Observing with twelve senses

Tom van Gelder
Colofon

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Preface

This module is about observation and the use of the senses. The book is divided into two parts:
• The first chapter is about observation. You will learn what an observation is, how an observation comes about and how you can use observations. After reading this chapter, you will be able to observe more consciously, you will understand why some things inevitably escape your notice and be more capable of placing observations in their context.
• The second chapter is about the senses that you use to make observations. This chapter is based on a theory which distinguishes twelve senses. By exercising your senses using the suggestions in this book, and by using them more consciously, you will become a better observer.

In this book, each section is followed by a set of exercises so that you can learn by doing. The examples and exercises are suggestions and could be replaced with others covering different disciplines or fields of expertise. It is important to take your time doing the exercises, as practice will give you a better and deeper understanding of the subject matter. Students are free to carry out the exercises in their own way.

This book is based on the publications of Jochen Bockemühl, whose explanations of the theory and practice of observation are most lucid. Chapter 2 is based largely on the works of Kranich and Soesman. Kranich wrote about the senses from a biological perspective, Soesman from an anthroposophical one. They were less concerned, however, with how the senses can be put to practical use. This module focuses predominantly on the use of the senses in practice.

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1. Observing

1.1 The making of an observation

One sunny spring day, two students were chatting on the sidewalk. A small, black bird landed on the sidewalk near them. It hopped to and fro and pecked at crumbs on the pavement. The girl student said: “Look, a male blackbird.”

The other student was surprised: he’d never been much interested in birds and he thought it was pretty clever if some one could identify a particular bird just like that. And to be able to see that it was a male, too! That bordered on pure genius. The second student remarked on this, and now it was the first student’s turn to be surprised.

“But it’s easy!” she replied. And she explained that you can recognise a male blackbird by its size, its black plumage and orange beak. In the ensuing conversation, she pointed out that many different species of bird inhabit towns and cities, and that it’s easy enough to get to know them with a pocket bird guide. This aroused the interest of the other student, and also made him think, “If she can do it, then maybe I can, too.”

Indeed, after watching birds and looking them up in a bird guide for a while, our novice birder could also recognise a male blackbird when he saw one. It wasn’t so difficult after all; and it didn’t take genius.

What does this example tell us? It certainly wouldn’t have been the first time that the uninitiated student had seen a blackbird, as it is such a common bird. He must have seen them dozens of times before, yet the observations never entered his consciousness and he forgot about them. In the situation described above, he did not know what he was seeing. At most, he might have seen “something flutter” or “a bird”. When he was told that the bird was a blackbird, his interest was aroused and a whole new world, the world of birds, opened up before him. A world that, until then, he had never consciously seen before.

Interest and concepts

Two conditions must be fulfilled in order to make an observation. First of all, you must be interested. If you are not interested in an object or phenomenon, you are unlikely to make observations about it.
Your eyes might see something as it passes by, but it doesn’t enter your consciousness. This does not mean that you are completely oblivious. You will undoubtedly be observing other things happening at the same time which do interest you.

The second precondition is knowledge. You must know what a male blackbird looks like and how you can distinguish it from other birds. You must be able to give it a name. In other words, you must know the **concepts**.

Occasionally, something may suddenly catch your eye and the incident may awaken a sense of curiosity, of wanting to know. You become interested in it. And once your interest has been aroused and you have been able to name a bird, you can start learning to identify other birds and your body of concepts grows. The student in our example became interested in birds when he could first attach a concept to “something fluttering”, thus transforming what he saw into a conscious observation. He bought a bird book and off he went. Suddenly, the town seemed to be full of birds: in trees, fluttering in front of him on the pavement. He literally saw them everywhere. Sometimes, he got a good sighting so that he could look it up in his bird book right away; other times, he only got a glimpse that was enough for him to identify it as a tit, but not which type. The more he observed, the more species he recognised and the larger his body of concepts became.

Gradually, in the course of his investigations, it became easier and easier to recognise birds. How proud the novice birder had been the first time he recognised a tit! Later, he could distinguish the different types of tits, and after a while he could even identify a bird as it sped past. Effortlessly, he identified the blue head of the blue tit, the tuft of the crested tit, and the undulating flight of the wagtail. He saw more details and started noticing other things, too, such as birdsong, the places where the different birds occurred, and their behaviour.

Observations result from having knowledge or concepts of a certain subject. Without concepts there can be no conscious observations. An unconscious, uninterpreted observation can provoke conscious interest, so that this observation might yet be connected with a concept at a later stage.

*It only takes one observation to open the door to a new world whose richness is revealed by the interaction between interest and conceptualisation, an interaction that is powered by new observations.*

Your interest in something might be passing; it is not automatically maintained. Your interest needs to be reactivated if you want to make new observations. The first time that you discover something new, and a new world opens up to you, this spark of interest is ignited by enthusiasm which ensures more
observations. The flames need to be fed, however, and at a later stage the enthusiasm and interest inside you need to be activated from within.

**Exercises**

*Go outside and look around. Jot down your observations. Be aware of what you are observing. Afterwards, compare your observations with others. Did they see things that you didn’t notice? Then determine why these things escaped your notice. Was it because they don’t interest you, or don’t you know the accompanying concepts (for example, you did see a tree, but you didn’t know which type of tree it was).*

*Look at something familiar. Everyday objects are most suitable for this exercise, such as -typefaces in a newspaper, tableware, a rug, or another person’s voice. Try to think of questions and concepts that you can use for your observation. Take note of where your interest lies, record your observations and the words that you are using. Draw conclusions from your observations, note which observations and knowledge you have drawn from other fields. Try to find new concepts.*

*Search your memory for an example in which you took a passing or lasting interest, and how you then acquired a body of concepts.*

### 1.2 Concluding or enriching the body of concepts

**General**

The first time you find a concept for something that you have observed, it is very satisfying. Now you know what you have observed. The first time that you identify a blackbird is a momentous occasion: you know what you’ve seen. This feeling stays with you for a while, but if you don’t make any new discoveries you’ll find yourself thinking, “Gee, another blackbird”, and finally, “Oh, just another blackbird.” Your interest flags when you don’t make any new observations. You stop observing because you have found a concept to tag onto the phenomenon, and that is sufficient for you. The concept itself, however, is not very fleshed out.
In many cases, it does not matter that we do not investigate something more deeply. This applies particularly to man-made technical objects. If you need to catch a bus, it’s enough to know that you need a yellow bus. For most passengers, all the other aspects that make a bus a bus are not relevant. You don’t pay attention until the bus company changes the colour of the bus to green or red.

In other cases, such as with living organisms and works of art, it is evident that accepting a concept as fixed does injustice to what you observed. This is so for a blackbird, but more so for someone you know. Do you regard her as "just Maria", day after day, or are you interested in her, in who she is and how she is feeling today? Clearly, then, being aware of your interest and attitude is important, because it has major consequences for how we regard each other and deal with each other.

When "oh, it’s just Maria," or "oh, just another blackbird" is good enough for you, then you reduce your view of Maria or the blackbird to a fixed standard, your interest in them fades, you fail to note changes and you find yourself living in a world of standard objects.

Species or type
You could also see a concept as a box that you can fill with observations. You can make countless observations of blackbirds. You might notice right away that the females are almost uniformly brown, thus differing in colour from the males. Later, you might see the male holding a worm in his beak, or note that he sings a particular song in the evenings as he balances on the eaves, that he chases away other males in spring, that their chicks hatch quite early in spring, that his song is melancholy, and so on. You can see a lot when you’re paying attention and refraining from drawing conclusions. You can make many observations of every organism, all of which you can include in the concept. In other words, you are observing many different aspects of a blackbird and thus getting to know it better, or rather getting to know the species blackbird better.

It is interesting to note that most people start by distinguishing the different types or species, which may then lead to curiosity about other aspects, such as behaviour, diet, habitat, the time of year that they appear, how the species can be conserved, and so on.

This is a general rule: interest and attention always reveal new worlds of knowledge and concepts. In contrast with the earlier example in which the concept acquired a fixed, standard meaning, new observations expand the concept of a blackbird and make it richer in meaning. This makes your surroundings more interesting, because there is always something new to be discovered.
Individual
You can observe a species or type, but of course you can also observe an individual. If you were to observe a pair of blackbirds nesting in your garden, you would soon pick up all sorts of behaviour that is unique to this pair. Naturally, there is a basic repertoire that all nesting blackbirds follow, but each pair does these things in its own way.

Perhaps this is easier to observe in trees and plants. An oak is an oak, but the oak in your park is just a little bit different from all the other oaks. And after a while, you’ll be able to distinguish it from the others. Each tree, each organism, has general and individual characteristics. By observing both, you can expand and enrich your concept of the individual organism.

The following example is a variation on this theme. You are standing in front of an apple tree, and on the side facing you are lots of red apples. You automatically assume that the other side of the tree will also be laden with red apples. When you walk around the tree to take a look, however, you notice that the apples are more yellow than you’d expected. That side of the tree has had less sun.

Most of the objects that we see are three-dimensional, and we cannot encompass them with just one look. If we want to see the object in its entirety, we have to look at it from different angles. You have to make several observations of the same individual object. Now, however, you are not studying the different aspects, but observing the object from different angles.

Observations regarding the type or species and regarding the individual enhance each other. Observations of the species adds perspective to your observations of that particular bird or that specific tree. Conversely, the concept of the species is based on observations of countless individuals, and the more of these observations there are, the richer the concept and the more accurately it reflects the true characteristics of the species.

In summary, there are three possibilities:
• you are satisfied just having the concept, your interest fades;
• you seek species characteristics; or
• you seek individual characteristics.

