



The E - Theory

about the Physics of Consciousness

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The Energy of Consciousness can be physically defined and mathematically calculated by a formula that consists of Mental

Powers and Information. Mental Powers are a function of emotional and intellectual forces, namely the Feeling and the Thinking.

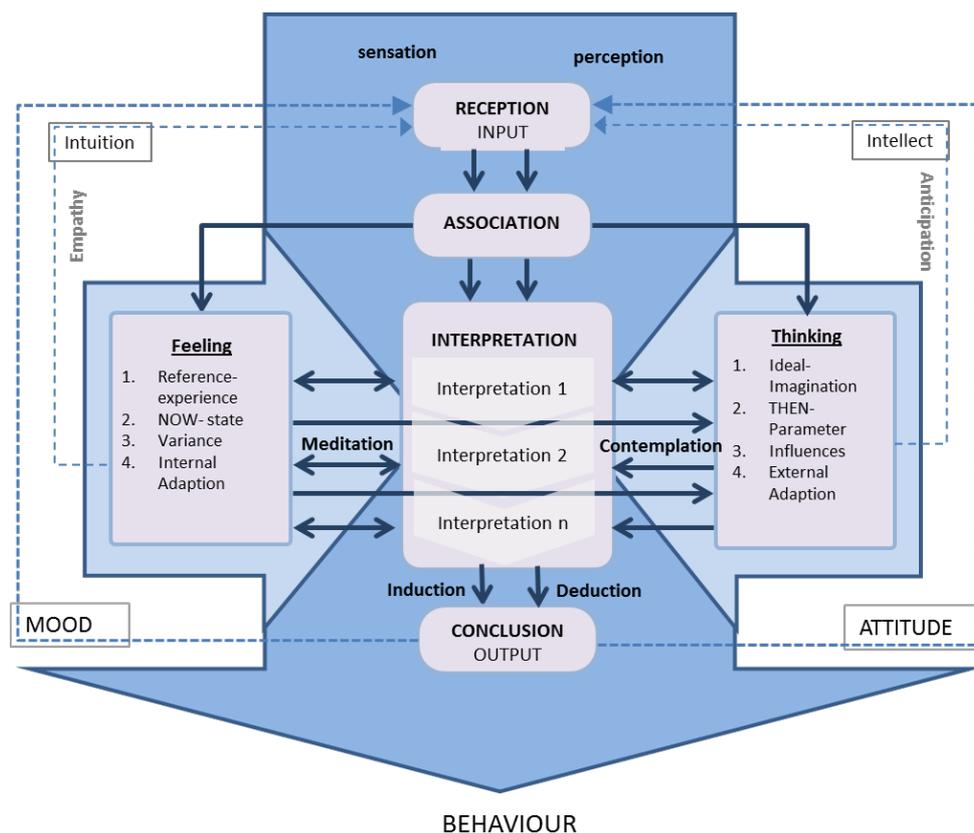


Figure 1: the creation of consciousness - process

... is a mutually influencing combination of the iterative process of cognition (arrow from reception to association to interpretation to conclusion) and the dialectic process between Feeling and Thinking.



The process of cognition from the Input of information through our senses to the Output of decisions that define all our behaviour can be subdivided in the steps of reception to association to interpretation to conclusion. Some results of conclusion (mood and attitude) are perceived and taken into account again. Also results of intuition emerging from empathy and results of the intellect emerging from anticipation are considered as input. A developing circle has started from interpretation 1 to interpretation n, which represents a state of the lowest possible energetic level. This stable state forms our decisions, which conclude –knowingly or unknowingly- in our behaviour.

From a point of physics, Thinking and Feeling are forces which drive our body-mass towards or away-from something. We are attracted or

repelled from our subjective imaginations.

Any event is a cluster of information happening at the present that influences our decision. Is the imagination that we build on the information of the event different from our expectation, an intellectual force (will or idea) is generated between our mental state at the present moment and the imagination. Depending on the subject-object relationship, intellectual forces are pulling us towards an imagination or push us away-from an imagination. Imaginations at present generate will-forces. Imaginations in the future or past generate idea-forces. A positive imagination is “better” than our expectation, which means that the information comes closer to the ideal than the experience. Thus, intellectual forces are generated as a function of time and the room of conception.

