

The Classical Four Elements as Different Ways of Approaching Nature

Georg Maier

*For it is with earth that we see Earth, and Water with water;
by air we see bright Air, by fire destroying Fire.
By love do we see Love, and Hate by grievous hate.*

Empedocles of Acragas¹

In this paper I will attempt to portray the four classical elements *Earth, Water, Air, and Fire* not as parts of things, but rather as different layers of our embeddedness in the world. First, by observing how we relate to solids, fluids, air, and warmth, I will develop a sequence of steps for approaching nature. Next, using the example of a burning candle, I will portray a conscious practice of the four levels of knowing. Throughout the paper, I will refer to experiences that are generally accessible.

In order to give a first impression of the four different approaches to the world, I will begin with the example of an old-fashioned drinking fountain.

The stone trough of the fountain is lasting and permanent. Generations of people have known it. We can remember its shape and trust that we will find it, again and again, in the same place. The water flowing through the trough takes on the shape of the basin. It is always new, but always behaves in the same way. Sometimes the wind plays with the stream of the falling water. In the changing weather, the fountain is part of a greater context that constantly changes. And, on a hot summer's day, we gratefully enjoy the cool and refreshing water. Only then do we relate to the fountain in its essential nature as a drinking fountain.



¹ I am quoting this fragment from Empedocles because it expresses in admirable brevity that which shall be dealt with in a more cumbersome way in this paper. However, I do not wish to attempt to discuss the historical significance of the elements, nor to use the fragment as evidence. We should, however, note that the introduction of the elements in their fourfoldness of earth, water, air, and fire is ascribed to Empedocles. In theme and content the present paper was inspired by Rudolf Steiner's second natural science course (Steiner 1920).

The four aspects just described reveal themselves when we are willing to meet the world in four distinct ways. And they complement each other, as true elements do.

The *solid* is easily studied at a desk. We place an object before us and begin to familiarize ourselves with it. Besides its shape, we pay attention to the texture of its surface, to its coloration, in short, to all the features we can discover. By making a list of our observations we realize that we have created the conditions for being able to recognize the object should we encounter it again. Implicitly, we assume the quality of permanence. In the solid we experience reliable durability. To it we owe the fact that we ourselves determine the course of our investigation. We have to attribute shortcomings in our observations to inadequate attention on our part. And through continued study of the object we will be able to clarify any detail in question.

What kind of relationship to a solid body do we have when we observe it as I just described? We are not compelled by the object. That would, for example, be the case if we would have to wait for it to appear. Conversely, the object also remains unaffected by us as long as its quality of permanence is untouched. Here, we have the conditions for a functional separation between ourselves and the object, between observer and that which is given. Furthermore, in the act of purely describing the object we are not forced to regard it in any broader spatial or temporal context. We can disregard its actual meaning, its development, and the natural laws relating to the object. By not taking into consideration any such connections or relations, we follow consequently the principle of functional separation. This type of cognitive approach, in summary, I would like to call the attitude of the *external observer*.

Would we describe water in a cup in the same way? For a *fluid* the above method would not be adequate. Certainly, in fluids we also encounter form, but the form is not permanent. We witness transformations. Take the example of a lake. At one time the surface appears as smooth as a mirror, at another time the reflections are blurred by gentle ripples. The appearances of a fluid in the course of time vary. By merely describing them, we would again place detail next to detail. This does not do justice to a fluid. We cannot observe details in isolation from surrounding circumstances. Obviously, for instance, the water level of a lake depends on the lake's outlet. I see the connection between water level and lake's outlet in the all-connecting surface of the lake. Forms and patterns of a fluid are interrelated, and when changes occur they all change coherently. This mobility, in which, nevertheless, order prevails, is conveyed to us in this excerpt from Goethe's poem *The Song of the Spirits over the Waters*:

From the high
sheer rock wall
the pure stream pours,
then it sprays in
lovely billowing clouds
toward the smooth rocks,
and welcomed gently
it flows, veiled,
murmuring softly
to the low depths.

Towering cliffs
oppose the fall,
unwilling, it foams,
step by step,
to the abyss.

In the flat shallow bed
it creeps along the meadow valley....

