

the *Light-bringer*

# Lucifer<sup>®</sup>

*For seekers of Truth*

*Current topics viewed in the light of the Ancient Wisdom or Theo-sophia — the common source of all great world religions, philosophies and sciences*

**The Wisdom of  
Love**

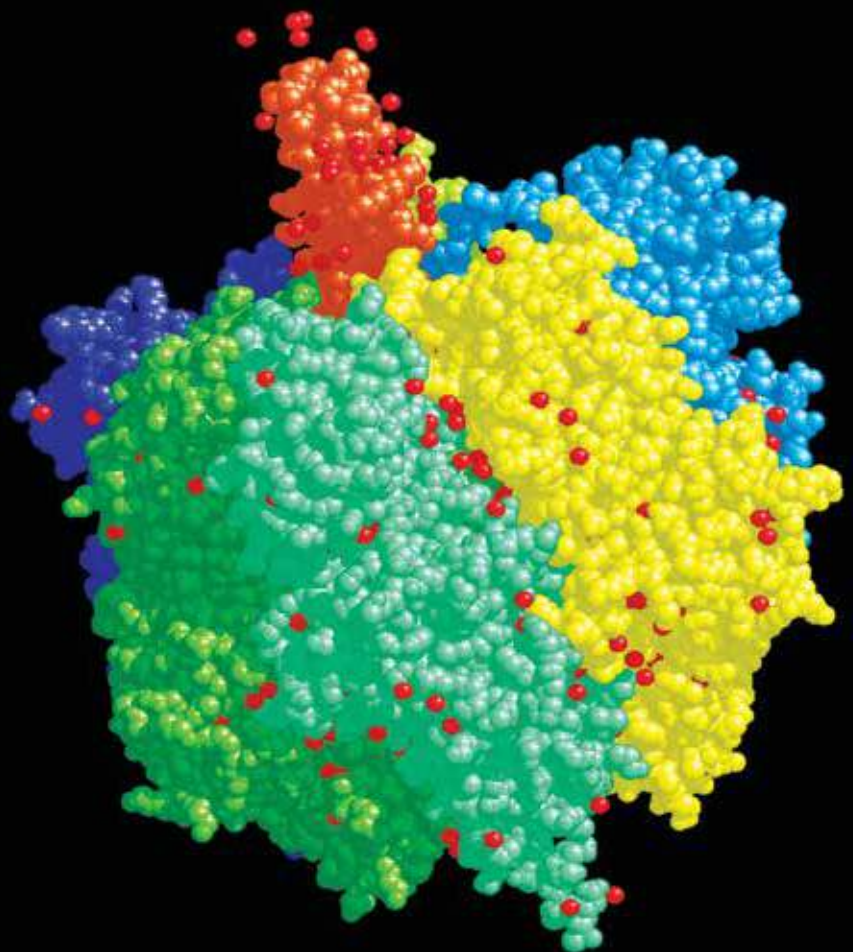
**Esoteric meditation  
– Part 2**

**Developing  
concentration**

**Nanotechnology,  
a closer look inside  
the world of the  
cell**

**Why heredity is so  
difficult to predict**

**How to deal with  
leaders you do not  
like**



*Cover photo:*

A model of an “F-ATPase” molecule that rotates around its own axis. The released energy in this process is used to form new energy-rich molecules — the ATPs.

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# Editorial

## Theosophia: the synthesis of religion, philosophy and science

Theosophia is the synthesis of religion, philosophy and science. This means that the Wisdom-Religion is neither science, nor philosophy or religion, but it contains all these three elements, and forges them together in their highest, most universal aspects.

In this issue of *Lucifer, the Light-bringer*, this is clearly reflected in the article 'The Wisdom of Love'. This article offers a very interesting view on philosophy. It shows that genuine philosophy cannot do without religion and science.

Meditation is usually, and rightly so, regarded as something spiritual. Yet we cannot grasp the idea of it if we do not involve philosophical and scientific elements. This is evident from the article 'Esoteric Meditation', of which the first part appeared in *Lucifer, the Light-bringer*, No. 3, August 2017.

The article 'Developing Concentration' interconnects well with 'Esoteric Meditation', and it also shows that concentration serves our daily life and is necessary for all objectives.

The articles 'Nanotechnology, a closer look inside the world of the cell' and 'Why hereditary is so difficult to predict' seem to be typical scientific articles. But if you approach these subjects from a scientific point of view only, a certain 'mental lameness' arises, while if you involve the religious and philosophical thinking faculties as well, you will develop a completely different view on these two important issues.

Our articles are not theoretical treatises, but as always we try to demonstrate the practical value of Theosophia. The applicability of Theosophia is also apparent from the answer to a question about current world politics.

As always, we welcome your comments, because they encourage us to express Theosophia more clearly.

**The editors**



# The Wisdom of Love

## On the occult meaning of Philosophy

**Western philosophy hardly succeeds in giving meaning to life, or in putting science in a broader, ethical perspective. What is lacking in western thinking? In order to answer this, we reflect on the occult (hidden) meaning of philosophy.**

Studies in humanities have a hard time nowadays. So hard that students occupy buildings in order to safeguard a place for these studies at universities. They stand up against the current economic way of thinking which focuses solely on direct use for the short term. 'What can you do with it?' is the most common question asked. As a result, humanities such as philosophy come under pressure.

However, if we take a wider look at the results and look beyond economic welfare, you may wonder whether the question what current philosophy contributes to society may be partly justified. Because, to what extent does modern western philosophy contribute to solving problems in the world? Does philosophy succeed in giving meaning and direction to life? Does it help to put scientific discoveries in a wider perspective and connect it with ethics?

What is the meaning and function of philosophy, how can it fulfil these,

and show its added value in society? In order to answer this, it is worth to reflect on the occult (hidden) meaning of philosophy.

### What is philosophy?

When you look at the origin of the word philosophy, you see it consists of two Greek words 'philo', which means love, or to love, and 'sophia', which means wisdom. Usually, this is translated literally in 'love for wisdom'. However, according to H.P. Blavatsky the occult meaning is better expressed in the translation 'Wisdom of Love'.<sup>(1)</sup> She indicates that love should not be seen here in the meaning of 'affection' or 'to love', but in the meaning of the Greek word 'Eros', which she translates with 'divine love'.

In this occult meaning lies an important key leading to the meaning and function of philosophy. In order to understand this well, we first have to reflect on the meaning of 'Eros' as universal Love.

### Key thoughts

- » There is a difference between occult Philosophy and philosophy.
- » Religion without Philosophy degenerates in superstition. Philosophy without religion degenerates in an empty word game, unpractical and heartless.
- » Philosophy has a connecting function. Connected with Religion on the one hand and Science on the other, it can provide logical as well as ethical clues for our actions in daily life.

## What is Love?

In Theosophy, a distinction is made between love written in lower-case and Love written with a capital letter. The latter is sometimes described as a cosmic power, ‘the Cement of the Universe’, or ‘divine desire’. It is the bridge between the spiritual and the material, the power that connects things and which, at the most material level, expresses itself in phenomena like magnetism and electricity.<sup>(2)</sup>

In the dialogue *Symposium* Plato describes Eros, representing Love, as an intermediary between the divine and the human: not a god but rather a force of nature. Love is a desire for something you do not possess yet. Otherwise, you would not long for it. In essence, love is the desire for immortality, Plato writes.<sup>(3)</sup> And the highest form is the

love for Truth, the Good, the Beautiful, for the One that is the source of all phenomena (see text box).

A thought you can trace back to the philosopher Pythagoras, H.P. Blavatsky writes. For him, Wisdom of Love meant the attraction to and the love for everything behind objective reality. It was the highest form of initiation: love for and identification with the inner god. And in his modesty Pythagoras even refused to be called Philosopher, which meant for him someone who had knowledge of all that is hidden behind the outer phenomena, who had knowledge of cause and effect or absolute truth.<sup>(7)</sup>

According to Theosophia, compassion is one of the highest forms of love. And, since compassion is the Law of Laws,<sup>(8)</sup> in line with Pythagoras, Wisdom of Love can be seen as

### The various forms of love

Love, in an abstract sense, can be seen as an impetus, a force of desire. In essence it is neutral by nature, but depending on how it is used it has a different form of expression. If we take the following seven principles, which can be distinguished at all levels of the Cosmos, in the macrocosmos as well as in the microcosmos that man is, then analogically, love is sevenfold as well.

- |            |   |   |
|------------|---|---|
| Impersonal | { | 1. Ātman – the divine, the One, the universal             |
|            |   | 2. Buddhi – the principle of enlightenment, the spiritual |
|            |   | 3. Manas – thinking                                       |
| Personal   | { | 4. Kāma – desire  |
|            |   | 5. Prāna – vitality                                       |
|            |   | 6. Linga-Śarīra – emotion                                 |
|            |   | 7. Sthūla-Śarīra – the physical                           |

In daily life, we see love, written in lowercase, usually in the personal form, focused on the physical, the emotional or desire.

However, noble and even divine desires also exist. For example, there is desire for wisdom – philosophy – and the healthy curiosity to more knowledge, which at first often expresses itself in wonderment. Both are impersonal by nature. In its highest cosmic form, Love – like the divine Eros – is seen as the power that binds spirit and matter at the first manifestation.<sup>(4)</sup> And compassion can also be seen as one of the highest forms of impersonal love.<sup>(5)</sup> It is the desire for immortality, for unity, not for oneself but for all sentient beings.

It is impersonal love which has to guide the development of wisdom. And vice versa love also has to be guided by wisdom, impersonal thinking. Desire is the horse, thought is the rider. Wisdom and compassion are inseparably interconnected. Historically, the ‘philosophers’ who applied this designation in its original meaning, like Pythagoras and Plato, were initiated in Theosophia, the Ancient Wisdom that was only taught within the walls of the Mystery-School in order to protect it from misuse. Bound to this secrecy, Plato always veiled the teachings from the Mysteries with myths and metaphors in his dialogues. Consequently, it becomes clear that these teachings were connected with the divine, the mystical, that which transcended man. The sevenfold can also be found in Plato’s dialogue *Symposium*, for instance in the following words from Diotima, a wise woman who initiates Socrates in the Mysteries of Love (with a capital letter):

‘After all, this is the right way to reach the mysteries of love or to be guided to it by someone else: you start with the beautiful things around us and you have the Beauty as your aim. That way you move up. Compare it to the stairs of a staircase: from one beautiful body (7) to two beautiful bodies (6), from two to all beautiful bodies (5), and then from the beauty of the bodies to the beauty of customs (4), and from the customs to the beauty of the sciences (3) and finally, from the sciences to that one science which is only dealing with Beauty itself (2), so that in the end you come to know Beauty in its essence (1).’<sup>(6)</sup> [numbers added by E.B.]



knowledge of the background of nature and the laws that govern the universe.

From this point of view, the contemporary term *philosophy* in the West is somewhat narrowed. However, for the sake of completeness, it is good to reflect also on the other component of the term philosophy, namely 'Wisdom'.

### **What is Wisdom?**

When we look at the origin of the word, 'wisdom' comes from the root *ueid-* (proto-Ido-European) which means 'to see', and it is also derived from the Sanskrit 'veda', which means 'to know'. Both derivations can also be found in the word 'vision'. To see is to know, or, as the famous Dutch soccer player and 'philosopher' Johan Crujff would say: 'you will not see it until you see through it'. In general wisdom is considered as the highest knowledge based on insight and life experience (and acting in accordance).