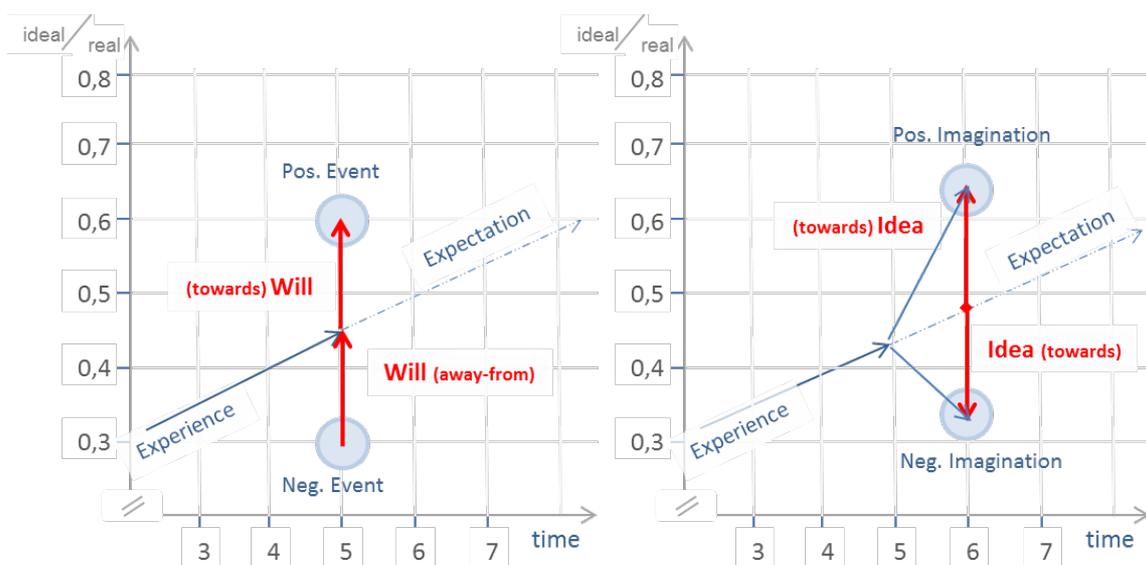


Figure 2: the intellectual powers of will and idea



... develop on the timeline between experience (in the past) and expectation (in the future). The distances from any imagination towards this line define the strength of these powers

Imaginations are created by the structure of information. Information theory after Shannon describes the information content (expressed in Bits) as a logarithmic statistical significance of its probability. The content is recorded through all our senses; external senses are

perceived in absolute measures through the organs of eyes, ears, nose, tongue, skin; internal senses are sensed in relative measures through the organs of heart, lounge, liver, kidney, sexual and alimentary organs.

Example: Sunset

at 19:30, the sunset changes the visible colours of the sky and attracts a couple to sit on a bench and enjoy the warmth on their skins (for 4 minutes). The sun touches the horizon (after 10 minutes) and disappears (after 15 minutes). Birds stop chirping (after 20 minute) and the couple enters their bedroom due to sexual arousal.

