Entry Points

A Guide to Rudolf Steiner’s Study of Man

Pedagogical Section Council of North America
ENTRY POINTS:
A Guide to Rudolf Steiner’s
Study of Man
ENTRY POINTS

A Guide to Rudolf Steiner’s
Study of Man

EDITED BY
Elan Leibner
Printed with support from the Waldorf Curriculum Fund

Printed by:
Waldorf Publications at the
Research Institute for Waldorf Education
38 Main Street
Chatham, NY 12037

Copyright © 2017
by the Pedagogical Section Council of North America

Title: Entry Points: A Guide to Rudolf Steiner’s Study of Man
Editor: Elan Leibner
Layout: Ann Erwin
Proofreaders: Ruth Riegel, Melissa Merkling
Cover image: Silver Thread, painting by Ursula Stone
Table of Contents

Introduction Elan Leibner ........................................... 7

PART 1:
Lecture Summaries Elan Leibner
and Endnotes Michael Holdrege
Introductory Lecture ............................................... 10
Lecture 1 ............................................................. 11
Lecture 2 ............................................................. 14
Lecture 3 ............................................................. 19
Lecture 4 ............................................................. 23
Lecture 5 ............................................................. 25
Endnotes ............................................................. 29

PART 2:
Commentary Betty Staley
Introduction .......................................................... 51
Lecture 1: Epoch of the Consciousness Soul ............... 52
Lecture 2: Thinking Cognition and Will ..................... 54
Lecture 3: Nature .................................................. 55
Lecture 4: Education of the Will and Feelings ............. 56
Lecture 5: Sympathy and Antipathy ........................... 57

PART 3
Study Questions David Weber .................................... 59

PART 4
Artistic Work ....................................................... 62

Sleeping and Waking
Dreaming
Introduction

As Waldorf education nears the 100th anniversary of its founding, the leadership of the Pedagogical Section of the School for Spiritual Science in Dornach, Switzerland, is suggesting that three themes be taken up by every school across the world:

~ study of the foundational opening lectures of the original teachers’ preparation course (*Study of Man*, also known as *The Foundations of Human Experience*),
~ child study, and
~ beekeeping.

This is a threefold approach: One suggestion is for the teacher’s inner and professional development, one focuses on the healthy development of students, and one is a form of caring for nature and the world around the school.

The Pedagogical Section Council of North America (PSC) decided to support this initiative through the creation and distribution of this book. It is meant to assist in a deeper understanding and appreciation of Rudolf Steiner’s lecture cycle to the first circle of Waldorf teachers. The Council’s collective experience is that, because the text is demanding and lengthy, faculties have difficulty working through the entire cycle, and instead drop it somewhere along the way. With this objective in mind, we have resolved to create a book that will:

~ present an overview of the content of these 14 lectures,
~ address certain thorny questions,
~ suggest questions for entry into discussion, and
~ add commentaries on a few selected topics.
The first volume in this series covers Lectures 1–5 and is distributed in electronic form only at this time. A printed version, covering the entire lecture cycle, will appear in the near future.

The first section contains summaries of each lecture, with footnotes provided by Michael Holdrege to address topics that require specialized knowledge. These typically concern fields that are not within the expertise of most teachers. The purpose of the summaries is to help the reader maintain an overview of the whole lecture cycle. A summary is no substitute for a careful reading of the text, but it can act like a floor plan to a cathedral or a museum: It will keep one from losing orientation in the vastness of the edifice. The summaries can also be read one after another, giving the reader a bird’s-eye view of how a section of the book progresses and builds a coherent whole.

As Steiner mentions repeatedly, this lecture cycle is essentially divided into three parts following an introductory first lecture:

~ Lectures 2–5 look at the human being from the point of view of the soul.

~ Lectures 6–9 examine the human being from the point of view of the spirit.

~ Lectures 10–14 take up a detailed study of the human being from the point of view of the body.

The summaries of a whole section can be read consecutively, in order to gain an orientation for the perspective of the entire section as Steiner develops it.

Our experience in Pedagogical Section conferences has been that following the summaries with artistic work is a wonderful way to proceed. The summaries can be divided into sections by themes, and the group can engage with the sequence of themes utilizing one or more artistic modalities (e.g., pastels, movement, poetry writing). A large group can also divide into two or more sub-groups, each approaching the content through a different
art, and then share the work. Artistic engagement involves feeling and will, as well as thinking, and people tend to enter more deeply into the study when the totality of their souls is involved. At the end of the booklet there are samples from the PSC’s study of Lecture 6.

The second section of this volume includes commentary by Betty Staley. Staley’s commentary stems from her concern that some of Rudolf Steiner’s statements continue to be read uncritically or outside the context of developments since his time. A hundred years on, humanity has learned a few things in psychology and medicine, for example, and Staley adds a perspective born of her fifty-plus years as a Waldorf educator.

The third section has questions for guiding discussion and study. The questions are offered by David Weber and, apart from inviting individual readers to ponder them, can help the facilitators of a faculty study steer the conversation.

The intention of this book is to make it useful as a guide to the study. Teachers are exceedingly busy and often feel a certain degree of guilt about the things they are not doing. The last thing we want to do is add another text to the list of unread volumes sitting on the bookshelves of hapless teachers. We hope that this text can help its readers find Steiner’s lectures more accessible and engaging.

– Elan Leibner
For the Pedagogical Section Council
April 2017
PART 1:
Lecture Summaries by Elan Leibner
with Endnotes by Michael Holdrege

Introductory Lecture – August 21, 1919

The Waldorf School should revolutionize the educational system, which in turn is at the heart of the spiritual question of the time. This spiritual question is the foundation of the entire social organism. The teachers thus have a heavy responsibility to assure the success of the school. This success will prove the effectiveness of anthroposophy.

The school will only consider how to teach in a manner demanded by the totality of the human being. However, compromises with the political state will be necessary. The educational goals of the state are the worst imaginable, treating people like pawns or cogs in a wheel. Bolshevik schools are an example of the “progress” being made—they are the grave of all true teaching. Nevertheless, the cultural deed of the Waldorf School must be done.

The school’s ideals and the surrounding reality must be brought into harmony; this will require everyone’s full strength and effort. Therefore, the school will be organized like a republic of teachers, without a higher up (School Board) to give directives. It is the pedagogy that should unify the school.

(Steiner then gives an explanation of the structure of the course.)
The Waldorf School is not parochial. It is not teaching anthroposophy, but rather using anthroposophy to develop teaching methods. The (required) religious instruction will be given according to the child’s family’s denomination.

The teachers must have a lively interest in everything happening in the world. They must bring enthusiasm, flexibility of spirit, and devotion to their task.

**Lecture 1 – August 21, 1919**

The work will be possible only if it is seen not just as a matter of intellect and feeling, but as a moral, spiritual task. Therefore, right from the beginning, the connection with the spiritual beings that stand behind the work will be contemplated.

*(College Imagination)*

The founding of the school is an event, a ceremony within the Cosmic Order. On the physical plane, Mr. Molt has to be thanked for making the moment possible. The coming together of all involved is a karmic moment, so that the festive Cosmic Moment can occur.

*(Mr. Molt vows to do what he can.)*

Our educational task is specific to the fifth post-Atlantean era. It is not an education for all times. Each age has its tasks. Materialism has estranged people from the specificity of historical contexts.

The children you will receive will bring with them the results of the upbringing (or the neglect) of their parents, and we will have to correct for much of what is done at home.
This neglect is connected to the self-interest, the egotism that predominates modern consciousness—an example of which is the focus on life after death but not before birth. We must be aware that before birth the child was in the spiritual world, guided by spiritual beings, until conditions were such that she had to take on a physical/etheric constitution. Thus, when we receive the child, we are continuing the work of spiritual beings.

People today think abstractly, and so it is that questions are raised about pre-natal education. But before birth, the child is in the care of spiritual beings. What the parents, and especially the mother, should do is concentrate on leading a moral life. That self-education effort will yield results that will transfer to the child. Education only begins when the child breathes physical air.

Before birth, the three spirit members unite with the three soul members (Spirit Human, Life Spirit, and Spirit Self unite with Consciousness Soul, Comprehension Soul, and Sentient Soul). These spirit/soul members unite with a second pair of united triads: The physical body, etheric body, and astral body unite with the three kingdoms of nature (mineral, plant, and animal). The lower united trinity is the temporal body. Those two trinities are not at first harmonized, and our task is to support their harmonization.

Specifically, this task is to be accomplished by first understanding the importance of breathing—the most important relationship of the human being to the physical world. Breathing connects to the metabolism through blood circulation, and to the nerve-sense pole through pressing the cerebrospinal fluid into (inbreathing) and out of the brain.¹

In children, the breathing does not yet properly support the nerve-sense process. By teaching them how to breathe properly, we draw the spirit-soul into the physical (upper trinity into the lower).
Also children cannot yet sleep in a manner appropriate to life on earth. They cannot process the events of waking life during sleep. We cannot give them anything from the higher worlds—that is the role of higher beings during sleep—but if we teach properly, they can take the substance of the day into sleep, and then it can flow back to them in the morning as strength.

