

A FAIRY TALE ON TWO WHEELS

Jost Pietsch

What a wonderful story: It says that the running machine was invented in 1817 as a transport solution to overcome the effects of a climatic crisis and of the resulting bad crop caused by the eruptions of the Indonesian volcano Tambora two years before.¹ But is it true? It sounds something like the legend of Noah's ark in the Bible, when a new kind of ship was built to conquer a huge flood after a climatic catastrophe called the Deluge. So what are the facts?

Unfortunately no evidence exists for the Tambora hypothesis. Its advocate, Hans-Erhard Lessing, bases it on the near coincidence of the eruption and the invention. And he assumes that to nourish the people the bad crop was compensated for by a supposed great slaughter of horses, while other horses starved to death. This is a contention without source, and it is only hinted at in unnamed 'later books'.² The said occurrence is claimed to have led to a deficiency of horses which finally inspired Karl von Drais, a master of the woods and forests, to invent the running machine as a substitute.³ Lessing explained this with a false reasoning: 'Horseless transport was now definitely a desideratum.'⁴ But the running machine was never thought to take over transport tasks and to replace (draught) horses. It was constructed for individual travelling only. Coincidence, as is well-known, describes different events appearing accidentally at the same time. It, alone, does not prove anything.

ABOUT HORSES

We have a lot of declarations by the inventor from Mannheim in the Grand Duchy of Baden, who was an indefatigable promoter of his two-wheeled travelling idea. But he did not complain of any absence of horses. He mentioned them merely in connection with their speed: The running machine 'runs on the level...like a horse at a gallop...on a descent it is faster than a horse at full speed'.⁵ And he recommended his three and four-wheeled versions for human powered passenger carriage (the latter not to be confused with the driving machine of 1813) – 'where ladies would not be incommoded by dust whirled up by a horse'. His running machine was meant to be for individual trips and it should replace horses especially 'in summer when they are needed for agricultural work in the fields at the very time when delight in travel is at its height'.⁶

In an expert statement, Georg von Reichenbach, a well-known machinery engineer in the Kingdom of Bavaria, declared: The running machine 'will hardly bring the riding of horses as well as of donkeys to an end but it will certainly give comfort to many a handicapped pedestrian and pleasure to many a young and old child'.⁷

These examples by no means indicate that the horses had disappeared and this is confirmed by reports in the local newspaper, the *Mannheimer Intelligenzblatt*, during spring 1817⁸:

- The inhabitants were reminded that it was prohibited to ride on the pavements of the streets and on the by-ways in the castle's garden.

- A veterinarian advertised his talents for castrating stallions.
- There were daily coaches to neighbouring towns and occasional long distance coaches to Munich and Frankfurt. On the way they needed many horses for changing in so-called relays.
- Because of the increasing cost of fodder the fare for the post-chaise was raised by 17%, also the fee for horse-drawn wood transport.
- To get the best offer for supplying military horses with forage several public calls for bids were announced. This was not only for the horses in town, but also for those passing through, such as a Russian dragoon regiment on its way home from France.
- Last but not least there were two auctions to sell the dung of 450 military horses.

Altogether this refutes the legend of a total or nearly total slaughter of horses and of horses starving to death.

THE WEATHER

The Tambora-hypothesis about the early history of the bicycle derives from an article by Henry and Elizabeth Stommel under the title 'The Year without a Summer'⁹ which shows that the dust and sulphur clouds of the volcano's eruptions impaired the climate in the northern hemisphere and led to occasional but exceptional frost and snow from June to August 1816 in the New England states of America. In a folkloristic idealisation this was called to mind as 'Eighteen Hundred and Froze to Death'. The crop of Indian corn was reduced by as much as half or even more. But the 'surpluses of American wheat and rye' were sufficient to equalize 'the failure of the corn crop from Pennsylvania northward'.

What has this to do with the situation in the Grand Duchy of Baden and – not to

forget – with the invention of the running machine? By the way, the Stommel article does not contain a single word about horses. In Baden the weather was also influenced by the Tambora dust and sulphur clouds. Yet at least in the Rhine valley there was no frost during the five months from May until September 1816, as we know from documentation in Ettlingen,¹⁰ a town near the capital Karlsruhe and about 40 miles away from Mannheim.

The weather tended to sudden and extreme changes. The rainy days increased by 35% over normal. But the water-column for the whole year stayed amidst the range of the decade. Completely sunny days sank to 60% below normal, yet the average temperature also stayed amidst the range of the other years, at 7.5° Réaumur (9.37°C or 48.86°F). The worst occurrences, however, were 13 days with hail (+117%) and 22 days with hurricanes (+83%). The mixed days, with sun and clouds, increased by 11%, nevertheless these made three quarters of the year. In mountain areas the corn crop experienced a reduction of up to 50%. Despite the extreme situation in those regions, the crop in Baden as a whole fell by only 16%.¹¹

ARTIFICIALLY HIGH PRICES

Yet that was enough to spur on speculation and usury. Hoarding and also lucrative export deals disturbed the internal supply. Altogether this pushed up the prices for food three to fivefold, which the poor people soon could no longer afford.¹² Meanwhile the not-so-poor people had the possibility of relishing champagne from France, oysters from England, caviar from Russia, cheese from Holland and Switzerland, salami from Italy and rum from Jamaica.¹³ This means that the traffic of goods was not disrupted. Horses were still irreplaceable for heavy transport to pull ships up-stream on the rivers and carriages overland.