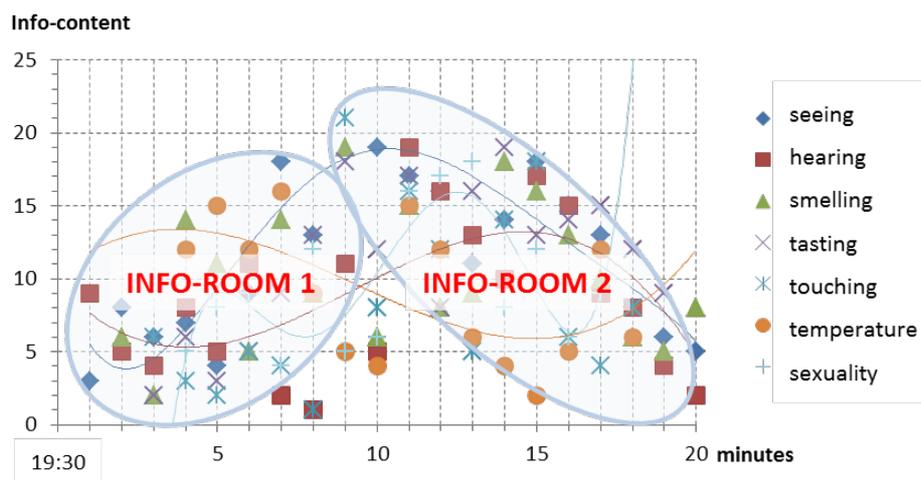


Figure 3: imaginations out of information

... are built to clusters of information by separating trends of sensed data in the example, the info-room 1 represents the cluster during sunset (with increasing changes of data) and info-room 2 represents the cluster after sunset (with decreasing changes of data)

The more structured our information is, the more information we can save, the faster we can call up those information and physically important: the less energy is needed to save and call up those information-rooms or imaginations.

The power of emotions is added to the intellectual powers. In total they sum up to the Mental Powers. Emotions are span up in the physical axe between "lust" and "pain" and the intellectual axe of "love" and "anxiety", though they represent any fundamental need (in Maslow's



meaning) or its lack of it. E.g., when a positive physical sensation is combined with an equally strong intellectual positive imagination of i.e. appreciation, the emotion of HAPPINESS develops. In the same manner a circle of 12 base emotions

can be displayed. The order and intensity may differ individually depending on subjective unique experiences.

These base emotions differ individually in order and intensity, depending on subjective experiences.