Here, Wisdom rather refers to inner knowledge than to outer knowledge. It is a matter of not just having an insight or a vision, but a vision on and insight in reality in the widest possible sense. Therefore, wisdom can also be defined as the knowledge of, the starting point for actions and the application of Truth, in the widest sense. When your starting point is Theosophia, then Truth is boundless. It is the one, absolute Reality which precedes all manifested limited being.<sup>(9)</sup>

Therefore, wisdom is always a relative notion. It is the highest knowledge of that part of absolute Reality which you have experienced consciously, whereby you have also realized the limitation of the part you do not know from your own experience yet. Or in other words, the more you know, the more you know what you do not know. So, wisdom always ensures modesty, as was applicable to Pythagoras, and also to Socrates, who was, stated by the oracle of Delphi, the wisest man of Athens. According to himself because he at least 'knew that he knew nothing', unlike many who believed they knew, but knew nothing.<sup>(10)</sup> In the case of Socrates, 'knowing nothing' meant that he knew the limitations of his knowledge, rather than that he was ignorant. From the statement that the absolute Truth is boundless, and that each human expression or comparison with it is therefore meaningless, you can come to realize that you will never have the answer to everything. The modesty of being aware of your own knowledge keeps you open to a greater truth, beyond your widest vision. Wonderment is the start of philosophy, as Plato writes.<sup>(11)</sup> And growth in wisdom is always possible, this notion itself is also wisdom!

Finally, when you look at the three highest principles in the sevenfold composition in nature: Ātman, Buddhi and Manas (see text box), you will see that wisdom corresponds to the sixth principle Buddhi, the principle of enlightenment. In our human thinking faculty this principle expresses itself in idealism, insight or intuition, it is this thinking aspect with which we see cohesion and activate discernment, something we could call philosophical thinking. It is the bridge between the highest Ātmic thinking aspect, the religious or coherent (*religare*) thinking, which we can recognize as sense or experience of unity, and the Mānasic thinking aspect, which we can recognize as the scientific, intellectual, systematic and logically reasoning thinking.

With all this, we come to a more complete picture of the meaning and the function of philosophy.

### **The function of philosophy**

So, philosophy has a particularly unifying function, between the religious and the scientific, between ethics and logic, between Love and Wisdom. When you look back in history, you can see that in periods in which religion had the upper hand, for example during the Middle Ages when the Christian Church dominated the West, logic was undermined, religion became dogmatic, and the voice of doom dominated the vision on life. In periods in which science dominates, however, such as today, you see that ethics are undermined and science becomes dogmatic, resulting in a materialistic and hedonistic vision on life. In this respect, philosophy particularly has the task to connect logic to the religious, and from there ethics to the scientists.

When you define Religion in accordance with its origin, as reconnecting with the essential unity of all that is, moreover with an element of conscious independent selection in it,<sup>(12)</sup> you have the right starting point for philosophy. Religion without philosophy results in superstition and philosophy without religion degenerates into an empty word game, unpractical and meaningless, despite all logic consistency.

Philosophy without religion is dominant in contemporary western philosophy. Consequently, it has become a stereotype of a mainly materialistic and fragmented science. In this time in which true religion can be seen as the baby that has been thrown out with the "religious" bathwater of superstition, sense of unity and interconnectedness are badly missed. It has resulted in a materialistic view on the world, in which everything that is scientifically

possible is pressed to function the selfish personal man, from clinical animal testing to heartless stigmatization of people with ‘disorders’ which are only determined on the basis of external characteristics and can be ‘cured’ with profitable pills, produced by the same industry that talks you into suffering from disorders. Ethics have been degenerated into the emotional veneer with which the cold materialistic excesses are excused instead of being founded on the basis of a universal sense of unity and compassion, logically as well as truly ethical.

What is lacking is a life philosophy that can offer an answer to all ethical questions in life, and which is logically consistent, scientifically verifiable and practically applicable. Only a life philosophy based on the synthesis of Religion, Philosophy and Science, or Theosophia, can meet this need. Where true religion focuses on the *what* of things, philosophy on the *why* and science on the *how*, it is also in this (deductive) order that one of them can, ethically as well as logically, build on the other. When combined these three ways lead to Truth but they have nowadays become separated and are applied in the reverse (inductive) order. As soon as science discovers a *how* in a certain field and the discovery can be transformed into technology, it is already placed on the market before the *why* is clear and the (*to what (end?)*)-question is even asked. Luckily, man gradually realizes that this materialistic road will finally and literally come to a dead end, and people start to search for the meaning of things. It is about time that philosophy fulfils its function again. It can only do so when it is connected with religion and provides science the necessary cohesion as well as sound and virtuous hypotheses.

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# Esoteric meditation – Part 2

## Aids in developing the buddhic mind

### Key thoughts

- » Mantras, mandalas and thankas can help you to focus your mind on the spiritual, so that you'll come to an intuitive understanding of the nature of the Universe.
- » Meditation leads to self-transformation. If you train your spiritual awareness, your physical side will change with it.
- » If you get used to focus your thinking on the higher characteristics, you can under any circumstances and at any time, go into meditation.
- » Meditation remains limited to contemplation. Much more important is that you do something with the results of meditation, that you *become* what you have learned.
- » Achieving the nirvanic state is a side issue for the Wise, not a goal.

**In the first article on meditation<sup>(1)</sup> we have sketched a picture of meditation as seen in Theo-sofia: if you assume the unity of all life, meditation is a tool for the development of the spiritual core that is present in every human being. By developing wisdom and compassion, the reach of your consciousness increases and you are in a better position to help humanity and all other living beings in their development.**

**In Part 1 we looked at tips that are especially useful if you are just starting out with meditation. Then creating a good environment and the building of discipline is of interest.**

**This article focuses on conditions and aspects of thinking which are useful in the development of higher consciousness or buddhic power. Next we focus on the effects and the depth of esoteric meditation.**

### Mantra

Real meditation is 'dhyāna'; literally meaning contemplation.

By focusing your thoughts on the spiritual, you will come to an intuitive understanding of the nature of the Universe. Tools to boost dhyāna can be found in various cultures. One of the most famous of these is the mantra.

Mantra is a Sanskrit word derived from the verb root 'man', which means thinking.<sup>(2)</sup> A mantra helps you to direct your thoughts. The Hindu holy books, the *Vedas*, contain mantras. In their core these are magic formulas, spells, you might say. Each letter has a specific occult significance. Behind the meaning of

the signs, the meaning of the words themselves, the esoteric meaning of a mantra is hidden. Especially the vowels have magical power, if they are pronounced correctly. You must be a Sanskrit expert to be able to do so. Sound thus plays an important role. It is a powerful tool to make contact with 'higher' spheres.<sup>(3)</sup> 'Chanting' means the continuous repetition of a mantra. The magical power of the mantras can only be used if you have made yourself fit. That is, if your life attitude is above-personal and unselfish.

### Om Mani Padme Hum

In mantras often the word 'Om' or 'Aum' occurs. It is a sacred syllable

used by chelas (students of the Masters of Wisdom and Compassion) and initiates during holy gatherings. The word, the sound of it, should not be expressed outside a sacred environment. This means that without the proper training, without your having internally been through a certain development, pronouncing this word evokes a magical power that you cannot handle. Only when you have developed something of that power within yourself can you then create the circumstances in which pronouncing this word has a beneficial effect.

The syllable occurs in the famous Tibetan mantra “Om Mani Padme Hum”.<sup>(4)</sup> We can translate this as ‘Om! the jewel in the lotus Hum!’ It is one of the most famous mantras. There are many different interpretations of this mantra in circulation. This shows that the idea behind it is rather diverse. But there is consensus that ‘the jewel in the lotus’ represents a highly developed consciousness — a Bodhisattva. It is a consciousness of a certain quality. The lotus is a beautiful, pure white flower that grows with its roots in the deepest layers of mud on the bottom of a lake, in other words in matter. The mantra says you can grow from that depth, the material level to the surface, to the

light. You may look upon the whiteness, the purity of the lotus as the symbol of a quality that you can express. So, in pronouncing the mantra, you make an appeal to bring out the highest in yourself.

## Mandala

You can also practice your intuition using a mandala. We all know the sand mandalas made by Tibetan monks. Mandala in Sanskrit means ‘circle; it is a geometric figure displaying the structure of the universe in a particular symbolic way. Pythagoras, who was initiated into the Eastern secret wisdom, tried to explain to the Western world that everything is cyclical movement, rhythm, and synchrony. Mandalas are examples of the universality, harmony, the geometry of the universe. They help you to think about what harmony is and what spirituality is. Inner harmony can be found in the external world, if that is not disturbed by all kinds of personal elements. You should be able to recognize harmony and cyclical movements as forms of inspiration to get you to a certain spiritual level. You can create or look at a mandala by way of meditation practice and thereby deepen your thoughts about harmony and the coherence of things.

### The Dalai Lama on *Om mani padme hum*

It is very good to recite the mantra Om mani padme hum, but while you are doing it, you should be thinking on its meaning, for the meaning of the six syllables is great and vast ... The first, Om [...] symbolizes the practitioner’s impure body, speech, and mind; they also symbolize the pure exalted body, speech, and mind of a Buddha [...]  
The path is indicated by the next four syllables. Mani, meaning jewel, symbolizes the factors of method: (the) altruistic intention to become enlightened, compassion, and love [...]  
The two syllables, padme, meaning lotus, symbolize wisdom [...]  
Purity must be achieved by an indivisible unity of method and wisdom, symbolized by the final syllable hum, which indicates indivisibility [...]  
Thus the six syllables, om mani padme hum, mean that in dependence on the practice of a path which is an indivisible union of method and wisdom, you can transform your impure body, speech, and mind into the pure exalted body, speech, and mind of a Buddha [...]

(Source: <http://www.tibet.com/Buddhism/om-mantra.html>)

## Thanka

A thanka is a painted or embroidered piece of cloth that serves as a teaching material in Buddhism. Often scenes from the life of Buddha or the teachings on the Path of Enlightenment are depicted.

On Tibetan thankas the 15th-century Teacher Tsong-kha-pa is a favorite subject. This Bodhisattva (subsequently becoming a Buddha) had purified Buddhism in Tibet and founded the Gelukpa order, also known as the Order of the yellow caps. The thanka on page 9 depicts the spiritual evolution of Tsong-kha-pa. See in the middle the illuminated figure surrounded by the stages he has gone through to achieve that state. Each stage represented is a meditation exercise. You can pass through all the phases and imagine that he went through those developments step by step to finally become a Buddha living out of pure compassion. The image shows that the great sage was once at the same level of development as we are and that you must simply begin to follow the path. Thangkas are, as it were, spiritual comics that can inspire us.

The Borobudur on Java, Indonesia, fulfills the same function. On the walls of the nine terraces reliefs symbolize the stages that Gautama the Buddha went through in his development to become a buddhic being.<sup>(5)</sup>

## Meditation and self-transformation

We should not underestimate the effects that meditation can induce. Remember that we do develop ourselves. Each of us is a set of habits and energies in a particular combination that makes us what we are. We cause this composition ourselves. Hence we can also change it. From a theosophical point of view “I’m only human” or “I don’t have that in me” doesn’t exist. The most you can say is that you need some more time to develop your potential. Meditation leads to self-transformation. Every man is a composite being. His mind is a part of that complexity, and is also composite in itself.

By our way of thinking we have an influence on our complexity. If you focus your thinking on the spiritual side of yourself, if you train your spiritual consciousness, then your physical side changes along with it. Because our thinking faculty also reaches our organs, cells, atoms and molecules, in short everything that constitutes our body. If you are very heavily involved in your spiritual transformation process, then your physical side will also change quickly. That may cause some problems. It’s with good reason that an advanced Chela is required to be in possession of a healthy lower nature. Because that is the instrument through which the higher nature works. If this lower nature is not yet perfect, which is the case for most of us, this could result in problems when there is a very intensive spiritual development. The difference between the imperfect lower nature and the more developed higher nature leads to tensions. It is questionable whether you would be able to deal with those problems. Can you maintain harmony in your composite nature? Therefore Madame Blavatsky gave the advice to take on the study of Theo-sofia in a calm and thoughtful manner.

How does this influencing of the spiritual to the lower within you work out exactly?