A cow’s a cow (you know enough, your interest fades). There are different breeds of cattle, and farmers have herds made up of animals from a particular breed (you seek species characteristics), and the herd is
more or less adapted to conditions on the farm and to the farmer’s personality, and each cow in the herd is different (*you seek individual characteristics*).

**Consequences**

If you are easily contented as soon as you have a tag for something, or if you supplement your observations only with general knowledge and laws, you will miss the rich substance of your observations. You will restricted to banalities such as “birds hatch their eggs”, “birds fly”, and so on. The more you think in fixed concepts and structures, the less interested you become in what is really going on. You stop looking and dampen your enthusiasm so that it cannot remark on new things. You become jaded. The image that you have of something does not have to agree with what is actually before you. Eventually, a mere glance will be enough for you to see what you wanted know. If you observe like this (which isn’t really observing at all), you will find yourself more and more removed from the world, and you will find connecting with it increasingly difficult.

You may think you know the world, because you know its laws. But you will lose knowledge of the special things, because you have stopped looking for them. You may end up using objects or organisms as you please, simply because you feel no connection with them, nor do you have any desire for this. There are numerous examples of this attitude in modern agriculture.

There are many cases in which a limited observation is supplemented with general observations or knowledge. This leads you to a conclusion which might not be in line with reality. If you want to examine the different aspects of an object, you must take more time for your observations and connect your observations to make a coherent concept. Only then will your notion more accurately reflect reality.

When you treat cows on the basis of their being “just cows”, you are using a general barebones concept of cow. You start becoming a bit more specific by taking account of breed. But you can resolve selection, diet and management problems most effectively if you take account of the specific characteristics of the herd, or better yet, the individual animal.

Sometimes, cows in a herd wound each other with their horns. That might be all a farmer sees; he might not see the connection between the digestive system of ungulates and their horns, and might decide simply to remove those nasty horns without any concern for consequences he hasn’t looked into.
Exercises

Search your memory for three examples of dealing with a concept. Share these memories in a small group. Can you discover any patterns? For example, the point that your interest always faded, or the cases in which your interest stayed focused on species/type, and those in which you stayed focused on the individual?

Find examples of automatic, standardised ways to deal with things and examples of continuous observation. Can you determine the consequences of each? Share your ideas in a group. Can you discover any patterns?

Take a three-dimensional object. Observe it from one angle and imagine what the other side might be like. Then look at the other side and describe the differences. In order to learn more effectively, we recommend that you draw or model each step: the front of the object, the imagined back of it, and finally the observed back.

An alternative exercise for a group: a composite three-dimensional object is placed in the middle of the room under a sheet. The participants come in and stand at tables placed around the object. The sheet is removed, and each person makes a clay model of the object from their particular perspective. They must imagine what the other, as yet unseen, sides of the object look like. They may look at what their neighbours are doing, so that they can get an indication of what the object looks like from other angles. The participants must also try to connect their image of the left side of the object and of the right side. When everyone is finished, they can walk around the object and find out whether or not they had an accurate notion of the sides that they could not see.

1.3 Connecting observations

A concept is made up of a coherent set of observations. Observations must always be connected, regardless of whether you are looking for a general barebones concept to cover the laws of nature, or for a concept to describe a specific situation. In conceptualisation, connections are established between different observations, or observations and knowledge.
There are two ways to connect different observations.

- You can connect observations in a structured, systematic manner. In effect, you are making a schematic model of reality. Such a model does not allow for your experiences or perceptions. You can record how a bird flies in the model, but you cannot describe the impression that it made on you. In this way, you more or less lose sight of reality. Making a schematic model of something produces something mechanical. You might even say that the ‘organism’ is replaced by a ‘mechanism’. For example: a plant has shoots and grows in patches; it has a rectangular stem, fairly small kidney-shaped leaves, bluish purple labial flowers 1 to 3 cm in size, and the flowers are grouped in twos or fours in the leaf nodes. On the basis of this information, you might be able to identify this plant as ground ivy (*Glechoma hederacea*).

- You can distil a mental image from the observations. You work on the basis of the same observations, but also allow for your personal experiences and impressions. You connect many pieces of information with each other, but you will find that you stay closer to the actually observed reality because you are creating an image in which you can piece together all your observations. You construct a whole image of the plant on the basis of all the components of the plant. For example: in your mind’s eye you can see the ground ivy. You not only see the shape of the leaves, but also their slightly faded green hue; you see how the flowers stand out just a little from the leaves; perhaps you can feel the rectangular shape of the stem and can smell the plant’s scent; you can see the surroundings of the plant. The plant comes to life.

It is evident, then, that you participate in the observation, you have a part in it by the way that you connect your observations with knowledge. Do you seek the general or the specific, the external model or the internal image?

**Exercises**

*One student gives a lot of details about an object or situation without revealing what it is. Make a schematic model containing all the details and indicate the relationships between them. Then construct an image based on all the details. Describe the image. Describe the differences that you perceived between the two approaches. This exercise can be done by two groups, with one group drawing up a schematic model and the other group constructing an image of the information given.*
1.4 Image and gesture

It is worthwhile taking a closer look at how images are formed.

• Image formation starts with observation. The more you have observed, the better you can form a fleshed-out concept. You must observe both accurately and attentively. You can observe in an artistic, slightly naïve manner, consciously balancing the parts and the whole. Any time that you think: “That’s not important”, you have probably missed something. It is important to make as few judgments as possible while you are making observations. Drawing conclusions is not the same as using concepts: you must use concepts to lay down the observation, to describe what you see. You might find it useful to draw your observations; drawing can make your own role in the observation more apparent. You can use your drawings later, when you are ready to construct your image.

• After you come home, start constructing your image. Try to remember as much as possible of the object or situation, and try to give everything a logical place. Try to create your image artistically by combining certain aspects or arranging them in a coherent sequence, instead of building fact by fact. Different observations can merge in an image, thus enriching the image. Continue doing this until you have a lively image of what you observed earlier. This can be done while drawing. Bockemühl often did this.

• The image should include your impressions and your -honest, not self-centred, feelings about the object of your observations. Include feelings such as: a mighty tree, a full-bodied plant. Do not include emotions such as: what a beautiful, or ugly, plant.

• Next to imaging one object, you could also do this for a series of observations of objects, or for all your observations of oaks or blackbirds. In this way, your image becomes a typical image rather than an exact image.

• When you’ve set out your observations in front of you again, having in a way recreated them, the image might reveal something that seems to express the whole. This unity becomes apparent, and you get a real idea of what for example *Glechoma hederacea* is. You might perceive this as a mood, or a gesture. You can see that it is typical, it stands before you clearly and you can see it in all parts of your observation. It enables you to see the whole in each component of a plant, a tree, and animal.

• Once you have interpreted the gesture, you can start learning nature’s sign language. You can “learn to read nature’s book”. You develop a sense for what things are trying to tell you. You have united your search for the sensory reality with your soul-search for the true being of things. Once you have an
image of the characteristics or the type of something, you can derive other shapes which might not yet exist in nature, but which you might be able to create.

Creating a conscious image is called empathic observation. Goethe was the first to use this method to gain an understanding of nature. He distinguished three phases: imitation, the mental image in one’s memory, and discovering the true manifestation. In this way, he discovered the image of the prototypical plant, the ‘gesture’ of the plant which, Goethe maintained, lies at the basis of all plants.

We can illustrate this with an example. In a lane, there is an oak which is exposed to the full force of the wind. The branches on the windward side break the gusts: the trunk and the dark, sturdier branches don’t give an inch, the smaller branches and twigs sway but a little. Then a branch breaks off. Next to this oak tree is a birch tree, its trunk shudders with the wind, its delicately shaped branches sway, and leaves and twigs blow away. It is as if the birch does not resist the wind.

You can make these observations on a windy day. Later, you can imagine what you observed, thus creating an image of the event. You can also feel so much empathy for the two trees that you can almost experience or perceive what forces were at play. You can feel the resistance and stiffness of the oak, and how frail this resistance is when a branch gets broken off the tree. With the birch, you can feel how it gives in to the wind, how every so often a twig blows off, how supple and pliable the tree is. You attribute resistance to an oak, and pliability to a birch. If these concepts are correct, then you will be able to recognise them in all the different parts of these trees. You will see it in the leaves (the tough, unbending leaves of the oak and the light rustling leaves of the birch) and the seeds (the heavy acorn with the hard shell, the light birch seeds which carry on the wind).

**Exercises**

*Go out and observe; draw what you see. Come back inside and make a drawing of what you saw from memory.*

- **Observing two trees**
  *Choose two trees of different species standing close together.*
  *First, observe their exterior. Then search for their dynamic expression by mentally putting yourself in the tree’s place. Discover the characteristic processes and characterise each tree species. In this*
exercise, it is important that you compare the two species. This will make it easier to find their characteristisation.

- Wood and inspiration
  Go into the woods and look around. See all the natural chaos on the ground. See the torn-off branches and uprooted treetrunks. Keep looking until you see a piece of wood that you like and in which you can see some sort of shape. Take this piece of wood and carve it until it reveals more of what you saw in it. Make the shape more defined.

1.5 First impressions

Knowledge and concepts are important, but they can also prevent you from looking closely. This is made clear by the following example. A man is sitting in a chair by the window and absorbed in watching a bird in the garden. He sees the animal fly here-then-there, peck at something, look up, preen its feathers, sit on a twig. Watching this bird fills the man with pleasure, he is full of admiration, almost lyrical. He is not plagued by knowledge, he does not know what he is seeing. Then his wife enters the room and asks him what he is looking at. He points to the bird, and she shrugs impatiently, saying “It’s only a sparrow.” The enchantment is broken and the observation is lost.