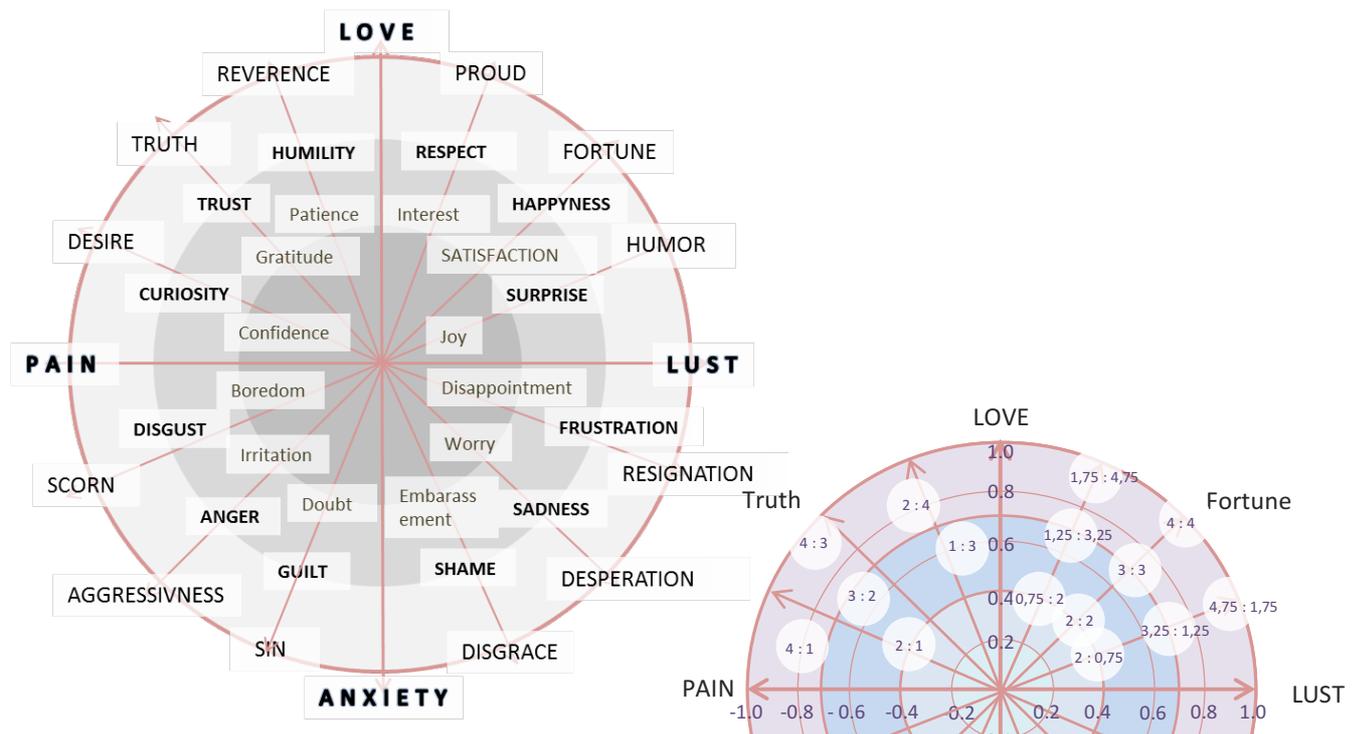


Figure 4: Emotions and their relations
... are spun up between the physical axe of lust& pain and the intellectual axe of love & anxiety. Its relations decide on the kind of emotion and its intensity.

The combination of emotional and intellectual powers can best be demonstrated at the example of

feelings, where the emotion is regarded as an imagination

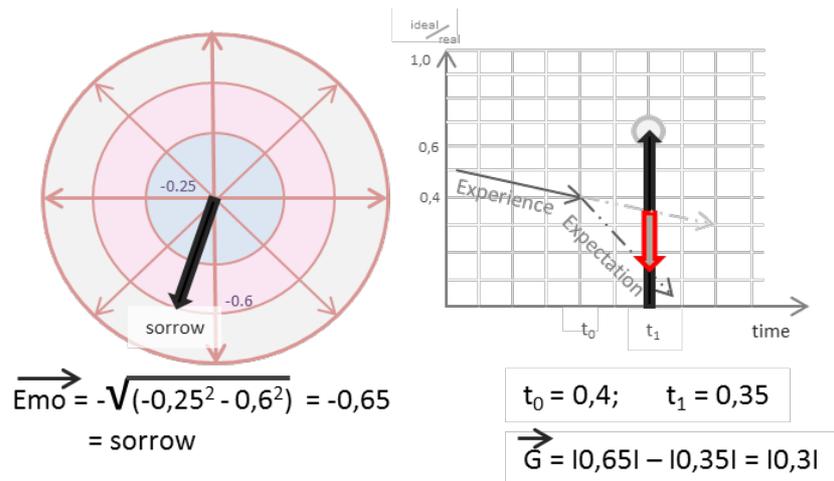


Figure 5: Feelings

... are a combination of an emotion (like sorrow) and an imagination (like a negative expectation) and they can be calculated geometrically. the length of the emotional vector equals the length of the imagination.

The outer rim of each circle of emotions reflects the most intense emotion the person has ever felt and therefore can be taken as 100% or = 1. An emotion like sorrow results from a physical component of pain of 20% and an intellectual component of anxiety of 60%. Pythagoras calculates the length of the vector to 0,65.

When we take the emotion as an imagination or so-called feeling, the length of the emotional vector remains 0,65 in the imagination spectrum. Within this the mental state at present is $t_0 = 0,4$ and its

negative expectation in the future is $t_1 = 0,35$. So, the distance from the expected point in the future is calculated from the difference of the emotional component 0,65 minus the length of the expected imagination = 0,35 resulting in a total amount of Will = 0,3.

With time, the mental forces change. While the vision at t_w remains the same ideal, or worst-case scenario, the powers increase when the need comes temporally closer, or powers decrease when imaginations in the past fade away.