When the stream falls down the high rock wall, *then* it sprays. *When* it meets the towering opposing cliffs, *then* it foams, and *when* it has reached the flat shallow bed in the meadow valley, *then* it creeps along. Here the water is described in relation to various specific circumstances. In the multiplicity of the appearances we learn to comprehend order. We connect perceptions that, with the *solid*, we merely collect and place side by side.

The element of the *fluid* demands our heightened attentiveness; we must pay attention to all circumstances. We cannot predetermine the course of our study, but have to look at the surrounding world as *one* picture. Obviously, shortcomings in our own inner activity are a hindrance to our study. Just as I most strongly experience the fluidity of a fluid when I reach into it with my own hand, an active thinking is required in order to find a lawful relationship of the kind “if...then.” Little remains of a functional separation between subject and object. I wish to characterize the relationship of the observer to the *fluid* as *I go to the water*.

When I visit a waterfall I can observe and make a note of the spray in the water’s downward fall, be content and move on. Certainly, in doing so, I have not experienced all there is. It is possible to enter so deeply into the experience of the falling, spraying water that I become involved in it as in a work of art. In comparison to this experience, the attitude of “if...then” is a reduction.

Since this approach is close to us and rather familiar as a method, I want to look at it more closely. In the example of the lake, the connection between water level and height of the outlet is obvious. But imagine it were not. Imagine leaving the place from where we can see the lake’s spreading continuous surface and going to various places where we measure the water level. We will collect data at various times and various places, and we will learn how the weir situated at the outlet of the lake is operated. As long as we do not grasp the concept of the continuous, connecting surface of the lake, we will remain dependent on an overwhelming amount of data and their correlations as proof for the relationship of outlet and water level. It is in grasping the concept that we find something that always holds true. This we appreciate and might, in consequence, not pay much attention to its concrete manifestations in various given situations.

In the *air* we participate as one who breathes. We breathe in the fresh air of the woods and, like everyone else, must put up with the air in the city. The air always absorbs our outbreath. All our life we cannot stop breathing. We are in the air, and the air is in us. The air mediates to our ear the expanding forms of sound which unfold in time. As the fluid extensively responds to varying spatial conditions, so the air responds intensively to warmth. Observing the weather, we see the significance of the rhythm of day and night, and of summer and winter. However, while weather events clearly relate to these rhythms they vary, they do not take the same course at the same time of day or year. Putting it in abstract language, we might say that weather events develop as spatial-temporal formations in constant transformation. If we want to observe weather, we must actually enter into these transformations.

When we want to observe a plant in its growth, we meet that same task. It puts demands on our thinking we are not easily accustomed to. The intellectual ideas that we often call forth for assistance when we observe developmental processes, can perhaps help us to characterize the problem. One crutch is the idea of developmental stages that follow one after the other. Each developmental stage we picture as being discrete. In this way, as by a mental trick, we form a sequence of quasi “solid bodies” that are taken out of their context. In photography, this is expressed in taking a series of photos which we can put aside and view at a later time. We find two pictures that are next to each other easier to compare than two that follow after each other. The second crutch, which avoids having to deal with the

actual process of development, is the idea of a process that repeats itself in cycles. This idea is easily accessible to a thinking that has been practised in relation to the fluid. However, in air, in breathing, we are participants in a stream of development.

In proceeding from the solid to the fluid to the gaseous, I outlined a sequence of stages of our own conscious engagement, from the external observer to the intensely experiencing participant. In this sequence, *warmth* is not foreign to us. I want to take our own perceptions and experiences of warmth as a starting point. Here are some observations:

A piece of wood and a piece of iron at room temperature feel differently warm to our touch. A room at a temperature of 18 degrees C (64 degrees F) is often too cool for us in summer but might feel warm enough in winter. Finally, there is the paradox that when we put the palms of both hands together, the “other” hand feels warmer.

What reveals itself in these observations? We are placing ourselves with our own bodily warmth in relation to the external warmth. The way in which our own warmth is being influenced by our surroundings is critical for our perception of temperature. For this reason, our perception of warmth is often regarded as “merely subjective.” The modern person will go and look at the thermometer before making a statement about temperature.

However, our experience of warmth is an accurate perception of the relationship of our own warmth to the external warmth. It will tell us how we will have to act so that our wellbeing is not at risk and we are not too much influenced by the external warmth.

