

IS GRIMM'S FAIRY TALE "THE HARE AND THE HEDGEHOG" A MYTHICAL REPORT OF A LUNAR ECLIPSE?

Sepp Rothwangl

CALENdeRsign, A 8661 Wartberg, Austria

Received October 30, 2007

Abstract. In cultural astronomy there is a global practice of identifying the shape of a hare or a rabbit on the disk of the moon. In Mesoamerican glyphs, Indian Vedic Panchatantra, China, and Europe, there are many examples. The clear description in Grimm's fairy tale of Hare and Hedgehog of a race lasting 73 circuits represents the five divisions of the year by the Moon's periods and has a parallel in the arrangement of St. Mary's feast days over the year. Old farmer's calendar symbols, still in use confirm this assumption. The race of the hare and hedgehog mirrors the orbits of Sun and Moon and ends with blood shooting out of the hare's neck, which describes a red total lunar eclipse. Other data in the fable allow us to find when this eclipse could have happened, and we see there is only one perfectly matching date in the past 2000 years.

Key words: Grimm's Fairy Tale, The Hare and the Hedgehog, Dating a Total Lunar Eclipse, Lunar calendar, myth.

1. INTRODUCTION

This article presents you with an astronomical and calendrical interpretation of the fairy tale "The Hare and the Hedgehog" which offers us an opportunity to date it. Similar stories exist in about 60 different versions, but common to all is a race between the slow and the fast. The archaeoastronomical and calendrical view explains it as the movement of the sun and moon. The slow sun is played by a hedgehog, tortoise, crab, pig, or snail; the faster moon by a hare, fox, wolf, stag, birds, or the devil.

The "Hare and The Hedgehog" is a popular old fairy tale and was first published in the Northern German dialect "Plattdeutsch by Wilhelm Schröder in 1840 after he heard the story at "Buxhoevden". In 1843, the Brothers Grimm added it to the 5th edition of their *Kinder und Hausmärchen*.

2. The Fairy Tale

The Hare and The Hedgehog

This story sounds rather like a lie, my children, but true it is, nevertheless, because my grandfather, from whom I had it, always used to say, when he told it : "It must be true, nevertheless, my son, no one could tell it at all if it was different." And the story itself happened in this way:

It was on a Sunday morning in the autumn time, just as buckwheat flowered: the sun had risen brightly in the sky, the morning wind went over the cleared fields, the larks sang in warm air, the bees hummed in the buckwheat, the people went to the church, and all creatures were amusing themselves, including the Swinegel (Pig-hedgehog) .

The Swinegel was at his door. He looked outside into the morning wind and hummed a small song to himself, so well and so badly, as a Swinegel sings on a fair Sunday morning . While singing, it occurred to him that he could walk a little while in the field and see after his carrots, while his wife washed and cared for the children. The carrots were close to his house, and he used to eat them with his family; therefore, he regarded them as his own property.

No sooner said than done. The Swinegel closed the entry door behind himself and made his way to the field. He was not far from the house and wanted to turn just around the bushes by the field after the carrot field, when he met the hare, which had gone out on similar business, i.e., to look after his cabbages.

When the Swinegel saw the hare, he offered a friendly good morning to him. The hare, however, who thought he was a distinguished gentleman, would not answer the Swinegel's greeting, but said to him quite scornfully, "How it is that you run around in the field so early in the morning? " " I'm taking a walk , " said the Swinegel. "Walking? " laughed the hare, " I rather think you could use your legs better for other things. " This response made the Swinegel tremendously sad, because everything could he bear, but he did not like to hear jokes about his legs, which were bent naturally.

" You probably think", said the Swinegel now to the hare, " that you can run better with your legs ? " - " I think so," said the hare. "I would bet" said the Swinegel, "that if we had a race, I would run faster than you run." "That is ridiculous, you with your bent legs, " said the hare. "But if your heart is set on it, what shall we bet? " - " A golden Louis d'or (coin) and a bottle of cognac " said the Swinegel. " Accepted! " said the hare. " Promise it, and then we can start right here." -

"No, such a great hurry is not necessary," said the Swinegel, "I have not eaten yet; I only want to go home and have a little breakfast. In a half hour, I will be here again at the workstation."

So the Swinegel went home, because the hare was agreeable. On the way home, the Swinegel said to himself: The hare relies on his long legs, but I want to beat him. He is a distinguished gentleman, but nevertheless only a stupid chap, and he has to pay.

When the Swinegel arrived home, he said to his wife, " Woman, put on your

coat! You must go with me to the field." - "What is the matter?" his wife said. "I have a bet with the hare for a golden Louis d'or and a bottle of cognac; I want to race with him for the bet, and you will help me." - "Oh my God, man", the Swinegel's wife started to moan, "you are not very bright! Did you completely lose your mind? How can you want to race with the hare for a bet?" - "Shut up, woman," said the Swinegel. "That is my affair. Do not interfere in men's business! March, put on your coat and come along!" What could the Swinegel's woman do? She had obey, if she wanted to or not.