All teaching is about proper breathing and the rhythm between sleeping and waking. Though these will not be addressed directly, everything will either bring the spirit/soul into the temporal (breathing) or the temporal into the spirit/soul (sleeping).

This is important because the teachers must focus not just on what they do, but on what they are. By having the correct thoughts about human development, the teachers can quell what is mere personality within them and become effective in a much deeper sense. By having these cosmic thoughts, over time you will create the right relationship with the students. Superficial occurrences such as rascally behavior will not bother you; you will think of it like getting caught in a rain shower without an umbrella: not pleasant, but not a serious problem, either.

The cultivation of the right thoughts will, in time, allow us to develop the right relationships with the students. We must make something of ourselves so that a living, inner spiritual relationship exists between the teacher and the children. We must remember that they came to earth to accomplish what cannot be accomplished in the spiritual world, namely an integration of the temporal and the spiritual through breathing and the rhythmic alternation between sleeping and waking. Though we will obviously not teach these two directly, they should “guide us as a thought concerning the essence of the human being.”
Lecture 2 – August 22, 1919

Pedagogy needs to develop on the basis of a psychology founded upon anthroposophy. Modern psychology is devoid of true content; its concepts are a mere playing with words. It has, for example, no real understanding of thinking or will. Due to a historical necessity, there is no understanding of the connection of the individual human soul with the cosmos, but in order to understand human nature you must gain an idea of this relationship.

 Anyone contemplating thoughts will be struck by their pictorial nature. Thoughts are not existential features like the physical body’s parts; the latter (eyes, stomach, etc.) are real, but we cannot think with them. Thoughts are, in contrast, pictures that allow us to know things. They do not exist in themselves. Not “cogito ergo sum,” because in “cogito” there is only “non sum.” “As far as my cognition is concerned, I do not exist; only a picture exists.”

The mobility of thoughts, as we observe them, gives us an inadequate conception of an activity, which nevertheless resonates with existence. The pictorial nature of thoughts means that our cognitive conceptions are metamorphoses of pictures. Noticing the pictorial nature of thoughts, we must inquire after the origin of the picture—just like a mirror has to reflect something, so do thoughts. What they reflect is our life before birth. [Our understanding of things goes back to our being one with them. – EL]
Pictorially speaking, during the course of life between birth and death, the activity from life before birth is reflected by human nature in the form of pictorial thinking. Thinking reflects pre-birth existence.

The will is baffling to psychologists because it does not seem to have any content—it is activity. In reality the will is the seed within us of what our soul-spiritual reality will be after death. In the picture above, we can add an arrow beginning within life, but extending past death. [A second picture was drawn with both arrows – EL] In this sense it is super-real, because its full reality will come about only after death. Thinking’s picture nature is sub-real, in contrast, because its full reality has already passed.

So human soul life lies between the pictorial, sub-real thinking, and the seed-like, super-real willing. What forces are active here? Something must reflect pre-birth reality and inhibit the germination of post-death reality: antipathy and sympathy.

We incarnate because we can no longer stay in the spiritual world; therefore we develop an antipathy towards it, causing its reality to become a mere picture. Conversely, we have sympathy towards our future return to the spirit world, which manifests itself in the will. We are not directly conscious of these two forces. “They represent our feeling, which is a continuous interplay between sympathy and antipathy.”

The rhythmic alternation between sympathy and antipathy, between ideas and will, creates the germinal soul life of the human being, the experience of feeling.
The living reality of mutual knowing (cognition) with spiritual beings in the spirit world before birth is reduced to pictures (in thoughts) through antipathy. If the antipathy is strong enough, then memory arises. Memory can only come about because we separate enough from our thoughts (through antipathy), developing a kind of disgust for them, so that they are reflected in our consciousness. When we picture something, reflect it in memory, and retain the picture, then concepts are created.

Willing is the opposite—we have sympathy for the [post-death] seed element, and heightened sympathy begets imagination. If the imaginations are strong enough, then the ordinary pictures of the things around us arise. Psychologists are wrong who think that we arrive at concepts by observing things and abstracting from them. The perception of a chalk as white arises out of the use of the will in the senses, while the concept arises out of memory.3

We cannot grasp human nature without understanding the soul as the interplay of sympathy and antipathy. These soul forces are seen in their full reality in the spirit world only after death.

These soul forces find expression in the temporal body as follows: The antipathy force, memory, and concepts fashion the nervous system; this pole organizes the nervous system during prenatal existence. On the other side, sympathy, imagination, and living pictures, all possessing a seed-like nature, create a substance that has a continual tendency to become spiritual: the
blood. This tendency is arrested by our egotistical love for it; we keep it in ourselves as blood, but of itself it would dissolve into spirit. It is the temporal counterpart to the nerves, just as sympathy is the counterpart to antipathy.

![Diagram of Cognition, Blood, Antipathy, Memory, Willing, Sympathy, Concept, Nerve, Imagination, Living Pictures]

Blood is created and destroyed all the time through inhaling and exhaling. We destroy its desire to whirl up as a vortex of spirit, turning it into a substance we can keep on earth.

The physical polarity of blood and nerves is that, whereas blood always wants to become more spiritual, the nerves would die continuously; they are made of excreted material, pointing towards matter.

We will see how these principles can help us shape instruction so that it leads to soundness of mind and body. Faulty concepts are the cause of much failure in education. For example, the notion of “motor nerves” is nonsense. In reality, the so-called motor nerves allow us perception (consciousness) of our limbs. No consciousness, no movement. Our age has become lost in conceptual errors, and this gives us the opportunity to work through these errors towards human freedom.

Thus it is shown how the human being and the cosmos are linked: Our pre-birth, cosmic existence finds expression in the reflective nature of thoughts, while our future cosmic existence finds expression, seed-like, in the will.

There are three places in the body where sympathy and antipathy play into one another: in the head (in the interplay
of blood and nerves in the brain), in the spinal column where one nerve enters posteriorly and another exits anteriorly in each vertebra, and in the limbs where the ganglia develop into the sympathetic nerves. In each of those cases there is a gap in the nervous pathways, and a spark jumps from one nerve to the next. That is where the soul connects with the body, where sympathy and antipathy enter the temporal realm.

So as we develop activities that are to continue in the cosmos, the cosmos unfolds activities in us. Both sympathy and antipathy have aspects that we develop, and aspects that the cosmos develops together with us.

Physically, we appear divided into three regions: the head, the chest, and the limbs (with which the metabolism is connected). Those who would want a more differentiated division, and also would want to delineate each section with strong boundaries, will attack this division. But in reality a stronger distinction is not possible. Each of these regions is only the clearest case of its own gesture, but includes the other two as well. The head, for example, is the main seat of the sense organs, but inasmuch as we sense touch and temperature throughout the body, we are “head” everywhere. And so it is with the other regions, albeit not as obvious with the limbs as pedants would like it to be. The abdomen is similarly the main location of digestion, but we have digestive processes in the brain also, and in fact our ability to feed the inner parts of the brain through the digestive processes of the outer mantle is what allows our brain the possibility of expressing (mirroring) the higher cognitive faculties of our soul.

Why do we have the polarity of head and limbs-abdomen? The cosmos rejects, or, so to speak, expels the human being, and the head is the image of the cosmos from whence we are expelled. It is a picture of cosmic antipathy. Within this head, pictures of the cosmos appear, and their nature [their non-being] allows us to
develop freedom. In contrast, the cosmos is sympathetic towards our limbs, and the sexual organs connected with them. They beget the future in mutual sympathy with the cosmos, whereas our perceptions arise in a collision of antipathies between the cosmos and us.

Seeing this relationship between the human being and the cosmos right into the temporal body, we can understand that there is a tremendous difference between educating children rationally, conceptually, and developing their will. Emphasis on conceptual instruction actually injures the children, because it focuses on what they have already completed before birth. We must bring more pictures instead, developing our instruction out of sympathy and imagination. Overly conceptual teaching causes the creation of carbon dioxide in the blood and crystallization processes in the body. Imaginative teaching brings retention of oxygen, continuous growth, because you direct their consciousness towards the future, towards life after death. Before birth, spiritual beings planted seeds of knowledge (which we now awaken through concepts), and we continue this future-oriented gesture by planting in the children’s soul imaginations that will grow into the future because we are activating the will pole.

Thus we continue the work of spiritual beings when we bring living pictures, and a feeling for this reality will give our education the necessary consecration. “Without this we cannot educate at all.”

Lecture 3 – August 23, 1919

Modern teachers must have a comprehensive view of cosmic law and of the highest ideals of humanity.

Teachers of all grade levels and subjects should be viewed as equally important and worthy, especially regarding their spiritual character.
As human beings we exist both as natural and as spiritual beings, and bring both nature and spirit to the child.