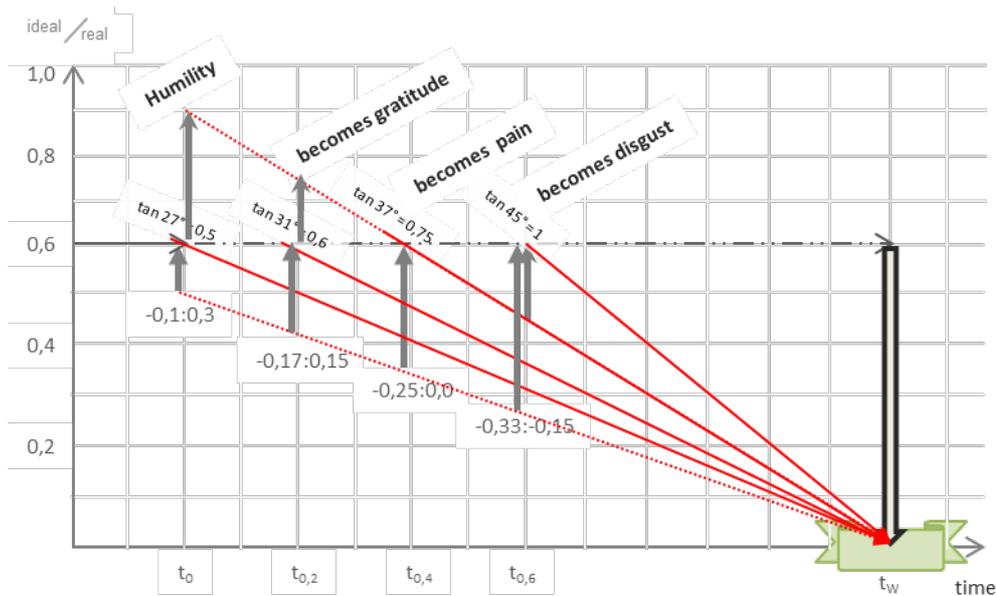


Figure 6: The influence of time

... changes the intellectual and emotional angle towards a vision
 the left arrow represents the physical component, the right arrow represents the intellectual component of the emotion, the line from the expectation towards the vision represents the development of the imagination.
 the lengths of the components and its ratio as well as the angle towards the vision can be calculated resulting in the length of the respecting mental force (like from humility to gratitude, to pure pain to disgust)

The dialectic process of thinking and feeling defines the power of which our consciousness works, while the process of cognition, based on the

information of perception defines the direction of which our consciousness heads towards.

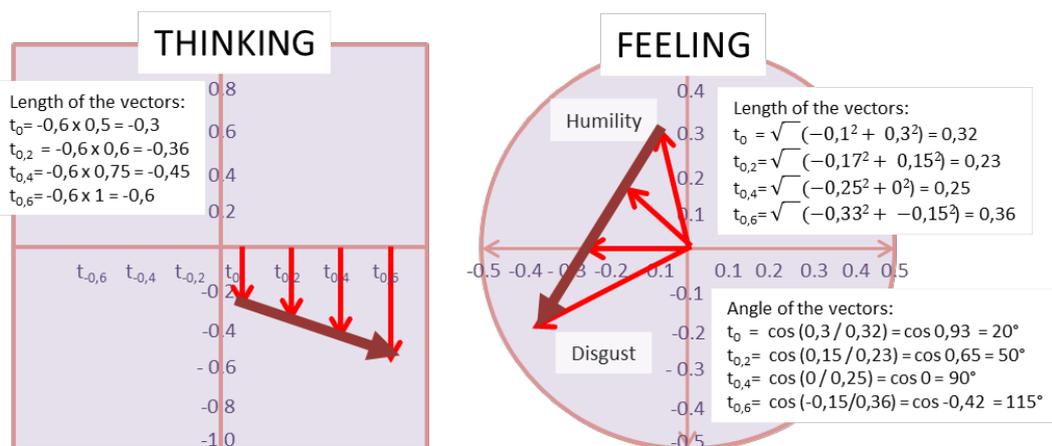


Figure 7: Changes of emotions and imaginations with time

Out of figure 6, vector lengths are taken at the time points (t_0 , t_1 , t_2 and t_3) to calculate the mental forces



Thinking: the will-forces are calculated from the increasing angles ($\tan 27^\circ=0,5$, $\tan 31^\circ=0,6$, $\tan 37^\circ=0,75$, $\tan 45^\circ=1$) multiplied by the mental state at the entry point (always = 0,6).
the negative vision amplifies the negative will from -0,3 to -0,6 at the end

Feeling: emotions are calculated from their two components at the same time points as the thinking.
the lengths of the vectors are calculated by the ratio of the components by Pythagoras in a rectangular triangle
the angle of the vectors are calculated by the cosine of the ratio of
a) the length of the intellectual component and
b) the length of the vector itself
lengths and angle of the vectors define the specific emotion
(from humility to gratitude to pain to disgust)

The E -Theory defines consciousness as:

Consciousness is the energy, which perceives all information sensorial and tries to balance the intellectual and emotional forces, which develop from deviant information, with the aim to make conclusions that cause the least conflicts with our personal development.