As they were on their way together, the Swinegel spoke to his wife: Now listen, what I want to say you. You see, we will race on this long field. The hare runs in the one furrow and I in the other one. Now, you have nothing else to do than to stay as you are here down in the furrow, and when the hare arrives on the other furrow, then you call to him: I am already here!"

So they came to the field. The Swinegel placed his wife at the workstation and went up the field to his spot. When he arrived, the hare was already there. "Can we start?" the hare said. "Yes", said the Swinegel. "let's start!" And they placed themselves on their furrows. The hare counted: "One, two, three!" and ran like a storm wind down the field. The Swinegel, however, ran only about three steps, then he ducked into the furrow and remained calmly sitting.

When the hare arrived in full run down at the other end of the field, the Swinegel's wife called to him: "I am already here!" The hare stopped and was not a little surprised: he did not realize the difference, and thought it was the Swinegel who called because his wife looked just like her man.

The hare however thought: "Something strange is happening here." He called: "Again run, again run!" And away he went again like a storm wind, so fast that his ears flew around his head. The Swinegel's wife, however, stopped calmly at the starting place. When the hare arrived at the end of the furrow, the Swinegel called to him: "I am already here!" The hare, however, completely annoyed, cried: "Again run, again run!" - "If you wish," answered the Swinegel, "It's up to you, whatever you like." So the hare ran 73 times more, and the Swinegel always was first. Each time, if the hare arrived at one end of the furrow or the other, the Swinegel or his wife called out, "I am already here!"

The 74th time, however, the hare did not race to the end of row. In the middle of the field, he fell to the earth dead, the blood shooting out of his neck.

The Swinegel took his prizes, the Louis d'or and the bottle of cognac, called his wife from the field, and both happily went home together. And if they did not die, they live there still. So it happened that on the heath of Buxtehude, the Swinegel ran the hare to death, and since that time, no hare has dared to race against the Swinegel of Buxtehude for a bet.

The moral of this story is, first of all, that no one, even if he is the finest and fanciest one, should make jokes about a small man, even if he is only a Swinegel. Second, if one wants to marry, it is advisable that he take a woman of his own status, who looks like him in just that way. Whoever is a Swinegel needs to look for a wife who is also a Swinegel.

The actual race in the fairy tale begins after a double framework, wherein narrator and grandfather protest the truth of this story, which starts on a special autumn day and includes a special hedgehog -- the Swinigel. Here we get the first astronomical hint: Swin is an old name for the sun and identifies the first combatant, whose prickles remind to the rays of the Sun. Later on the fairy tale tells of the unfair race and how the hare must run exactly 73 times, until the blood flows from his neck at the 74th run.

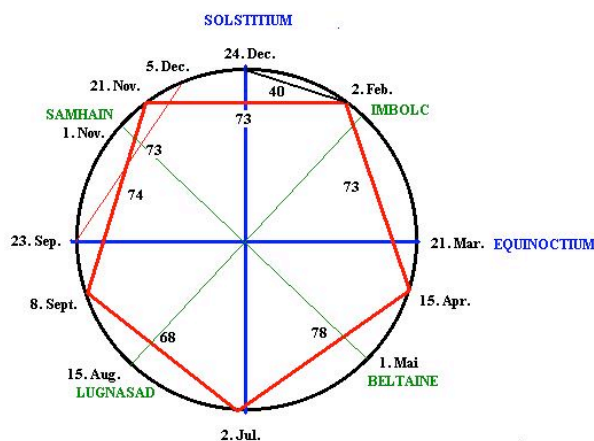
3. The lunar 73 day cycle

Two and a half lunations add up to 73 days, the fifth part of a 365-day year. It is echoed in St. Mary's feast days in the former orthodox calendar.

2 Feb, Candlemas (Purification); 15 Apr, Raphael;

2 July, Visitation; 8 Sep, Birth; 21 Nov, Sacrifice.

Clearly evident is the close relation of St. Mary with the moon or pagan lunar goddess, Artemis, whose major sanctuary was in Ephesus, now one of the holy virgin's mausoleums. Another echo of this relationship is shown in the Catholic Prayer Beads, Rosenkranz, having 59 pearls, the number of days in two lunar months.