Psychology suffers from the Catholic dogma of the dual nature of the human being, ignoring the true threefold reality.\(^{10}\) This view assumed an egregiously harmful form through the Law of the Conservation of Energy (which is actually a misunderstanding of J.R. Mayer’s research focus), which asserts that no new energy can ever be created. But, in fact, in the human being new energy and even new matter can be (and are) created.\(^{11}\)

As teachers we need to guide pupils toward an understanding of both nature and spiritual life. Nature appears to us from two sides: as ideas (laws) and as sense perceptions. The latter have the character of will. For this reason, nature appears to have two parts, and therefore the belief that the human body is also twofold. Laws of nature, discovered through reason, point toward what is in the process of dying. When the senses are directed towards nature, that process has a will nature. (The etheric “arms” of the eyes “touch” what we see.) Our spiritual sense of Self arises because our eyes can meet, as in the eurythmic “O.”

The senses’ will nature is especially evident in the senses of touch, taste, and smell. There we see a connection with the metabolism in a higher sense.

Dead laws of nature become a part of us, but what we comprehend as nature’s becoming, its future, enters into us through the will-nature of the senses. Nature continuously dies and becomes. We comprehend the dying through the intellect, which is connected to life before birth. We comprehend the becoming through the senses, which are connected to life after death.

If human beings were unable to save something from pre-earthly life in the form of thoughts, then freedom would not be possible. They would either connect with dying nature or with its mere seed aspect. But beyond the comprehension of the dead
through the intellect and the becoming through the will, there is something that only human beings possess: pure thinking, thinking that grasps the supersensible. In sense-free thinking, in which the will is always present, the human being gains a proper understanding of his relationship to the dying and becoming of nature.

Modern science can see only those two aspects, dying and becoming, and a point of clarity about the differing perspectives of natural and spiritual science is reached by asking: What is the significance of human existence for nature? For natural science, there is simply no significance; if human beings did not exist, nature would be just the same as it is. But for spiritual science, animals, especially the higher ones, were separated from the evolving human species in the course of evolution, and if humanity did not exist, then animals, and the earth itself, would look quite different. The minerals would have crumbled long ago if it were not for human corpses releasing forces at death that allow the continuation of the crystallization processes, and plants would have lost their ability to grow. In reality, human corpses act like yeast for the earth. By incorporating a spirit into an earthly body, a human being endows earth existence with a yeast-like impetus for the continuation of formative and life processes. Thus earth is a whole system, with the human being an intrinsic and essential aspect of it. Even at death, the human being stands within the cosmic process. The material aspect of her body has been permeated with spirit, and at death the transformed matter endows the earth with new forces, coming from the supersensible world. Without human beings, the earth would long since have died.

The death processes operating in nature, which are countered to some degree by human corpses, are acting on the human body as well. Left to influence the body strongly, they become the bones,
the skeletal system; when they are arrested to some degree, they become the nerves. The nerves “want” to become bone, but are stopped short by other processes (see below) in the body. This is one polarity: Death processes become nerves and bone.

The opposite, life-giving process manifests in muscles and blood. Those prevent the nerves from calcifying into bone. In rickets, for example, they act too powerfully, thus preventing sufficient hardening to take place in the bones. So health depends on a proper balance between bone and nerve, on the one hand, and blood and muscles on the other. In the eye we see an example of how the bone process retreats, leaving behind only its weaker “cousin” the nerves, and how those connect with the muscles and blood in the eye to facilitate its proper functioning.

The ancients understood that people think with their bones as well as nerves. Geometry and other abstract sciences arise out of subtle movements of the finer bodies, which are perceived subconsciously by the skeleton. A triangle, for example, is a series of supersensible movements perceived by the skeleton due to our upright position. Other geometric movements are performed by the earth itself, and all geometric forms, including the solid ones, are supersensible occurrences made visible.

So we have the dying, grasped through the intellect, and the becoming, grasped unconsciously through the will. The becoming processes depend on the human being, and without the human being they would cease and the earth would die.

The human soul is not a mere observer of nature and the world, but a stage on which cosmic events play out. The interplay of the nerve-bone pole with the muscle-blood pole continuously creates new energy and new matter, saving the earth from dying. The blood, through its connection with the nerves, creates new matter and energy. Though nothing arises out of nothing, things
can cease to exist, and new things can arise in the process of transformation within the human being.

New formulations are needed for the realities of life. Instead of abstract laws and definitions, we need to characterize what the reality in front of us reveals. For example, rather than the Impermeability Law, a description: Those bodies or beings are impermeable, whose nature it is that where they are in space no other being of the same nature can be at the same time. This is a description of what our observation actually gives us, rather than an abstract law.

Lecture 4 – August 25, 1919

Teachers must place a special value on the forming of the child’s will and feeling. However, those are rarely understood. Feeling is held-back will, and will is feeling made active. We only understand feeling if we understand the will. As I have said, in the will there is always something that remains unresolved in us through to death.

We also look at the human being as having a physical body, the carrier of inherited traits; then there is the soul, which is the part of our pre-natal existence closest to the body, and the spiritual aspect that only manifests in modern human beings as a tendency.

*The will manifests itself differently in the various members of the human constitution.*

*In the Spirit:*

Spirit Self is a plurality after death (*manes*, the Roman spirits of the dead, is a plural noun) when it becomes interwoven with other spiritual beings.
Life Spirit and Spirit Human exist only as tendencies in present-day humanity during life on earth.

After death, these three spirit members develop towards the next incarnation, connected by a spiritual “umbilical cord” to the spiritual beings around them.

Below the spirit members are the three soul members and the three bodies. We can look at the way in which the will manifests itself in each of these:

The will appears in the physical body as instinct, as the aspect that determines conduct through the form of the body. Animals show this most clearly, as for example the beaver’s ability to construct a dam or the bee’s ability to build its honeycomb. These capacities live in the body of the animal; no schooling is necessary for their acquisition.

In the etheric body will appears as drives, which are more inward than instincts.

In the astral body will becomes conscious and appears as desires. Those are less habitual than drives and can be momentary, fleeting.

The “I” penetrates the three soul members and lives in them such that the will becomes motive: the signature of individualization in the will.

The spirit members take up the residue of action; here we see its seed nature.

The Spirit Self takes the action into a wish form: the wish to do better next time.

In the Life Spirit the wish becomes more concrete: the intent to do better in the future.

(An example is given from psychology books about the working of the subconscious—the “second person” within us.)

In the Spirit Human the decision arises out of the intent.
During life between birth and death, wish, intent, and decision (to do better) are only thoughts; they become realities only after death.

The idea that children have the same relationships with one another as adults do is detrimental to their education and even to civilization. Children have to develop quite different powers of soul and body, particularly with regard to the will.

Teachers must understand how education affects the will: Will grown old becomes thought; will not yet developed is feeling.

*Unconscious repetition strengthens the feeling. Conscious repetition strengthens the will* because it increases the decision-making power. Thus it is good for children to have chores.

Artistic activity is good for the will because it requires repetition and gives fresh joy each time.

**Lecture 5 – August 26, 1919**

From understanding the will we can proceed to the rest of human nature. Thinking we saw as connected with the nerves, will as connected with the activity of the blood. We can now approach feeling, but we must remember that in life the three soul forces are always mixed. (We isolate them only for clarity’s sake.)

Will must be penetrated with thinking if it is not to be a dull, instinctive act, and thinking is always penetrated by will when we form thoughts, connect one thought with another, and proceed to judgment and decision. Thus will is mainly will and thinking is mainly thinking, but each has an undercurrent of the other.

The eye is an example of how both nerves and blood vessels play a role right into the periphery of the sense organization, and the same is true in the limbs.

Cognitive activity has an antipathetic nature: If the eyes did not have blood vessels, everything we saw would repel us
inwardly. The blood balances the antipathy generated by the nerves.

There is more blood in animal eyes than in the human eye, and this is true of their senses in general. Thus animals live in greater sympathy with their surroundings and are, in turn, more influenced by environmental elements such as climate and season. Our antipathetically structured senses allow us the separation that makes personality possible.

Just as they flow together in cognitive activity, will and thinking work together in willing, too. Our ability to act rationally is based on the antipathy that joins our sympathy with what is wanted. Just as the full antipathy in cognition is present in exceptional cases (disgust), so sympathy is fully present in exceptional cases (devotion, enthusiasm) of willing. Usually, they balance each other so that ordinary objective action can take place.

_The world is wisely created so that our antipathy remains mostly unconscious._

Children come into the world imbued with an instinctive sympathy. As educators we must permeate this sympathy with an appropriate antipathy. This antipathy can balance animalistic sympathy by introducing moral ideals. Moral ideals always have an ascetic quality—refrain from animalistic sympathies. Thus willing should be permeated with cognition.

Feeling stands mid-way between the poles of thinking and willing. Those two poles interpenetrate and balance one another, so separating them is difficult. Feeling is even less separate, since it is inherently a balancing situation in us.

For objective willing to rise to activity, it needs enthusiasm and love—feeling qualities. For ordinary sense activity to grow
pronouncedly antipathetic (become knowledge), it needs disgust—again a feeling quality! Feeling enters into thinking as well.

