

Jens Soentgen:

***Essay on Dew.***

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# An essay on dew

*Jens Soentgen*

## Introduction

The fall of dew is the softest way, in which water comes into the world; without the slightest sound, much smoother than rain or than natural fountain. Dew has always been appreciated as a very special type of water. How did humans perceive, how did they make use of dew? The use of dew in alchemy was first described by Gaston Bachelard (1948, 325–339) in his work “*La terre et les rêveries de la volonté* [Earth and reveries of will]”. This was the first historical treatment of this topic and up to now has remained, as far as I am aware, the last one too. Here I will expand upon Bachelard’s treatment by showing that the use of dew in alchemy relates back to the astral theory of dew in the classical world. Up to now this astral theory of dew has been nearly completely ignored by the history of science, which only sometimes mentions it as an erroneous predecessor of the telluric dew theory, today recognized as correct.<sup>1</sup> This bridging between the early modern period and classical antiquity documents, not for the first time, the strong dependence of alchemy on Hellenistic philosophy, and especially on the Stoics. Furthermore, in this chapter I supplement Bachelard’s treatment using new evidence showing that even in the twentieth century dew was used in alchemy. In addition, based on folklore material, I show that the use of dew as an especially fertile water was widespread, not only in alchemy, but also among the peasant populations of Central Europe.

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1 See Knowles-Middleton’s history of telluric dew theory (Knowles-Middleton, 1966, 177–193).

## Phenomena

After a clear, starry, quiet night, dew appears on fields. If clouds cover the stars and the moon, then in the morning there is no dew. Dewdrops are remarkable in many respects: they do not collect in the lowest points, but not infrequently balance exactly on the tip of a stem or on the edges of the leaves of plants. On some plants they shimmer like silver, as on clover, lady's-cloak or burnet.

As the sun rises over a field of dew, the dewdrops sparkle like jewels for quite a while before they evaporate. If one looks at one's shadow on a field covered with dew, then one sometimes observes a halo around one's own head! And it is wonderful to go barefoot over a field covered with dew—there is hardly anything more refreshing! One feels *taufrisch*, as the Germans say, *as fresh as the dew*. Dew is perhaps the most *atmospheric* of all substances, glittering like a distillation of the dawning day. The radiant beauty of the early morning is caught in it, as is still the feeling of a glittering shimmer of the starry night. Dew is really something wonderful; one can understand how even such a rational mind as Bertrand Russell's counted the sight of dew among the most beautiful things he could have seen during his life. He writes: "When I come to die I shall not feel that I have lived in vain. I have seen the earth turn red at evening, the dew sparkling in the morning, and the snow shining under a frosty sun; I have smelt rain after drought, and have heard the stormy Atlantic beat upon the granite shores of Cornwall" (Russel 1949, 199f.).

Today we have hardly any use for dew. In alternative medicine, we find the practice of dew-walking (*Tautreten*) in the morning, one of the practices encouraged by the disciples of Sebastian Kneipp.

One goes barefoot over a field of dew and is thereby refreshed. In advertisements, dew is supreme as a symbol of freshness. Like a blessing from above symbolizing nature and freshness, it sparkles on beer bottles, table water bottles, fruit and vegetables. In nearly all these cases, however, the photographer's *dew* is merely an imitation of real dew, tap water sprayed on the objects. Practical usages of the real substance are nowadays rare—but they exist. In some arid landscapes, dew collectors made of tissues or foils are used to gather water. Hunters, archaeologists and criminologists know that small traces are more visible on dewed ground or surfaces than in ordinary situations. All these are nothing but peripheral usages. Not many people re-

ally care about dew in modern times. Only its beauty is still appreciated. It was different in earlier times.

### The astral dew theory

For us, dew is indeed beautiful, but in the end it is nothing more than pure water that condenses near the ground on cool surfaces, especially edges and sharp points. This understanding of dew can be found already in Aristotle's "*Meteorologica* [Meteorology]" (Aristotle 1952). His teaching that dew stems from water vapor in the air, thus being formed in immediate proximity to the Earth, was taken up again at the beginning of modern times, developed and elaborated on in classical experiments, and confirmed by William Charles Wells.<sup>2</sup>



*Fig.1: Dew on a lawn*

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2 For the story of this dew theory, cf. Knowles-Middleton (1966, 177–193).