The first time you see something, you can be fascinated by it. You are capable of observing every single aspect of it. In an uninhibited first impression you can gain an idea of the characterisation, which you can rarely describe in words. You wouldn’t even be able to draw or model the whole. If you want to know more after this first sighting, you have to study the finer details. This will give you more information, but it can also threaten to block your perception of the whole. There is also the danger of attaching equal importance to every detail, so that the specific is more likely to escape your notice.

First, you saw the whole but you did not really know what you had observed. Later, you saw the details, but threatened to lose sight of the whole. It is important to remember that first impression well by being alert, holding on to your observations and recording them in some way.

A first impression is made up of a variety of observations, made not only by the senses but also by your feelings and emotions. These contribute to the richness of that first impression.
Exercise
Take an object, or ask someone to do something that you have never seen before. It might be something simple, such as a stranger’s gait or voice. Note your first impressions.

1.6 To each his own world?

A biologist, a forester, an artist and an architect approaching a woodland will probably all be seeing something different. The biologist would see the species of trees and perhaps note all sorts of particularities. The forester would recognise the different tree species as well as the shape of the trunk, and be able to estimate the volume of wood. The artist would see the many shades of green, brown and grey, while the architect’s attention might be drawn to the relationship between length and thickness of the trunk, and the span of the canopy.

In other words, they are all looking at the same thing, but they are all looking from a different perspective, a different interest and different set of concepts. When the come home, they will all have a different story to tell about their visit to the woods. The biologist will remember the lovely ashes, the forester will talk about when the woods will be ripe for harvesting and what the yield will be. The artist and the architect, on the other hand, might not even be able to answer the question of which tree species grew in these woods.

Everyone’s observations are different because they are the result of personal interest and a personally developed set of concepts. As a consequence, everyone perceives their environment differently. It logically follows on this that everyone lives in a different world, a world that is shaped by personal interest and concepts and filled with personal observations. One person might live in a town rich with birdlife, while another living in the same town might not have that impression at all.

In the same vein, studies have revealed that people who read a newspaper which reports frequently and extensively on crime perceive the world as more threatening than people who read very little about crime. Experiments have also shown that witnesses to an accident all report different versions of the event. They observe different things happening, but they also fill in the gaps that they missed in the sequence of events. Thus they unconsciously make things up, and think that they have observed them.

The way you shape your observations to form a concept is also personal. It does make a difference whether you use a schematic model or form a concept based on images. Feelings are also part of the
observation. If you heard a blackbird sing during a defining moment in your life, the concept of blackbird will have a different meaning and content for you than for somebody else. The reciprocal part that you yourself play in an observation is determined by:

- the degree of your interest
- the concepts
- the way that you connect observations: generally or specifically
- the way that you create images
- the feelings attached to the observation.

Observations are tied to an individual, they are subjective. It is important to keep in mind that everyone perceives the world differently. A conversation about any subject should really start by exploring where the other person’s interests lie, which concepts she uses and how she defines them. On the other hand, you experience the conversation as if everyone is inhabiting the same world. Perhaps we should ask ourselves why on earth we feel the need to talk about the real world with each other. We should perhaps wonder why we nonetheless insist on talking to each other about reality. This question will not be answered here.

**Exercises**

- Look at a tree, a plant or animal. What do you observe? Which concept did you observe? What role did your interest play in this observation?
- Find out whether there are any other concepts that could be used for this same observation.
- Get a number of people to each briefly describe a complex event. Listen closely and analyse their descriptions in terms of concepts. Find out what questions they asked.
- Take a walk or go on a moderately long excursion -- a zoo, a barn with animals -- with a group. Afterwards, discuss with each other what everyone saw. Did everyone see the same things, or were there differences? Discuss the questions and the concepts on which you based your observations. Then go back and take another look.
- One group of students acts out a play or a role play. (You might want to record it on video.) Afterwards, everyone shares what they have seen. Are there any differences in what people saw, did some people miss parts? How were people watching the play, to what degree were they
interested? Which concepts were used? Then watch the play on video. Do you see things that you didn’t before?

1.7 Different observations

These are all the observations that you could make of a particular tree: it is a European oak tree, about 10 metres high with a canopy of 8 metres across. The trunk splits up into three trunks quite close to the ground. There are grooves in the trunk. The branches are irregularly shaped. The tree has ample foliage and acorns. The leaves are lobed and a dull, mid-green (neither dark nor light) in colour. It is a beautiful tree. Some branches broke off once during a storm. The tree’s surroundings are chaotic. The tree looks vital and powerful, it dominates its surroundings. Seedlings are growing under the tree.

You can categorise the observations as follows:

- Observations about the current state of the tree: it is a European oak tree, about 10 metres high with a canopy of 8 metres across. The trunk splits up into three trunks quite close to the ground. There are grooves in the trunk. The tree has ample foliage and acorns. The leaves are palmate and a dull mid-green in colour.
- Temporal observations concerning the tree in its seasonal course: some branches broke off once during a storm. Seedlings are growing under the tree.
- Observations containing a judgment: the tree looks vital.
- Observations that reveal the impression that the tree made on the observer: the tree looks powerful, it dominates its surroundings. The tree’s surroundings are chaotic.
- Observations about the observer: it is a beautiful tree.

Exercise

Make thirty observations of an object or a situation and divide the observations into categories. Which categories can you distinguish?
1.8 Observation and focus

One half of a group of students is told to study how the others walk, and to imitate them. Experience will show that it is difficult to focus on walking, even though the sight of people walking is common enough. Instead of observing, we often make judgments: “Doesn’t he have a funny walk!” It is hard to know what to observe, exactly, and this makes it difficult to keep our full attention on the exercise. We see many different movements, but at the same time we see nothing. Everything seems to be happening at the same time. There are no concepts.

You might notice a that one person holds his hips at an odd angle, and might subsequently decide to examine the angle of everyone else’s hips. It gives you something to focus your attention on. Having observed the angles of the hips, we might then notice that one person has a particular way of rolling his feet, and that might become our new focus. Yet another subject’s stride is characterised by a powerful thrust of the thighs, so we start looking at everyone’s thigh movements for a while. In this ongoing process, we keep noticing something and make that our focus and concept in order to obtain our observations. Eventually, we will discover a pattern in the observations and have gained a new understanding of what we first experienced as a myriad of inexplicable movements.

This example reveals that observation becomes easier by making comparisons between similar objects, movements or situations. We refer to this as focused observation. Focused observation helps us to discover differences and to characterise them better. Focused observation can be very valuable when first investigating a new or complex situation.

Exercise

Make an observation of the lengthwise growth of a plant. Measure the internodal distance, the distance between the leaves. Then measure the internodal distances of plants in other situations (sandy soil, clay, sunny, shady), or compare the internodal lengths of different plant species. Internodal length is a focus. What do you learn from this exercise?
1.9 Magnifying and reducing

Are you ever finished observing? No, there is always more to see. Behind each detail hides a new detail. There comes a point, however, that you feel you’ve found out enough, you’re satisfied. Perhaps you reach this point when you know a plant’s name, or when you understand how a cow digests its food, or how you grow grass-clover mixtures. In other words, you generally reach this point when you’ve found out something or when you know how to solve a problem. But you are always free to continue your explorations; each detail harbours a new world of yet more detail. That is why nearly all research concludes with recommendations for follow-up research. Clearly, there is no end to the details that can be studied.

Conventional science has also delved deeper and deeper into detail. It is at the most microscopic level that scientists seek to explain natural phenomena. These days, DNA is increasingly put forward as an explanation for the behaviour, the diseases and manifestations of living organisms. Instead of observing the smallest detail, you could also study the subject en gros. Goethean scientists study the details, but also combine these details to create whole images. Enlargement, creating the whole, is an essential part of the goethean scientific approach. Early in the 20th century, the Dutch anatomist, Louis Bolk, recommended using reducing glasses as well as magnifying glasses in order to gain a better understanding of phenomena.

This is illustrated by the following example. You can observe many different characteristics of an oak. Close examination of the trunk, roots, leaves, flowers and fruits gives you more and more details about the structure of the wood and the cells, the substances that it is composed of, and the DNA. This knowledge will help you to explain many of the aspects of the oak. But you can also examine the oak’s build, its situation, the woods where it grows, and the landscape. You are effectively using reducing glasses to examine relationships on a larger and larger scale. This will also yield a lot of valuable knowledge about the oak.

**Exercises**
- *Increasing detail*

You collected thirty observations in the exercise described in section 1.7. Now, for one of these observed aspects, study the object more closely and point out ten details.
• Magnifying and reducing
  Find a situation in which you needed to zoom in on the details in order to resolve a problem.
  Find a situation in which you needed to zoom out in order to resolve a problem.

1.10 Asking ‘what’ and asking ‘how’

Essentially, our curiosity is expressed in two ways of questioning:

• Questions which ask ‘what’ arise from pure interestedness. Asking what results from a wanting-to-know, the questioner’s objective is increased knowledge or understanding. Examples of asking what are: what is that plant, what is this cow’s milk yield, how are the calves housed, what is the quality of the manure, how are the potatoes doing?

• Questions which ask ‘how’ are prompted by a desire to do something; the objective is to decide on an action. When you ask how, you won’t be satisfied until you’ve acted. Before you can ask ‘how’, you first need an answer to the ‘what’ question. Examples of do questions are: how can I improve milk yield, how can I prevent coughing in calves, how can I improve the quality of manure, how can I prevent phytophthora in my potato crop?

In Goethean science, it matters which type of question you ask. How questions are answered when you’ve gained new insight, but do questions are not answered until you have a clear idea of how you can change the situation and what the consequences of certain actions will be. Do questions demand more observation and more insight than how questions.