The argument between Brentano and Sigwart shows that both missed the essential point. They argued about human judgment, with Brentano’s thinking that feeling plays no part in objective judgment and Sigwart’s saying that judgment always contains feeling. The truth has to be seen in the interaction between the soul forces: The objective content of judgment lies outside the feeling life, but for an individual to be convinced of the correctness of the judgment, feeling (of evidence) must arise.

This is an example of how exact concepts have to be developed by first developing ourselves through anthroposophy [schooling of consciousness].

Feeling radiates its essence in the direction of both willing and thinking, but remains, in a sense, incomplete thinking and willing. It is thinking in reserve and feeling in reserve. Sympathy and antipathy, which remain hidden in the poles, become evident in feeling. Feeling becomes conscious when the interplay of blood and nerves becomes conscious near the center of the body’s activity. Thus in the eye, which is separated into its own bony socket, we don’t notice the sympathy and antipathy. But in the ear, which is much more integrated into the body, separating the sense impression from the feeling it arouses becomes more difficult. The argument between Wagner, who saw music as an expression mainly of feeling, and Hanslick, who saw it as a pure connection of tone to tone, pitted two one-sided views against one another. In reality the senses permeate the periphery of the human being with cognitive activity, and feelings are always a part of that: The human being becomes a being of feeling.

Modern desires to create a theory of sensory activity are founded on the inexact knowledge of the senses. True knowledge should guide us to consider one sense at a time, since each one is
unique. Only a path of knowledge grounded in what is outlined in my philosophical works (the marriage of perceptions with thinking activity) can lead to true knowledge. Reality is not given to us in its totality from the beginning. It is what we win through our activity of knowing, gradually, and is not reflected in us whole, as Kant said. We meet true reality only in the spirit world (after death or through initiation), and on earth we have to “conquer” it.
Endnotes

1 **Cerebrospinal fluid (CSF)**

Studied extensively in the 19th century, the relationship between respiratory rhythms and the pulsation of cerebrospinal fluid (CSF) was part of the basic knowledge of medicine when these lectures were given. CSF is produced in the brain ventricles and flows outward through three openings into a CSF-filled space (subarachnoid space) surrounding the brain. The brain floats in this fluid-filled space so that its weight is reduced from around 1300 grams to 30 grams.

The spinal cord also floats in this fluid. The space around the spinal canal contains a network of veins embedded in semi-fluid fat. During inhalation, pressure is put on the abdominal cavity, which forces blood out of that region into the veins around the spinal canal. The swelling of the veins presses the CSF up into the brain area above. With every outbreath the pressure is released and the fluid descends again. The rhythmic pulsing of the CSF that results not only encircles the brain but, through fine pores, also penetrates into the gray matter of the cerebral cortex. This breathing-dependent movement of the CSF can be observed in the large fontanel of infants: When a baby cries the fontanel bulges. When, for diagnostic reasons, a lumbar puncture must be performed on a crying infant, pressurized fluid spurts out from the puncture needle in a high arc with every cry!

It has also been determined that CSF pressure increases when more difficult arithmetic problems are assigned. The reader can also observe what happens to her/his breathing when she solves a mental math problem such as 13 x 18. When thought activity intensifies, breathing slows down or is interrupted.
2 Observations regarding the field of psychology in 1919

At the outset of Lecture 2, Rudolf Steiner speaks rather disparagingly about the lack of insight regarding mental picturing and willing in the field of psychology at that time. His direct reference to Herbart is not an arbitrary one. According to the Stanford Encyclopedia of Philosophy (2015), “Herbart is known mainly today as a founding figure of modern psychology and educational theory... Indeed, without Herbart, the landscape of modern psychology and philosophy would be unrecognizable.” Playing such a central role in the then relatively new field of study, Herbart’s very abstract, mathematical approach to understanding the human soul and educational processes was seen by Rudolf Steiner as a true hindrance to a more dynamic, living grasp of the human being. (See his description of Herbart’s way of thinking in Riddles of Philosophy, CW 21.)

Steiner’s more general critique of early 20th century psychology refers, in particular—as the context in this lecture makes clear—to the concepts of mental picturing and willing. This should be no surprise when one considers the cosmic dimensions of mental picturing and willing that Rudolf Steiner develops as the lecture unfolds. Such an understanding goes far beyond what one would expect of a modern psychologist, not only in 1919 but today as well. These perspectives presuppose the development of a spiritual science in Rudolf Steiner’s sense of that term.

This was clear to his listeners, who were not only very familiar with the ideas of anthroposophy, but were also highly educated individuals regarding the contemporary thought of their time. They would not, therefore, take Steiner’s comments on modern psychology as a superficial denunciation of modern efforts in that
field. His listeners knew well, for example, that Rudolf Steiner’s recently published book, *Riddles of the Soul* (1917), devoted 50 pages to the exploration of the ideas developed by Franz Brentano in his writings on *Psychology from an Empirical Perspective*. Steiner considered Brentano’s observations regarding the nature of “intentionality” and the subtleties involved in the forming of judgments to be highly significant and seminal.

Steiner’s audience knew well that Rudolf Steiner was open to and recognized the important efforts of many contemporary thinkers. But in the context of this lecture and the concepts of mental picturing and will as the basis for a new form of education, he needed to point out their limitations. From a different perspective, Steiner would have surely received with praise many of the insights that have since arisen in the field of psychology. One thinks of the developmental insights brought forth by Piaget, for example, or of the valuable perspectives of psychologists such as Abraham Maslow, Victor Frankl, Thomas Moore and James Hillman, not to mention the widely read works on multiple intelligence (Howard Gardner), on emotional intelligence (Daniel Goleman), on creative intelligence (Laurence Steinberg), to name only a few. Steiner would have certainly highlighted and supported much that is positive in these and many other efforts that have come forth as the field of psychology has unfolded in the 20th and 21st centuries. (It should also be noted that a very interesting exploration into the similarities and differences between Steiner’s findings and those of depth psychology can be found in Gerhard Wehr’s book, *Jung and Steiner—the Birth of a New Psychology*, 2003.)

*Resources: Stanford Encyclopedia of Psychology (2015); Steiner (1917, 2012); Wehr (2003)*
3 Sensory images: the result of will-based imagination

Rudolf Steiner’s statement regarding the will-based nature of sensory experience, as neuroscience now shows, has a physiological basis as well. This contrasts with the everyday view of visual perception that goes something like this: An image of the tree is received by the retina (albeit upside down) and then projected to the visual cortex of the brain, where the image must somehow be reproduced and made conscious.

In reality, the retinal image is projected doubly onto the visual cortex of the occipital lobes of both brain hemispheres and split into four quadrants. From there the image fragments are distributed to different parts of the cortex depending on whether they involve shape or color or space or movement. The image of the tree that was our starting point has been totally taken apart by our visual system. “If we attempted to piece it back together on the surface of the brain, the result would be a completely distorted, unrecognizable, virtually shapeless thing bearing no resemblance to the image we experienced.” (Rohen, 2007, p. 7)

Nowhere in the brain is the image to be found as a whole. Our sensory system focuses on dissection and analysis. This holds not only for vision, but for our other senses, as well.

A re-synthesis capable of “putting Humpty Dumpty back together again” requires the imagination-based organizing activity of the mind. Without this—to use Steiner’s example—the total separation of the chalk’s shape from its white color could never be overcome.

Philosophers have long known, of course, that the way we see the world—or just an abstract part of it like the Perspex cube (right)—depends on how we take hold of our perceptions with the organizing/imaginative activity of our mind. Depending on how we do this, we can see the Perspex cube from above or from below, or as a polygon-like
gem, or as a mere series of lines. The activity of the mind engaged in composing these lines this way or that is will-activity. What changes is not the sensory data as such, but how that data is composed. (See Barfield [1988] regarding the significance of such “figuration.”)

Central here is the distinction between (a) the product of our thinking activity, which are thoughts or composed images, from which we can distance ourselves in antipathy and experience as a finished product, and (b) the thinking/imaginative/organizing activity itself. Of the latter we are not conscious. We are one with it in sympathy; we cannot distance ourselves from it; it remains “the unobserved element of our normal spiritual lives.” (*Philosophy of Freedom*, chapter 3) What we wake up to is the result of that activity, and that waking up requires forces of antipathy.

**Resources:** Holdrege (2009); Rohen (2007); Barfield (1988); Hanson (1958)

### 4 Human blood constantly dying

Rudolf Steiner describes here how it is the will’s nature to remain seed-like, which means it must be perishing already as it is coming into being. He then describes how the bodily basis of this seed-like will in the human body, the blood, must show this same characteristic—and indeed it does. The erythrocytes or red blood cells (RBCs), which make up over 99% of all cellular elements in human blood are already dying as they are still developing. During the final normoblast and reticulocyte phases of their development, the RBCs lose their nucleus and most other organelles (ribosomes, mitochondria, etc.). Without nucleus or ribosomes the cells cannot reproduce themselves or make proteins. Without mitochondria they can only process glucose without oxygen (an interesting irony, since RBCs are the primary carriers of oxygen in the body!). As a result of this, RBCs have
a life span of only 120 days. When we consider that the blood of a normal-size human adult contains around 25 trillion RBCs, we come to the amazing fact, alluded to by Rudolf Steiner, that the RBCs are constantly dying—at a rate of about 2.5 million per second! (During the time it took you to read this paragraph you lost some 150 million of your RBCs!) At the same time, your body will have produced 150 million RBCs to replace those that passed away. This represents an unbelievable dynamic of dying and coming-into-being that takes place constantly within us, life-long!