However, besides the thread of this theory, which I suggest calling the telluric dew theory, there is a second theory of dew, recognizable in literary sources since classical times. I go into it in what follows. It is the starting point for the use of dew in alchemy and has parallels in some old, nowadays nearly forgotten folkloric uses of dew. It is in many respects a reverse explanation of dew theory. According to it, dew does not originate near the Earth, but stems from the farthest reaches, being water sent down directly from the moon and also in small quantities from the stars—an astral water, to which great effect was attributed. It was seen as a warm, temperate and mild water and had a special relationship to life and to growth, not only of plants, but of all creatures. It was considered moist and warm simultaneously, thus containing the seeds of fertility.

The teaching of dew as astral water was widespread throughout the entire classical world, being especially detailed among the Stoics.<sup>3</sup> The matter is considered approximately as follows. The sun draws up water (cf. Gilbert 1907, 442–510). That it does so is obvious to everyone. This phenomenon is especially impressive when the sun breaks through the clouds after rain showers and the vapors swirl upwards in the rays. But why does the sun attract the water? Because it *nourishes itself* from it. Every living being needs nourishment, and the sun, too, was seen as in some way alive.

If clouds or vapors or smoke dissipate high up in the air, then they are gobbled up by the sun. And like the sun, the planets and especially the moon are also nourished by water vapor from the earth. The idea that the moon in particular was interested in water was deducible from the fact, known since the middle Stoa, that the moon caused sea tides. These are attracted, as the Stoic Posidonius taught, through the power of a special sympathy (cf. Reinhardt 1921, 121–124).

However, the moon, and the planets even more so, are of a much weaker, milder fire than the sun. They therefore do not consume the drawn-up water, but rather send it back to the Earth again in a purified form. A cosmic distillery! Water glides down as dew through the rays of the full moon. This teaching had a certain basis in fact for dew appears only during nights when the sky is clear. Today, we explain it by observing that only on clear nights—

3 The sources for these teachings are scattered; remarks on dew and on the attractive forces of the moon are found at some places in the books of Pliny's "Natural history" (Pliny 1938). Another important source are Plutarch's writings, especially "Concerning the face which appears in the orb of the moon" (Plutarch 1957) and "Isis and Osiris" (Plutarch 1936). For further documentation from other classical and early Christian authors see Rahner (1964, 140–161).

especially memorable when there is a full moon—does enough heat radiate from the earth through the atmosphere to space, and that near the ground the temperature sinks so much that dew can condense. In contrast, if clouds cover the sky, they function as a blanket that reflects heat rays and increases temperatures.

But after all, one would like to ask, did not people back then know that the light of the moon comes from the sun and that it is not at all an autonomous fire? Naturally, it was known from the observation of lunar eclipses that the moon was shined on by the sun. Having observed this directly, it was deduced that water sent from the moon would be especially beneficial and fertile. For it is exactly because the moon stands under the sun's influence that it is simultaneously warm and moist and therefore especially accommodating to life. The moon filters the water that it attracts, so that it becomes pure and fertile again. From this the unusual speculation of the Stoics, according to which the sun is the heart of the world, the moon, however, the liver, is understandable. The moon was seen as the *filter* of the universe.

From a modern standpoint, one might object that it is hardly plausible that the water could travel such a long way. Ultimately the moon, as astronomers tell us, is over 384,000 kilometers distant from us! How could water vapor find this long, long way up and back down again? Indeed, the great distance between the Earth and moon—and even more so between the Earth and sun—is a serious argument that weakens the plausibility of the astral dew theory from the start. Here it must be said that the enormous distance of the moon from the Earth even in Europe has been general knowledge for at most a hundred or two hundred years.

Among those not educated in the natural sciences, the proximity of the stars was just taken for granted, and seemed appropriate to appearances.

*“Die primitive Auffassung lässt den M[ond] in geringer Entfernung von der Erde sich bewegen, er streift die Spitzen hoher Berge und Gebirgszüge während seiner Bahn, kommt aus einem Westberge heraus und geht dort wieder hinein, oder hat dort seine Höhle, sein Haus [The primitive view lets the moon move at a small distance from the Earth, it brushes the tops of high mountains and mountain chains, while its track comes out of a western mountain and goes back in there again, or has there its cave, its house]”* (Gundel 1933, 89).