Exercise
Write down some ‘what’ questions and some ‘how’ questions, preferably about the same object or situation. What do you need to know to answer the two types of questions? Describe the observations you will need to make to answer both types of questions.
1.11 The role of art

There are different ways in which art can be used to facilitate observation. Drawing an object can force you to look with greater precision than if you were only describing it in words. Drawing gives you a deeper understanding of shapes.

Making a clay model of an animal also gives you a better idea of the exact proportions of the animal. A cow is different from a bull, and it is nothing like a rhinoceros. Compared to looking at it and recording its vital statistics, modelling an animal will result in a better observation of the proportions between height, length and breadth of the animal, of where it stands taller and which part of its body is lower.

Art can also play an important role in preparing the ground for the making of inner images in empathic observation. Artistic expression is dynamic and helps internalise an observation. Try to express the robustness and power of an oak in a painting, and try to also express the lithe gracefulness of the birch. Colour can be used to great effect to express the mood of the tree. Artistic creation builds a relationship between you and the object, thus bringing you closer to a state of empathic observation. This effect is even stronger if you draw trees from memory than when you draw them directly.

Artistic activity is not a goal in itself, but an aid to improve one's observations. This can be achieved by all types of artistic expression: painting, drawing, modelling, sculpture, song, speech, dance and eurythmics.
2. The twelve senses

You use your senses to make observations. In this chapter, we describe which senses are used for different types of observations. The focus of this chapter is on using your senses in practice. The exercises at the end of each section will help you to use your senses more consciously. It was Rudolf Steiner who first proposed that there are twelve senses. His theory on senses was later expanded by various authors, including Appli, Kranich, Schoorel and Soesman. A bibliography is included in the back of this book.

It is important to develop and use as many of your senses as possible because each sense reveals another aspect of the sensory reality. Sensory perception also forms the basis of your relationship with yourself, your surroundings, and the people around you. If you want to learn to observe well, you must use your senses comprehensively and frequently. With practice, you will find yourself observing more and more, as the different senses complement each other.

There is a relationship between sensory perception, and health and vitality. Your vitality increases if you observe intensively and perceptively. At the same time, the healthier and more vital you are, the more intensive and perceptive your observations.

Steiner’s twelve senses can be grouped into three categories. He distinguished senses which relate to the perception of:
- your body: the senses of touch, of life, of movement, of balance
- the external world: smell, taste, sight, temperature
- the immaterial, spiritual world: hearing, speech, thought, ego

Will, feeling, thought
- The first four senses, the lowest, are called physical senses, or senses of the will because they are used to perceive one’s own body.
- The middle four senses are the senses of feeling. Observations made with these senses arouse feelings. These senses are also reflected in our language: a tastefully furnished house, a sourpuss, hard to swallow, heart-warming, cold thought.
• The last four senses, the highest, focus particularly on the other. These are the spiritual or knowledge senses, and they are used in the observation of other people.

2.1 Sense of touch

Your sense of touch, or tactile sense, is made up of a very fine network of receptors in your skin, forming your body’s largest sensory system. Because there are so many sensory nerves, you can feel the lightest touch. The skin is your body’s shield, and touch makes you aware of your boundaries. Your sense of touch only gives you the experience of being touched by a ‘thing’. In order to know what is touching you, the observation needs to be expanded with your other senses: by looking at what’s touching you, feeling its structure or its temperature.

The sense of touch is formed by a large number of tactile organs situated just under the surface of the skin between the epidermis and the dermis (figure 1). The tactile organs are simple receptors connected by nerve axons. The receptors sense pressure on the skin, and that is how you can feel touch. There are tactile organs all over the body. The distance between the receptors determines sensitivity, which differs for different parts of your body. Fingers, tongue, lips, nose and forehead are very sensitive to touch, meaning that these parts have a higher density of tactile organs. Not surprisingly, perhaps, these are all important parts of the body for feeling or touching. Other areas, such as the back or the soles of the feet, have a lower density of tactile receptors and are less sensitive to touch.
It is necessary to use your other senses, such as movement or sense of temperature, if you want to know more than simply the fact that something touched you. You can use your sense of movement to explore the object with your hands, to find out its shape, its external structure and so on. Yet it is still difficult to determine what it might be. Your sight will give you the most information.

Your tactile sense delineates your body. It indicates where you end and something else begins. Without the sense of touch you would not feel this boundary, and you would not know where you stop being. You would literally be boundless and flow into the other. Without a sense of touch, you would have no physical self-awareness.
Exercises

This is an exercise for two people to discover the density of tactile organs on different parts of your body. Take two pins and hold them at a fixed distance from each other, e.g. 1 cm. Then press them softly onto a part of the subject’s body (e.g. underarm, hand, finger, fingertip, back, shin). Does the subject feel one or two pricks? Reduce the distance between the pins until two pin-pricks are felt as one. Repeat this on other parts of the body, such as fingertip, palm, back of the hand, or leg.

Close your eyes and ask someone to give you an object at room temperature. When you first receive it, do not move your hands, try to feel what it is only by using your sense of touch. Then start feeling it with your hands, describe the object and try to experience what it is.

One person is blindfolded. Someone she knows stands in front of her, and she must find out who it is by feeling the person’s face.

Ask someone to blindfold you and try to solve a wooden puzzle using only your sense of touch.

This exercise demonstrates that touching results in a different perception to sight. Take two trees of different species and examine them visually. Then go to each tree and touch the trunk. Describe the difference. You could also do this exercise with other objects instead of trees.

2.2 Sense of life

The sense of life is the internal sense of your organs and internal life processes. Your life sense tells you that you are full, that you have indigestion, or that you have to go to the toilet. You do not sense anything as long as your life processes are all following their normal, harmonious course. You do not register the life sense until one of the life processes is disturbed, or when you are ill. Other examples of observations made by your life sense are stomach-ache, congested nose or sinusitis. You do not perceive your organs or life sense unless something is wrong.
Pain is a serious disturbance which is also perceived with the life sense. Your life sense tells you that you have cut your finger, that a muscle hurts or that you bumped your knee on the table-leg. Generally, your life sense gives you information about your physical situation, your health, vitality, illness or pain. The life sense uses the vegetative nervous system, which has connections with all the internal organs.

Another type of observation that the life sense can make is the perception of your body as having substance. Your life sense makes you perceive yourself as a physical, material body. If you only had a sense of touch, you would only be able to feel your body’s boundary, so that your body would feel like an empty shell.

Normally speaking, you are not consciously aware of your body or your organs. Your attention is not drawn inward, and this enables you to focus on the world around you. When you are sick or in considerable pain, you are less attentive of your surroundings.

The following anecdote illustrates what might happen if your sense of life isn’t functioning properly. One afternoon, a couple went to visit friends and left their son at home. When they came home, they could smell scorched flesh and saw their son playing with a candle. He was holding his fingers in the candle’s flame and watching them turning black. He did not feel any pain to warn him that what he was doing was dangerous. This insensitivity is a symptom of leprosy. People with leprosy do not feel pain, so they do not notice when they get cuts or infections, and subsequently do not treat them. The wounds become infected and the infection can penetrate deeply into the body and result in disfigurement.

Pain (and your life sense) is a sensory warning system. If you didn’t get a message that your stomach was full, you would not know when to stop eating. You would not go to the toilet if you couldn’t tell your bladder was full. Pain protects you from further injury. A stab of pain warns you that you are cutting your finger and should stop. If this sense did not function, many safety measures would need to be taken in order to prevent injury and accidents.

Your life sense is directed at the perception of your body; you perceive your life processes with your life sense. But you can also use your life sense to make external observations, by using it in combination with other senses and empathising. With practice, you can observe:

- health, vitality and illness in other people and organisms.
- pain suffered by another person or animal. You can feel the other’s pain when you see something happen because you have felt that pain before yourself. You can feel this pain directly, it doesn’t take
much imagination. You must beware, though, of transferring human feelings to plants or animals.

- the space that an object occupies in its surroundings. Is the space it takes up satisfactory, is it filled harmoniously or not?

**Exercises**

*Inner observations using the life sense.*

*Perceive the state of one of your organs (stomach, intestines, lungs, heart). Then drink a few glasses of water or jog around the block, and repeat the observation.*

*Have you ever felt an organ? For example, your lungs, heart, bladder, spleen, liver, muscles. What did you observe, in which circumstances did you feel the organ?*

*External observations using the life sense.*

*Health, vitality. Observe the vitality of a tree. How can you determine its vitality: what part does your life sense play?*

*Make an observation of the health of an animal, e.g. a cow. How can you determine its health, what part does your life sense play?*

*Pain: observe the pain of another person or animal. What do you experience, where do you experience it, what feelings go through you?*

*Space: observe the space that is filled by an organism (plant, tree or animal). Is the space filled harmoniously or not?*
2.3 Sense of movement, or muscle sense

The previous two senses observed the body’s boundaries, the body’s internal state and the space it takes up. The sense of movement, or of muscles, enables you to perceive your body’s movements and posture. Your body – limbs, eyes, mouth, tongue, forehead, chest – is never still. All these movements are perceived, and very accurately, too. You can perceive a 0.038 degree turn of the elbow. Not only do you perceive your movements, you are also aware of the exact position of your limbs and all the other moving parts of your body. At any given moment, you know exactly where your arms and feet are. This is essential information; if you are going to execute a new movement, you have to know where the movement is to begin. You don’t even have to think about this, the sense of movement is always present.

The muscle sense is situated in spindle-shaped receptors in the muscles, which measure the degree of tension in the muscle fibres (figure 2). There are similar receptors in the tendons. The bending and stretching of the limbs is perceived by receptors in the joint tendons and in the surrounding tissue.
Your sense of movement is primarily focused on perceiving your own body, but you often also use it to observe things around you. In observing moving objects, your sense of movement works together with your sense of sight, so that you can see the type of movement taking place and estimate the speed of the moving object. In order to determine the object’s shape, your eyes follow the outline of the object and shift to and from details that attract your attention. Painters use this roving habit of eyes to guide you through their painting along a chosen course. The movements and shapes are observed by the movement sense in the eye muscles, but the eye itself only observes the colours.