Another defining characteristic of the red blood cells is their non-self-centered, peripheral orientation. They are disk-shaped, with the center pinched in from both sides (biconcave), which gives them a surface area to volume ratio (SA/V) of 1.5 million to 1. Taken together, the total surface area of all the body’s RBCs (there are 260 million in a single drop!) is 2000 times that of our skin! This enormous SA/V ratio shows how strongly RBCs are oriented toward the selfless task of receiving oxygen on their surface (at the sacrifice of their nucleus, which makes this possible) and how open they are to the life processes of the organs through which they constantly circulate.

Resources: Tortora & Derrickson (2013); Marieb & Hoehn (2012); Van De Graaff & Fox (1998)

5 Nerves: dying and depositing matter

a) Constantly Dying

Neurons are organized in such a way that they repeatedly go through a kind of death process followed by a renewal. At the death of the human body, chemical and physical laws of the outer world take over and the soul-spiritual is freed. A microcosm of this takes place in the transmission of a nerve impulse.
When a neuron is not stimulated (has no impulse to transmit) its membrane remains polarized, with a positive electrical charge on the outside and a negative charge on the inside. It has “resting potential.” In this condition, the membrane contains predominantly sodium ions on its outer surface and potassium ions within. When a stimulus reaches the resting neuron, channels in the membrane open and sodium ions flow into the cell while potassium ions flow out. The neuron is depolarized and a voltage pulse is transmitted along the cell membrane. The inflow of sodium ions is “essentially a catabolic, dying-off process... a tiny death.” (Rohen 2007) The results are not catastrophic because the neuron is able to summon up the energy to re-charge its membrane by “pumping” the sodium ions back out of the cell and moving potassium ions back in. This regenerative process is metabolic in nature. (At the actual death of the body as a whole, these regenerative, energy-transport processes cease. Sodium ions then flow into the cell, differences in concentration are eliminated, and the cells fill with fluid and die.)

From the perspective taken by Rudolf Steiner in this lecture, this brief catabolic death process frees soul forces, a micro-version of what happens at death itself, when the soul is freed from the body and goes its own way. These recurring death events at the neuron level are the prerequisite for the awakening of consciousness.

b) Depositing Matter

Whereas the pulsing, surging flow of blood through our body represents a continuous renewal of life-giving forces, the nerves present a very different picture. What we find along the pathways of much of our nervous system is a deposition of very dense and inactive, white lipoprotein known as myelin that forms sheaths around the nerve fibers (axons). These layers consist to 80% of metabolically extremely inactive, strongly mineralized,
crystal-like lipid deposits. Myelin insulates the nerve fibers and allows nerve impulses to travel more rapidly. These myelin sheaths give the name to what is known as the “white matter” of the brain and spinal cord. The myelination of nerve fibers in the central and peripheral nervous systems stands in contrast to the unmyelinated vegetative nerves (gray matter) that operate outside the sphere of our conscious influence.

*Resources: Wolff (2014); Tortora & Derrickson (2013); Constanzo (2013); Marieb & Hoehn (2012); Rohen (2007)*

6 Efferent (motoric) nerves

In countering the orthodox view that movements are caused by the so-called motor neurons (efferent neurons), Rudolf Steiner is not questioning the empirical data regarding the two nerve types (afferent and efferent) identified by conventional science, but rather the interpretation of their functions within the human organization. Whereas the standard view for centuries has been that the brain is the organ of consciousness and thus the foundation of all “inner life” (soul life), Rudolf Steiner in *Study of Man* and elsewhere reports on a threefold manner in which the human soul dwells within the body. He describes in these lectures that our reflective, waking consciousness has its seat primarily in the central nervous system, our feeling life in the rhythmic processes of breathing and circulation, and our will in the metabolic-limb activity.

This revolutionary perspective has been investigated and further delineated by several generations of anthroposophical physicians and biologists (Hensel, Rohen, Wolff, Kranich, Schad, among others), leading to a rich literature on this theme, albeit mostly in the German language. One helpful elucidation of the topic that has been translated into English can be found in the

Although nerves are always found bundled together with both efferent and afferent nerves present, Rohen shows in considerable detail how the threefold nature of the nervous system is clearly evident in the human being. In the head region (brain) the sensory system is dominant with afferent nerves in the foreground and the efferent (motor) nerves playing a secondary regulative role. The opposite is found in the autonomic nervous system, where efferent neurons are primary and afferent less prominent. In the spinal column a relatively harmonious balance is found between the two neuron types.

At the will-pole of our organization, Rohen explains, the activity of the inner organs is not actually caused by the nervous system. Blood circulation, hormone secretion, intestinal activity, and much more takes place without the nervous system. The primary task of the autonomic neurons in this realm is to ensure that the organs are sensitive to the activity of each other and thus able to coordinate and harmonize their activities.

Similarly, the efferent spinal nerves of the middle system—which are in contact with the striated skeletal muscles—are not the primary cause of muscle contraction, for this is largely dependent on metabolic processes within the muscle cells. The nervous system’s function here is—once again—to bring the activity of the many muscles involved in any coordinated movement into harmony with each other. When, for example, any muscle group contracts, another group of muscles must extend in coordination with it or cramping and movement disturbances arise. The cause of the movement is will activity (based on metabolic processes), but the coordination thereof depends on efferent (motor) neurons.
Between these two poles of metabolic will activity and the central nervous system lies the rhythmical system (breathing and circulation). Every muscle must be well provided with a blood flow that brings energy-laden nutrients—primarily glucose—and oxygen. This rhythmical component of the movement system can be seen in relation to our feeling life, for every truly human (non-mechanical) movement involves a feeling-element, as well.

Resources: Schad (2014); Wolff (2014); Rohen (2007, 2001)

7 Synapses

The gaps Rudolf Steiner is referring to are commonly known as synapses, gaps where nerve activity is interrupted and the impulse must “spring” from one neuron to the next. The gap (synaptic cleft) is a fluid-filled space that separates the axon of one neuron from the dendrite of the next. (Axons lead the nerve impulse away from the cell body of the neuron; dendrites carry the impulse received from an axon to the cell body of the next neuron.)

To traverse the synaptic gap, a chemical known as a neurotransmitter must be released into the synapse, which then moves across the gap to the membrane of the post-synaptic neuron (dendrite) that is to receive the nerve impulse. If it is an “excitatory” neurotransmitter, the impulse will be taken up by the post-synaptic neuron and transmitted further. If the neurotransmitter is an “inhibitory” one, the impulse will not be carried on beyond the synapse. After such an event, a short period of time must pass before the synapse can be reengaged.

These synapses—that connect or separate different neurons and neuron groups—enable the nervous system’s great variety of functional possibilities. (Single neurons can have anywhere from 1000 to 10,000 synaptic connections with other neurons!) The number of synaptic connections determines ultimately the
nervous system’s level of differentiation. More highly developed nervous systems are more adaptable because the number of potential connections they can establish (and/or dissolve) is greater. Mastering new skills requires establishing new neural connections and abandoning old ones. Repeated or continuous use of a synapse enhances the pre-synaptic neuron’s ability to excite the post-synaptic neuron, thereby increasing the efficiency of neuro-transmission. In this way, the human brain remains flexible (neural plasticity) into old age. In animals these connections become essentially fixed after an initial imprinting phase.

Flexibility and dynamic pulsing are characteristics of the rhythmical system. The alternating dissolution and reestablishing of synaptic activity is a manifestation of the rhythmical system in the nervous system. At the soul level, dissolving and connecting are an expression of antipathy and sympathy. Careful observation also confirms that all conceptual capacity is accompanied by a stronger or weaker resonance in the feeling life. Judgments receive their conviction based on the feeling component that informs them.

Resources: Tortora & Derrickson (2013); Marieb & Hoehn (2012); Rohen (2001)

8 Gray matter

Rudolf Steiner describes here how the outer layer of the brain—which consists of gray matter—functions as the metabolic pole of the brain, by nourishing and regenerating the neurons after the catabolic (“death”) processes that make consciousness possible.

Gray matter is composed mostly of neuron cell bodies or soma, non-neuron brain cells known as glial cells, and capillaries.
Compared to other cells, the soma of a neuron is very large. It resembles a gland cell, but one that produces great amounts of protein. This protein is not secreted, however, but maintains a constant centrifugal flow outward to the neuron’s peripheral formations, such as synapses. Catabolic products are then returned to the soma via retrograde, centripetal flow, where they are re-synthesized. The centrifugal and centripetal plasma flow in the nerve fibers run parallel to each other and enable the re-enlivening processes that make ongoing nerve activity possible.