On the other hand, knowledge of the great distance of the stars was common already in the second century B.C. among astronomers and philosophers. This fact, however, implied no decisive objection to the astral dew theory.

Cleomedes, the Stoic author of an astronomical tract of the second century A.D., writes:

“No problem need be raised here about how the Earth, with the status of a point in relation to the size of the cosmos, sends nutriment up to the heavens, as well as to the bodies encompassed by them, despite the heavenly bodies being so large in number and size. That is because the Earth, while minuscule in volume, is vast in power in that virtually alone it comprises most of the substance [of the cosmos]. [...] Thus while in volume the Earth may be a point in relation to the cosmos, since it has an indefinable power [...], it does not lack the power to send nutriment up to the heavens and to the bodies in them. And this [process] would not cause the Earth to be totally expended, since the Earth itself also acquires something in turn from the air and the heavens” Cleomedes (2004, 91).

Cleomedes may be referring here to the position of the philosopher Posidonius. The earth is thus regarded as so laden with power that its products, its vapors, could quite possibly rise up to nourish the stars. In addition, it is explicitly mentioned that the earth not only nourishes, but also receives—so the problem is avoided that the earth, in nourishing the cosmos, may possibly someday run out of power. However convincingly one judges these arguments to be, it is nonetheless possible to defend the astral dew theory against some of the objections to it.

And many phenomena are without doubt on its side. Isn't the experience of the fertility of dew evidence enough? Does one not see that fields rich with dew grow well, even if it doesn't rain, while in places that do not have dew the vegetation withers in hot summers?

Gently falls the dew on the thirsty earth, a child of the sun and moon and thereby doubly beneficial. The donor of dew in the classical world was a synonym for Selene, and thus for the moon (Rahner 1964, 146). From time to time the opinion was even expressed that the moon consisted completely of dew water. For the Stoics, dew stood also at the beginning of cosmology. As Seneca (1996, Book 3; § 13) says: “*Ita ignis exitus mundi est, umor primordium* [Therefore fire is the end of the world, water its beginning]”.<sup>4</sup> In the view of the Stoics, a bit of water—dew, so to say—will remain after the burning of the world. And this dew is the material from which a new, unheard-of world will rise.

<sup>4</sup> Cf. also Seneca (1971).

Through the church clerics and the few existing volumes of classical literature, especially Plutarch and Pliny, these views were passed down to the Middle Ages and to early modern times.<sup>5</sup>

## The astral dew theory in alchemy

Gaston Bachelard (1948) collected a set of documents illustrating the high regard for dew in alchemy. Nevertheless, the most impressive source for the alchemical use of dew is a book he does not mention. It has almost no letters, is completely mute and consists only of pictures. It is the *Mutus Liber* (Canseliet 1967), an alchemical work of the seventeenth century that shows in allegorical pictures how the work can succeed.



*Fig. 2: An alchemist and his soror mystica collect dew*

<sup>5</sup> The best documented presentation of the solar-lunar dew theory is by the already cited Jesuit, Hugo Rahner (1964, 141–149).



Central to the use of dew is the fourth illustration. Here one sees an alchemist and his *soror mystica*, the two of them wringing out a cloth. In the background, cloths are visible stretched over a meadow to soak up the dew. Moon and sun can be seen to the right and left, being the producers of the dew. The ram and the bull in the background seem at first glance merely to emphasize the idyllic countryside.

In reality, there is still another statement here. Dew should be collected not just anytime, but rather only in the months of the ram and the bull, thus in April and May. Thus, as the sun shines longer from day to day, it gains daily in strength. As further illustrations in the *Mutus Liber* show, without being easy to interpret dew will be mixed with other substances and processed further, for example, to an *aurum potabile*, a drinkable gold, which is supposed to foster health to a high degree. Since in this form of water are contained the nourishing powers of the stars and especially the moon, it is also suitable for nourishing gold. For the metals were not, like today, seen as elements that consist of specific sorts of atoms, but rather as living entities. Gold, for example, if nourished correctly, could certainly grow and ripen. The idea of increasing gold through a small seed that one carefully nourished, such as with water from dew, the gold being in a sense planted and then eventually multiplying, is not as far-fetched as it might seem. For one works in exactly the same way with other substances, such as sour dough, that one uses to make bread. Here a small *germ* of sour dough suffices that one adds to a flour-water mixture. If the entire mix is then allowed to stand in a mild warmth, the sour dough increases. Similarly sour cheese, curdled milk and other milk products are made in traditional manner. One always begins with a small portion, a type of seed, that one adds to the not yet refined material and that then increases. Why should this process, this *chaîne opératoire*, only function with sour dough, cheese and curdled milk, but not with gold?<sup>6</sup>