You can also perceive the movement of a branch in a tree with your muscle sense, by imitating the movement with your arms. You could also imagine the movement, and imagine how your eyes or arms would likewise move. This is called sensorial fantasy or muscular imagery, and you can apply it whenever you want to observe and imitate shapes and movements. Think about: the gait of a horse, how a cow or a pig lies down, the motions of leaves, the arrangement of branches in different trees, and so on.

Movement and feeling are connected. This is evident in our body language: the welcome indicated by open arms, the dismissal expressed by a throw-away wave of the hand, and so on.

**Exercises**

- **Perception of precise movements**
  
  Take a piece of paper and a pencil. Close your eyes, or ask someone to blindfold you. Draw a house, or a three-master. The first time, draw it as you would normally draw, occasionally lifting your pencil off the paper. Then draw it again, but keep the pencil on the paper all the time. You could also do this exercise on a blackboard, so that others can observe you as you draw.

- **Perception of larger movements**
  
  Draw a straight line on the pavement with chalk, and then draw a circle about ten metres on. Connect the two with an undulating line. Your drawing should roughly resemble the figure below. One person stands behind the start line and then walks along the undulating course and places a small object in the circle. The subject then goes back to the start line and repeats the exercise blindfold. You could vary this exercise so that the subject first observes the course from the start line, and then walks it blindfold and places an object in the circle.
• Observing position and movement
  Ask someone to blindfold you and to put your arm in a certain position. Describe the exact position
  of your arm, which muscles are activated and which are not. Then let someone change the position
  of your arm just slightly. Again, describe the position of your arm and the muscles used, and
  describe the changes that you perceive in your arm.

  Split into two groups. Form rows, facing each other, and put your hands flat against the hands of
  the person opposite you. Make circles and other movements with your hands, varying the pressure
  on the other’s hands. Describe what you feel: the pressure, tension, relaxation and movements.

• Imitation
  Describe the motion of a moving organism, either human or animal. What is the motion like, which
  parts of the organism are moving, could you imitate the movement?

  Stand in front of a large object and observe it while someone else observes your eyes. Ask this person
  to describe your eye movements.
2.4 Sense of balance

We use our sense of balance to orient ourselves in the world. Observations made with this sense let you know what is up and down, left and right, in front and behind, above and below. The sense of balance perceives the smallest changes in your vertical position.

Your body has a dynamic equilibrium. You maintain your balance by making very small adjustments in muscle tension in muscles all over your body. Every time you stand up you have to rediscover your balance, by using this sense.

Your organ of balance is not the only organ that you use to maintain your balance. Your eyes are at least as important to orient yourself in your surroundings. Your eyes see vertical and horizontal objects which confirm the information given by your organ of balance. Try walking in a room where everything is at odd angles. Your balance could be so distorted, that the surface of the water in a bucket (which is in fact always horizontal) would appear to be sloping downhill.

The organ of balance is situated in the petrosal bone and is made up of three semi-circular canals which are perpendicular to each other, and the sacculus and utriculus (figure 3). The three semi-circular canals are filled with a fluid that moves with every movement of your head, thus registering changes in direction. Because they are at right angles to each other, they can perceive movement in every direction. The sacculus and utriculus perceive the linear position and linear displacement. In the sacculus, a gel-like substance with a calcule made of calcium-carbonate crystals rests on a horizontal layer of sensory cells. During vertical acceleration or deceleration, such as in a lift, the sensory cells detect a change in pressure from the calcule. At constant speed, the pressure on the sensory cells is constant, so you do not notice it. The utriculus also has a calcule, but it is situated against a vertical layer of sensory cells. These cells detect changes in horizontal acceleration, such as when a car accelerates or pulls over. Again, constant speed is not detected.
Figure 3. The organ of hearing and balance (from Gaay Fortman)
Together, the three-dimensional planes in the organ of balance cover all the degrees of movement in the joints. See figure 4: the ankle, knee, elbows, shoulder and jaws are in the same plane as the organ of balance.

When you observe other objects, you are using your organ of balance in different ways. First, to determine the position of the object in the surroundings, taking the horizon as your orientation. Secondly, to observe whether something is standing straight up, or leaning, and whether something is actually horizontal or only seems to be. You can detect how far something is out of true. Finally, using your organ of balance you can detect whether something is out of proportion, e.g. whether length is in proportion with height.

Figure 4. The organ of balance and the joints (from Soesman)

**Exercises**

*Spin someone around a few times while holding him, and observe his eye movements. Keep holding him after you stop spinning him. What is his balance like after having been spun around? What observations can you make, and what observations did the subject make during and after spinning? How does he perceive his surroundings?*

*Do this exercise again with another subject, but this time let the subject go after spinning. What observations can you make now?*

*Blindfold yourself and then try to balance while standing on one leg. Then do it without a blindfold. What is the difference?*
Find some trees whose trunks rise almost straight up, but not quite. Observe these trees, and
determine what would be the ideal position or angle of the tree-trunk. Repeat this exercise with
observations of branches. An excellent tree for this exercise is a mature beech whose branches bend
down low to the ground.

Record the length, height and girth of various mammals. How do these measurements relate to each
other? Can you make any statements about the harmony of these proportions?

2.5 Sense of smell

You smell things with your nose. Each time you breathe in, new scent
particles brush past the nasal mucosa deep inside your nose. The nasal
mucosa are connected directly with your brain by a short nerve, so that you
perceive scents almost immediately. It is so fast that you can be taken by
surprise when you suddenly smell something. You cannot block out scents
without holding your breath, which you can never do for long. When you
have been exposed to a scent for a while, you stop noticing it, nor will you
notice a gradual strengthening of the scent. You only notice it if you go
away from it for a while and then come back to it. In that case, you will probably be amazed that you did
not notice it before.

This can be illustrated by the following example. Once, my team and I had to clean the small intestines of
a cow. In this procedure, the intestinal contents are slowly pushed out of the intestines. Even as the
volume of drained intestinal content -- and thus the smell -- increased, we were hardly aware of the
stench in which we were working. At some point we went for a tea break and only then, in the clean air
did we notice the awful smell on our hands and clothing. When we went back to work, the stench was
almost unbearable, but after a few minutes we were again oblivious to it. It is possible for a strong smell
to cause nausea. In that case, you remain focused on the smell and continue to perceive it.

Since you have to keep breathing, you cannot help but perceive scents. There is no way to block them out.
You perceive scent immediately, and classify it as distasteful or tasteful, pleasant or unpleasant, vile or
attractive. Scent strongly influences your judgment. Your experience tells you that bad things or things that you dislike always smell. Volcanoes, rotting food and toxic substances all have a foul smell. Natural substances that are good for you are not perceived as smelling bad. In this way, your sense of smell forms one of the foundations of your moral judgment. Your sense of smell thus helps you to distinguish between good and evil.

People can distinguish about 2000 scents, from roses and camomile to the smell of horses, goats and cows; from milk, wine, cola and beer to wood, cement, asphalt and stone and so on. You recognise the scent of a fresh spring day, or a scorching summer afternoon. You can distinguish the particular smell of a Tuscan village, a peat bog, a book-lined study, or a sick-bay. You can also smell someone’s mood: someone who is afraid emanates different scent particles than someone who is at ease. You respond to all these smells, usually without being conscious of it.

Observations of smell differ from other observations of, for example, taste and sound because scents are difficult to categorise and describe. Scents are often described by association: the smell of roses, of blueberries, of fresh fruit, of grease. Or people might say: this reminds me of a head of lettuce, or of an old shoe, or of grandma’s house. Smells can be described by using other observations which are associated with the smell. It is possible to determine the chemical composition of a scent, and in many cases it can be synthesised. Many of our perfumes and artificial scents (often called flavourings) are made chemically.
Smells can bring back memories suddenly and strongly. You might be walking along a street when a familiar smell suddenly takes you right back to the past, and to the occasion that you smelt it before. For a moment, you are submerged by memories. This often happens without being consciously aware of having perceived the smell. Scents and smells can affect you more strongly in this way than observations made with other senses.

Our sense of smell is quite primitive compared to that of animals. A dog’s sense of smell is a million times more sensitive than ours. A dog has no trouble smelling the fear of a passer-by and responds directly. Because of the short reaction time, instinct is closely connected to the sense of smell. An animal’s behaviour is thus determined to a large degree by what it smells. If your sense of smell was as good as an animal’s, you would constantly be making strong judgments and be incapable of more objective observation. Your sensitivity to scents would leave no scope for a personal response, and your thoughts would be more instinctive. As a result, you would be at the mercy of what your sense of smell told you.

**Exercises**

*Select some food and drinks, and describe their scent. When you have finished, take a short break, then smell them again and record any judgments they provoked. Did they arouse any memories? If so, describe them.*

*Go to a place in the woods, or in a barn or field, and describe what you smell. Which smells do you notice straight away, and which do you only become aware of after some time? What sort of judgments do you make?*

*Smell the different types of animal feed in a barn. Describe the smells and also describe your first impression of them (tasty, disgusting, etc.). You can do this exercise with other objects, too, such as plants, animals, foods, textiles, detergents and so on.*
2.6 Sense of taste

The tongue is the organ of taste. In order to taste something you must actually put it in your mouth. In addition, the substance must be dissolved in water or saliva, as you can only taste liquids or soluble solids. The observation of taste is made up of two components, the actual taste of something and its smell. When something is in your mouth, its smell enters your nose. When you put something in your mouth, its smell can change as new scent particles are released. Actual taste is limited to four possibilities: sweet, sour, salty and bitter. If you hold your nose and put something in your mouth, you will only be able to distinguish these four tastes. There would be no olfactory observations. If you couldn’t smell, all jams would taste the same: sugary and sweet.