To illustrate this process somewhat, we take the example of the keys of a piano. Most pianos have seven octaves. Each octave has seven notes. Each octave is a doubling in frequency of the sounds of the octave below. If you press a key, the matching tone in other octaves on the keyboard will resonate. Your lower nature and your cells, your organs, also have those “tone” so to speak. So if in your way of thinking you play the highest spiritual tone, then slowly you realize the same tone to sound on the level of your organs, cells and atoms. Is that a sound that they like, a sound they are in harmony with, then they will strengthen themselves and stay with you. However, if it is a tone or combination of tones that is not completely



This thanka depicts the development of Tsong-kha-pa.

theirs, then you will repel them.

## Harmony

So through your thinking you’re constantly active in attracting or repelling the lower creatures or consciousnesses that make up your body. Or you take them along in developing your characteristics. You may understand that the latter is the most harmonious. In fact, you are carrying out a purification process. Most atoms have a very short life cycle, sometimes only split seconds. They fly, if it were, in and out of your body. It’s up to you how harmonious that dynamic process will go at the physical level. The more harmonious and spiritual your thoughts are, the better you are able to guide that transformation on the lower plane. If you read a tabloid first thing in the morning, you are influencing your entire constitution with the tone of that newspaper. You become as it were, that sensation. And if you start to meditate after that, you can imagine that you cause some tensions that will have certain effects in the longer or shorter term.

## States of Consciousness

If you practice spiritual training, you will have to deal with four states of consciousness.

The jāgrat-state is well known to us, it is the state of



consciousness when we are awake, the ordinary waking consciousness. It is the condition in which we usually find ourselves. You think. You listen. You think along the same lines with someone else, and you get all kinds of images from that.

We are also familiar with the Swapna-state. It is the sleep-dream state. This is a state of consciousness in which the consciousness has slightly detached itself from the body. While you're dreaming or daydreaming your consciousness travels through the so-called astral planes. That consciousness is not in a high spiritual state, it is still very close to the material plane.

Sushupti is the state of deep sleep. In fact, then we are, without even being aware of it, in a higher mānasic condition which has features such as self-forgetfulness. It is the state of mind that transcends the selfish thinking. In that state, you are free from personal bias. You can focus your thinking on that level and build pure Wisdom and Knowledge. Most people can only get into this state during deep sleep.

Turiya finally, is pure divine spiritual consciousness or Samādhi. That almost nirvanic condition is characterized by ātmic (unity) and buddhic (insight, intuition) characteristics. What can we imagine of such a state of consciousness? How does one describe the characteristics that belong to this state of consciousness? We only have very limited experience here. To gain insight you need to concentrate your thinking on it, subsequently meditate on it and see what this looks like.

Therefore, if you go into meditation you should target your thinking at least on the level of the higher Manas. In the overview below of the aspects of Manas this is everything above the line, because there are the pure above personal characteristics, which entail insight and wisdom. And that leads to harmony.

## Continuous meditation

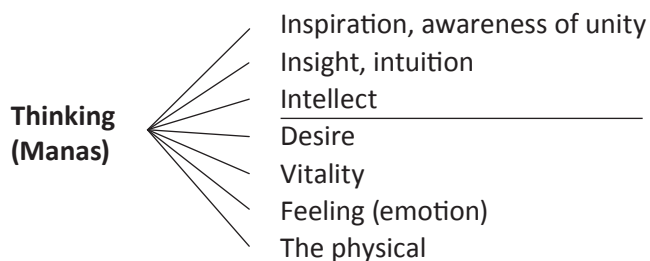
If you get used to focusing your thinking on the higher characteristics, then forces develop inside of you which enable you to make your way into the higher states of meditation. Then meditating at a fixed time and place it is not a necessary condition any more. Then you can meditate at any time and in any place. You may then in a crowded train or a busy airport so much focus on those characteristics of wisdom and compassion, that you still perceive the things around you, but are not affected by them.

If you're still open to everything that is happening around you, after a day at an airport when you have to deal with delays or tickets that are incorrect, you may be completely burned out. That's because your mental state is one that absorbs the humdrum which prevails there. And you are going to resonate with that emotion. Subsequently, that emotional state wears you out. Instead, you can decide that you are not going to let those forces in. You watch out to see if you can help somewhere, but if that is not possible you let the situation – as it were – pass you by. In this way you keep your composure and clarity of mind. Continuous meditation may look like this: you are trying to find answers to a spiritual issue. You want to develop a vision on that. You keep this problem 'warm' so to say, somewhere in the back of your mind and you do not forget. While you're doing other things, for example washing up the dishes or riding a bike, you think the matter through. At a certain point you notice that there is clarity in your problem, you'll get insight into the matter and finally, you know how it all fits together. Then, if you test that insight in practice it proves to be correct and flawless.

## Above meditation

You become what you think. Or conversely, if you want to know who you are now, take a look at what you think. This is something different than meditation, because meditation is limited to contemplation, to concentration, to focus. But much more important is that you do something with the results of meditation, that you *become* what you have learned. Because if you really want to know how things work, then you need to be part of it, then you should become it. Real techies for example, do not look upon a plane as a set of laws and physical laws that function in a certain way. They

### Aspects of thinking (Sanskrit: "manas")



see a bundle of physical characteristics and combinations pass by. They hear what engine is inside and whether it functions optimally. They have become that plane so to speak.

This can also occur on the ethical plane. If you study the Pāramitā's well and apply them, then you become them.<sup>(6)</sup> Then the things you want to know about are not things you consider at a distance, no, then you are those things. Then you *are* a Buddha. Then you have developed within yourself the characteristic and then there is actually no other possibility for you than to act in accordance with that characteristic. And that is the ultimate goal that the whole meditative process is directed to. That is what is meant in the *Prajñā Pāramitā*, that you are constantly striving to be a blessing, above-personal power in the world. It is not only about consideration, but it's all about becoming that wisdom, to be able to express it. Wisdom is spirituality, being put into practice. It is being, becoming and penetrating things. It means understanding from within. In her book *The Voice of the Silence*, Madame Blavatsky speaks about the stages that a person goes through when he has decided to make himself acquainted with the true Wisdom.<sup>(7)</sup> In Buddhism the whole process is indicated by 'reaching the other shore', or reaching a nirvanic state.

First, there are the Srāvaka's. Those are the listeners. These people find it interesting to hear about the Secret Doctrine, but they have not yet made the step to connect themselves therewith.

The Srotāpatti does. Srotāpatti literally means 'he who hath entered the stream'. He has stepped into the river to actually go from one bank to the other bank. Zen-Buddhists say about this transition that before they practiced Zen they saw trees as trees, mountains as mountains and rivers as rivers. However, through the practice of Zen, for them those trees were no more trees, rivers no longer rivers and mountains no longer mountains. Finally, after more training, trees for them became trees again, mountains again mountains and rivers again rivers. What is the big difference between the first and the last vision? In the first case, you look at the material side of things, and in the latter case you have understood the heart, the wisdom and the background of it.<sup>(8)</sup>

Someone who only has to reincarnate one more time, the Sakridāgāmin, is in the next stage. Then follows the Anāgāmin, 'he who will not reincarnate again'. Finally, there are the Arhats; 'those who have seen Nirvāna during life'.

## No goal, but tool

Remember that this nirvanic situation is a side issue, not an end.

At the beginning of the first article we argued that meditation, even esoteric meditation, is no more than a tool. Various kinds of meditation forms are methods to express what is present within you in a latent state. That leaves us with the big question with what motive we want to apply these techniques. We hope the above will be of service to the reader.

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# Meditation

## The view of Gottfried de Purucker on meditation, as given in his *Esoteric Teachings*.<sup>(1)</sup>

Meditation is a positive attitude of mind. It is rather a state of consciousness than a system or a time-period of intensive brain-mind thinking. Meditation implies quiet, peace; above everything else, it means quiet undisturbed reflexion. Evening-tide is the best time for meditation, or perhaps the early morning at about the time of sunrise. Be alone when you meditate. Be quiet. Have no disturbing influences of your own ever-active and feverish brain-mind mentality. Be positive in your attitude, but quietly so; positive as the mountain of granite, and as quiet, and as peaceful. Above everything else, be impersonal. And this injunction applies with particular need to the meditation practiced in the evening. A good time for most people, perhaps, to undertake this meditation-period is in bed, just before sleeping.

The reason for the need of strict impersonality, without the slightest thought of any degrading, or morally offensive element intruding into the heart, such as hate, or anger, or fear, or revenge, or the other ones of the horrid progeny of the lower self, is that when meditation is impersonal and elevates the soul — when sleep steals over the body, and the ordinary brain-mind consciousness drops away, the soul is then released, and automatically follows the direction last given to it by the meditation when the brain was awake.

It is possible so to meditate before falling asleep at night that your soul ascends to the gods, and is refreshed and strengthened by its confabulations with those divine beings. It is likewise possible so to meditate — or more accurately speaking to brood — before falling asleep, that when the bonds of wakefulness are broken, and the brain-mind is silenced, the soul is dragged downwards, even into the higher parts of Avīchi, and thus is degraded and weakened. Be therefore always impersonal. Have your heart filled always with impersonal love; never sleeping, never sleeping, my Brothers, until you have sincerely forgiven all injuries done unto you. This rule is very important. It is not only an elevating practice, but it is a much needed rule for your own safety. Fill your heart with thoughts

of love and pity and compassion and forgiveness. Fill your mind, when meditating, with some sublime, some lofty and elevating, idea. Dwell on it quietly in thought. Brood upon it with the higher brooding, the impersonal brooding, which is effortless and still; and let there be a rest of all the senses, and quiet in the mind.

Meditation is simply the bending of the consciousness in a certain direction and holding it there. You can meditate on evil things as easily as you can on good; and, alas! many human beings do this. Meditation in the better sense is a bending of the consciousness: the elevating of the mind and the consciousness to the plane where intuition guides, and where some noble thought is native, where some great aspiration has its home and dwelling, and the holding of the consciousness in thought there. It is very easy to do, and very, very helpful. It is simply a bending of the consciousness in the direction towards which you aspire; and when you grow to love this and it becomes automatic, the help that you will receive will be very great. There is a difference between just thinking concentratedly on a subject and meditating, especially if thinking concentratedly means using the brain-mind: but if a concentration of thinking means the absorption of the consciousness in following the ennobling direction along which the spiritual will is guiding, then they are the same.

You may pass hours in meditating, and you will hardly be conscious of the passing of time. Now, this does not mean that so much time should always be spent in meditation. You may thus take away time which you owe as a duty to give for other things; and such an act would be wrong. Be sensible; be reasonable in meditation as you are in other matters.

Even in the profoundest meditation, when he has lost all sense of surrounding circumstances, the trained chela is never in the condition of having lost his spiritual and intellectual grip. He is always conscious that he is in control of the situation, is always alert, even while the consciousness is passing in review the myriad phases of the subject under meditation. It is highly inadvisable, as a general rule, to allow oneself to be on another plane in thought so greatly and fully that one becomes a psychic and physical automaton.

Meditate all the time. Nothing is so easy, nothing so simple, nothing so helpful. Far better is it than a set time for meditation. A set time is a rule for those who are weak. It is likewise a rule for those who are far along the path. But for most students, the better rule is: quiet thought on the questions you have in your mind: constant, unremitting, continuing even when the hands are busy in the tasks of the day; even when the mind itself is quite away or distracted by other duties, in the back of the consciousness there can still be this steady undercurrent of thought. A little practice will make this easy; and then it becomes not only easy, but a delight.

It is likewise an ākāśic shield, a protecting shield, in all your other affairs; for meditation surrounds the body with an aura drawn forth from the deeper recesses of the Auric Egg, which is ākāśic, and through which aura, when condensed by the will of one who knows how to do it, nothing material can pass. Meditate all the time; it is helpful, very helpful; and as the sound of the gong reverberates in the silence so does thought sound in the Silence.