Or mathematically expressed:

Energy_{of Consciousness} = Power_{mental} X Information¹_{of senses}

Two physical laws can be concluded from this formula:

1. The law of effectivity says that Thinking and Feeling forces, EACH strive towards ANY energetic minimum
2. The law of efficiency says that

Thinking and Feeling forces, TOGETHER strive towards ONE energetic minimum

Effectivity enables our consciousness to solve intellectual and emotional conflicts and therewith allows us at all to be ourselves, to have a homogeneous reality and to feel well. The effort to resolve conflicts saves a certain amount of energy, which at last ensures our survival or enhances our development.

Efficiency adds a more long-term investing-strategy by anticipating trends of evolvments to the preferred avoiding-strategy of effectivity. Our cognitive abilities (like learning or judging), but also our mental diseases (like schizophrenia) are caused due to efficiency

¹ Information can be expressed as a length, due to the fact that changing a position equals changing a perspective

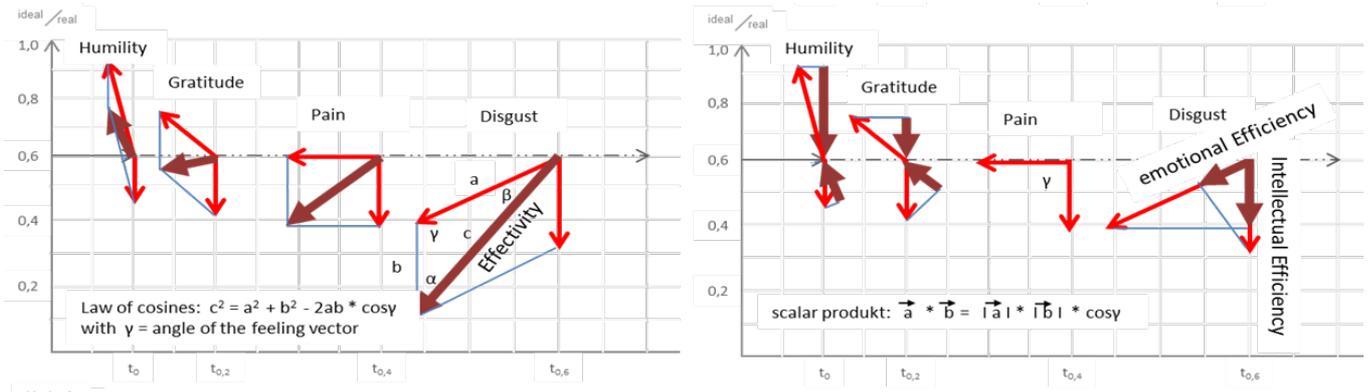


Figure 8: Effectivity and efficiency

... are depicted as vectors of the intellectual and emotional components of thinking and feeling (deriving from figure 6 & 7)
 effectivity is calculated by the law of cosines
 efficiency is calculated by the scalar product