The four tastes are perceived by the tongue which has four zones, one for each taste (see figure 6). The sweet zone is on the tip of your tongue, so you will perceive this taste first. The receptors for sour and salty are on the sides of the tongue, and bitter is tasted at the back edge of the tongue. You cannot bear very strong tastes: with the exception of sweet, too much of any taste quickly becomes an unpleasant experience. Children have the greatest difficulty learning to appreciate bitter foods, as bitterness is quickest to taste bad. Even as adults, we can tolerate only a little bitterness. Sour things are often perceived as being refreshing, while salt is rarely perceived but draws out the full palate of tastes. For example, an unsalted boiled egg has little taste, but once you sprinkle some salt on it, it tastes just like an egg should.

Our judgment of food, and whether or not it is healthy, is determined in part by taste. You can taste whether something is good for you or not, and you also know very well if you are taking that extra bite because you’re still
hungry or because you don’t want to offend the cook. You can strengthen your emotive judgment by focusing your attention on how something tastes.

**Exercises**

Taste different foods, first while you are holding your nose and then without holding your nose. What observations can you make?

Make liquid solutions for each of the tastes sweet, sour, salty and bitter. You can make a bitter solution by steeping used coffee grounds in water. Brush each taste in turn on different parts of someone’s tongue. Do not let the subject know which taste is being brushed onto the tongue. Ask the subject to describe his observations, and what he tastes.

Hold your nose and close your eyes, and ask someone to put something in your mouth. Do not move your tongue. Try to find out what it is. First, only rely on your sense of taste. Then feel it by rolling it around in your mouth. Then stop holding your nose so you can smell. Describe the differences in your observations. At what point could you guess what was in your mouth?

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### 2.7 Sense of sight

Your eyes are your most important sensory organ. They are the only organs located visibly on your body’s surface. “Seeing” is often used synonymously for “observing” or “understanding”. Yet in actual fact, your eyes only see colours and light and dark. You can see shapes, motion and proportions because your eyes move and work together with the senses of movement and balance.

It is easier to block visual stimuli than smells or tastes. There is a distance between you and what you see and thus you observe more consciously. Of all your senses, sight contributes most to your awareness. You are an organism with conscious thought, which is intricately involved with the act of seeing. This also means that it is easier to be mistaken about what you see than what you smell, for example. Sometimes, your thoughts determine what you see. You
can experience this in two of the exercises, below.

The sense of sight is the most popular sense for scientific observation. Everything is expressed visually, often in numbers, because the eyes are supposed more reliable than other, ‘more primitive’ senses such as smell and taste. The eyes are considered to be objective.

The eye is a transparent oval ball into which light enters (figure 7). Light rays first pass through the cornea and then through the pupil. The pupil detractions and expands, depending on how little or how much light there is. The pupil is located in the centre of the iris. After passing through the pupil, the light is concentrated by the lens, it passes through the eyeball and falls onto the retina. The retina has conical and rod-shaped receptors.

The eyeball is made up of a transparent, colourless, jellylike substance containing 99% water. The tissue of the cornea has a somewhat crystalloid structure. The rod-shaped photo-receptors on the retina (pars optica) can sense light and dark, while the conical-shaped receptors (pars caeca) are sensitive to colours. The pars optica adapt very well to changes in the degree of light, as you will have experienced on entering a darkened room. First you see nothing, but after a while you can see quite a lot and find your way around. You cannot see colours in the dark. The yellow spot is the most sensitive part of the retina and is made up solely of pars caeca. The place where the bundled optical nerve leaves the eye is called the blind spot, as the eye has no receptors to register anything here.

Figure 7. Cross-section of the eye (from Soesman)
Most people can see about 150 colours, though some can see more. We can perceive the subtlest differences in the colour green. Colours can affect your mood. Red makes people active. It is perceived as being lively and restless, and boosts strength and energy. Orange makes people enthusiastic, while yellow radiates and gives a sense of cheer. Green is restful and balanced. Blue is a cool colour and stimulates thought. White is the reflection of the spirit; it gives us a sense of purity and symbolises chastity. Black, on the other hand, evokes human sorrow.

Goethe discovered that colours are a result of the play between light and dark. You see red, orange and yellow when you look out of the dark at something light, the sunset for instance. Blue and violet predominate when you look from the light at something dark. That is why the sky is blue: it is light here on earth, but black in space.

Goethe put it this way: light’s victory over darkness results in active colours (red, orange and yellow), while the victory of darkness over light brings out passive colours (blue, indigo and violet). You can verify this by looking at a rainbow. The sky is always darker at the top of the rainbow than at the bottom, and the red is always on top where it is darker, and the violet on the bottom, where it is lighter. You can find evidence for this rule in brown eyes, where the iris is red nearest the pupil, and green or bluish nearest the white of the eye.

Colours are arranged on a colour wheel in a succession of red, orange, yellow, green, blue, indigo, violet, then back to red and so on. Only colour can be arranged in this type of wheel, it does not work with other observations.

When you stare at a colour intensely for a while and then look away, you will see an after-image, an image whose colour is the opposite, or the complement (on the colour wheel), of the original. For example, if you stare at a violet-red object for a minute, you will see an after-image made up of green and blue, since green complements violet and blue complements red. During prolonged exposure to a bright colour, the conical receptors on the retina that perceive the colour become desensitised. The negative after-image occurs during the recovery of the desensitised retina. The colour of the after-image is not a physical, material colour; rather, it has a lingering, unearthly and transparent quality. You could describe it as an etheric colour.

The effect of colours on mood has been demonstrated effectively in scientific experiments such as the following. The subjects in this experiment did not know what the purpose of the experiment was. One half
of the group was told to paint a certain picture with red paint, while the other half was told to paint the same picture with blue paint. After fifteen minutes of painting, the group using red paint was louder and more restless than the group using blue paint. This experiment showed how mood was affected by these colours.

Another experiment was carried out in a factory. One room in the factory was painted in the usual colours and the other in soft, human tones. Before long, workers in the second room had achieved a 15% higher production rate and taken 30% less sick leave than those in the first room.

Exercises

Observe the two objects below. What do you see? What else can you see? Can you change your focus from one observation to the other? Then what do you experience?

Figure 8. Exercises for optical illusions
(from Soesman)
Place a coloured sheet on top of a white piece of paper. Stare at the coloured sheet for a minute, then remove it and continue staring at the white paper. What colour do you see now? What qualities would you ascribe to this colour, compared to the coloured sheet? Do this exercise for each of the colours of the rainbow and find their complementary colours, or opposites.

Painting exercise: paint something in one colour. After half an hour, see what sort of mood you are in. It is better to do this exercise with a partner: let one person do the painting while the other observes the painter.

Hold a hand in front of your left eye, and look at the dot below with your right eye. Move the book gradually closer and farther away from your face. At most distances you will see the star to the right of the dot, except for one particular distance when the image of the star falls onto your blind spot.

Take a simple natural, living object such as a leaf. Make a larger-than-life drawing of it. Try to recreate the different shades of colour as accurately as possible by mixing your paints. Painting requires you to look with increasing accuracy and thus improves your ability to observe visually. This exercise also demonstrates that the colours you see are composite colours.
2.8 Sense of temperature

You use your sense of temperature to observe how hot or cold objects or your surroundings are. The sense of temperature is made up of distinct sensory receptors for hot and cold located in the dermis. There are more receptors for cold than for hot. As with the sense of touch, every part of your skin senses temperature. There is a difference, however. When something touches you, you feel which part of your body is touched. The sense of temperature is observed in relation to your own temperature and to the body surface area being exposed to coldness or heat. If you put your finger in a bucket of water, and then into water which is 3 degrees warmer, you would hardly feel the difference. You would feel some difference if you stuck your hand into the buckets, and if you submerged your entire lower arm you would feel the temperature difference even more strongly.

The larger the surface area perceiving the change in temperature, the more accurately you estimate the difference. Lying naked in a bath, you can perceive deviations of only 0.3 degrees Celsius. When the bathwater has cooled a little, you will perceive it as a large difference.

Warmth and cold enter your body through your skin. By exposing a large area of skin to warmth, more warmth can enter the body and you would feel warmer than if you only exposed a small part of your skin. Because of your sense of touch, you know that something is situated outside your body. In perceiving the temperature outside your body, however, the cold or warmth penetrates into you. Likewise, we do not feel the temperature as being only of the outside of an object, but perceive it as coming from the whole object, as radiating from the inside.

Your sense of temperature is closely connected to your own temperature. In other words, you do not measure absolute temperatures, but temperatures relative to your own. Put one hand in water at 10 degrees for three minutes, and the other in water at 40 degrees; then submerge them both in 27 degrees. For a few minutes, this water will seem cold to one hand and warm to the other. This effect slowly fades until both hands – feel the same temperature.

Temperature affects your mood more strongly than other senses. This is partly because the sense covers your whole body, and for another part because warmth or cold can make your whole body feel comfortable or uncomfortable. The cold chills you, and severe cold can numb or even paralyse you. Warmth can make you feel enthusiastic, but too much heat can cause apathy. Only moderate
temperatures do not affect your mood.
You should also take account of warmth and cold for the sake of your social life. If you want to get to
know somebody, radiate warmth. You can then expect warmth in return. But if you feel cold, you will feel
rejected. You need to feel warmth from your fellow human beings, otherwise you cannot live in a
community. There is a reason for such sayings as: to be left out in the cold.