Everyone is greatly benefited by meditating before sleep at night and before rising in the morning; the quiet, peaceful, keeping of some beautiful thought in mind, even if it is for only a quarter of an hour. Meditation before sleep helps to protect the body during sleep, if done by one who knows how to meditate, who is accustomed to meditating, and whose meditation is lofty and on sublime topics of thought: the help, the reward, is very great, and in addition usually conduces to calm and peaceful slumber.

Meditation is an inexpressible delight. It is an unspeakable pleasure, this blending of one's consciousness with something indescribable in words; this bathing in the Ocean of Light and Life, intellectually and spiritually speaking. Meditation consists of two things, or, perhaps better, there are two kinds of it: First, the keeping of some beautiful idea clearly in the mind as a picture, and letting one's consciousness enter into that picture; and second, the casting of the consciousness into higher spheres or planes, and taking in, absorbing, the experiences that flow into the consciousness by doing so. If you set your teeth and grip your hands and mentally hammer a subject of thought on this point and on that point, you are not meditating at all. Such thought is simply brain-mind cogitation, and it is often exhausting, tiring, uninspiring, and uninspired. Meditation is the holding of a thought steady in the mind, and allowing the consciousness to work interiorly upon this thought, and the doing of it easily and with delight.

The way to meditate properly is to have a noble thought, a beautiful thought, a helpful thought, one taken from our own Order, and to hold it in the mind and make a delight out of it. Love this thought. Keep it in your mind. Let it dwell there. Let the spirit brood over it. You may even go about your business, about your professional work, about your affairs; in the meantime keeping the thought in the consciousness, and brooding over it as a mother-hen will brood over her eggs and chicks. There is no need to put the physical or psychical will on to it. If you do you won't succeed, because such exercise of the will means effort, it shows strain; and that is no way to meditate. Love a beautiful thought and keep thinking of it, keep it in the mind; this is meditation, and if you practice this simple rule of Jñāna-Yoga, after a while it will become natural to you. It will become part of your daily consciousness. At times you will hardly become part of your daily consciousness. At times you will hardly realize that you are thinking of it. It will be there all the time at the back of your mind. That is meditation. And concentration is simply at certain times, when you have the leisure for it, taking this thought as it were into your consciousness more clearly, and centering all your attention upon it, not with the will, but with ease.

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# Developing concentration



**Teachers often complain that students have lost the ability to concentrate on their studies. What can we do to regain their attention?**

There is probably no teacher who teaches at a high school who has never had a problem with the mobile phone of his students. While explaining a difficult mathematical issue, or the causes that led to World War II, a student is looking at his cellphone in order to know what a friend in the other class has *posted*. Another is watching a series, because yesterday she had no time. A third receives a WhatsApp message and a fourth expects a message. They just cannot stay away from their phone. And because they use that phone as a calculator and agenda, it is hard for a school to ban them. Yet, there are teachers who address the problem of what they ironically call *digibesitas*. Their radical way of dealing with the problem: they have a big box and before the students enter the classroom, they have to put their phones in that box. But even this does not help, because they just put a second old phone in the box and the other one stays in their backpack. How can you concentrate on your study when your phone always distracts you?

## Lack of concentration

The smartphone is perhaps the most distinctive example of temptation to which modern humans are exposed. But it is only one symptom. Many people cannot be focused on something for a long time. Modern life does not make it easy for them either. Silence has become rare. Everywhere is distraction. At train stations, in the dentist's waiting room, there are displays. One is bombarded with advertising, whether it is a pop-up email, a television commercial, or a billboard. It is not surprising that concentration decreases more and more. Further in this article we will delve deeper into that topic. Therefore, not only teachers complain about the lack of concentration. You can see it in other parts of society, including the Theosophical Society. In the eighties of the last century, theosophical lectures lasted an hour. But the audience could not concentrate so long anymore, so the lectures were split into two half hour segments. But for many people thirty minutes is still too long to concentrate, so now the opportunity is given to ask questions

## Key thoughts

- » Having a clear vision of your purpose of life in mind increases the concentration and the will.
- » The spiritual will is the mystical sword that converts impersonal ideals into actions.
- » Every person has a divine nature. At the Rāja-Yoga School, an appeal is made to it. Concentration and self-discipline then become natural properties.

during the talk. You can wonder if this is bad, as long as the thoughts come across. That is certainly true, but in order to transfer thoughts, people must be able to focus on those thoughts. And that requires concentration.

### **Concentration and thought**

Concentration means that you focus on one thought or one type of thought. People who can concentrate well, for example on a novel, can read their book in a quiet library but also in a busy station hall. Their attention is only with the book. Other thoughts do not enter into their mind. If, on the other hand, you cannot concentrate properly, your thoughts are blowing in the wind like autumn leaves in a storm. A sentence in the book that you are reading, reminds you of what happened to your friend yesterday. And that thought raises the picture of your holiday last year.

Why do those thoughts appear like unwanted guests? Thoughts are real things. They are living beings. And like all living beings, they appear and disappear cyclically. Anyone who observes himself for some time and tries to discover what he thinks – for example by keeping a diary – will find out that thoughts indeed appear cyclically. Thoughts are fed by our mind. So when we think a thought, we make it stronger. If it is stronger, it also returns more often and tends to overcome other thoughts. All thoughts that we have thought and thus have fed, come back. That isn't a problem, if we keep control and let them come back at the moment we want. And if we do not want them anymore, we should not feed them and they will die.

Of course, that is easier said than done. Thoughts are tough. They are not so easily pushed away. That is exactly why concentration is often so difficult.

Lack of concentration therefore arises because a human being cannot control his mind. He is like a driver who does not know where he wants to go and says to his car: you decide where we should go. So in a way he is the slave of his own thoughts.

### **No purpose**

People often lack concentration because they do not know what they want. What is the purpose in their lives? When you have a clear goal, your concentration will increase. Ambition sharpens the concentration. If you want to be the best in sports, you can easily focus on your training. But what if you do not know exactly what you want? Here lies the problem. Youngsters do not often know

what they want to do with their lives. They do not know what profession they should choose. They do not know if they should enter into a relationship or not. They are very interested in their peers. Hence the overwhelming success of Facebook and other platforms on which they can share what they do.

But even adults do not always know what they want. They may have a job, a house and a partner, but sometimes they doubt whether that is a meaningful fulfillment of their lives.

Lack of goal is a major cause of poor concentration.

### **Ideals**

Therefore, the whole issue of concentration cannot be disconnected from general human issues. In fact, we are talking about scientific, philosophical and religious matters. There is no universally accepted philosophy of life in our society, which means that people – and especially young people – do not know in which direction they should go.

Concentration has everything to do with an ideal. Even a personal ideal gives direction to the mind. If you would like to become a doctor or engineer, you will do your best and focus your mind on the thoughts that are needed.

Theosophy, however, teaches that an ideal that rises above your own interests, is much better than a personal ideal. We are talking about a spiritual ideal. That is not something blurred or vague. It is the ideal of peace, harmony, mutual respect and brotherhood. Gather thoughts that shape this ideal. The theosophical mindset helps you in forming such an ideal, because theosophical teachings are in fact nothing but arguments for it.

It is essential that you raise and shape that impersonal ideal yourself. If you follow the ideal of another, it will be harder to focus on. Then it is not composed of *your* thoughts. Then it might be boring and unrealistic. But if it's your own superpersonal ideal, you will see its beauty. Then it is exciting. Your mind will focus on it in a natural way. Young people are particularly suitable for forming such an ideal. Teachers should encourage it. They should take that into account when they prepare their lessons. Then learning becomes something that has everything to do with the student's experience, instead of being a theoretical matter.

### **The will**

A clearly formulated impersonal ideal holds a spiritual vision of life. It sharpens the intuition. You rise above the





temporality of the present existence, beyond the limit of one life. In addition, it will wake up the spiritual will, which is very valuable. More about that later.

There are some materialistic scientists who deny that man has a free will. Theosophy claims, however, that human beings do not only have a free will, but rather *are* a free will. By this we mean that every being, every form of life, is a will, in the sense that everything is created by its own will.

Why does a chick peck its way out of its eggshell? Why does a blade of grass force its way between two paving stones or through the asphalt into the open air? Is that a mechanical process? No, it's the will to live. Everything that exists, lives. There is no dead matter. There are no alone-standing mechanical processes. Everything is driven by consciousness. And that driving force derives from the inherent will of every consciousness, so of every being. Without a will, there is no life.

However, there are many forms of will. The will of an atom that captures an electron, the will of a virus entering a cell, the will of a swallow returning from Africa to Europe, are different wills than the will of the thinking human. Human will is more free than that of plants or animals, because it has the ability to think and thus self-consciously

choose for something.

Behind the will is always the desire. By this we mean that when you desire something more strongly, your will increases. Do you really crave for peace, to be a scientist or for a vacation on the beach, then your will to achieve those goals is stronger. And of course, your concentration is accordingly greater.

### **Spiritual will**

As said, the will of man differs from those of the lower realms of nature. But even within the human kingdom, yes, even within one human, you can distinguish different wills. Or maybe it's better to say that a human's will can be focused on different aspects of his consciousness.

To just focus on the basics, you can say that there are two sides on which the will can focus: personal or superpersonal awareness. By the first, we mean that you see yourself as a separated being. You do not experience the connections with other humans or living beings. The superpersonal man, however, lives in the awareness of affiliation with others.

We use the personal will to satisfy our personal desires. It leads to selfishness. We make use of the superpersonal will for superpersonal matters, so to achieve unselfish goals.



That superpersonal will is also called the spiritual will. It is the spiritual will which is characterized by selflessness and compassion. It is developed when one is *concentrated* on the higher, superpersonal parts of consciousness. It lets itself be guided by the Higher Self.

The spiritual will is the mystical sword with which a superpersonal ideal can be realized. Without that will the imagination of man is useless. If you have an ideal, but you do not have the will, then you are at best a dreamer. You then lack the concentration to activate the will, which allows you to put the ideal into practical actions. Then you are of no use to the rest of the world.

Unlike the determination or willpower of someone who is focused on a personal goal, the Willpower of the spiritual will is a 'soft power', derived from superpersonal love. If you put love into an ideal, your heart is close, and you are patient and generous, although you do not deviate a millimeter from your superpersonal ideal.

## The Bhagavad-Gītā

Based on what was discussed above it appears that the spiritual will is rooted in the Higher Self. That Higher Self has been designated in different religious traditions with different names. You may call it the inner Buddha, the monad, Ātman. In *The Bhagavad-Gītā*, reference is made to Krishna, the inner god. In chapter 4 of this holy book of the Hindus Krishna says of himself: *Aham Ātman, or: I am the Self, my seat is within the heart of every being.*<sup>(1)</sup> This statement is of utmost importance. It means that everyone has a divine nature and that everyone has the ability to develop the spiritual will and focus on Ātman. Ātman is the Self. We *are* it. We can therefore become it. And we become it by focusing on it.

*The Bhagavad-Gītā* is called the book of yoga. Yoga means unification by discipline. Unification is the summum of concentration. You have focused yourself completely on the Self, so that you were able to become it.

Each chapter in *The Bhagavad-Gītā* is actually an exercise in concentration on the Higher Self. Anyone who wants to learn to concentrate better, should study this book thoroughly.

In this article we want to elaborate a typical doctrine that is essential for the development of concentration: the three Gunas.

## Three Gunas

In the last chapters of *The Bhagavad-Gītā*, and in particular in chapter 14 and 18, the three *Gunas*, properties of

nature, *Sattva*, *Rajas* and *Tamas*, are discussed. They are often described qualitatively, with Sattva as being good, Rajas as less good and Tamas as merely bad. However, the true meaning is different.

Sattva means harmony, Rajas activity and Tamas passivity. These three Gunas are therefore related. They all exist because of the other.