In our example, initial effectivity can be calculated to

$$t_0 = \sqrt{0,32^2 + 0,3^2 - (2 * 0,32 * 0,3) * \cos 20^\circ} = 0,11$$

intellectual efficiency can be calculated to

$$t_0 = -0,3 * \cos(180^\circ - 20^\circ) = 0,28$$

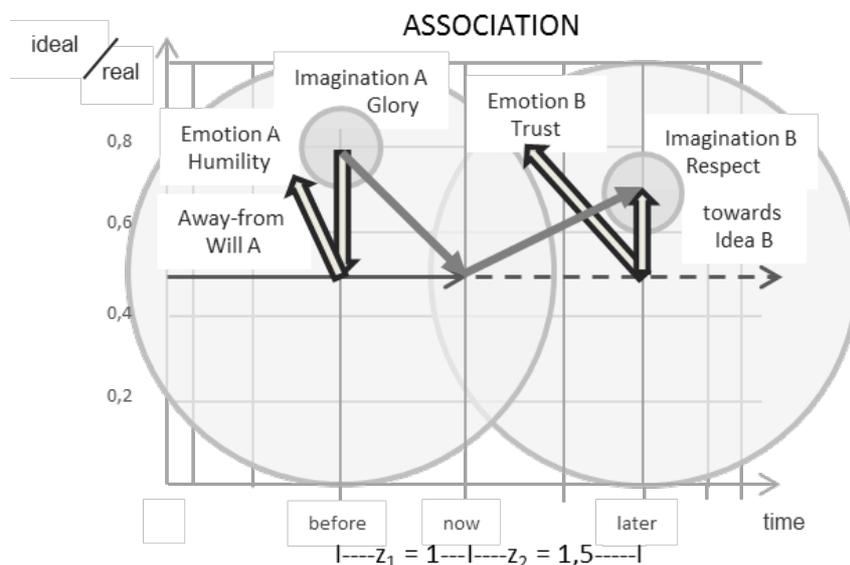
emotional efficiency can be calculated to

$$t_0 = 0,32 * \cos(180^\circ - 20^\circ) = -0,3$$

Internal conflicts more often surface between two different imaginations or emotions (and not within one, as regarded so far).

Whenever we are confronted with a new situation, our impressions

automatically are associated and compared with our memories. If the new information-rooms do not fit with the existing ones, consciousness starts adjusting.





Emotion A = 0,25 Emotion B = 0,35
Will A = 0,3 * 1 = 0,3 Idea B = 0,2*1,5 = 0,3
A: intel vs. emo = 23° = Problem B: intell vs. emo = 45° = conflict

Figure 9: Association

... connects two or more imaginations (e.g. here A in the past and B in the future) and calculates the relation of their forces Will A and Idea B (as a temporal entry point) resulting in an intellectual contradiction and an emotional problem

the small circle represents the imagination
the large circle represents our emotions, which centre in the point of presence
both circle can be put in the same scale, because they display 100% of our intellectual and emotional experiences

Out of this starting entry point, our consciousness decides about the development of our thinking and

feeling according to the results of effectivity and efficiency:

$$\begin{aligned} \text{Effectivity A} &= \sqrt{0,3^2 + 0,25^2 - (2*0,3*0,25)*\cos 23^\circ} = 0,12 \\ \text{Intellectual Efficiency A} &= 0,3 * \cos 23^\circ = 0,28 \\ \text{Emotional Efficiency A} &= 0,25 * \cos 23^\circ = 0,23 \\ \text{Total-Efficiency A} &= 0,28*0,23*\cos 23^\circ = 0,059 \end{aligned}$$

$$\begin{aligned} \text{Effectivity B} &= \sqrt{0,35^2 + 0,3^2 - (2*0,35*0,3)*\cos 45^\circ} = 0,24 \\ \text{Intellectual Efficiency B} &= 0,3 * \cos 45^\circ = 0,21 \\ \text{Emotional Efficiency B} &= 0,35 * \cos 45^\circ = 0,25 \\ \text{Total-Efficiency B} &= 0,21*0,25*\cos 45^\circ = 0,037 \\ \text{Total-Effectivity A+B} &= \sqrt{0,12^2 + 0,24^2 - (2*0,12*0,24)*\cos (45/2)-(23/2)^\circ} = 0,12 \\ \text{Total-Efficiency A*B} &= 0,059 * 0,037 * \cos 11^\circ = 0,0021 = 2,1 \cdot 10^{-3} \end{aligned}$$

In the Phase of Interpretation, after some time of the association.