**Exercises**

*Fill three bowls of water at temperatures of 10, 27 and 40 degrees Celsius, respectively. Hold one
hand in the 10 degree water for 3 minutes and the other in the 40 degree water. Then put both
hands in the middle bowl for some minutes. Describe your observations.*

*Fill two buckets with water of different temperatures. The difference should be 3 degrees Celsius. Put
a finger in one bucket of water for 3 minutes, and then in the other bucket. Repeat this with a hand,
and if possible with your lower arm. Keep the temperature of the water constant (use a
thermometer!). Describe your observations.*

*Measure the surface temperature of an animal, for example a cow, by placing your hands on various
parts of its body (side, legs, head, horns, nose, etc). Which parts are warmer, which parts are colder?*

*Search your memory for situations in which the atmosphere between people was warm, and
situations in which the atmosphere was cool. Discuss these with your group. Can you discover any
patterns?*
2.9 Sense of hearing

Your ears pick up your own sounds and those made by others, human or animal. Unlike your eyes, your ears are positioned at the side of your head. Your ears are open to sounds from your entire surroundings; it is not necessary to position the ears directly in front of a sound. You cannot close your ears, so that you are connected with the world of sound during all your waking hours. You cannot help but hear them.

Listening – conscious hearing – requires you to be quiet. You must keep still yourself and take a back seat, as it were. Listening is a social activity focused on others, but it is also an internal activity. How often did your teacher say ‘sit still and listen carefully’?

Animals can turn their ears towards a source of sound. Humans do not have this ability to ‘see’ with their ears. Animals hear well, but they do not listen, as they cannot step out of themselves and become silent. The hearing organ can be divided into three parts (figure 3, page 34). The external ear, consisting of the concha and the ear canal, captures sounds. The eardrum is situated at the end of the ear canal.

The middle ear carries the sound further. The middle ear is made up of the tympanum which in turn contains the three ossicle bones (malleus, incus and stapes) and the Eustachian tube which connects the tympanum with the throat. The Eustachian tube stays open when you swallow so that a constant pressure is maintained on both sides of the tympanic membrane. The ossicle bones pick up vibrations in air and pass these on from the tympanic membrane to the inner ear.

The inner ear is located in the temporal bone and consists of a labyrinth, a cavity filled with fluid that is made up by the vestibule, cochlea and three semi-circular canals which are used to maintain balance. The cochlea is the actual hearing organ, where vibrations of air are transformed back into sounds.

You can distinguish three types of sounds. First, there are the common, everyday sounds such as the rustling of leaves, the wind howling round the house, babbling water and all sorts of mechanical noises such as cars, creaking doors, and so on. The second type of sound is music, which is made up of sounds and tones. The third type of sound is human speech.

You can observe three aspects of every sound, regardless of which type it is: the volume, the pitch and the tone colour. You can also observe the distance to the source of the sound, since the sound does not reach
both ears simultaneously. The second ear will hear the sound 0.001 second later, so that you can estimate where the sound originated. Accurately assessing the distance and direction of a sound is a matter of experience.

Hearing declines with age, but to compensate we are born with a very wide range of hearing. Children can hear 11 octaves, and even in old age you can still hear 10 octaves.

Looking at an object gives you an idea of its exterior. Listening to an object gives you an idea of what is within. Often, for example, it is difficult to distinguish a glass pane from a plastic one by sight alone. If you tap the pane, however, the sound will tell you which it is right away. You can also hear if a plate or a bell is cracked, even if you cannot see the damage. Listening to people can also reveal information about their inner lives. People might look smart, but if they feel bad inside it is immediately apparent in their voice. Someone's intonation betrays whether they are sad, happy or excited.

The resonation of sound by objects is always the sum of its parts, of substance and shape.

In order to resonate, objects must be solid and free-standing. A free-standing copper bell rings, but a bell standing on the ground is like a soft chunk of clay: it makes no sound. Sound is considered an unearthly (immaterial) phenomenon.

We have a very fine perception for music and sound, and we can feel intimately connected with tones and melodies. High tones are generally perceived as clear, light, sharp and distinct, while low tones are perceived as dark, full, warm, big and less distinct.

A final point of interest is the relationship between sight and hearing. When you look at something, you can hear it better. This does not only apply to speech, but also to music. If you were to listen to a philharmonic symphony and keep your eyes on the oboe, you would hear that instrument more clearly than the others. If you then switched your gaze to the clarinet, you would hear it more clearly, and so on.

**Exercises**

*Stand somewhere, indoors or out, and describe all the sounds you hear. What feelings do the sounds evoke? You can do this exercise with your eyes open or blindfold. Does it make a difference to what you experience?*

*This is an exercise for two people, one of whom is blindfold. Stand 5 metres apart. The person who is not blindfold must whisper something, articulating well, and the blindfold person must repeat what*
the other whispered. Then remove the blindfold, so that the listener can see the speaker. Again, the
listener must repeat what the speaker whispered. What is the result? What was the listener's
experience?

This exercise is for a group. One person sits behind a sheet or screen. Out of sight of the other
subjects, this person makes sounds using various objects. For example, silver, lead, iron and wooden
spoons can be used to tap objects such as a plate, a cracked plate, a glass, a porcelain cup, a
plastic beaker, a free-standing bell, a bell on a table, a small bell, and so on. The rest of the group
must try to identify the objects by the sounds.

2.10 Sense of speech or words

The senses of speech, thought and ego were actually the first senses identified by Rudolf Steiner. These three senses are referred to as the spiritual senses, because they are used in the observation of human characteristics: the spoken words, thoughts and individuality of others. The first four senses focus on one's own body, the next five focus on the external world and can be used in any situation. The last three senses, discussed from here on, are most useful in have their meaning especially in the interaction between people.

There is a difference between the perception of sound and music, and the perception of speech. When listening to human speech, you perceive the vowels and consonants which make up all words. Your ears perceive both the acoustic and the musical aspects of language, but not the essence, or meaning of speech. The actual words are perceived by another sense that we refer to as the sense of speech.

When you meet someone, their posture and facial expression, the look in their eyes, the gestures of their hands and body, and the sound of their voice all reveal information about their inner state and character. By listening to the words people say, you can observe their thoughts, opinions, judgments, experiences and personality.

When listening to someone speak, the first thing you perceive is not what is being said, but the rhythm and intonation. Rhythm and intonation - reveal agreement or rejection, scorn or admiration, good or bad
intentions, and so on. You hear more than just the meaning of the words. Brief reactions can be interpreted quite accurately on the basis of context and nuances of tone alone. You can perceive how the speaker intended to convey the message, and in doing so you have observed something about the speaker’s inner being.

Letters, words and stories have a different quality to tones and melodies. Words harbour connotations, or gestures, that can be perceived. *Quick* has a different gesture to *fast*, *sluggish* is not the same as *slow*. The basic meaning might be the same, but the letters that make up the word make a different gesture. A word is in effect a phonemic image of a series of letters. Observation of the phonemic image is not the same as hearing. Word eurhythmics can help visualise the gestures of words, as each speech sound and letter has its own gesture. That is why word eurhythmics is often called visual speech.

The phonemic image is rarely distinguished from sound because spoken language is heard by the ears, just like all other sounds. But the ears only register the sounds. This is demonstrated by the following phenomenon which occurs regardless of whether you are speaking or listening. In hearing or making speech sounds, your body is constantly making tiny, almost imperceptible movements. These unconscious micro-movements are made by different parts of your body, from your head to your toes, and are specific for each letter. These movements have been recorded by high-speed photography of people talking. Within 50 milliseconds (0.005 second), the listener starts making the same micro-movements as the speaker. The speaker makes these micro-movements because he is listening to his own words. When the phonetic *W* is spoken or heard, for example, almost imperceptible rapid muscle activity can be registered on the face (eyes, eyebrows, mouth), chest, right shoulder, elbow, right wrist and fingers. The next letter will be accompanied by different micro-movements. The same letter provokes the same movements in different people, independent of culture. Babies make these micro-movements in response to speech from the day they are born. In short, this is a universal phenomenon. Rapid micro-movements are related to hearing language. You might call them phonemic gestures.

If these micro-movements were not very fleeting, you would become absorbed by the movements associated with the sounds and forget to listen. The movements, however, are only bursts of nerve action and never develop into full-blown movements, so that you do experience the sound movements but do not become absorbed by them.

Rudolf Steiner pointed out that our understanding of language is made possible by the fact that we have a musculoskeletal system. Our flesh-and-bones body is the sensory organ for words. Speech sounds are
perceived with the ears. Nerves travel from the organ of speech down the spinal cord and branch out to all the muscles in the body. This is why you make unconscious micro-movements in response to speech sounds, and why you physically experience the gestures of sounds. In other words, language is not heard just by your ear, it is heard by your whole muscular system. Together, these form the sense of speech. The sense of speech can interpret more than just the spoken word. You also observe visible gestures, such as hand signals and body language. When you observe body language or facial expressions, your muscles also respond by mimicking these movements, albeit so minimally and briefly that this is not seen. Your sense of speech can be used to understand the characteristic gestures and body language of other mammals. In that case, your sense of speech observes the animal’s posture and movements. The sense of speech observes both words and gestures.

**Exercises**

Listen closely to someone. Note what you hear in their voice: the substance of what they are saying, the connotations, pitch, and so on. Describe as many aspects as possible. Now try to observe without paying attention to the denotative meaning of the words. What do you now hear in their voice? (It is not easy to ignore the meaning. You could try listening to a language that you do not understand. What gestures do you observe in that language?)

Describe the difference between a singing bird and a piece of music, or more generally the difference between an animal sound and a nature sound or music.

Listen to the difference between a tune played on a flute or recorder, and the tune when you whistle it yourself.