The challenge for us – and this has everything to do with developing concentration – is that we must learn to rise above the Gunas. We must learn to realize that we do not act but the Gunas do. They are our instruments for acting, but we are not those instruments. Because of our almost complete identification with one of those Gunas, concentration disappears. We are the victims or slaves of the Gunas instead of being their masters.

If a pupil continually looks at his smartphone, he delivers himself to Rajas, activity. When he is not allowed to look at his phone, but neither does he listen to the teacher and dreams drowsily, then he is subject to Tamas, passivity. Sattva or harmony is recommended in the *Gītā*, because that property makes you realize that outer life with its personal goals is an illusion. Therefore you will focus on goals that transcend your own "personal self or me". For students, this could lead to a situation where, for example, you pay attention in class and a little later during the lunch break you have fun with your friends. One should take into consideration that Sattva also needs to be controlled, because sometimes the Rajas-feature should dominate, for example if there is a risk that you may not meet the deadline for your assignment. If you live according to Sattva, you gain control over your own consciousness, allowing you to be active, passive or harmonious whenever the condition requires it. Then you no longer float on the turbulent waves from the sea of thoughts you created, but you are the master of your mind.

Therefore: it's not wrong to be active with your smartphone, provided it is the right time. It's not wrong to rest, if that rest is needed. By developing Sattva, you learn to rise above the Gunas, to control your mind and to think those thoughts that are needed in a particular situation.

## Rāja-Yoga

From what was discussed above, it appears that the problem of young people who are quickly distracted by their smartphone, is not easily solved. The cause of the problem lies deeply at the root of human thinking.

In fact, concentration should be the great purpose of education. Nowadays it is considered as a *condition* for

being able to learn. After all, if you do not pay attention in class, you do not get satisfactory grades. But if someone has learned to focus, he can pretty quickly learn everything. In the Rāja-Yoga school in Point Loma, children from a very young age were taught how to concentrate. And this was not imposed. There was little or no compulsion. It was created by stimulating the child's natural learning curiosity. Learning is fun. Learning is a very natural thing for humans. The purpose of life is evolution, to develop a greater and more noble consciousness.

Self-discipline and concentration have everything to do with the spiritual will we wrote about. It is not because of the *brain-mind*, which often plays such an important role in mainstream education and which for example manifests itself in memorization formulas, names or lines, that you learn to concentrate. It is by focusing on the inner divinity, that concentration becomes something to take for granted. The curriculum in Point Loma included art, drama, music, nature; essential subjects, in which young and old participated. Students had to *experience* the teachings, so they had to do their own research. Sometimes they had to build their own things. The following example shows how great the children's concentration was: in the same classroom, different children practiced on seven different pianos. Every child played his own piece of music.

The first words the children learned to write were *attention*, *concentration* and *determination*. They were taught to fulfill every task, how small and insignificant it might seem, with full attention.

The conditions at Point Loma were optimal. There was rest and no distraction. The school was in a beautiful nature reserve near the Pacific Ocean. The teachers were trained for this inspirational education system and lived with the children.<sup>(2)</sup> Most current teachers can only dream of such an environment. Nevertheless, each school can at least try to increase in a natural way the concentration of children. As much as possible, let the students themselves do their research, stimulate creativity and avoid competition. Many teachers do their best to set up an educational system, according to these principles, despite the often difficult circumstances. The government of a country can of course also contribute with financial resources.

Finland, a country that is already in the forefront of education, will soon reform their education even more. Research and creativity will be further promoted.

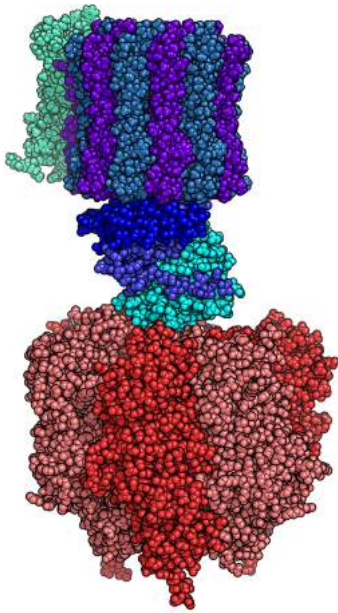
The importance of concentration can hardly be overestimated. A good concentration will not only lead to a much

better learning performance, but if we learn to focus on our inner nature, it will also lead to a more dignified and harmonious world.

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1. *The Bhagavad-Gītā*, chapter 10, sloka 20.
  2. See *Lucifer, the Light-bringer*, No. 2, November 2015 Symposium issue "Rāja-Yoga education of the Reincarnating Child".
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Rotating 'cell engine' at the nanoscale.

# Nanotechnology, a closer look inside the world of the cell

## The more microscopic we look, the bigger the questions

The scientific world is still unable to answer the question of “what life really is”. There is a certain consensus about the *characteristics* of life, but *what* it is remains a mystery. The cell – as the smallest unit that meets the scientific characteristics of life – is generally regarded as the basis of life, as the bottom rung of the ladder. All life is cellular, so it is now being said. At the same time, scientists realize that this “most primitive form of life” works immensely accurately and orderly, far beyond what we are able to manufacture.

With the current technical advancements, we are able to study life in its smallest form. So-called nanotechnology allows us to study processes in the cell even down to the molecular level. A new world opens, making alleged divisions of living and “non-living” fade away. The deeper we delve into the world of the cell, the more complex the processes turn out to be.

### What is life

What is life? A question that is so fundamental that it takes up the entire first biology lesson at school. A distinction is thereby made between life and death and then between dead and non-living. Something is referred to as dead when it was once alive, but is no longer living, while the non-living is something that has never lived. Whether something is alive (or has been alive) is defined by a number of characteristics (breathing, feeding, excreting, moving, growing, perceiving and reproducing). But the question of what exactly *is* life, the biology books do not give any

further answer than a “property of organisms.”

The problem is, in our view, the distinction made between living and inanimate, a self-confined boundary that really complicates the answer to the question of life, even though we see that this boundary line is gradually getting thinner.

Let's take a look at the current definition of life as it is now given in Wikipedia (Dutch version):

Life is an open physico-chemical system that – through exchange of energy and matter with the environment and by an internal

### Key thoughts

» Looking increasingly deeper into matter does not offer the answer to the question of what life really is. The smaller the scale at which scientists are able to perceive, the more complex processes seem to be.

» The dividing line introduced by the natural sciences between living and inanimate is illusory because everything is life.

» The cell is a hierarchy of life, in which countless consciousness's purposefully fulfil their specific task.

metabolism – is capable of sustaining itself, of growing, propagating and adapting to changes in the environment, both on the short (physiological and morphological adaptation) as well as in the long term (evolution).

With this definition, we immediately address the problem of the illusory dividing line between living and inanimate. It refers to a physico-chemical *system* (physico-chemically means related to the physical aspects of chemistry) that is called *alive* because of its exchange with the environment. Somehow, in this description, a chemical exchange of “non-living” matter suddenly leads to life. Somehow a change of “non-living” molecules into “non-living” proteins in a complex co-operation should lead to a *living* cell that is capable of self-sustaining.

Where life occurs in this process, one does not know, let alone what brings about the formation of the molecules. The cell is generally seen as the basis of life, but just as bricks don't define a house, cells don't define life.

### **The illusory dividing line between living and “non-living”**

The discovery of viruses brought about the first shift in the dividing line between the living and inanimate. A virus is not a cell but only a package of DNA in an “envelope”, without the complex structures a cell has in order to be able to function. It cannot survive independently and needs a host – a cell – to reproduce. Once it has entered the cell, the virus “hijacks” certain mechanisms of the cell, allowing it to multiply and survive, hence meeting the most important scientific characteristic of life.

Even more intriguing than the case of viruses is the discovery of the so-called prion. A prion is not a cell or virus, but an even smaller particle that only consists of some protein molecules. It is a particular type of protein that due to its different shape causes diseases such as mad cow disease BSE. A prion has the ability to convert a healthy protein into its own abnormal form, by which it also becomes capable of multiplying and thus reproducing itself.

So where can we draw the line between living and inanimate? According to Theosophia nowhere, because *everything* is life. Movement, as we said earlier, is one of the scientific characteristics of life. In the Ancient Wisdom, movement is also recognized as a keyword in the definition of life, but then in the sense of *self*-movement or self-motion. Not as a property or external characteristic, but as an *inner potency*, the ability gets into motion. Plato describes this as follows: “Life is the ability to take action, to act and

respond to acts of other beings; Life is self-movement.”<sup>(1)</sup> Keep the latter in mind when we discuss hereafter the recent findings of what is happening in the cell.

This ability to be able to get into motion, this power, is the cause of all things visible and invisible around us and within us. All phenomena that we can observe are driven by an underlying force that creates their form, it is the “precipitation” of that force in this physical domain. Everything we perceive in the physical realm is thus an expression of life, and when this is still in a very primitive form, we call it matter.

Another word we use for life is consciousness. In the last symposium report “How our consciousness changes our brain” we extensively discuss the concept of consciousness.<sup>(2)</sup>

### ***Physical appearance of the cell, an interplay of processes***

We will briefly discuss the construction of the physical cell before we touch upon the discoveries made using nanotechnology.

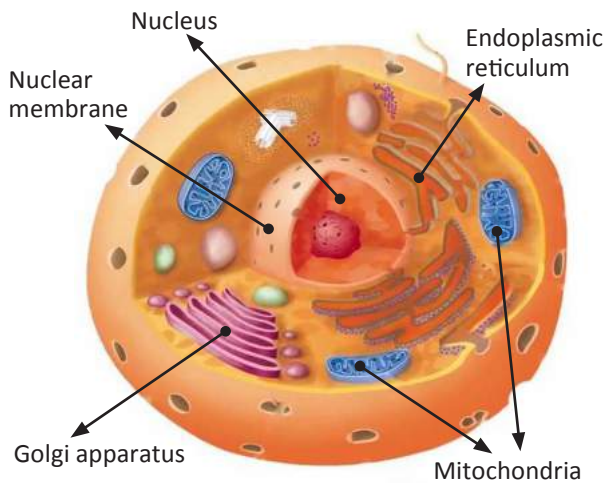
The cell is surrounded by the cell membrane, the “skin” of the cell, a two-molecule thick membrane that selectively allows nutrients that the cell needs, to pass through. Within this membrane, the cell – like us – has different “organs” called organelles. To begin with, the cell has a core, the nucleus, which is surrounded by its own membrane and in which the DNA is stored. DNA contains the coding (construction diagram) for all the building blocks needed by the cell. Converting this code takes place in the *ribosomes* where after the produced construction blocks are packed in the *Golgi apparatus* to be transported via the *endoplasmicreticulum* to end up in the right place in or outside the cell. The organelles that look after the energy supply are the *mitochondria*, which convert the available sugars into fuel. But always remember that we are talking about *external* forms, that all are but an expression of the consciousness that is working behind it.

The fact that the different organelles in the cell have their specific function has been known for several decades, but through nanotechnology, scientists are able to follow all these processes down to the smallest detail, which reveals a highly complex mechanism of cooperation with which the already shifting boundary between living and inanimate seems to lose its rationale completely.

### **New insights by nanotechnology**

Nanotechnology is the branch of science that researches

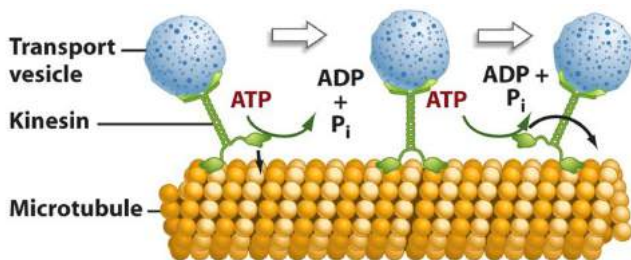




The different organelles of the cell. For further explanation, see text.

at the scale of a few nanometers. One nanometer (nm) is a billionth of a meter ( $10^{-9}$ ). To give an idea of the scale: a tennis ball has a diameter of 70 million nm, a hair of 80,000 nm and a single molecule of a number of atoms is about 1-10 nm. The scale in which the new discoveries have been made covers about 1 to 100 nanometers. With this technology, we are not only able to look into processes on this very tiny scale but are also able to influence, to manipulate. We will address this later on.

