



Chronology of dry fogs in Europe: inferences from historical sources (AD 264–1871)

Хронология на „сухите мъгли“ в Европа, извадки от историческите източници (264–1871 сл. Хр.)

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Dry fogs are characterized by a reddish color and foul smelling, they are composed of malodorous gases and can be formed mainly at the beginning of the hot season or in conditions of atmospheric stability. Dry fogs are clouds of volcanic aerosols and gases, which do not wet the surface. Dry mists are often associated with the appearance of red dusks, weak sun and solar or lunar halos. Another distinctive feature of dry fogs is the remarkable damage to harvests, vegetation, animals and as well as people. This research focuses on the analysis and the critical re-reading of primary and secondary historical sources as quoted in Targioni-Tozzetti (1767), Giovane (1796), Prisco (1797), Toaldo (1802), Pozzi (1825), Bellani (1832), Corradi (1865, 1867, 1870) and Serpieri (1872). Examples of the possible occurrence of dry fogs in Europe, extracted from historical written sources, are described below.

AD 264: Great earthquakes, and darkness for several days (Toaldo, 1802).

AD 746: Dense darkness for several days in August (from 10th to 15th) (Corradi, 1865).

AD 790/798?: The sun did not give light for seventeen days (Toaldo, 1802).

AD 1009: The German chronicles recall that during the Palm Sunday, in some places fell down drops of blood on the clothes, and the sun, due to a terrible and dreadful fog, appeared bloody red (Corradi, 1865).

AD 1020: The moon appeared of bloody red color (Toaldo, 1802).

AD 1028: The annals of Bohemia reported that there was an immense amount of caterpillars and butterflies, and the beginning of spring preceded dense and stinking fogs (Corradi, 1865).

AD 1104: The sun and the moon, outside of the ordinary, were eclipsed for several times, which means they were obscured (Toaldo, 1802).

AD 1117: Clouds of fire and bloody red color, were seen close to the ground, it was believed that the clouds were made of bloody rained from the sky (Bellani, 1832).

AD 1151: Dense, darkish fog of fetid smell, led to epidemics and deaths among men and flock (Corradi, 1865).

AD 1154: On October 1, the sky was clear, but appeared entirely overshadowed (Toaldo, 1802).

AD 1227: Earthquakes, comet, the sun of bloody red color (Toaldo, 1802).

AD 1263: The sun was darkened in a cloudless sky, without shine (Toaldo, 1802).

AD 1353: For four full months, from August onwards, rain did not fall, and this drought was attributed to the influence of a large burning steam. On August 11, after sunset, an ashen steam was seen from east to west (Corradi, 1865).

AD 1383: Earthquake in Switzerland, and after, was seen for few days a large halo around the sun (Toaldo, 1802).

AD 1512: On April 11, Easter day, upon the whole Tuscany was seen from dawn until noon, the sun of bloody red color. On the morning of Easter day, the 11th of April, there was a good time, and then a great cold mist rose for four hours, and a similar mist re-appeared during the following morning (Targioni-Tozzetti, 1767).

AD 1524: For few days the sun appeared like a red globe of fire (Toaldo, 1802).

AD 1531: After winter and a very rainy spring with southern winds, a misty steamy hot and dry summer followed (Corradi, 1867).

AD 1542: In April for three days, the sun after noon seemed like a fiery orb (Toaldo, 1802).

AD 1557: After a serene spring and a dry summer with winds from the north, southern winds started

to blow in May; they were so baleful in many parts of Italy, and they destroyed the crops and brought a heavy mist that resembled a gray autumn. This fog began from the borders of Sicily and climbed up to the Alps, infecting whole Italy. The fog created heaviness of head, it weakened the senses, dried out the throat and chest with continuous fevers, with violent coughs not mortals but tremendous. Few men and especially young people, were affected by this form of disease, which then led to fever and tuberculosis and lead many of them to death in a few days (Targioni-Tozzetti, 1767).

AD 1601: In the summer of 1601 there dominated a situation with warm winds from the south, without rain, but full of moisture and fog that obscured the sun. This situation continued in the autumn, which passed almost dry (Corradi, 1870).

AD 1721: This kind of fog or humidity, occurs in temperate climates during the summer. In general the fog dominates a large part of the country, so as to assume that it is not the effect of a local cause only. A haze of this type was seen on April 1, 1721, and was seen in the same day also in Paris, Antwerp, to Milan (Pozzi, 1825).

AD 1795: In Puglia, a dry spring with low rain, was dimmed for some days with a mist similar to that of 1783 and 1794. The fog, appeared whitish and very high in the sky on February 28. It reappeared on the 14th, 15th, 16th and 17th of March and on the 18th of March it was dissipated by a strong wind blowing from the west. The whitish fog was seen later a bit lower in the sky on April 24 and 25. On the 20th, 21st, and 22nd of May, the yellow-red fog was last seen (Giovene, 1796).

AD 1796: In Naples these fogs were dry and wet and were easily blown away by the winds, in those days the sun exhibited a faded and pale yellow color. There were distinguished some disturbances in people and in vegetation due to fogs that changed from hot to wet for the nature and type of wind. In April and May, there were days with so dark and dense fogs that

it was not possible to see the dwelling sites from a short distance. These dense fogs were attributed to the activity of Vesuvius, because this volcano for several days emitted thin powders that expanded into the sky and did not let the sun's rays escape. Until the fog was removed from winds coming from the south, it was observed that most people complained of symptoms of weakness and anxiety (Prisco, 1797).

AD 1871: In Urbino, on June 18th, a haze appeared as a whitish veil. All around, the hills and the mountains seemed to be wrapped in a white smoke atmosphere. Moreover, a dry fog were seen in Uppsala, on 25 to 28 of May, on 15th, 16th, 17th and 28th of June and on July 15 (Serpieri, 1872).

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