Use word eurhythmics to make the gestures of letters and words visible. Try to find out whether the eurhythmic gesture agrees with your own experience of a letter or word.
2.11 Sense of thought

Your sense of thought observes the thoughts of others. Specifically, you observe the views, considerations and questions that others have, and thus get an idea of what they are thinking.

You must distinguish between sound of a word and its meaning. Next to the tonal shape of the word, words have meaning. In order to understand what someone is saying, you must know the denotative meaning of the words and be able to distil the coherent thought from the arrangement of the words.

When you focus on someone’s way of speaking, that is on the phonemic image, the substance of what they are saying will pass you by. But when you concentrate on the substance, you do not hear the way in which the message is conveyed. This is most apparent when you hear a language being spoken that you do not understand. You can pick up certain tones, but you do not have the faintest idea what is being said. Clearly, your sense of speech and sense of thought perceive different complementary aspects of human communication.

Imagery is a descriptive tool. For example, you could describe how a woodpecker hammers an oak tree. This would immediately raise images of oak trees and woodpeckers in the listeners’ minds. They might even hear in their minds the drumming sound of the woodpecker. Their imaginations colour the story as you tell it to them. Everyone will have their own specific images, based on their own personal experiences and past observations.

But it is also possible to discourse on abstract patterns of thought, such as why the sum of the angles of a triangle must always add up to 180°. When you listen to an abstract discourse, you must concentrate on the other’s train of thought, so that you do not lose their line of reasoning. You must hold back your own thoughts and images and give yourself over to the other person’s thoughts. When you fail to follow the story, you return to your own thoughts.

Focused attention, in short, is necessary to observe another’s thoughts, and you can only focus your attention if the words or concepts that you hear are familiar to you. The body of concepts that you build up over time is therefore essential to understanding someone else’s line of thought. This body of concept forms the organ of observation that is referred to as your sense of thought.

Your sense of thought distinguishes between your own and another’s thoughts. The sense of thought is
very important in people’s spiritual development, as thought enables them to learn new concepts. New concepts, in turn, broaden our mental horizon and encourage us to integrate them in our own way. It is not easy to understand, absorb and integrate new concepts. The road to truth is a painful one.

The sense of thought uses that part of the life sense that is not focused on the body, but on the mind. The sense of life observes processes in your physical body and the sense of thought observes mental processes in your immaterial body. This is logical, as the life processes are directed by the vital being, and thought takes place in the immaterial part of the vital being. Soesman wrote that the sense of thought is better developed when the sense of life has been more active in someone’s childhood, i.e. when the person learned as a child that wishes are not always fulfilled and also learned to endure pain.

The sense of thought can also be used to determine which thoughts or ideas are at the root of a phenomenon. In this case, you would observe the phenomenon with your sense of thought, in order to find your way around it and find out what has shaped it.

**Exercises**

*Tell a story with a lot of imagery, such as a fairytale. Then ask the listeners to describe what they were thinking and what happened inside them as they were listening. Now hold an abstract discourse on, for example, a mathematical or philosophical matter. Ask your listeners the same questions as before. In a group discussion, try to uncover how the listeners' activity differed.*

*Ask someone to tell an evocative story without forming any mental images. In other words, the storyteller must tell the story as if it was an abstract discourse. Then another story is told, for which the speaker did create her own images. As a listener, what differences did you observe?*
2.12 Sense of ego

The last sense is the sense of ego with which you observe the other’s personality or individuality. This sense needs to be activated, because in practice -- with people tending to be distracted by their own and others’ habits and emotions -- the sense of ego is barely used.

Steiner described the observation of someone’s personality as follows. You spend some time observing the other, so that you have an impression of him. This impression imposes on your inner being, a feeling that resembles an assault. Your response is to retaliate, and you throw the other out of your inner being. This causes your aggression to diminish, so that you can allow the other in again. Attraction and repulsion, sympathy and antipathy alternate.

What this means, is that if you want to get to know someone’s personality, you must allow him into your inner being. But you can only tolerate this intrusion for a little while. Before long you need to have your inner being to yourself again, and so you throw the other out. This process can be repeated.

The ego sense is used in various ways:

You can observe someone’s individuality most directly in their eyes. The eyes give you an unfettered view of the other’s ego. Unless you are in love with that person, you can only do this for a short while before you start feeling uncomfortable. When you look into someone’s eyes and encounter them, something gets sent back to you. There is resistance as you have entered the other’s private space. You cannot look into both of someone’s eyes with your own two eyes, you have to look with alternate eyes. Generally, you will have a preference for one eye, as the other makes you feel uncertain. You will probably experience little trouble in looking children (up to about twelve years of age) in the eyes for a longer period of time, as their return gaze is a soft one. The same applies to the return gaze of animals. The difference between humans and animals can also be experienced in this way.

The handshake is also an expression of someone’s personality and enables the mutual observation of each other’s egos. As with eye contact, you observe the other intensely when you shake their hand. This intensity occurs in the encounter of two individuals. In both cases, you can hold out for a while, but then you either need to draw away or vary the contact by alternating between focusing and retreating.

You also observe someone’s personality by their posture and body movements. You can observe how the forces of personality shape the body and how the body is used. By absorbing someone’s posture and
movements you perceive how the other’s ego functions in their body. Important physical aspects to note are: the other’s balance (are they standing straight or not), the way the other stands on the ground (are they standing on the surface, are they hovering above it or are they too deeply rooted, and the way the other walks.

When you listen to someone, you also observe something of the individual. You can tell whether someone is telling something that comes from within, or whether they are relating something that has not been internalised. The individual line of thought also reveals the other’s personality, especially if you follow that line of thought from a distance, with a positive critical attitude. You observe these thoughts with your sense of thought; the individual aspect of the thoughts are perceived by the sense of ego.

The meaning conveyed by spoken words depends on who is talking. Two people can say the same words, but mean different things. If two good friends of yours both say “I’ll do it,” then in one case you’ll interpret it as “he will try to get around to it” and in the other case you will be able to depend on her to do it. Thus you use observations of the individual to interpret what they say. In the same vein, you can observe the other’s personality in their voice.

The ego sense functions similarly to the sense of touch: you touch the other and let the other touch you, you absorb the other. That is why you feel uneasy when eye contact or a handshake lasts too long, or if you are absorbed in the other’s thoughts for too long. Your sense of ego uses your whole body and not just the outside, like the sense of touch. If you do not allow the other to enter your inner being, you will not observe their individuality. It is essential to take a back seat for a while in order to make the observation of the other’s ego possible.

The individual can also be observed in animals, plants, events and situations. Obviously, the individual cannot be observed as directly as with people, but it is a skill that you can learn.

**Exercises**

*Form pairs and take turns looking into each other’s eyes. Describe what you observe and what you experience. Ask a third person to observe the movements of both pairs of eyes, and to describe his own observations.*

*Form pairs and shake each other by the hand. Describe what you observe and what you experience.*
Study the posture of a number of people. Describe it, and try to draw careful conclusions about your observations. Use the observations in the text.

Try to remember situations in which you observed someone’s personality by their thoughts, i.e. how they related a story, or by the connotative meaning of what they say.

2.13 Using the senses together

Each sense makes a different observation. But the observations and the senses which make them are complementary, so that together they form a coherent whole. Earlier in this chapter, we already provided examples of senses working together. Below are two additional examples of the observation of a house and of a cow.

In observing a house, you use the following senses:
• The sense of movement, which registers the movements of the eye muscles, to observe the shape of the house.
• The sense of balance, which registers the vertical and horizontal lines of the building.
• The sense of sight, which registers the colours and shadows, i.e. light and dark.
• The life sense, which registers the house’s proportions and harmony.
• The sense of touch, which registers the structure of the bricks and woodwork, by touching or sensorial fantasy.

The four lowest senses are used here in association with sight. When you assess the house, you express your judgment on the basis of one of the senses used. For example: “The roof is a bit flat,” or “This yellow house with a red roof has a pleasing form.” The first remark leans strongly on the observation made with the sense of balance, the second is based on life sense observations.

Nearly all your senses can be used to observe a cow:
• The sense of touch, which registers the hairs and suppleness of the hide.
• The life sense, which registers the harmonious proportions of the body and the animal’s health.
• The sense of movement, which registers the animal’s body and movements.
• The sense of balance, which registers the position of the legs, the neck and rump.
• The sense of smell, which registers the smell of the animal’s breath, the smell of its body, and its dung.
• The sense of sight, which registers the animal’s colour, sheen and markings.
• The sense of temperature, which registers the animal’s warmth.
• The sense of hearing, which registers the animal’s lowing and it chewing its cud.
• The sense of speech, which registers the gesture in the chewing of cud or in the lowing, but which also registers the body language.

You might use the sense of thought and the ego-sense if it is a cow that you know, so that you can see the expression of its individuality in its movements, behaviour and noises. Except for taste, you have thus used all your senses.

It is important to remember that you cannot use your senses well unless you train them well. Practice makes perfect! You will notice that practising observations with one sense improves the observational capacities of the other senses, too. If you start tasting things more consciously, your other senses will also become more perceptive and you will be able to observe subtle differences better.

Adults can train their senses consciously, but young children cannot. It would be wrong to give young children exercises directed at developing their senses and their observational capacities. They develop their senses in the way that comes most naturally to them, by doing. A child develops its sense of balance by climbing trees, its sense of hearing by listening to music, its sense of speech by listening to stories being read out loud, and its senses of thought and ego by developing real, substantial relationships.

**Exercises**

*Describe how all the senses would be used in observing a person.*

*Observe an object using as many of your senses as possible. What different types of observations did you collect?*

*In observing the other’s individuality, many of your senses can be used to support the active senses. Identify as many supporting senses as possible, and describe how your observations reveal something about the other’s inner being.*
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