What have the new findings revealed? A look through the Nano-microscope opens a world in which thousands of microscopic “machines” work together to enable cell function. These “machines” are self-regulating proteins, strands of molecules, which each independently perform their specific task. By interlinking, they can make new combinations with again other features when needed. Proteins, for example, that continuously retrace and repair our DNA strands. Like a carriage following the train tracks, they move along the track of the DNA while replacing the



When a ‘package’ has to be transported in the cell, certain proteins (Kinesin) attach themselves to it, in order to deliver it at another location. The transport by these proteins occurs with a walking-like motion over a fiber. These fibers therefore function as the transport system of the cell.

“sleepers” improperly constructed. Other proteins with a cutting function are responsible for clipping exactly those pieces of DNA that contain the code for building blocks which are required at that time. So-called engine proteins in their turn look after the transport of these building blocks. This transport seems surprisingly similar to the way people and animals walk; they literally move step by step over the inner skeleton of the cell, but then at a pace of more than one hundred steps per second. This internal skeleton, which consists of bunches of molecules, is also in motion; it appears to constantly adapt itself to changing conditions in the cell.

It is a fascinating spectacle, which was described by one of the scientists as a great science fiction film. With the help of computer animation, they have been able to visualize the processes, resulting in captivating images that give an impression of what’s happening inside the cell.<sup>(3)</sup>

On the basis of the results of his research, nanotechnologist and biologist Cees Dekker made a comparison of the cell with a city, in which he compared the processes that occur in the cell, on a one to one basis with the functionalities of a city (see box on this page).

In order to convey the image of this miniature society to the general public, scientists choose terms such as “machines”, “robots” and “factories”, as imaginative analogies to give us an idea of all the actions performed and structures being built by those self-employed proteins. Hereby however, one fundamental question arises ... *what directs these little machines, robots and factories?*

### The cell as a city

Nanotechnologist and biologist Cees Dekker compares the cell with a city as a fully functioning community in all its diversity and vigor. The cell is a motley collection of workers who perform all their duties independently. For example, there is the traffic system where nutrients and building blocks are transported. There are energy plants where literally thousands of microscopic turbines are gyrating to charge minuscule batteries for the power supply. Assembly factories run continuously to create new building blocks, garbage collection services process the waste and even recycle. There is a defense system in a readied state to detect and defuse undesired intruders and the nucleus of the cell is the library with all the information (DNA) and including copiers and librarians to distribute all information to the right place.



## **New questions because of nanotechnology**

Instead of providing answers, the new findings only seem to raise more questions: what directs the proteins? How does a cutting-function protein “know” when to cut which piece of DNA? Who or what is in charge of the whole cell and ensures the mutual fine-tuning of the different processes?

DNA is considered as the foundation of life, while it contains all the information of an organism. It holds the instructions for all materials that compose the organism. The DNA contains all properties which *may* be expressed on the physical plane. May, not will be, because only a limited part of the DNA is expressed in actuality. Each cell (except gender cells) holds the total package of DNA for the complete physical body, but only that selection is “activated” which is required for that particular part of the body where a cell is located at that moment. This information, so it appears, must first be selected, cut and converted, in the countless different building blocks needed for the functioning of the organism. What ensures then, depending on the location in the body, that the right pieces of DNA are selected, cut and copied? Why does a liver cell become a liver cell and not a heart cell? What lies at the basis of the activation and deactivation of the DNA and the organization within which each protein performs its own task at the right time?

## **The *inner* cell, a hierarchy of life**

If we return to Plato’s definition of life, we notice that it is undeniably applicable to the above-mentioned processes: self-motion, ability to take action and to respond to action. As we have advocated, everything is life, everything is the expression of a force working behind it. The cell, the proteins and molecules in the cell, but also the physical atom, they all hold the life characteristic of self-motion. The difference between organic and inorganic, living and inanimate, is made by the natural sciences, but in fact there is no fundamental difference. It is a matter of where life finds itself on the infinite ladder of life.

The universal capability of self-movement offers a rationale for the fact that there are processes in the cell, but with this we still have no answer as to how cells can achieve such goal-oriented action, how they are directed. The answer to this question is found in the doctrine of hierarchies, the third jewel of wisdom, after the first and second jewels of reincarnation and karma. It is the principle that lower consciousness’s tend to follow the patterns of the higher consciousness that they are part of.

Hierarchies, or emanations, are the teachings of life within life, consciousness manifesting within consciousness. It is the principle that a higher consciousness forms a focal point, a sphere of influence on a lower plane to which lower consciousness’s are attracted and are able to manifest themselves. It is a hierarchical cooperation of life within life that goes on into infinity. Hereby, it is the natural tendency of the less developed consciousness’s to follow the habitual patterns of the (relative) top, the higher consciousness they are part of. Like children imitating their parents or dogs resonating their behavior in the sphere of influence of their owners.

This instinctive following of patterns set forth from the top of a hierarchy is the reason for the orderly course of processes in nature, the reason that a protein gets active at a certain moment and a specific place. It’s a universal process that works in all domains: as above, so below. The cell is only a link in this: atoms arrange themselves in the sphere of influence of molecules, molecules in those of complex proteins, these proteins follow the patterns of the cell, cells are organizing themselves within the consciousness of the organs which in turn are focal points within the physical field of the human sphere of influence. Just as our organs within our sphere of consciousness cooperate together to make the whole-body function, the organelles in the cell’s sphere of influence carry out their task, making the cell a living entity. It is the consciousness characteristic of the liver that determines that the cells attracted to it have the same “liver characteristics” and that they also organize themselves in the form of the liver and not into a stomach, for example.

The higher consciousness’s provide the opportunity for lower consciousness’s to manifest and gain experience and to express more and more of their latent boundless possibilities. At the same time, these lower consciousness’s constitute the indispensable vehicle of the higher, which in turn may manifest itself. Really everything existing is with a purpose or meaning, everything is part of a larger whole, is composed of smaller parts, and has its indispensable function in the totality.

The cell is thus a hierarchy of life in which co-operating living atoms and molecules are born in unimaginable numbers, carry out their task and die. As we learn our lessons life after life on this earth, the same “machines” and “robots” have their cycles within the structure, the field of consciousness, which has been laid down by the further advanced cell-being. And in exactly the same way, cells have their cycles life after life in our constitution

of being. It is a close co-operation between human consciousness and beings that inspire the different parts of our body, which have been built in former incarnations. A process that includes millions even billions of years of progressive evolution, leading to a situation where at each rebirth we recruit once more – in accordance with karmic law – our “skilled team of cell-beings”, fully adapted to the evolutionary point where we now stand as an individual.

### **Nanomedicines, medicine of the future?**

As mentioned, nanotechnology has not only made it possible to look into processes at a very small scale, but also to influence those processes. Hence with the introduction of nanotechnology, the concept of nanomedicine was also born. This branch of medicine includes the use of nanoparticles for the transport of drugs in the body. So-called nanomedicines can thus be delivered highly targeted to specific cells.

However, initially spectacular ideas about its application appear to be utopia at the moment. The selective approach of, for example, tumor cells, appears to be more difficult to achieve outside the laboratory’s test environment than initially thought. We may wonder what the influence of the “overarching” consciousness on those nanomedicines is. However, millions are currently invested in the development of nanomedicine, as this is seen as the method of the future. The idea of being able to offer a targeted cure, save healthy cells and just tackling the diseased tissue, sounds like a nice step forward. But apart from the still unknown effects that nanoparticles have on healthy parts of the body, we can rightly ask ourselves whether this is a wise approach. Are we actually dealing with the cause of illness with nanomedicine?

From the materialistic viewpoint that matter is the foundation of consciousness, it is obvious that the smaller the scale on which we are observing, the closer we are to the cause of disease. But from the spiritual viewpoint, based on an active driving force behind the phenomena, we come to a completely different conclusion.

### **Not the source of disease, but the effect of an imbalance**

What is disease from a Theosophical perspective? It is the result of disharmony in hierarchical cooperation. It is an imbalance as a result of going against the laws of Nature at a certain point in this cooperation. What we call illness is the effect of this imbalance on the physical plane. We can now see, to the smallest detail, where the effect of this

imbalance manifests itself, but this physical origin is by no means the origin of the disease, it is precisely the last step in the development of that imbalance in the physical plane. For example, think of psychosomatic diseases, such as physical complaints that are the result of unhealthy stress. With the targeted delivery of medicines, we do not address the actual cause of illness, it is at most an effective fighting of symptoms.

Then what is the solution? Based on the emanation principle that lower consciousness’s follow the patterns of the higher by nature, the best remedy for disease is to balance our own consciousness so that the creatures that make up our vehicle live in a harmonious sphere of influence and therefore will not derail. By working in line with Nature, by being a well-functioning link in the system, by following in our turn the characteristics of the more advanced creatures, we create the right conditions for the lower beings to express themselves optimally and to build a healthy vehicle. Characteristics that can be found at the core of every world religion: unselfishness and compassion! Working with Nature means working together, focusing on and acting for the benefit of the whole.

### **The deeper we delve into matter, the further we get from the answer**

We can follow processes in a cell to an unimaginably tiny scale. We can spot life at the molecular level, complex cooperation between countless living beings, each in their own strength and with their own specific function for the benefit of the whole. The materialistic approach, where consciousness stems from matter, leads to a dead end, while the drawing of an artificial boundary between living and inanimate only strengthens the barrier. The idea that we can trace the origin of life if the scale on which we can perceive it is small enough turns out to be a misunderstanding: the more we can zoom in, the more complex life becomes. Not only the complexity of it all, but also the independent activity, the level of organization and all the purposeful processes, prove that there *must* be a driving force behind it.

Everything is life, everything is consciousness. A universal hypothesis that provides an explanation for everything we perceive around us, but above all, which offers an ethical foundation for our actions. We have our responsibility towards the further developed beings, so that we may be a good instrument for them and towards our lower cellular beings, so that we create the optimal sphere of influence within which they have their development and

being. A harmonious sphere of influence in which the wonderful world of the Nano “machinery” may continue to run well-oiled.

## References

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2. Anja de Jong, “Do you have a consciousness, or are we consciousness?”. Article in *Lucifer, the Light-bringer*, No. 3, November 2014, pp. 118-124. Also the symposium issue “How our consciousness changes our brain. Do we have a brain? Or are we a brain?”.
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# Why heredity is so difficult to predict

## Key thoughts

- » Our genetic material contains the code for the building blocks of our body, but the translation of this code into building blocks appears to be variable to a large extent.
- » The specific expression of DNA in the formation of different organs cannot be explained without an inner building plan.
- » Our consciousness forms on the inner realm the blueprint within which our cells specialize and arrange themselves.
- » Our character is not determined by our genes, but the exact opposite is the case: our genes are the expression of our character.

There is a shift going on in the scientific world of biology; what used to be considered established theories are starting to be questioned. The more scientists discover about life, the more complex it turns out to be. Instead of getting answers, even more questions arise about the origin of life and the driving force behind it. Two specific theories, and not the least, are coming under more and more pressure because of new findings. The first concerns an aspect of Darwin's evolutionary theory which states that struggle is the driving mechanism behind evolution. The second theory is the idea that everything is set in our genes; from eye color to math skills, even our character is supposedly all determined by our genetic material.