Fifth division of the year



St. Mary with the moon

A possible relation to the orbit of Venus supposed Sepp Walter in the virtual shape of the pentagraph that forms the synodic positions of Venus, or e.g. when first appearing as Morningstar. Another connection to Venus could be the day of St. Laurent, 10th August, marking the end of the old rural farmers summer period, that started 14 weeks before at Day of St. Florian, 4th May. In the middle of this period lies the summer solstice, dividing the pentacle of the St. Mary's feast days almost symmetrically in two parts. In the litany of August 10th, the feast of St. Laurentius, an adoration to the morning star was chanted. Eight times the period of 73 day make 584 days, which is the synodic period of

planet Venus and five times 584 days make eight normal solar years with 2920 days, which is almost identical to 99 lunar month.

The connection of commensurable periods of the Moon and Venus may be mirrored also in some old farmer's sayings and rural customs of Austria. For example there is the parole "from where is Bartel bringing the apple wine" (wo der Bartel den Most holt), which means that someone wants to make order in a rough way. This saying has a parallel in the symbols of the old Styrian farmers calendar, where day of Rupert (Bartel) at fall equinox has the symbol of a wine-jug and "Bartel" represents the black companion (Krampus) of St. Nicholas, who's names day is 74 days after. Because the threatening Bartel comes already at the eve before both days are 73 days apart.

A mythical character of Styrian Mürztal is the so-called "Rotsohler" a local Krampus appearing together with St. Nicolas as a threatening black devil with a big basket. It is interesting that this devil is connected also with the myth of Teufelstein, a monolithic rock at top of the Fischbacher Alps. The myth tells that Lucifer was bringing this rock once at Christmas morning (winter solstice) from a location called Rotsohl, where stands a well known tiny St. Nicholas chapel right on the old pilgrimage path to Mariazell (a basilica with a statue of St. Mary, called the Magna Mater Austriae). Teufelstein's huge plain wall is aligned with the axis of winter solstice sunrise and summer solstice sunset. It is fact that planet Venus can appear, as seen from Teufelstein, as far North that it sets at Rotsohl.

The relation of the Styrian Krampus Rotsohler, Lucifer and planet Venus is evident, because Lucifer is the Latin name of Venus as morning star.



Medieval illustration of the seven planets

The number 73 also appears in Latvian Dainas:
Brahmen came together / On the hill,

*They hung up their sabres / On the SACRED TREE,
The sacred tree has / NINE branches,
Each branch at its tip / Has NINE blossoms,
Each blossom at its tip / Has NINE berries.*

The result given in this Daina is 730 ($1 + 9 \cdot 9 \cdot 9$), the same as 365 days and 365 nights of a year.

4. Other ancient and recent mythological links

Beside the natural fact that the period of gestation of the rabbits is about one lunar month, we find the hare in the moon in the Indian myths of Panchatantra in a tale where tricky rabbits state they come from the giant moon and thus convince elephants.

In the ancient Mesoamerican culture we find rabbits in the moon in many representations.



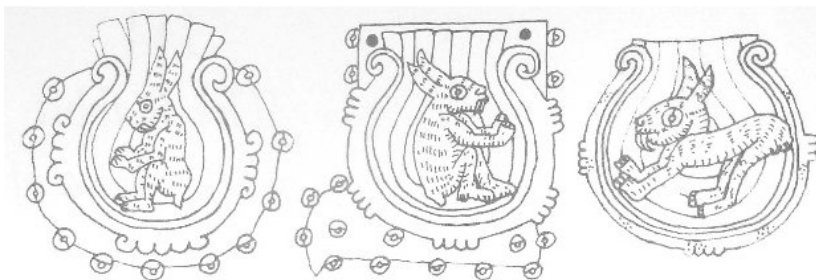
Mayan Moon Goddess



Mixtec Tlaxiaco stela



Mesoamerican monument



Representations of the moon as a vessel containing a rabbit (Codex Borgia)

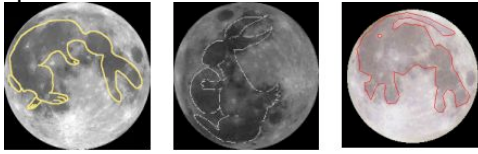
In the Western culture, we find a pagan echo of the hare in the moon in the Easter Hare, which every year still appears at the spring full moon.

In Japan and China, autumn equinox Moon-Hare Festivals and customs like the moon cakes and lamps in the shape of a hare remind us of the myth of the Jade Hare.

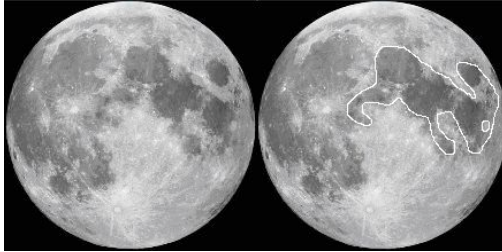
5. Imaginative linkage

With some imagination, a hare or rabbit can be identified easily in the dark

spots on the face of the moon.