The government of the Grand Duchy of Baden reacted to the scarcity of food and the high prices with a doubling of the export duty for corn at the turn of the years 1816/17.¹⁴ The export of potatoes was then generally prohibited, and it was partly prohibited to distil spirits from them. The profit of the high corn duty was intended to be for the support of the poor people to subsidise their corn and flour, as well as to establish soup-kitchens. Furthermore there was a lot of charity. 'The necessity of the years 1816 and 1817 was more a problem of fair distribution of existing resources than a stroke of fate caused by the weather'.¹⁵

A MOMENTOUS ERROR

At the peak of the food crisis in June 1817 the government of Baden decreed the registration of all corn stocks. Concealment was threatened with confiscation. Stocks which exceeded the private need had to be sold progressively at regulated prices. This brought more corn onto the market than all the government's purchases from abroad.¹⁶ Additionally, the export duty for corn was replaced by an export ban, as the neighbouring states had done previously. It ended after the harvest in August.¹⁷ This administrative act was called 'Getreidesperre'¹⁸ – a word with a somewhat unknown sense in present-day German. And here we come to the main error of the Tambora hypothesis. Lessing misinterpreted the word as a breakdown of the transport system, and he misunderstood the disrupted (corn) trading connections as disrupted traffic connections. In his imagination the reason for that could only have been a great slaughter and starving to death of horses:¹⁹ to pave the way for a substitute...on two wheels. Good stuff for a fairy tale!

In other respects Lessing has considerable merit since he found many hidden details in the early history of the bicycle. His hypotheses and reconstructions are

often very creative, but sometimes a little bit risky. And he is a man of good will. In his enthusiasm it seems he wanted to do something good for the inventor Karl von Drais – something even better than reality could confirm. The self-willed Baron from Baden already has a reputation high enough, as he conveyed a great benefit on mankind with his forerunner of the bicycle. It was not necessary to overtrump this appreciation by making him the supposed conqueror of problems caused by the climate. Finally there remains the question whether the bad weather, and especially the bad road conditions, retarded the development from the four-wheeled driving machine in 1813 to the two-wheeled running machine in 1817.

End Notes

¹ Cycle History 11. Proceedings of the 11th International Cycling History Conference, Osaka, 2000, p32/33.

² Cycle History 22, Paris, 2011, p182.

³ Cycle History 11, p33.

⁴ Cycle History 22, p182.

⁵ Karl Freiherr Drais von Sauerbronn, Michael Rauck, Wiesbaden, 1983, p648, 651.

⁶ Ibid, p316.

⁷ Rauck, p150.

⁸ *Mannheimer Intelligenzblatt*, 1817, without pagination:

- 21 March, 16 May,

- 13 May,

- 9 May, 26 August,

- 6 May,

- 21 March, 6 June,

- 6 June.

- Fare for the post-chaise: *Großherzoglich Badisches Staats- und Regierungsblatt* (Government Bulletin of the Grand Duchy of Baden), 17 June 1817, p62.

⁹ *Scientific American*, 'The Year without a Summer', Henry & Elizabeth Stommel, June 1979, p134-140.

¹⁰ *Topographie von Ettlingen*, Peter J Schneider, Karlsruhe, 1818, (Reprint 1992), p300-316.

¹¹ Catalogue 1.1 of the exhibition 'Baden und Württemberg im Zeitalter Napoleons', (Baden & Württemberg at the Time of Napoleon - Exhibition B & W), Stuttgart, 1987, p477.

¹² Ibid.

¹³ *Mannheimer Intelligenzblatt*, 1817, 14 February, 10 January, 18 February, 6 May.

¹⁴ Government Bulletin, 15 November 1816, p. 135, 21 January 1817, p3/4

¹⁵ Exhibition B & W, p477

¹⁶ Ibid.

¹⁷ *Mannheimer Intelligenzblatt*, 24 June 1817, Government Bulletin, 19 August 1817, p73/74.

¹⁸ *Deutsches Wörterbuch*, Jacob & Wilhelm Grimm (Historical German Dictionary), Leipzig, 1911, column 4490.

¹⁹ *Automobilität*, Hans-Erhard Lessing, Leipzig, 2003, p138.

RESPONSE

Hans-Erhard Lessing

As a non-native speaker I usually read English prose only if I need to. This may explain, but not excuse, my negligence of not reading and correcting articles after they have been printed, eg in *The Boneshaker*.¹

So I was absolutely flabbergasted when I just discovered in my paper² from the ICHC at Osaka in 2000 a rather foolishly incorrect quotation:

..... In 1817, a newspaper in Mannheim, which had a Rhine harbour, wrote that 'by the present universal corn shortage, the usual and natural transport links are totally disrupted and a regular circulation of corn supplies to the interior of the country is not possible because so many horses have been slaughtered because of the scarcity of fodder.'

Due to a recent hard-disk crash I no longer have the text sent in, but I am pretty sure that I wanted to state was:

..... that 'by the present universal corn shortage, the usual and natural transport links are totally disrupted and a regular circulation of corn supplies to the interior of the country is not possible' – because so many horses have been slaughtered because of the scarcity of fodder.

² Cycle History 11 'What Led to the Invention of the Early Bicycle?' (2000) pp28-36, quotation on p33.

³ *Mannheimer Intelligenzblatt*, 24 June 1817,

That is, the translated quotation³ within quotation-marks followed after the dash by my conclusion. I admit that it would have been wiser to spend a sentence or two on that instead of appending it in a journalistic manner. Conference goers know that they receive no proofs of their articles, to save time and postage. We relied at that time on the benign dictatorship of Andrew Ritchie who kindly edited the proceedings with the benefit that non-native speakers' articles were transformed into decent English prose. Possibly it was he who shifted the ending quotation-mark for a better understanding? Yet needless to say, that in further German writing⁴ I always used the correct quotation.

CORRELATION AND CAUSALITY

There has been considerable disbelief in my theory of the draisine having been intended to replace starving horses – mainly due to the lack of a statement by the inventor himself. The period gazettes printed the sky-high market prices of wheat and oats, but not a single word on the famine.