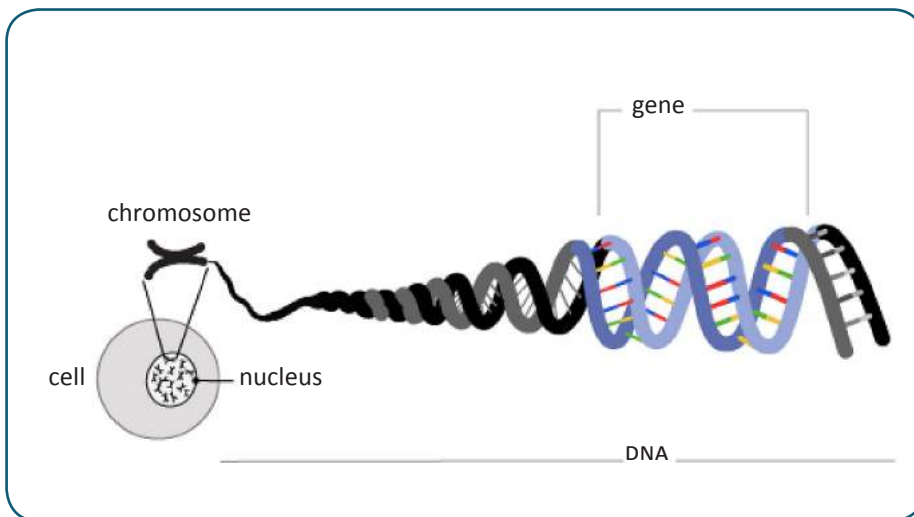
Some scientists argue that these theories are no longer tenable and that they must be reassessed. The direction in which the new findings push the scientific vision can be well explained by Theosophy. We will show in two articles what these new findings are and why they align so well with the universal wisdom. Let us start with part 1, the supposed predictability of genes.

## Genes

On regular basis another new gene is found that may play a role in the expression of a particular quality or behaviour. There would be a gene for crime, for example, or for obesity, or even a gene that determines the fear of mathematics ...<sup>(1)</sup>

It is remarkable that with all this genetic research, a 100% relationship is never found, let alone a *causal* relationship. But before we go into further detail: what exactly are genes? Genes are specific sections of DNA (hereditary material) that contain the code, the information, for the building blocks of our body. DNA is located in the nucleus of all cells in our body. Each cell-nucleus contains exactly the same DNA (except gametes), the genetic information for the entire body. DNA is composed of enormously long, string-like molecules called chromosomes. A chromosome can be divided into pieces of DNA strand which contain the information for a specific property. For example, the color of your hair. Such a demarcated





lar property is known, a second difficulty occurs: the formation (synthesis) of a particular protein is not always one on one with a specific gene. During the synthesis process several combinations of proteins can be derived from one and the same gene. Depending on how the genetic code becomes translated, one gene may result in different proteins. The discovery of this phenomenon, called *alternative splicing*, has resulted in the current definition of a gene 'as an

piece of DNA strand that contains the 'code' for a particular feature is called a gene.

In 2001 the entire human DNA code was mapped and genetic research increased enormously. This opened doors for all kinds of genetic research, the genetic world was at our feet. From preventing hereditary diseases, to the feasibility of man with a high IQ or musical talent, the wildest ideas were circulating. But now, in 2017, we cannot even determine eye color with certainty on the basis of genetic material. What is going on here?

### What can we predict?

Since genetic testing has become affordable, several commercial parties have jumped into this gap in the market: they promise to offer insight to your health risks by so-called *direct-to-consumer testing*. You just need to send in some saliva in a tube and your DNA will be mapped. But can one simply determine your health risks on the basis of your genetic material? The UK Department of Health (DoH) organization has already warned consumers to consider carefully before venturing into such a test because the results are not reliable.

Genes, as has been stated, contain the *information* that can be converted into certain building blocks, proteins. But the pathway that leads from this information to the external properties and the functioning of the body is much more complex than initially thought. The translation of DNA into properties is by far not as predictable as originally thought. The first difficulty that arises in the predicting of certain properties is the fact that many proteins can have multiple functions and, moreover, functions in the body are often determined by a combination of proteins. But even if the combination of proteins for a particu-

lar property is known, a second difficulty occurs: the formation (synthesis) of a particular protein is not always one on one with a specific gene. During the synthesis process several combinations of proteins can be derived from one and the same gene.

Depending on how the genetic code becomes translated, one gene may result in different proteins. The discovery of this phenomenon, called *alternative splicing*, has resulted in the current definition of a gene 'as an information carrier for a particular protein', as being no longer tenable.<sup>(2)</sup> In fruit flies for example, (a popular subject of study by scientists), a gene is discovered that arithmetically can generate 38,016 different proteins!

Finally, there is a third aspect that is possibly the most uncertain factor in making predictions based on genetic material. And that is whether the gene is activated at all. The fact that someone possesses a gene of a hereditary disease does not necessarily mean that this disease will actually be expressed. The discovery that genes can be switched 'on' and 'off' and that properties can be expressed or disappear during life, has even resulted in a separate division in the field of genetics (epigenetics) in order to investigate this phenomenon.

To sum this up, in order to make predictions of properties based on genetic material, we have to cope with the following uncertainties:

1. One gene can encode multiple building blocks (proteins);
2. Building blocks often have multiple functions and some functions consist of multiple building blocks;
3. Genes can be switched on and off during the life of an organism.

All this makes even a seemingly simple property as eye color, initially thought by scientists to be determined by one gene, unable to be predicted with certainty.

### Separate ingredients are not yet a recipe

DNA is by no means a building plan as is often claimed. You can say at the most that they are the separate ingredients for the building materials that should be assembled in the right way at the right time. If we are standing in front of a beautiful painting, wondering how an artist could ever

make such an impressive work of art, would we than be satisfied with the answer: with paint and a paintbrush? In other words, what is the force behind it? What determines the expression of the right genes, at the right moment and in the right way? If the genes themselves prove not to be decisive, where does the information come from? Surprisingly this does not seem to be a question for most scientists, convinced that the answer can always be found in matter. They assume that the larger comes from the smaller and therefore search continuously for smaller elements. But this does not answer the question. The assumption that we are getting ever closer to the origin of life, if we could only descend even further to find the tiniest detail of matter, is far from true and only leads to more questions.<sup>(3)</sup> If the macro level would rise from the micro level, so if the smaller would produce the larger — and cells specializing into tissues, tissues into organs, and organ systems eventually composing the whole body, how can a cell possibly ‘oversee’ its place in the body and

‘know’ it has to become a liver cell, for example? And how do these cells know how to organise in order to form the exact right shape and function of a specific organ? In short, how can the shape of larger structures be explained by the elements from which they are built? This statement is even more illogical when you realize that all these cells contain exactly the same DNA! For remember: every human being (every human body) starts as a single cell. Nature is full of indications that on a larger level there must be a driving force, a building plan, within which the smaller has its configuration. We do not mean a creative force that is separate from the being, but a force present in the being itself, that carries out a coordinating or guiding role for all those billions of cells. Otherwise, how do the cells know which pattern they should follow, or what direction they should specialize in? And how could severe injuries ever heal again? Platyhelminthes (flatworms) and starfishes, for example, even when cut in half, can grow back to a complete body. All the newly formed cells follow an inner ‘construction plan’. In each cell, containing the same hereditary material, only that specific sequence of genes is expressed that is needed according to the situation at the exact moment and at the exact place.

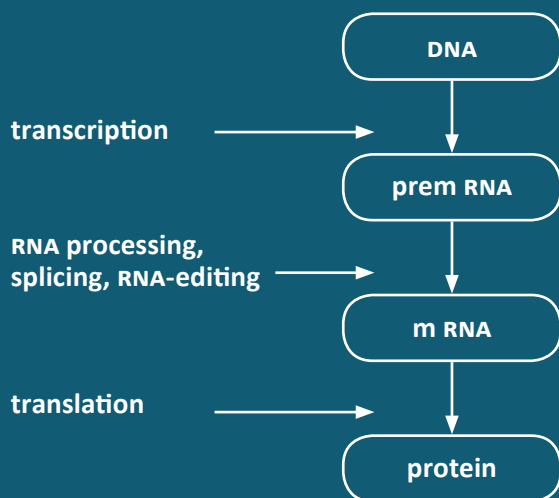
It is well known that even the location of a cell in an organism is not decisive for its functioning. Take plant cuttings for example; when a leaf is cut off and put into the water, roots will be sprouting again. The cells that first had the function of the leaf stem suddenly change into root cells. Same genes, another expression.

### The construction plan goes back a long way

The existence of such a building plan is generally known in the Old Wisdom. It is that what is called the model body in Theosophy. ‘Model’ in the sense that it represents the pattern for the physical form of the organism. It is the blueprint to which cells arrange themselves. As a result, a cell ‘knows’ which pattern it has to follow, when it has to switch on or off a particular sequence of DNA in order to provide the appropriate building blocks that are needed at a certain moment and a certain place.

This blueprint is located on the astral plane. That is a plane we cannot perceive with our eyes because it’s just a bit less material than the outer world. Therefore, we cannot see this model body, but nevertheless it belongs to our body. It is even said that it is more real than our physical body because the latter is only the precipitation, the crystallization of it. It is important to realize that the astral does not become the physical, but that it creates

The conversion of DNA into building block (protein synthesis) appears increasingly more complex. The discovery of *alternative splicing*; the phenomenon that a certain DNA sequence does not simply encodes a single type of protein, but may encode for a whole series of various proteins, has made it necessary to revise the definition of a gene. Without going into the details, we sketch below the production process of a gene into a protein. Keep in mind that every step, as in a factory, is a directed process!



(Source: [https://en.wikipedia.org/wiki/Alternative\\_splicing](https://en.wikipedia.org/wiki/Alternative_splicing))

the atmosphere in which the physical cells develop and express themselves.

This building plan, this astral blueprint, underlies all manifested beings and is formed by the being itself. It is the being itself that, according to its degree of development, forms the model body. Theosophy teaches that everything is alive, everything is an expression of an underlying force or consciousness in a certain stage of development. Not only people, animals and plants, but also, for example, atoms and minerals have their blueprint upon which their physical elements are formed when they manifest — when they are born. This is also the case with planets and stars. At the birth of a star, we can observe how a nebula slowly compressing, forms elements that are finally configured to the unique shape. So does the growth of a human embryo follow the structure of the astral body step by step. And we can see how the unstructured mass of an egg forms a complex living organism within just a few days.

Now genes play a special role in relation to our model body. They form the transition area from the inner to the outer man. In his book *The Dialogues of G. de Purucker* he explains that the genetic material in the nucleus — Germplasm he calls it — is the outflow of the astral body. It is the solidified precipitate of the consciousness of the reincarnating person manifesting itself in the outer world.<sup>(4)</sup> This also clarifies the phenomenon of the switching ‘on and off’ of genes which still puzzles the epigeneticists. As is well known in science, genes, this germinal plasma, consist of a latent part and an active part that builds the body. And it is the influence of the reincarnating person, which, through the astral fluid, as De Purucker calls it, directs and controls the germinal plasma, and ensures that the right building blocks are formed at the right time. This also explains why a human reproductive cell produces a human body and not an animal body, despite the similarity of the cells. The consciousness behind the outer bodies is the determining factor and the cause that a dog always produces a dog, a guinea pig a guinea pig etcetera. This also explains why the similarity in the DNA can by no means be taken as a measure of the similarity between various kingdoms in nature. We share for example as much as 98% of our DNA with the bonobo, and research shows that we even share 50% of our genetic material with bananas!<sup>(5)</sup>

## **We are our character**

It is thus becoming increasingly clear that it is not the genes themselves that define the external features, but the

underlying force of the consciousness that determines *how* and *when* features are expressed. The consciousness point of view gives us insight into the differences we observe within the human kingdom, despite the fact that our cells have basically the same structure and function. This applies in particular to identical twins whose hereditary material is completely identical. Difference in appearance can only be truly explained by the *characteristic* of the reincarnating man expressing itself in the outer body. With our mind, we form an impression, that influences our astral body, and finally our physical body. So our character is not determined by our genes, but exactly the opposite is true: our genes are the expression of our character, the reincarnating man, on the physical plane.