The glial cells are also central to the gray matter in that they transport nutrients and energy to the neurons. They also provide a stabilized chemical environment around the neurons by “mopping up” excess chemicals, recycling released neurotransmitters, and detoxifying the chemical milieu. Glial cells are also known as “nanny cells” due to these supportive functions.

*Resources: Marieb & Hoehn (2012); Rohen (2007, 2001)*

9 **CO$_2$ retention**

Rudolf Steiner indicates that a one-sided focus on conceptual activity leads to CO$_2$ retention. As we have seen (see endnote 1), with intensified thought activity respiratory movement slows down (hypoventilation). As a consequence, the venous blood-flow slows or stops, causing CO$_2$ retention at above normal levels. This leads to an accumulation of breakdown products—CO$_2$ being just one of them—that are carried by the venous blood, with an accompanying decrease in blood pH levels and tissue metabolism that tends toward the acidic. (If it becomes more extreme, this malady is known as respiratory acidosis.)

*Resources: Husemann (2013); Constanzo (2013)*
10 The Eighth Ecumenical Council of Constantinople

Rudolf Steiner points to the Eighth Ecumenical Council (869 AD) as a symptomatic historic event because it called for the replacement of a deeper threefold (trichotomy) view of the human being as consisting of body, soul, and spirit with a twofold (dichotomy) view in which the human being possesses only body and soul. This dogmatic proclamation contained in the 11th Canon of the Eighth Ecumenical Council has had the long-term historical consequence—says Rudolf Steiner—of hindering later thinkers from developing true insight into the nature of the human being. Although it is only briefly mentioned in this lecture, Steiner considered this Council to have such historical reverberations that he referred to it in some 40 lectures between the years 1904 and 1924.

What view did the Council’s decision replace? Although there were many perspectives and nuances to be found in earlier thinkers, most influential were the Greek philosophers Plato and Aristotle, who both distinguished between body (soma), soul (psyche), and spirit (pneuma). This threefold picture also lived on (in many different shades) in the Christian tradition up until the 9th century. (Dietz, 1990)

If, however, the spirit is no longer seen as a characteristic of the individual human being—as the Council proclaimed—then spiritual guidance for the individual must come from without. In contrast to such a view, Rudolf Steiner in his book Theosophy characterizes the spirit as that part of the human being which transcends the subjective soul life and can (potentially) grasp the things of the world in their true being. The spirit (in contrast to the soul) strives to grasp what is and not what merely pleases or displeases. In the soul alone we are unable to transcend our own subjectivity; we are limited to our own personal, self-referencing perspective on the world. Through our spirit the lawfulness of
things and beings can speak to us, and therein lies the potential for becoming a “free human being.”

A concept of the human being devoid of spirit sees the soul as primarily oriented toward the bodily, where drives and passions hold sway. Such a perspective can lead easily to views of the human being such as those found in Darwinism, psychoanalysis, and so forth.

If the human is no longer seen as capable of penetrating into the deeper reality of things through spiritual striving, then the world becomes something foreign. We become spectators of, rather than participants in, the world as thinking beings. The only viable approach to knowledge then becomes the experimental method. Knowledge must come primarily from experimental data that can be first understood with the help of statistical analysis. As the famous behavioral psychologist, B.F. Skinner, put it: The human soul is only a “black box.” We cannot understand it, we can only modify the behaviors that come from it with the help of rewards and punishments that we apply to it.

Resources: Leber (2002); Dietz (1990); Lindenberg (1981)

11 The conservation of energy

After addressing the hindrances that a dualistic understanding of the human being provides for a true psychology, Rudolf Steiner now turns to the consequences of a one-sided monistic view of the forces of nature. Although Mayer himself was interested in the metamorphosis of forces and not an abstract law regarding the conservation of energy, it is the latter that lives on in our time. The law is not problematic in its narrower sense as an insight into the transformation of one energy form into another, but rather in the tendency it has to “close our eyes” to phenomena of transformation and metamorphosis in the sense
world. This “conservation of energy” mindset easily leads one to the conclusion that nothing new can ever come into being. The emphasis on energy transformation keeps us from seeing that, as Rudolf Steiner (1920) puts it, “When somewhere a form arises, it is, in fact, a new creation. We can see this literally when from out of a liquid a solid form comes into being. The form appears visibly as a new creation, and it disappears again when it melts back in the fluidity.”

How difficult a straightforward phenomenological approach to nature is for the modern mind becomes apparent when we consider how Frits Julius (2000) describes what the phenomena actually show us when we observe a chemical experiment.

We start with a yellow powder (sulfur) and a shiny metallic powder (iron), which are mixed in a certain proportion. Then we heat a part of this mass so it starts to glow; the glow spreads and “eats” through the whole mass. As long as we had a mixture, we could separate both powders quite easily. Both still had their characteristic properties: Iron was magnetic, sulfur could easily be melted or even vaporized (sublimated). After they have combined, we obtain an inseparable mass, with totally new properties. All properties of iron and sulfur have disappeared, except that of mass. If some dilute hydrochloric acid is poured over the iron sulfide, then hydrogen sulfide gas is evolved that is recognizable by its awful smell—that is a new property; the fusibility and the magnetic properties have disappeared.

This fact is really appreciated when we realize that in such a process the principle of impenetrability of matter is negated. Initially both substances were next to each other and not in each other. When they combined, they both entered the same space... (Julius, 55–56)
It is a most remarkable phenomenon that during a chemical reaction the “impenetrability” of matter is overcome, and two different substances become a complete new unity... The properties by which we recognize the substances taking part in the reaction disappear, and totally new substances with new properties emerge. Only one property, the weight (mass), has remained the same.... Substances are recognized by their properties, but these disappear during a chemical reaction; which means that the “chemicals” themselves vanish and new ones appear in their place. (Julius, 70–71)

In the words of Rudolf Steiner:

By describing light, heat, etc., as “energy,” we have disregarded all the details which are specific for the various senses and only taken into account a general property, common to them all. (1950, 261)

To which Julius concludes:

In a way, in terms of “energy,” it makes no difference if it occurs as electricity, heat, or light. Energy is, therefore, a common unit for forces, in the same way that money is for the exchange of goods. Here also—as often is the case—we see the tendency to think the opposite to truth. We imagine that energy is the real thing, and the acting forces of nature only its manifestations. (Julius, 70)

*Resources: Leber (2002); Julius (2000); Steiner (1950, 1920)*
12 Evolution

With his statement that, at a particular stage in the earth’s evolution, humans were once one with the animal world and that then the animal world was “precipitated out,” Rudolf Steiner touches on an enormous topic that he has already developed in detail in *Esoteric Science*. Such a statement appears to “turn the whole world on its head” in relation to the Darwinist picture of evolution that is presupposed by most educated individuals of the 20th and 21st centuries (with a few exceptions like the resurgence of Creationism in conservative Christian circles). Less widely known, however, are significant developments in evolutionary biology since the high point of the neo-Darwinist Modern Synthesis in the mid- and late 20th century. Many biologists have since moved beyond Darwin’s one-sided emphasis on the influence of external forces (natural selection through random variation) in evolution.

An important catalyst to these new perspectives was the book *Ontogeny and Phylogeny* by Harvard biologist Stephen Jay Gould. A highly influential thinker in the field of evolutionary theory, Gould reawakened interest in the connection between the biological development of individual organisms (ontogeny) and the evolutionary history of an organism (phylogeny). During the last third of the 20th century many new perspectives on the nature of evolutionary development arose, in particular a new branch of evolutionary theory known as Evo-Devo (evolutionary developmental biology). Evo-Devo focuses on variations in the timing and rate of development (heterochrony) as the generator of countless new developmental possibilities.

This approach to evolution was awarded its first Nobel Prize in 1995, and research in this direction has exploded since then. It would go far beyond the scope of this text to explain in detail the findings of this perspective, but suffice it to say that the
idea of random natural selection has given way to the discovery of deep commonalities (homologies) that connect very different species and the idea that certain internally determined growth and differentiation processes are shared across a wide range of species.

In the words of Cliff Tabin, a developmental and evolutionary biologist at Harvard Medical School:

One of the most amazing surprises over the time I’ve been in science has been the finding that the genes that are involved in making animals as different as a fruit fly and a human being are fundamentally the same genes. When we thought about such things, say, 20 years ago, one had to assume that the genes to make a fruit fly would include instructions for wings, genes that we didn’t need. And, conversely, that we’d have genes dedicated to making a human limb or human heart that a fly would never have. The stunning finding was that, to a first approximation, the same genes are present in both and are being used in both.

For that worm to evolve into a fly, or to evolve ultimately into a human, those genes were used in different ways, in different combinations, with different timing.