Not only in the seventeenth century but even in the twentieth century, alchemical tinctures were made, such as those Armand Barbault (1969), a French alchemist, describes in his work “*L’or du millième matin* [The gold of the thousandth of a morning]”. Barbault refers often to the *Mutus Liber*, but his writing is advantageously different from the alchemical literature of the sixteenth and seventeenth centuries: he does not speak in allegories, but says very directly how one must proceed.

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6 Leroi-Gourhan (1973, 344–345) described similar concept-transfers with his notion of the continuity of the technical milieu.

First, he determines that it is important to observe exactly what seems to be most unimportant. Doing exactly this, he nevertheless draws conclusions from his observations that are totally different from those of a modern observer. For this reason he deals with dew as a material that defies gravity. He recommends going, early in the year, into a wheat field before sunrise, where one spies how drops form on the tips of the leaves, pearls of dew that defy gravity. This dew, he concludes, must, like the sap of plants, have very special powers:

*“C’est pourquoi les anciens spagiristes l’utilisaient dans leur préparations pour capter les forces universelles dont les observations précédentes nous ont montré l’existence [Therefore the old pharmacologists used it [sc. dew] in their preparations to capture the universal forces of which our preceding observations have demonstrated, that they really exist]”* (Barbault 1969, 22).

Later on, he describes very exactly how he collects the morning dew, namely not by stretching out a cloth as in the *Mutus Liber*, but rather by pulling a cloth behind him over a dew-covered field. Naturally, he does not gather the dew on just any day, but rather on an astrologically exactly calculated date! In the end, it is a question of what stars are positioned in the sky. The astral substance obtained is then further processed in a complex manner lasting three years and, in a later phase, mixed with some gold powder to give an elixir that demonstrates significant health effects. Barbault turned for testing the efficacy of his preparation to a world-wide, anthroposophic pharmaceutical producer, *Weleda*, then, however, still a rather small business. From there the effect was confirmed in clinical trials, and they agreed to produce the elixir on an industrial scale and to market it. Nevertheless, it was finally decided that mass production was much too costly (*ibid.*, 136).

## Sundew

The alchemists treasured the dew, and also carefully observed on the leaves of which plants it preferred to settle. Thus it did not escape them that the so-called lady’s-cloak in particular collects a great deal of dew.

Dewdrops on this plant are indeed most eye-catching. They frequently collect in the middle of the leaves and glitter in a noticeably silvery fashion on the underside. Sometimes one sees regular drops on the tips of the leaves,



*Fig. 3: Sundew*

though they have not condensed, but rather have been produced by the plant itself—so-called guttations. One sees them during the summer from time to time. A prerequisite, according to my observation, is a series of hot days without rain. If then a hard shower occurs during the day, the next morning one will find the leaves of the burnet (*Sanguisorba minor*), lady's-cloak (*Alchemilla*) and, less impressively, goatweed (*Aegopodium podagraria*) ringed with large drops. To a certain extent the phenomenon can be produced artificially by thoroughly watering the plants in the evening after a series of hot summer days. In the morning of the next day, the leaves are then surrounded by fine drops, a beautiful sight.

These remarkable phenomena lead particularly to the lady's-cloak enjoying a high reputation in alchemy as a dew-collecting plant. Today this still resounds in the botanical name of the plant, *Alchemilla*, or *the little (female) alchemist* (cf. Marzell 1930, 1776f.).

Soon, however, another plant was regarded still more strongly by alchemists than the lady's-cloak, due to its dew-gathering virtues: the sundew, in the Latin of the older botanical literature *ros solis* or *rorella*, from time to time also called *lunaria* or *drosera* (today the genus *Drosera*). The sundew is an old

medicinal plant, still gathered in Finland today. I have not been able to find studies of its medicinal effectiveness.