Whether we feel warm or cold largely depends on whether we are physically active or inactive. Performing physical work makes us aware of the connection between warmth and activity. Here we realize the significance of the deed, which is the transition from the mere potential, which is still under our control, to the actual, which detaches itself from ourselves and takes its own course in the world. The flame, the fire, is at this point of transition. Here warmth works, appearing and disappearing, and here *we see fire with destroying fire*.

The following example will make clear the stark difference between a deed and a mere observation. Take an extraordinary circus performance. The acrobat, whose performance and movements we watch enthralled, is a fellow human being. He exposes himself to danger right now, right here. In the trapeze routine, he not only moves in agreement with the moving trapeze, he actually jumps.

We touch here on something that we do not like to bring to attention in our society where principles rule that distract us from the binding nature of an event. “That which has been damaged will be repaired. That which no longer functions will be replaced by something better. Losses shall be compensated. What threatens to decay must be preserved.” By technical means, accidents are being domesticated.

What we participate in as an onlooker can have for us the character of mere play. In particular, scientific experiments can feel to us like events “as if:” We watch with interest an experimental process – but with our left hand in our trouser pocket, so to speak. While we believe that the experiment only serves to modify our understanding, we underestimate it as an irreversible event. While we might measure the results of a minimal intervention with care, we tend to ignore the event itself. In this way, the actual role of technology has been overlooked for a long time. For actions that have consequences, the only attitude that is appropriate is complete presence of mind.

In the four elements, *Earth, Water, Air* and *Fire*, we approach the world through four different ways of knowing. We might describe their qualities as: *Fire*, the inner readiness for action; *Air*, unceasing transformation; *Water*, circumspect attention to all appearances in relation to each other; *Earth*, openness to anything given. A consistent path leads from the effective action, the intensive development, the adaptable process, to the object of permanence.

In the lighting of a match we can see this entire path: I light a match. I watch the flame flare and expand. I notice how the flame moves along the wood, and I act accordingly. I look at the charred remains in my hand.

The three states of matter - solid, fluid, and gaseous - transform into each other through heat exchange. Likewise, it is only through our sustained will effort that we are able to progress from first noticing something unfamiliar, to a broadening understanding, to a full experience of something given. Just as we can distinguish between heat and the three states of matter, it makes sense to relate the first three classical elements to three different ways of knowing and distinguish them from *Fire*. As a whole human being we are in need of all four elements: It is our human task to develop our capacity for moral consideration, in addition to the mental capacities of identifying, reflecting, and transforming.

By using specific terms, we can name the four approaches. Possible words would be: atomistic, eidetic, dynamic, and personal. However, such designations conceal within them a danger that is not to be underestimated. The danger is that we retain only the words and attempt to interpret their meanings. By becoming a mere system of concepts, the fourfold approach would solidify. (M. Fierz 1964).

It is helpful to practice the four different approaches, and I am choosing the example of a burning candle for that purpose. The four approaches are not equally familiar to us. How they complement each other will become clearer in my example where each approach is demonstrated separately, maybe in a somewhat pedantic way. By pursuing one approach at a time, we become aware of its one-sidedness.