Fanciful images of a hare in the moon's face



Best concept of a hare in the moon's disk

The shape of a hare on the disk of the moon is best observed at the waxing and full moon and is shown by the bright and dark spots: Mare crisium (ears), mare foecunditatis (head), langrenus (eye), mare tranquillitatis (breast), mare serenitatis (body), mare nectaris (front legs) mare vaporum (back legs).

6. Calendrical linkage

The 73-day period is found in old customs, such as those found in the Old Styrian Farmers' Almanac, still printed and used. Autumn equinox (St. Rupert) and 6th December (St. Nicolas) are symbolized in old rural sayings and customs of the Austrian Alps, where on the eve of St. Nicolas, the saint is accompanied by a black devil (Krampus or Percht/Ruprecht), when visiting children and bringing gifts. If at autumn equinox is a full moon (Rupert, meaning brightness), then 73 days later on the eve of St. Nicolas is a dark moon (represented by the Krampus).

7. Dating the fairy tale

At the 74th run of Hare and Hedgehog, blood runs out of the hare's neck and it dies. This can be identified as a total lunar eclipse and gives us an opportunity to date it.

Data and conditions that are fulfilled according to the fairy tale:

The geographical location: Buxtehude or Buxhoevden → The eclipse must be visible in Northern Germany.

The (celestial) location at start of the race: The heath with flowering buckwheat → Sun and Moon at fall equinox must be near the star Spica, the wheat ear.

The calendrical date at start of the race: A special Sunday in autumn → a new (dark) moon Sunday at autumn equinox.

The date of end of the race: at the 74th run → A total lunar eclipse at 74th day

after a fall equinox full moon Sunday.

Sat	1262	Dec	06	07:40	T-	123	0.216	2.541	1.416	115m	46m
Mon	1797	Dec	04	04:18	T+	122	-0.035	2.732	1.702	109m	50m
Thu	1406	Nov	25	21:32	T	106	-0.310	2.299	1.310	101m	38m
Sun	1425	Nov	25	21:27	T	116	0.361	2.218	1.204	101m	32m
Wed	1471	Nov	27	20:39	T	107	0.375	2.232	1.139	106m	29m
Sat	1490	Nov	27	05:22	T	117	-0.304	2.380	1.253	112m	38m
Mon	1164	Nov	30	13:18	T+	102	-0.062	2.812	1.708	115m	52m
Wed	1099	Nov	30	16:14	Tm	101	-0.108	2.713	1.639	112m	50m
Sun	0708	Dec	02	13:38	T-	85	0.138	2.622	1.620	106m	48m
Sat	0773	Dec	04	02:49	T+	86	-0.230	2.513	1.389	114m	45m
Mon	0792	Dec	03	09:57	T	96	0.440	2.126	1.008	105m	7m
Fri	0401	Dec	06	23:34	T-	80	0.270	2.434	1.322	112m	42m
Thu	0317	Dec	05	04:44	T	69	0.374	2.190	1.186	99m	31m
Sun	0336	Dec	05	05:13	T	79	-0.292	2.335	1.341	101m	39m
Wed	0382	Dec	07	10:10	T	70	-0.424	2.122	1.068	101m	20m

List of all total lunar eclipses 73 or 74 days after fall equinox 0-1900

Because the eclipse has to occur at the 74th day after a fall equinox Sunday, this happens at Wednesday evening or Thursday morning. Of all eclipses of the past 2000 years only three follow a Sunday autumn equinox and only one matches perfectly:

It is the one of Dec 5th 317 AD!

Everybody is invited to search for better calculations or interpretations of this fairy tale, which seems to mark the transition from a lunar principle or paradigm and calendar to a solar one. Is it only a random event that it occurs so close in time to the Nicean council of 325?

REFERENCES

Austin, Alfredo Lopez. 1996. The Rabbit in the Face of the Moon. Mythology in the Mesoamerican Tradition. Salt Lake City. University of Utah Press.

Espenak, Fred: Five Millennium Catalog of Lunar Eclipses.
<http://sunearth.gsfc.nasa.gov/eclipse/LEcat/LEcatalog.html>

Gebrüder Grimm: Kinder und Hausmärchen. Erlangen. Karl Müller

Hartwig Ernst. 1923. Der Hase in der Mondscheibe. Veröffentlichungen der Remeis-Sternwarte zu Bamberg. Reihe II, Band I. Bamberg. C.C. Buchners Verlag

Koneckis, Ralf. 1994. Mythen und Märchen. Stuttgart. Franck Kosmos

Pundure Irena. 2007. Latvian Dainas Testify to Perpetual Calendar. Talk given at SEAC Conference, Klaipeda.

Walter, Sepp: Der steirische Mandlkalender. Leykam-Alpina. Graz.

Thanks to Mrs. Joan Griffith for English translation and corrections