Surprisingly, however, it turns out that sundew was used as a so-called coagulating plant, as it still is, being a substitute for animal rennet, with the ability to curdle milk to curd and whey. Although my own experiments in this regard were unsuccessful, this could be because I have had no opportunity to experiment with raw milk. Nonetheless the fact itself appears to be well documented in the ethno-botanical literature (Brøndegaard 1985, 112–116; Machatschek 2000).

Today, it is widely known that the fine, sticky drops on the sundew are there to attract insects and afterwards to trap them. Since the plant grows on nitrogen-poor soil—it lives on moors, which are almost always extremely deficient in nutrients—it is dependent on other sources of nutrients. It traps insects, whose juices it breaks down and consumes. This knowledge of the biological function of the dewdrops is at most two hundred years old, and we know that people explained the purpose and function of the tiny drops on the leaves of the plant entirely differently. In the context of the cosmo-biological dew theory, one opinion was that sundew took the dew of the sun or the moon out of the air through the power of a special magnetism and collected it.<sup>7</sup> People were so convinced that all plants had only one purpose, namely to serve mankind, that they apparently could not comprehend that the remarkable dewdrops on the plant served rather for its own nourishment. From today's viewpoint this is hardly understandable, since it is apparent that the drops are very sticky, that often masses of insects are trapped in it and, finally, that the plant usually breaks into bloom after it has trapped a larger insect.

Conradus Khunrath (1604), the brother of the famous alchemist Heinrich Khunrath, and also an adept, dedicated a detailed chapter to sundew in his "*Medulla Destillatoria* [...]", a botanical-medicinal technical book. Although he did not explicitly mention the astral dew theory, it can in a sense be glimpsed throughout, or rather, it sparkles everywhere like dewdrops on a blade of grass. I quote his description of the sundew.

*“Dieses Krauts Bletter sind gestalt wie Stern/ haben sieben strichlein/ welche zu eusserst etwas breit sind/ vorne aber eng oder spitzig. An seiner farb ist es einer gar sonderlichen rötthe/ darein dunckele gelbe strahlen gezogen/ ist fast als were es voll Haar/ ist zarter consistentz, temperirter Natur und eigenschafft/ wie das Golt/ darumb kann man seine Elementa (gleich wie auß andern Kreutern geschicht) nicht also von einander scheiden/*

7 For instance, referred to by Georg Siegesbeck (1716, 13).

*aber gleichwol können seine feces/ derer es doch nicht gar viel bey sich hat/ durch die Kunst der Alchimey abgesondert und das purum ab impuro geschieden werden. Es ist ein Kraut der Sonnen/ über welches sie ihre strahlen unnd einflüsse mehr/ dann eintges anders vegetabile (gleich wie sie unter allen Metallen dem Golde thut) außbreitet/ derwegen es auch alle andere Kreuter und Vegetabilia an gestalt/ farb/ natur/ tugenden und krefftien uberriff.*

[This flower leaves are formed like a star / have seven little lines / which at the outermost are somewhat broad / in front, however, are narrow or pointed. As to its color, it is a rather remarkable reddish / through which dark yellow rays stretch / its almost as if it were full of hair / is of delicate consistence, tempered nature and properties / like gold / therefore one cannot tell its elements from one another (similar to what happens with other herbs) / but on the other hand its faeces / of which it does not have a lot / through the art of alchemy can be extracted and the pure separated from the impure. It is a flower of the sun / about which its rays and influence, more / than any other vegetable, expand (just as among all other metals gold does) / whereby it also surpasses all other herbs and vegetables in form / color / nature / virtues and powers" (ibid., 274f.).

Whoever is acquainted with sundew will immediately recognize this description, even in acknowledging that the description is completely given over to establishing a correspondence between it and the sun, the golden star. Especially stressed is naturally the fact that the sundew is most strongly covered with dew just when it is especially hot. Khunrath (ibid., 275) treats this as a miracle:

*“Und ist diß wunder an diesem Kraute in warheit in grosse achtung zu nehmen/ daß je heißer die Sonne scheint/ je wärmer die zeit und truckner das Land ist/ je mehr sich diß kraut von selbst befeuchtet/ dann es dermassen sich mit Taw überschüttet/ das auch ein einig Stenglein mehr als tausent tropffen an sich hängend hat.*

[And this miracle on this plant is in truth to treat with great respect / that the hotter the sun shines / the warmer the time and drier the land is / the more this plant waters itself / when it drenches itself to such a degree with dew / that even a single stem has over a thousand drops hanging on it].