Fundamentally, the genetic toolkit, as we call it, was already there in the common ancestor. And that ancestral set of genes was powerful and versatile enough to provide the material for generating the diverse forms of animal life we now see on Earth. That was something that nobody expected, and it’s made the study of various organisms very profound. It means what you learn from studying the development of a fly really has direct implications for understanding the way we are made ourselves, because as different as a fly is from a human and as long ago as we diverged, we’re
using basically the same genes to do the same thing—to make organization emerge in an embryo. (Nova 2009)

This is a very different picture of evolution than the one most people still carry around with them. It grows much closer to the idea of an archetype in the sense of Goethe—of a living principle that can bring forth the most varied forms. It is easy to fixate on the “gene level” of things, and that was the case for most of 20th-century biology, but in the meantime the question is much more: How is it that essentially the same raw material—the physical substrate of heredity known as the “genetic toolkit”—can be “expressed” in such amazing variety? As Ernst-Michael Kranich once put it: Genes are like the keyboard to the pianist. The questions then become: Who is playing the piano (causing the keys to bring forth this or that kind of music), and who wrote the music in the first place?

Modern biologists are far from concluding that the composer and pianist of evolution can be found in the evolution of the human being—that the human archetype is the whole, from which the great diversity of the animal world as one-sided expressions of that archetype evolved. But the modern, Evo-Devo perspective—that focuses on developmental dynamics and not on random natural selection—certainly brings this within the realm of possibility.

Parallel to and in harmony with these developments in mainstream evolutionary biology, scientists working from a Goetheanistic/anthroposophical perspective have produced a rich literature on these questions. To name several key resources available in English:

The details to this rich topic, and how they might support Steiner’s “revolutionary” statement that animals presuppose human development, cannot be developed here. In conclusion, may the words of evolutionary biologist and anthroposophist, Professor Dr. Wolfgang Schad, point to how open the question of evolutionary origins has become today:

Have animals descended from plants, vertebrate animals from invertebrates, mammals from reptiles, humans from apes? We are accustomed to hearing the question of evolution (descendance) put in such a simple manner. And yet nothing today is more certain than that none of today’s living invertebrate animals are ancestors of the vertebrates. Nor is it the case that today’s mammals are descendants of the
lower vertebrates, or that humans have descended from today’s apes. As obvious as this is after taking a close look at the evidence, it is all the more important to recognize the fundamental relationship it reveals: Humans, apes, and the other mammals, etc., have all developed out of a common—today not existent—ancestor. That alone is the basis for the obvious relationships that these forms reveal to each other.

Resources: Schad (2012); Nova (2009); Amundson (2007); Carroll (2005); Gould (2002, 1977); Bauer & Holdrege (1985); Davy (1985)

13 Eye and ear

As Rudolf Steiner points out here, the organs of the eye and ear are very different in structure and in how they relate to the rest of the body. This is evident from the very outset of their development. Eye development begins with the lateral walls of the forebrain (proencephalon) bulging out (diverticulation) and then growing toward the outer surface of the body (ectoderm). Once there, each bulge (optic vesicle) invaginates to create a cup-like form, the optic cup. Into this cup the surface ectoderm thickens and invaginates, forming what will become the lens of the eye. In the back of the cup, the retina and blood-vessel-containing choroid layer forms. Where eye development is strongly a movement from the inside out toward the surface—with a modest response thereto from the periphery through the formation of the lens—the ear develops from the outside in. This process has too many aspects to describe here, but the end-result is an organ with three functionally distinct sections: the outer, middle, and inner ear.

Whereas the presence of blood vessels in the eye is restricted to an area at the back behind the retina, in the ear, the eardrum is
already well supplied with blood vessels. Connected to the inside of the eardrum is a sequence of three tiny bones, the ossicles. Well known as hammer, anvil, and stirrup, they are connected to each other by real joints, forming the smallest limb (by far!) in the human body. In contrast to our other, muscle-guided and gravity-overcoming limbs, these tiny bones are moved by sound itself!

Moving to the inner ear—to which the stirrup connects—we come to a fluid-filled spiral canal of two-and-a-half turns (the cochlea), which is embedded at the base of the skull in the hardest bone of the body (the petrous bone). The inner ear is filled with and surrounded by watery lymph, as are the brain and spinal cord (as we saw in endnote 1), and is connected to that cerebrospinal space. The impulses that pass from the eardrum, to the ossicles, to the inner ear, move through it as so-called “traveling waves.” High pitches produce waves that break early on in the cochlea, deeper tones carry further. At the place where a wave breaks, a sensory cell is stimulated.

The fact that the ear’s sensory receptors are not already located on the eardrum, but are found only after the limb activity of the ossicles has been transferred into fluid channels in the densest part of the human body (but are nonetheless connected to the cerebrospinal fluid that envelops the brain and spinal cord), shows how deeply and in what many-faceted ways this organ is implanted in the human organism.

This stands in great contrast to the eyes, which are enveloped in bony eye-sockets and separated from the rest of the body. The only exceptions are the optic nerve and the central artery and vein of the retina, which provide the only connection through a small region at the back of each eye.

Resources: Husemann (2013); Tortora & Derrickson (2013); Rohen (2007)
PART 2
Commentary by Betty Staley

Introduction

In 1919 Rudolf Steiner presented *Study of Man* (14 lectures) to the future teachers of the first Waldorf school. Because they were already deeply connected with anthroposophy, Steiner did not have to further develop his statements. However, his assumptions at that time pose challenges for readers today when we teach or discuss *Study of Man* in teacher education courses, faculty workshops, or conferences. The readers may be new to anthroposophy or they may have only a brief understanding of child development from the Waldorf perspective. In addition, times have changed. A great deal of research has occurred in neuroscience, and psychology has broadened to include views from a spiritual and soul perspective. Although this research and view may not be from an anthroposophical perspective, participants are more open to such considerations than they were in the early 20th century. Were Rudolf Steiner alive today, he might have spoken in a different way.

Much of what Steiner has expressed in these lectures is difficult. Some ideas have to be taken in and meditated upon even to gain a glimmer of grasping the complexity arising from his research. All of this poses a challenge to those who are leading discussions or studies of this fundamental work. Anthroposophy is based on freedom. Students should be able to question, agree, disagree, or take the statements as a hypothesis. It does not help if students or teachers imitate Steiner’s statements without understanding them, as this leads to dogmatism.
On the other hand, there are very helpful, practical comments in each chapter of *Study of Man* that can guide teachers in their understanding of child development and Waldorf pedagogy. These provide an opportunity for students to connect with these thoughts in a way that allows for deeper reflection over time.

I have examined each lecture and found significant thoughts that I feel are accessible and useful. I am sure many Waldorf educators can add depth and breadth to my comments, but I offer these as a starting point.

**Lecture 1: Epoch of the Consciousness Soul**

At the beginning of the first lecture, Rudolf Steiner mentions that each epoch has its own particular tasks. The epoch in which we live, which began in the 15th century, is referred to as the Consciousness Soul age, a time beginning with the Renaissance and focused on individualism and self-awareness. We can call this a time of modernity in which a global consciousness and freedom are awakening.

Steiner sets the tone for the teacher’s attitude toward childhood—one of reverence toward all that the child brings from the past. Through our education, we have to carry on what was done by higher beings without our participation. Whether or not we consider the spiritual world real, contemplating such a possibility awakens an attitude toward the child that opens up many possibilities. This tone of reverence continues throughout the lectures so that we can sense that *Study of Man* is no ordinary teacher training manual, but a window into something beyond our everyday understanding.

Steiner highlights that the moral quality of the mother as she carries the child *in utero* passes over to the child. Current research supports this statement that the mother’s attitude during the pre-natal time, surrounding the incoming child with love and support, makes a great difference in a child’s life.
In this lecture Rudolf Steiner describes that the task of education in the spiritual sense is to bring the Soul-Spirit into harmony with the Life Body. He introduces the terms sentient or astral body, etheric body, and physical body. Gaining a background in what these terms mean is an essential part of early Waldorf teacher education and needs to be revisited over and over again. Working with these subtle bodies is a bedrock of the Waldorf teacher’s understanding of human development, which will evolve over time. Without a basic knowledge of these terms, the rest of the lectures will be difficult to understand, even superficially. A helpful introduction is given in The Education of the Child in the Light of Anthroposophy. One can go deeper with Theosophy or An Outline of Esoteric Science, chapter 2.

Rudolf Steiner gives the teacher two goals: to pay attention to all that rightly organizes the breathing process into the nerve-sense process and to guide the children so that they can have healthy sleep. By harmonizing the breathing process with the nerve-sense process, the teacher is drawing soul and spirit into the physical life of the child. With experience, we sense how times of contraction and times of expansion bring healthy rhythm into our lessons. Over time we become more conscious of what it feels like in the classroom when this harmonizing process is happening.

Based on Steiner’s description of the child’s sleeping experience wherein he is in contact with the spiritual world, we can begin to sense what we bring to the child, which he can give over to the spiritual world when he is sleeping, and what he brings back from the spiritual world.

Due to the frenetic pace of life today, many children have breathing problems and sleeping problems. Waldorf teachers can bring health to the children through understanding these two processes and taking up Steiner’s two challenges.
Steiner addresses the curriculum. Every subject is working toward bringing either more Spirit-Soul into the earthly body or more bodily nature into the Spirit-Soul. Here he only alludes to the subjects that pull the children out of themselves and those that ground the children in their earthly consciousness. In other lectures he describes this more fully.