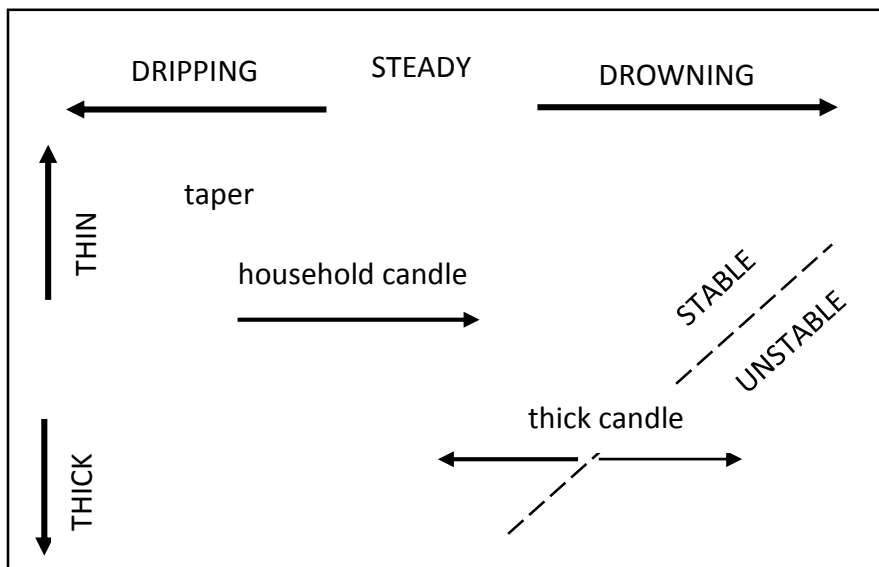
An evenly burning wax candle is solid in shaft and wick, fluid in the molten wax, and gaseous in the passage through the flame in which warmth is developed (M. Faraday 1860). Here, the four elements are attributes of the object. All four belong to the same plane, namely that of the solid. In observing and describing an object, we use concepts we have acquired before. However, exact observation requires a high degree of open-mindedness, putting aside earlier experiences. We must try to be unbiased and open toward the new. What can we learn? Among the various candles there is great variety. There are thick, thin, white, coloured, cylindrical or rectangular shaped candles, made from paraffin or beeswax. The wick can be short or long, straight or curved, dark or glowing at its tip. The flame can be a blueish form with a small bright tip or can have a barely visible blue edge at the bottom of a bright tongue. The flame is partly pale, partly luminous. Sometimes sooty smoke rises up. Beeswax candles smell sweet. A candle can also smell unpleasant. The list can continue for pages with an abundance of characteristics.

Someone who is experienced in observing burning candles will at best be slightly annoyed at such a list of unconnected details, even though the list might not lack order. Only at the stage of the *fluid* can we attain an order that is not a mere listing of things. We try to see phenomena in their connectedness. A long wick has a high, flickering flame with a plume of soot rising from its tip. We form a meaningful picture out of various observations. Questions arise from these pictures. For example, we can ask: Under what conditions is there a lot of molten wax at the base of the wick? If we carefully observe, we can say: "With a long wick and a high flame there is no increase in molten wax," or: "When the wick is short the fluid increases until it overflows." (Such statements, of course, are only true for certain types of

candles.) With thick candles something more unpleasant than overflow of molten wax can happen. The flame can drown, or, for a long time, be a small, blue flame that does not shine.

If we connect the observations, starting with the short wick and arriving at the evenly burning candle, we can come up with something like a mechanism for self-regulation of a burning candle. We are tempted to say: "That much fluid forms because the wax can overflow and the normal length of the wick is reached." However, the reasoning ("because") is neither appropriate nor does it further our understanding. Reflecting on the reasoning, we find in it a hint of personification: "If I was the candle, I would" In the statement "so that...because" lies something that I would like to call, in this context, a longing for the stage of *Fire*, whereby it does not matter whether the reasoning was meant to be causal or teleological. To really understand the process, we must observe a few cases closely. How do we connect in thought wick and flame with the rising of molten wax and the eventual arrival at a state of equilibrium? The few cases do not serve as a proof but rather help us to arrive at more complete observations. From this level of understanding we can make practical use of our insights. If we stay with the process, the stubborn thick candles that reach even combustion only over time will no longer annoy us. We learn that we cannot burn them for only five minutes.

The figure below schematically shows relationships mentioned in the above. It is meant to illustrate what kind of results are gained at the level of the *Water* approach.



To distinguish the two levels of knowing, *Earth* and *Water*, is not difficult. But what about *penetrating into the flame*? Understanding this in a literal way, we might place a glass plate in the bright part of a candle flame, and soot will form on the plate. Or we might put the end of a narrow glass tube in the lower part of the flame and ignite the gas that escapes the tube at the other end. Such a kind of penetration into the candle flame leads to additional observations which help us to form a more comprehensive picture of the processes in a burning candle. But we have arrived again *at the candle* and, therefore, we remain at the stage of the *fluid*.

The third type of approach, *Air*, focuses on how changes occur in a burning candle. By lighting a candle that did not burn for a while at the tip of its wick, we observe the flame as well as the hollow from which

the wick protrudes. First, there is a bright flame which expands as it travels down the wick. Then the flame contracts and seems to go through a crisis, becoming a delicate roundish little form holding on to the wick. It is blue with only a small bright tip, and the room has become almost dark. Then the flame quickly expands and shines as bright as in its previously largest expansion. (It should be noted that the described processes differ from case to case.)