Following the alchemist Isaak Hollandus, Khunrath (ibid., 278–284) gives a procedure for distilling a red distillate from sundew. And a red color naturally indicates to the alchemist that the last step of the process, the *rubedo* or turning red, has been reached. Appropriately Khunrath ascribes an enormous power to the distillate, standing in a long tradition of alchemical praises of sundew that is supposed to help against many ailments, almost promising eternal life. It does indeed stand in immediate contact with the sun and catches the essence of this star with its fine tips.

It was, however, with regard to sundew that the astral dew theory was thoroughly refuted for the first time. In April 1716 in the *Practicus* Georg Siegesbeck presented his medical dissertation on the sundew, in which he discourses on the alchemical authorities and their teachings concerning the special dew magnetism of the sundew—unfortunately without any references—in order to refute them finally. In his view, the sundew drops are a sap that the plant produces itself. By observing that these drops also appear when the weather is not clear and when the plant is growing hidden in shade, he proves that it is not of heavenly origin (Siegesbeck 1716, 19). The real purpose of the fine droplets remained hidden from him, but nonetheless he had refuted the astral theory with regard to this plant. And soon, with the rise of scientific meteorology, the general astral dew theory was definitively refuted.

## The astral dew theory in the country

It is hardly surprising that alchemists took up the astral dew theory stemming from the Stoics, who had studied the classical works like that of Pliny. Nevertheless, there is evidence of a very similar theory among German country folk. Did it arise spontaneously there, or is it a question of degraded educational information?

The folklorist Victor Stegemann (1936/1937) collected a great number of examples for Bächtold-Stäubli's "*Handwörterbuch des deutschen Aberglaubens* [Handbook of German superstition]" (Bächtold-Stäubli 1936/1937), showing that dew was also highly regarded by the rural population and was used cosmetically against freckles, eye maladies, warts and sores, as well as, and especially, so-called *ugly* sicknesses. Thus, it was supposed to help against rheumatism and being bowlegged.

More surprisingly, however, is the use of dew in country areas as a substance that, thanks to the astral life force contained in it, generally improved growth.

Just as alchemists nourished their *stone* with dew, so, apparently, in many places it was the practice to add a little dew when churning butter to increase the yield. On the other hand, if one were to steal the dew from a farmer's field, his cows would give less milk.

Cows grazing on fields that had had the dew removed by witches lost their milk. A legend from Oldenburg told of a worker who was still mowing in the field late in the evening. It was Johannis Eve, that is, the summer solstice. The man was tired and lay down. Scarcely had he laid down when he saw an old woman collecting dew by dragging a linen bedsheet behind her and wringing it out into a pot. The worker, who was acquainted with the old witch, knew that with this dew she could steal the butter from the farmer. He took the pot away from her and carried it to his own house. The next morning he wanted to make butter, but instead of just a few drops he put the whole pot in. As he now began to churn, everything turned to butter and overflowed and overflowed. The golden butter that was produced from the addition of the dew is analogous to the gold that the alchemists searched for (Stegemann 1936/1937, 686).

Only rarely, as Stegemann (*ibid.*, 687) has shown, is there any mention of dew being harmful. Thus, in the *Oberpfalz* there is a warning about the poisonous dew that falls during eclipses of the sun. Touching it should be absolutely avoided.

In country areas, the practices of collecting dew and the powers attributed to it were accordingly treated similarly to those in the laboratories of the alchemists. While we can partly reconstruct from both the classical and the alchemical literature how people conceived of the generation of dew, our information regarding the oral traditions of the rural population is sparser.

One legend discovered by Stegemann (*ibid.*, 684), postulates that dew is really the tears of those angels who all too thoughtlessly followed Lucifer and now, every evening and every morning, cry about it. However, in the morning, when the sun rises, they hide themselves in the protection of the lady's-cloak, where they can see their tears sparkle until they are consumed by the sun.