The last part of Lecture 1 focuses on the teacher. If teachers take themselves seriously and work with the thoughts of the evolving human being, they will carry an inner quality that creates a warm relationship with their students. Steiner sounds the call for teachers to work on inner development so that they affect children not so much by what they know, but by who they are.

**Lecture 2: Thinking cognition and will**

In this lecture, Rudolf Steiner works with thinking cognition and will. Thinking is based on inner mental picturing of what we experienced in the past life. (We can also look at the past in our current life.) This is experienced through imagery. For example, if we reflect on our childhood, an image of ourselves playing in the sand arises. This process of reflection is antipathy in which we step back in our mind and reflect. Through this process memory arises.

When we unite ourselves with something, we use sympathy forces. An imagination arises, a mental picture of something outside ourselves. This becomes a seed for the future, and is experienced as will. For example, the teacher may be telling the children about a hero who took care of injured animals. Through vivid descriptions, the child unites in sympathy and wants to be like that person. The child’s will is activated to do something similar, whether it is in a future life or in the present one.

Steiner advises the teachers not to ask too many intellectual questions about the past as these relate to experiences that are
dead; they tire the memory. Instead the teacher should give the child as many imaginative stories as possible, as these awaken the feelings and stimulate the will.

Toward the end of the lecture Rudolf Steiner focuses on the threefold aspect of the body: head, chest, and digestive-limb systems. These cannot be experienced separately as they are interconnected. For example, although most of the sense organs are found in the head (eyes, ears, nose, mouth), the sense of touch and warmth are felt all over the body.

**Lecture 3: Nature**

Rudolf Steiner focuses on our relationship to nature. He raises a high bar for teachers, especially in the lower grades, to have a connection with the highest ideas of humanity. He expects teachers to have an extensive background in the laws of the universe. Is this referring to the influence of spiritual beings?

Teachers of all grade levels, including kindergarten, should be regarded as equal in every way. With this statement, Steiner sets a tone for colleagueship within the faculty as well as for financial considerations. This is a challenge today as some Waldorf schools are following the mainstream practice of offering higher wages to high school teachers and to those with advanced degrees.

As teachers we bring to the children the world of nature on one hand and the world of spirit on the other. By living with the seasons, walking in the forest, gathering seeds, and observing birds, the children feel a connection to space and time. Through appropriate stories, children can connect the ideals of the characters with something of a higher order. The sciences point the way to the world of nature and the humanities to the world of spirit. This understanding is necessary for the children to take a place in the social life in which they live.
It is important to clear up the comment about the Law of the Conservation of Energy or Force because it is mentioned in many of the education lectures. This First Law of Thermodynamics states that the sum of all energies or forces present in the universe is constant, that these forces only undergo certain changes. Steiner makes the point that, while this is true for the mineral, plant, and animal world, it is not true for the human world because human beings are always creating new possibilities that have not been there before. This relates to the major points he makes in *Philosophy of Freedom*.

One of the most significant statements for the teacher to work with is that what we understand of nature through our thinking is dead, and what we understand of nature through our senses is of the will. This statement stands behind the science lessons from first grade through twelfth. What the child observes, smells, hears, and tastes before coming to concepts is a living process that is different from the usual approach which sets up a hypothesis, followed by an experiment to prove it. The principle of phenomenology is the central pedagogical approach indicated here.

**Lecture 4: Education of the will and feelings**

The focus in this lecture is the education of the will and the feelings. Steiner describes the different states of will, e.g., instinct, impulse, desire, motive, wish, intention, and resolve. The last three are experienced through mental pictures.

In other words, when the child can create an imagination of organizing his/her classroom desk, then it becomes possible to carry out this intention rather than being commanded to do it by outer authority. Or a child can form an imagination of apologizing to someone. Once the imagination is there, the child can step into it and carry out the intentions.
Teachers can differentiate the different kinds of will in the ways they ask students to carry out activities. For example, if a child is hungry, the teacher can work on his/her instincts by having the child wait for food to be passed out. If a child feels threatened, she might run away or attack another child. Learning to confront another student by using words rather than action allows the possibility to transform impulses. Working with children to verbalize their desires or motives helps them gain a sense of inward power and the skill to work out how they want to handle various situations. Clarifying intentions is a valuable approach for middle and high school students.

Another way to work on the will is for the teacher to introduce actions that have to be constantly repeated. For example, pushing in the chair quietly, raising hands, sharpening pencils at the beginning of class, watering the plants in the classroom, placing a napkin on the table before snack is handed out. Developing habits with conscious repetition cultivates the will. Speaking the birthday verse once a week cultivates feelings for the verse. The teacher has created the structure. When the child begins to do tasks because they are needed and not directed, the will is strengthened.

Whether it is reciting poetry, painting, doing form drawing, writing beautifully, playing recorder, or singing, the child fills his/her will with a sense of artistry and a feeling of joy in learning.

**Lecture 5: Sympathy and antipathy**

When children relate the story told on the previous day or compare one story to another, their will is activated and permeates their thinking. Whenever the child forms a mental picture, will is involved.

Once we understand the difference between sympathy and antipathy, we can bring this consciousness into our work with the
children. For example, if children rush to be first in line to collect the painting paper (an experience of sympathy), we can teach them how to line up according to rows or letters of their names. By having to listen or think about this, antipathy is stimulated. By becoming conscious, learning to respect others, children develop moral actions.

For example, a child comes to the front of the room to do a math problem. This is an act of will. The child is excited to do the problem and expresses enthusiasm. If the problem is done correctly, the child experiences great sympathy and love. If not, the child experiences antipathy. However, if the child is helped and does the problem again satisfactorily, the antipathy is transformed into a balanced sympathy. When the child looks at the problem in a new way by stepping back and seeing what step was missed, this antipathy helps the child gain a feeling of satisfaction. Antipathy, or the process of stepping back in order to reflect, is necessary in order to think.
PART 3
Study Questions by David Weber

Lecture 1:
1. Rudolf Steiner says that the breathing connects to the whole organism in the child when she is born. In what ways does breathing affect the threefold human being?
2. Give five examples of “soul breathing” that connect the child to the physical world.
3. What does it mean to bring the physical world into the child’s spirit?
4. What kinds of specific activities in the classroom help the child harmonize the breathing?
5. How is forgetting and remembering a kind of breathing?
6. What does it mean for the child to carry the impressions of the day into the spiritual world at night?
7. How can we work in the classroom to support the child’s proper sleeping?
8. What does it mean for the teacher to have a strong ego, but not be self-centered or egotistical?
9. How can we develop these qualities (in Q8 above)?

Lecture 2:
1. How is “soul breathing” connected to sympathy and antipathy?
2. Describe the polarity of the human being regarding nerve and blood poles.
3. What does Steiner mean by true Imagination?
4. Why must we love something in order to know it? How does this process work?

5. What activities in our teaching help the child form memory and concepts? What activities help the child strengthen the will?

6. How can we use a balance of sympathy and antipathy as teachers in the classroom?

**Lecture 3:**

1. In terms of sympathy and antipathy, what is the problem with modern education?

2. What can you do to “imbue yourself with the power of Imagination”?

3. Compare the two processes of meeting Nature with our thought-life and with our living will.

4. What does it mean to be active in our senses?

5. How does the human being create new life forces for the Earth?

6. What is the nature of our relationship as human beings to animals?

**Lecture 4:**

1. Why is it important that education in the future give emphasis to developing the children’s will and feeling?

2. How do the seven levels of the will relate to the sevenfold human being? Which of these do we share with animals?

3. Give an example for each of the seven levels of the will.

4. As teachers, how do we reach and strengthen the will in children?
Lecture 5:
1. How does thinking enter into an act of will?
2. How does will enter into thinking?
3. How does our feeling work in relation to our thinking and our will?
4. What is your favorite meditation in Lectures 1 through 5?
5. What is the most important inner activity or exercise for you as a teacher?
The PSC took up the study of Lecture 6 in *Study of Man* in October of 2016. The lecture addresses the study of the threefold human being from the point of view of the spirit, or degrees of consciousness. Specifically, Steiner describes thinking as wakeful, the will as sleeping, and feeling as a dream-like state. In our first artistic session with this lecture, members were invited to use pastels, black and white drawing, or poetry to ponder sleeping and waking. In the second session, the central topic was “dreaming, with suggestions of sleeping and waking on the edges.”

What follows are a poem and two examples of black and white drawings. The poem, written by a member who had just given a eulogy for his deceased wife, takes into account the earlier suggestion by Steiner that the will is connected to life after death and thinking-images to life before birth.

**Sleeping and Waking:**

 Shea carries fields of spirit in her wake,  
 Onward to her wake, and to the spirit fields;  
 He, wakeful, speaks the pictures of her past,  
 Past youth, past childhood, past first breath.  

 He fields her past, in images;  
 She carries his awakened images  
 In her flow of ripened deeds, in spirit,  
 Onward to the light.
Dreaming:
Entry Points

A Guide to Rudolf Steiner’s Study of Man

Pedagogical Section Council of North America