By contracting to the point of almost going out and then flaming up again, the flame made us participate with empathy. A mere description of what we outwardly observed would lack something, would lack our own participation, what we experienced and felt.

Now we will look at melting wax. We discover fluid wax after the flame has travelled down the wick: the dull surface in the hollow at the bottom of the wick becomes transparent. The smooth shiny surface spreads and rises. The fluid wax curves up at the wick, and the edge of the cup becomes smooth and begins to flow, to trickle. Eventually, the molten wax forms a little pool and within it there is movement. Black dots rush outward, come to rest and travel back with increasing speed across the bottom of the pool. The play of outward darting movement, slowing down to a stop, and renewed inward movement can occupy us long after we have understood the events in their sequence.

Reimagine how becoming fluid became apparent. We saw the opaque, dull surface become shiny and smooth. At the edge of the cup we observed a flow. At the wick the meniscus formed. In the established pool the outward–inward moving black dots made visible a flow within the molten wax. The fluid became apparent in many of its characteristics.

Lastly, can we *see fire with destroying fire* in the unassuming candle? First it seems as if the use of a candle is something that we can repeat at will, again and again. However, we will understand that this is not the case when we look at situations in which a flame actually became important for us, situations in which we needed a candle as a source of light. In these cases we can no longer consider the candle by itself. In deep darkness we have to light it. It then serves us by illuminating its surroundings. In the dark, we stumble and grope around and bump into things. Now, the surroundings are visible in the candle's light-space, which we owe to the candle's activity. It extends to all the places from which we are able to see the flame. Here, lighting a candle and blowing it out is not mere play.

It is easy to picture such situations and ask what in each situation happened as a consequence of the presence or absence of light. In this way – in thought – we will become conscious of the significance of a candle. We might even make up a whole story in speculative thought. However, it requires an actual incident for us to become aware of and experience how the process of combustion serves in a world of action.

Occasions for such experiences with candles may be rare in a perfectly civilized world. However, we *see fire with destroying fire* each time when we realize that our own actions and inactions are unique and of binding nature. There are no ivory towers. To bring this realization to life is the same as *knowing through Fire*.

* * *

This article was originally published in German: "Die Elemente als Stufen der Naturbetrachtung," *Elemente der Naturwissenschaft* vol. 13, pp. 1-9, 1970. The text has been translated and lightly edited by Henrike Holdrege from the original article, with thanks to Hans Ellfeldt and Peter Stewart for their draft translation which prompted this project.

The photo on page 1 shows a fountain in Oberdornach, Switzerland, where Georg Maier lived. It was added by the translator. Photo by Craig Holdrege.

Copyright 2017 The Nature Institute

This document is available at: <http://www.natureinstitute.org/txt/gm/elements.pdf>

Literature

Burnet, J. (1892). *Early Greek Philosophy*. London and Edinburgh: Adam and Charles Black, p. 232.

Diels, H. (1899). *Elementum. Eine Vorarbeit zum griechischen und lateinischen Thesaurus*. Leipzig: Druck und Verlag B.G. Teubner.

Diels, H. (1903). *Die Fragmente der Vorsokratiker*. Zürich: Weidmann, 1966.

Faraday, M. (1860). *Lectures on the Chemical History of a Candle*. Available from a variety of publishers.

Fierz, M. (1963). In *Traum und Symbol* (Edited by C. A. Meier). Zürich: Rascher Paperback, p. 37 ff.

Howald-Haller, M. (1967). Ganzheitliches Forschen im Anorganischen. *Elemente der Naturwissenschaft* vol. 7, pp. 31-33.

Steiner, R. (1883/97). *Nature's Open Secret. Introductions to Goethe's Scientific Writings*. Gt. Barrington, MA: Anthroposophic Press, 2000.

Steiner, R. (1886). *Goethe's Theory of Knowledge. An Outline of the Epistemology of His Worldview*. Gt. Barrington, MA: SteinerBooks, 2008.

Steiner, R. (1911). *Inner Experiences of Evolution*. Gt. Barrington, MA: SteinerBooks, 2009.

Steiner, R. (1911/12). *The World of the Senses and the World of the Spirit*. Hudson, NY: Anthroposophic Press, 1979.

Steiner, R. (1920). *Warmth Course. The Theory of Heat*. Chestnut Ridge, NY: The Mercury Press, 1980.