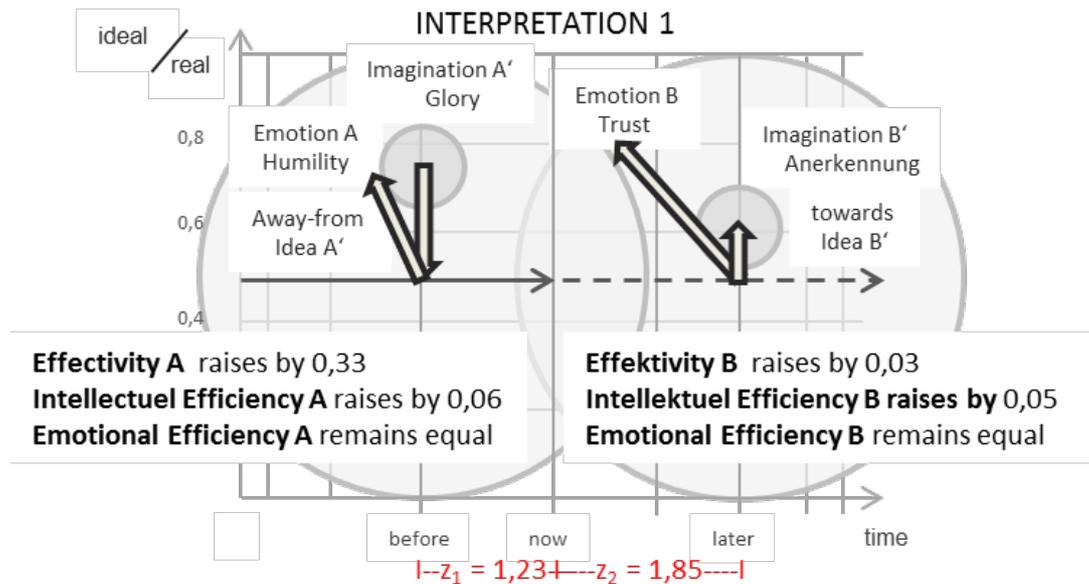


Figure 10: Interpretation

Emotion A & B, as well as Will and Idea are the same as in the starting association of Figure 9, but the will is now further away than 45°, which makes it an imagination in the future and therewith is now called an idea.

The changed angles due to the past time also change the effect of powers and the new forces are now calculated to:

$$\text{Effectivity A} = \sqrt{0,37^2 + 0,25^2 - (2 \cdot 0,37 \cdot 0,25) \cdot \cos 23^\circ} = 0,45$$

$$\text{Intellectual Efficiency A} = 0,37 \cdot \cos 23^\circ = 0,34$$

$$\text{Emotional Efficiency A} = 0,25 \cdot \cos 23^\circ = 0,23$$

$$\text{Total-Efficiency A} = 0,34 \cdot 0,23 \cdot \cos 23^\circ = 0,071$$

$$\text{Effectivity B} = \sqrt{0,35^2 + 0,37^2 - (2 \cdot 0,35 \cdot 0,37) \cdot \cos 45^\circ} = 0,27$$

$$\text{Intellectual Efficiency B} = 0,37 \cdot \cos 45^\circ = 0,26$$

$$\text{Emotional Efficiency B} = 0,35 \cdot \cos 45^\circ = 0,25$$

$$\text{Total-Efficiency B} = 0,26 \cdot 0,25 \cdot \cos 45^\circ = 0,046$$

$$\text{Total-Effektivität A+B} = \sqrt{0,45^2 + 0,27^2 - (2 \cdot 0,45 \cdot 0,27) \cdot \cos (45/2) - (23/2)^\circ} = 0,19$$

$$\text{Total-Effizienz A*B} = 0,071 \cdot 0,046 \cdot \cos 11^\circ = 0,0023 = 2,3 \cdot 10^{-3}$$

The same forces (no other circumstances were taken into account yet) change the results of effectivity and efficiency. Thus a decision was made unknowingly to the favour of glory and not to the favour of appreciation, because the effectivity of glory has risen by 33%,

while the effectivity of appreciation has risen by only 3% (intellectual and emotional efficiency remained practically all the same).

This example exemplary illustrates how consciousness works qualitatively and quantitatively.