## **The nucleolus**

Another very interesting structure, the *nucleolus*, is located in the core of the cell, next to the DNA. In 1964, scientists discovered that this spherical structure has a crucial function regarding life. Frog eggs lacking this item were not viable. The nucleolus is among other things responsible for the production of a particular type of molecules (RNA), which is required for the translation of DNA code into proteins. Proteins, once formed, can be kept ‘in storage’ by these nucleoli, so that they can no longer perform their function. The nucleolus, in short, has an essential role and this was already designated by De Purucker a century ago: The nucleolus is the center (laya center) that forms the link through which the inner planes flow forth to the physical. All things into which the cell is destined to grow emerge from the nucleolus.<sup>(8)</sup>

This knowledge sheds a whole new light on the puzzle of the switching on and off of genes, where epigenetics currently racks its brains.

## **Correlation does not yet mean cause and effect**

Yet, in various scientific studies, behaviour is mainly attributed to genetic material. How do these types of claims come about? That all has to do with the method used for this behavioral research, in which a typical assumption is made. This assumption is derived from the materialistic perspective, the idea that since everything must be comprised in the combination of our physical environment and our genetic material, there is no other option than that all behaviour is determined by it. By studying a particular behavior, scientists search for a correlation with hereditary factors. Once this correlation is found, a translation

is made to what extent that behavior is determined by heredity. In these so-called genetic association studies, a particular property in a group of people is linked to a particular type of gene or combination of genes by means of statistics. The aforementioned 'fear of mathematics gene' has been determined by this method. Such studies have also shown for example that people with a certain genotype (genetic package) lose weight easier than people with a different genotype. But this connection does not at all prove that the gene is *causing* the property. And also for the exceptions within such a group there is not a satisfactory explanation. The research is based on statistical correlation and not on actual insight in the real cause of things. Moreover, many of the relationships found are weak and lifestyle proves to be of greater influence than the genetic package and the environment.

### **What about hereditary diseases?**

However, in some cases, the relationship between certain genes and external properties has also been determined indisputably and applied in practice. Think about the food industry, for example. Genetic modification in plants, by inserting foreign genetic material, for example, has resulted into resistance to insect pests.

In humans too, the hereditary component has been demonstrated in certain diseases, such as cystic fibrosis or Huntington's disease. Although the age at which and the extent to which these diseases manifest themselves always remains dependent on the individual. Heredity of physical diseases is not in conflict with the principle of consciousness if you assume that the genes are the precipitation on the physical level of the inner human being. External symptoms must naturally also have an origin in the physical area, in case of cystic fibrosis for example it is known which gene defect is causing it. If we only realize that the *real cause* is always to be found in the consciousness.

When it comes to psychological conditions, it is already getting more complex. An aptitude for a certain condition is clearly recognizable as a trend in families, but often not detectable in the genes.<sup>(6)</sup> In these cases when exact causes of the trend are not known one speaks of multifactorial inheritance. From the consciousness perspective however, this similarity between family members can be explained very well. Corresponding characteristics are attracted to each other and one is born in the family where the specific characteristic is best expressed. As is exactly the case with mental and psychological similarities. It is the

attractions of the inner man, of the character that draws it to a particular family.

### **Tinkering with genes**

If we continue the train of thought that the underlying consciousness determines the external person, you can question what the consequences are of the artificial insertion of genetic material. Recently developed genetic engineering (CRISPR-Cas), now allows scientists to select and insert foreign DNA with great accuracy. Practically every gene can be replaced with great control, where previously, it was the question whether and where an artificially introduced gene would settle.

In early 2016, British scientists have also been granted permission to apply the CRISPR-Cas technique to human embryos. This makes the realisation of the so called designer baby closer than ever. From a more noble motive, scientists aim to detect deviant genes of hereditary diseases and to replace them with healthy ones. The question, however, is whether someone is really cured from the disease this way. It may be clear that such external actions do not change the causal consciousness. With genetic manipulation, you never take away the inner cause, and it's only the question of what happens in the long term. Theosophy teaches that the consciousness, working through the body, always expresses exactly what it has developed, nothing more and nothing less. With the law of cause and effect (karma) nothing is left to chance. By tinkering on the outside, a particular property can at most temporarily be brought into activity or just made latent, but the inner urge will have to manifest itself at a later stage.

### **Restoration of harmony**

But it is just a matter of time that balance will be restored to the state inherent to the inner being. An example of this can again be found in fruit flies. Since they have a relatively simple genetic package, it is quite simple to manipulate certain external features. And because of their short generation time, these changes are soon visible. Scientists managed to create a "super fruit fly" within a few generations, which was a lot faster than the original variant. But what happened as soon as they let the population take its natural way? The fruit flies returned to their natural form and behavior within a few generations. We can recognise that inner urge to restore such an unnatural intervention with people too. Gene therapy, the artificial insertion of genetic material as a medical treatment, does not go without a fight. As is the case with



organ donation, we see a body's immune response taking place. The underlying consciousness does not accept the intervention, you may conclude by the following quote:

One problem with this type of treatment is that cells that create a certain large molecule that is not familiar to the patient's body will usually cause a defensive reaction and be destroyed. There have also been cases in which the patient died from the treatment. Only in a few very specific and rare cases in the world, gene therapy applied on people has had some success.<sup>(7)</sup>

We will leave it open to question what is meant by "some success", but that the inner cause has not been taken away, is for certain. If we really want to stop a disease, then we must start at the source where it originated: our 'thinking' consciousness.

It is hard to predict properties based on genetic information and we hope we have been able to show why. If there is one prediction we can make from theosophical point of view it is this: as long as we look at the world through our materialistic glasses, we will never be able to penetrate to the *real cause*. And genetic research will not ever be more than statistical correlation. The transition to the spiritual vision of the consciousness doctrine seems to be a big leap for many scientists. But each time new findings make the jump a little bit smaller and as we said, established theories are starting to be questioned...

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# Questions & Answers

## How to deal with leaders you do not like

The past months, a large part of the world population – including Americans – pronounced a kind of curse on Donald Trump. How do you see that in the light of karma?

### Answer

First of all, I would like to emphasize that The Theosophical Society is above all politics. It is of course the right of members of the Society to have certain political preferences, but as an organization we are completely above politics. This does not detract from the fact that we too observe certain tendencies in society. We also see that there are developments which do not make us happy. But unlike many others, we do not believe that politics or a political leader is the cause of these problems, but rather the consequence of what takes place in society.

Let me try to explain this.

Donald Trump, who has now been the President of the US for a year, has a strong opinion on a large number of issues: about the fact that the US must primarily pursue its own interests, about how you deal with people with different opinions, about taxes, about gun ownership, about the press, about facts and alternative facts, about justice, about women.

After all, he advocates openly for nationalism and wants to build concrete and mental walls around his country.

Whoever does not agree with him, gets insulted. He gives the leader of North Korea an insulting nickname. He proclaims his opinions loudly and clearly, he did so even before he was president. Part of the American people agreed with him and voted for him. Incidentally, that was only about thirty percent. His opponent, Hillary Clinton, got three million votes more, but according to the American system, he legally became the highest leader in the country. So, you can say that the American system, which has grown karmically to what it is today, accompanied with a certain thought flow in the US, have made Trump president. And because the US are not isolated from the rest of the world – although in some ways the Trump administration would like this – the entire world population has contributed to the current situation.

Of course Trump's aggressive attitude leads to all sorts of tensions. People feel insulted. Unrest prevails among people with an illegal status. Market prices respond. Some admire him, others hate him. Mexico is in fearful anticipation. There is fear that he will attack North Korea. And there is a great counter-movement as well, fighting for the opposite of what Trump wants.

But is Trump the cause of all these problems and unrest, or is he the result of the fact that such characteristics live among many Americans?

Obviously, there are strong nationalistic feelings. People feel wronged. There are stuck opinions about men, women, foreigners and Muslims. Many do not take it too closely with the truth and feel that justice does not have to

be impartial but should only serve the self-interest. And exactly because of these ideas living strongly among groups of people, others are awakened from their passivity. They are actively in favor of values that Trump attacks, values they never thought needed defending.

It is true that public figures, including those in power such as the President of the United States, can instill feelings and ideas, but if they are not present in the population – latent or not – those feelings would not find an echo in these figures, and then Trump was never elected president.

So, it is the karma of an entire nation, world population, which leads to a certain president.

But does that mean – and that is your question – that we should fight against Trump in the same way as he fights against so many of his opponents? Do we have to pronounce a ban on him? No, we do not believe that fighting against something or someone will ever lead to a better world. Do not fight *against* something, but fight *for* something. And obviously, 'fighting' is meant figuratively.

If we do not like these tendencies in American society, let us then think thoughts and perform actions of an opposite nature.

If we feel that building a wall at the borders of a country is reprehensible, then let us keep our borders open. You might say, "I cannot make a decision about that." Our answer is, "Yes, you can!" You do not have to limit your thinking. Keep your mind open. You can develop an open mentality. And as more people do so, a country, or a con-

continent, and ultimately the whole world, will no longer know any boundaries. Do you think that you should deal honestly with the facts? Do you think that so-called 'alternative facts' are just lies? Fine. Then stick to the truth. Search for truth with an open mind and when you have found it, stick to it. Do not mess with it.

Do you believe that the justice system should be independent? Then obey the law and respect the people who apply it. If you do not agree with it, try to change it with honest and non-violent means.

Do you think that taxes should not make the rich richer? Very good! Live soberly and do not seek happiness in material matters.

Do you feel you should not offend people, even if they have a different opinion than you? Excellent! Respect friend and foe. You do not have to agree with their opinions, but be aware of the human being behind the opinion. Every human is in essence a noble being, however blinded he sometimes may be. In that respect, there are already very good developments going on.

When Trump canceled \$ 575 million of financial aid for organizations that advise and assist women in family planning and abortion in forty poor countries, the Dutch minister Ploumen founded an international fund, hoping to be able to continue the work that was first supported by the US. Her ministry indicated that, of course, it respects the decision of a democratically elected president, but disagrees with it, and therefore will implement policies that will negate the negative effects of the cessation of the American funding. Another example. When Trump stepped out of the Paris climate agreements, California and some other states announced that they would continue supporting this international agreement

and pursue its objectives. California even concluded a climate agreement with China, in which they will jointly develop technology for cleaner energy.

In short, we must realize that we ourselves must be the change we want to see in the world. The quality of a government is determined by the quality of the people living in a country.

We must therefore be compassionate towards the Trump government. This does not mean that we should agree with a policy that is in our view wrong. That is not compassion! But we must never proclaim our vision like someone who is hurt in his pride, someone who always knows better, someone who thinks the other person is stupid or strange.

See how the greats of the earth, such as Gandhi, Nelson Mandela and Martin Luther King dealt with social problems. They stood *for* a just cause, but they never stood *against* the people who did not agree with them.

## Colophon

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3. Respect for everyone's free will (when applied from this idea of universal brotherhood).
4. Respect for everyone's freedom to build up their own view of life.
5. To support the developing of everyone's own view of life and its application in daily practice.



## Why this journal is called *Lucifer*

Lucifer literally means Bringer of Light.

Each culture in the East and West has his bringers of light: inspiring individuals who give the initial impulse to spiritual growth and social reform. They stimulate independent thinking and living with a profound awareness of brotherhood.

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For these people this journal is written.

“... the title chosen for our magazine is as much associated with divine ideas as with the supposed rebellion of the hero of Milton's *Paradise Lost* ...

We work for true Religion and Science, in the interest of fact as against fiction and prejudice. It is our duty – as it is that of physical Science – to throw light on facts in Nature hitherto surrounded by the darkness of ignorance ... But natural Sciences are only one aspect of SCIENCE and TRUTH. Psychological and moral Sciences, or theosophy, the knowledge of divine truth, are still more important ...”

(Helena Petrovna Blavatsky in the first issue of *Lucifer*, September 1887)