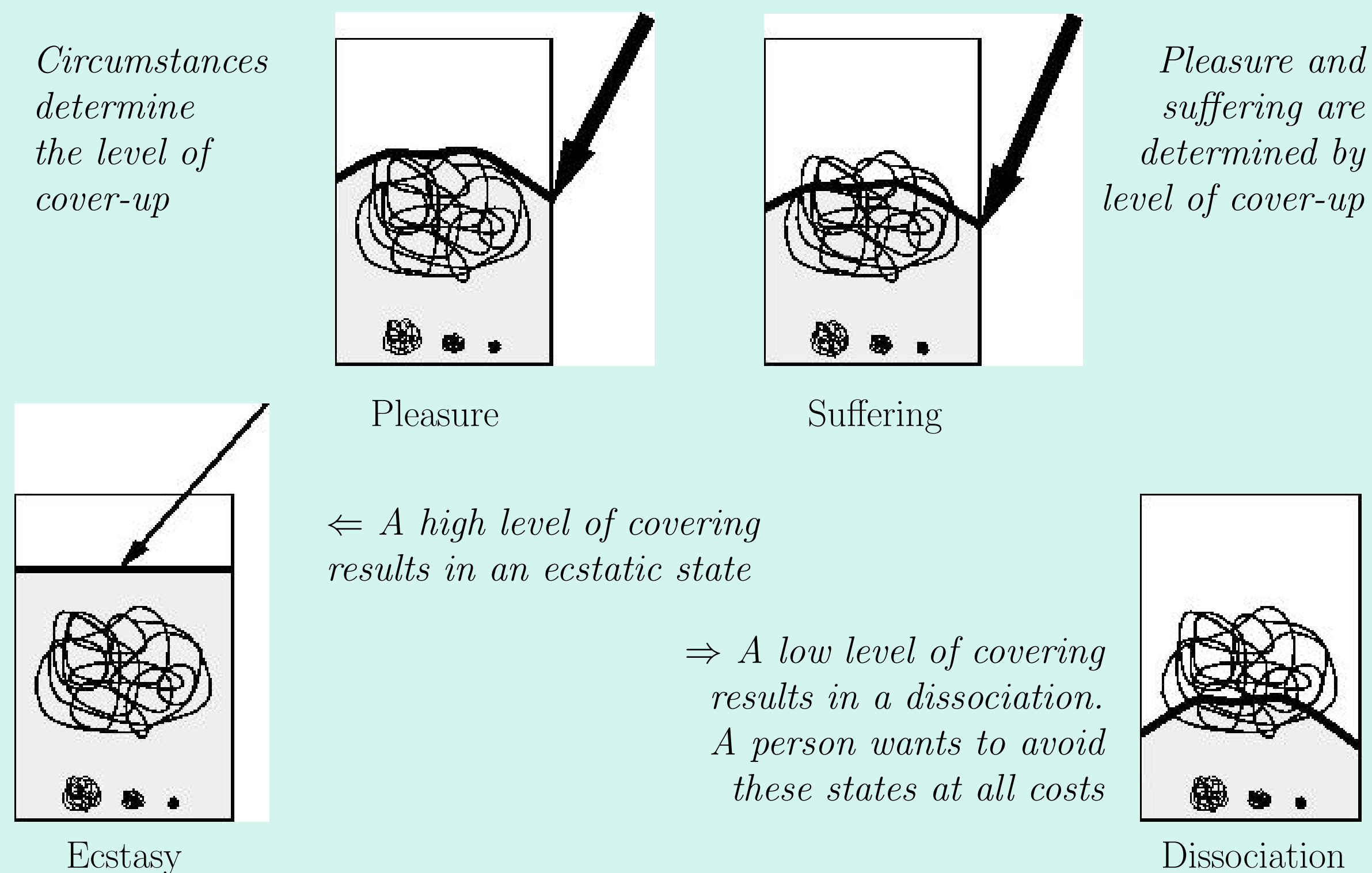
1. The Process

There is a *process* with the following qualities

- It is constantly fluctuating chaos
- It is unbearable dissociation
- It is beyond our control non-self