## Rising Eggs

*“Nim Meyenthau / thu es in ein leer Ey /welches vorher außgefüllet worden / also daß die Eyserschale gantz mit Thau gefüllet werde / vermache es mit Wachs daß nichts herauß lauffe / stelle es im Mittage an die Sonne an einen Spieß oder Bret / so steigt es über sich [Take May dew / put it in an empty egg / [...] / close it with wax [...] / set it at noon in the sun on a pole or a board / thus it will rise above itself]”* (Praetorius 1669, 563).

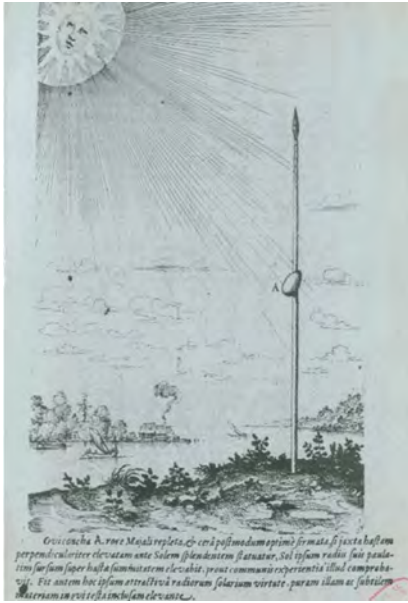


Fig. 4: Rising eggs, filled with dew.

Thus writes Johannes Praetorius (1669), an author of early modern times, in his work “*Blockes-Berges Verrichtung* [The Blocksberg]” in which witches’ arts are described. Apparently a blown-out egg should be filled with a little *May dew*, the filler holes then being closed with wax and, set in the sun or placed on a board, the egg will then slowly rise. Similar recipes were collected from the French-speaking area by Jules Duhem (1943, 400ff.) in his “*Histoire des idées aéronautiques avant Montgolfier* [History of aeronautical ideas before Montgolfier]”.<sup>8</sup> Again and again the necessity of working with dew is mentioned. In Robert Fludd’s hermetical main work, “*Utriusque cosmi [...] historia*” (Fludd 1617), there is even an illustration of an egg being impaled and moving upwards through a type of jet propulsion. An early model of a rocket?

In any case, Fludd, an energetic defender of the astral dew theory (cf. *ibid.*, 149), does not lack an explanation (cf. *ibid.*, 186). The attractive effect of the sun’s rays on the May dew enclosed in the egg causes it to rise up after a while. In a word, the dew comes from the stars and tries to return to them.

<sup>8</sup> For evidence that similar balloons were also known in China, see Needham (1965, 596f.).



Here a type of magnetism is at work. I have not been successful in experimentally reproducing the old witch's trick of flying eggs thanks to a filling of dew; nevertheless, I consider it possible that one could make an egg wobble in this way.

The use of dew to fill this mini-balloon is curious, but it is interesting to see how intimately connected it is with probably the most famous use of dew in world literature: Cyrano de Bergerac's aeronautical technique in his novel "*L'autre monde* [The other world]" (Cyrano de Bergerac (1962 [1657])). At the very beginning the author explains to us that, equipped with several vials of morning dew fastened to his belt, he could be lifted up by the rising sun and in this way reach Canada. The poet writes about dew in a letter:

*"cette belle rosée qui nous fait croire, par ses infinies gouttes de lumiere, que le flambeau du monde [le soleil] est en poudre dedans nos pres, q'un million de petits cieux sont tombés sur la terre ou que c'est l'âme de l'Univers, qui ne sachant quel honneur rendre a son père [le soleil], sort au devant de lui et le va recevoir jusque sur la pointe des herbes*

[this nice dew, that makes us believe, by the infinite drops of light, that the flame of the sun, which lies scattered in the grass, that one million small skies have fallen on earth or that the soul of the universe gives praise to its father—the sun. It flees from him and will meet him again at the tip of the weeds]" (Cyrano de Bergerac 2000, 10; fn 61).

Today, we can no longer really believe that dew will help us prepare the *Philosopher's Stone*. We do not believe either that, with a few bottles of dew on our belt, like the storyteller in Cyrano de Bergerac's novel, we can travel to the moon. We do not believe at all anymore that it would be a meaningful addition in butter production. But we can nevertheless still enjoy its beauty.

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