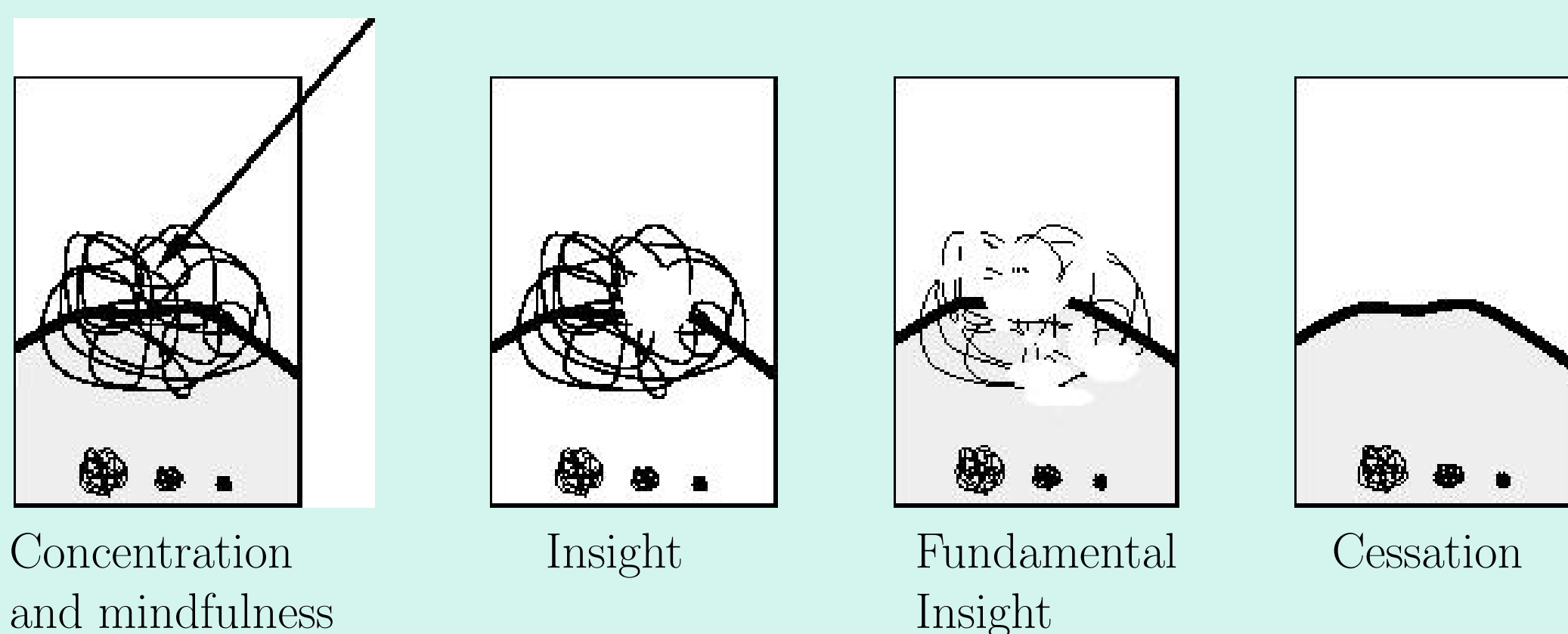
2. The cover-up

There is a *cover-up* that (partially) hides the process



3. Purification

There is a way to *purify* and *eliminate* the process using *concentrated mindfulness*



There are more processes to eliminate, 4 in total*

4. Structural psychological changes

Cessation of process #	Change in personality
1	elimination of <i>insecurity</i> , <i>belief in self</i> and <i>superstition</i> ;
2	dilution of fear and desire
3*	elimination of <i>fear</i> and <i>desire</i>
4*	elimination of <i>conceit</i> , <i>restlessness</i> , <i>sleepiness</i> , <i>attachment to existence</i> and <i>ignorance</i>

*Not experimentally verified by the author, but by others

Related hypotheses

1. The 'power-brain'

The binding problem asks how our various inputs, cognitions, feelings and reactions come together as mental events. One suggestion is (see von der Malsburg [1981], Singer et al. [1995]) that mental states are coded as subsets of the collection of neurons that fire in synchrony. (A subset of a set X is an element of the power set $\mathcal{P}(X)$, hence the name 'power brain'). **HYPOTHESIS. THE OPERATING SYSTEM OF OUR MIND IS CORRELATED WITH THE FLUCTUATING SUBSETS OF SYNCHRONOUSLY FIRING NEURONS. IN PSYCHIATRIC PATIENTS AS WELL AS IN VIPASSANA MEDITATORS ONE OBTAINS A VIEW OF THIS CHAOTIC NEURAL STORM THAT UNDERLIES OUR NORMAL MENTAL FUNCTIONING.**

2. Volume transmission

The idea of volume transmission, see Agnati et al. [2001], is suggested as a neuronal mechanism in which the neuro-messengers are not transmitted via a synapse, but as a broadcast through the extra-cellular fluid or the cerebro-spinal fluid (liquor). In the mental state of ecstasy (see ⇐) the subject still can perceive pain, but no longer minds it. Opioids injected in the spinal liquor have a similar effect. **HYPOTHESIS. THE LIQUOR IN THE BRAIN VENTRICLES IS USED FOR A BROADCAST OF CHEMICAL MESSENGERS, INCLUDING OPIOIDS.** This is studied in Calle et al. [2002]. Additional arguments for this ventricle hypothesis:

- the broadcast is faster than in the rest of the brain and on a timescale compatible with emotions;
- the limbic system is nearby (para-ventricular organs).

3. Applications of mindfulness

The practice of mindfulness (detached attention) on all mind/body phenomena can lead to an increased awareness and insight. This may cut through vicious circles. **HYPOTHESIS. THE MENTAL DEVELOPMENT OF MINDFULNESS CAN BE USED EFFECTIVELY AS TREATMENT FOR VARIOUS EMOTIONAL AND PSYCHIATRIC DISORDERS.** For initial evidence see Kabat-Zinn [1990], Segal et al. [2002], Baer [in press] and Giommi et al. [submitted]. This treatment has also been applied to chronic pain and terminal patients. In the latter two cases the treatment was directed towards a decrease of the suffering.

References

- Agnati, L.F., K. Fuxe, C. Nicholson and E. Sykova [2000] *Volume Transmission Revisited*, Elsevier, Amsterdam.
- Baer, R.A. [in press] Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science and Practice*.
- Barendregt, H.P. [1988] Buddhist Phenomenology, Atti del Congresso Temi e prospettive della logica e della filosofia della scienza contemporanea, Vol. II, CLUEB, Bologna, 37-55.
- Barendregt, H.P. [1996] Mysticism and Beyond, Buddhist Phenomenology, Part II. *The Eastern Buddhist*, New Series, vol XXIX, 262-287.
- Calle, M., I. Claassen, J. Veening, H. Barendregt and E. Roubos [2002] Peptide broadcasting via the cerebrospinal fluid. Award winning poster at the 6th Annual Scientific Meeting of the Réseau LARC - Neurosciences, (October 2002, Caen, France).
- Giommi, F., H.P. Barendregt, L. Oliemeulen, J. van Hoof, J. Tinge, A. Coenen and P. van Dongen [submitted] Mindfulness-based training (MBSR) as an effective component in treating emotional disorders: a comparison study.
- von der Malsburg, C. [1981] The correlation theory of brain function, reprinted in Domany et al. *Models of neural networks II*, Springer [1994].
- Kabat-Zinn, J. [1990] *Full Catastrophe Living: The program of the stress reduction clinic at the University of Massachusetts Medical Center*. Delta, New York.
- Segal, Z.V., J.M. Williams, and J.D. Teasdale [2002] *Mindfulness-based Cognitive Therapy for Depression*, Guilford Press, New York.
- Singer, W. and C.M. Gray [1995] Visual feature integration and the temporal correlation hypothesis, *Annual Reviews of Neuro-science*, 18, 555-586.