Baroque Clouds

- a meteorological walk through the Charlottenburg Castle park

FRANZ J. OSSING *

for Francesca on her way into the millenium

The title "Baroque Clouds" refers in particular to Dutch 17th century painting in which, the landscape itself becomes the theme. A special characteristic is that never before (and hardly since) has such weight been given to the sky above the landscape: representations of clouds take up two thirds or three quarters of the painting's surface – clouds in baroque abundance. This particular depiction of the sky has given rise to many discussions in art history about the meteorological reality of the paintings. Through examples of selected artwork and nature, let us explore an introduction to this exciting art-historical and meteorological topic.

Superpower Holland

Around 1640, the Dutch navy comprised an estimated total of 35,000 vessels, and around 1650, Holland had the largest merchant fleet in the world at the time, its war fleet twice as strong as the English and French combined. In contrast to its main competitors, the superpower Holland did not have a ruler in whom the full power of state was vested. Rather, estate-based parties which emphasized the autonomy of the provinces and the House of Orange that sought to strengthen absolutism faced each other in the absence of a clear centralised power. Such a constellation enabled the emergence of an oligarchy of rich citizens, nobles, merchants and largehold farmers (Schulze 1994, p. 82ff), who naturally surrounded themselves with *objets d'art* to represent their wealth. This attitude radiated far into the poorer sections of society. For Dutch citizens, owning paintings was as natural as owning furniture (Zumthor 1992, pp.218-223). According to van der Woude (1991), between eight and ten million paintings were made from 1580 to 1800. A research project at the University of Amsterdam assumes that at the time of 1650 the guild painters produced around 70,000 pictures for market annually (FAZ, April 26, 2000, p. 49, Frijhoff/Spies 1999, p. 496). In short: there were pictures in every Dutch household.

Photo or Composition?

Because of their faithfulness to detail, paintings of the Dutch "Golden Age" are often examined for their realism. The temptation to use these works of art as general sources for cultural-historical observations is great. For example, historical climate research finds confirmation of its investigations into the Little Ice Age in the depiction of icy water surfaces.

Nevertheless, the clouds in the paintings are more than a simple mirror of meteorological reality; they form an integral part of the artistic structure, the composition of the painting. And yet, the realistic mode of representation created by the masters of the Golden Age does not mean that the Dutch masterpieces of the 17th century owe their painterly effect to a linear depiction of the view of the city or landscape. Only artistic ability makes it possible to translate natural topography into the mood of a painting.

The artists' pictorial statements thus go beyond a true-to-life depiction of the country and its people. So the question of whether the pictorial elements depicted (landscape, clothing, animals, plants, clouds) are realistically true to detail initially remains on the surface. Only with a second, more comprehensive look can we truly access the epochral accuracy of the paintings, begging the question: if the individual elements

---

* Franz J. Ossing, born 1949, cloud photographer and Dipl.-Meteorologist, lives in Berlin-Charlottenburg.

This text is a greatly abridged and completely revised version of the contributions by N. Neumann and F. Ossing in Wehry, W. / Ossing, F. (eds.): "*Wolken Malerei Klima in Geschichte und Gegenwart*", DMG, Berlin 1997

of the pictorial event are true to nature, is the painting is to be interpreted as a photographic account? Eitherway, the individual, true-to-life pictorial elements nevertheless combine to form a pictorial composition, the whole of which is far more than the summary of its individual elements.

Real Clouds in a Catalogue

While the depiction of the sky in paintings of the Golden Age era has always been a topic of discussion for art historians, meteorologists and climatologists also discovered painting as a historical source. As early as 1982, Lamb pointed out the influence of the Little Ice Age on the socio-economic development of Holland during the Golden Age and the painting that was closely linked to it (Lamb 1987, pp. 250 – 257).

Anyone who looks at the sky will discover – especially in the middle latitudes – an astonishing variety of clouds that also change very quickly. The question of whether the Dutch landscape painters of the 17th century painted realistic clouds can therefore also be asked differently: do all existing cloud types appear in the paintings? The World Meteorological Organization has summarised these aerial phenomena of condensed water in the atmosphere in a cloud atlas (WMO 1987) and an initial, superficial comparison shows that certain types of clouds hardly appear and others do not appear at all. Even if one takes into account the huge number of paintings from the Golden Age and that only a very small part of them can still be found in museums and collections, it must be statted: Dutch painting of the 17th century does not provide a complete and comprehensive cloud catalogue.

The Little Ice Age

The first question that arises is therefore: was the weather in the 17th century different from today? From the end of the 16th century, the northern hemispheric mean temperature fell until around 1850, interrupted by only short warmer phases. This phenomenon is referred to as the "Little Ice Age" in today's climate discussion. The beginning of the Little Ice Age is often marketed as the Dutch Golden Age, and in fact it was the first time that widespread depictions of icy lakes and rivers appeared. Even if such a quasi-linear connection seems a little too direct, it nevertheless seems meteorologically plausible that "the weather" in 17th century Holland is reflected in the paintings.

Compared to the preceding higher temperatures of the medieval climatic optimum, the temperature values did drop considerably in several spurts from the 16th century onwards, but the term "Little Ice Age" is not to be understood as meaning that the weather was consistently bad. However, there was a noticeable reduction in the average temperature. Winters were much colder and water surfaces were heavily iced over for long periods. Extreme temperature minima were recorded between 1693 and 1699, and between 1750 and 1770 (cf. e.g. Flohn 1993, Schönwiese 1997). This cooler climate compared to today, however, is unlikely to have led to a fundamentally different appearance of the clouds compared with today.

Dominance of the Clouds

Despite all the realism depicted, the clouds of the 17th-century masters thus do not form a comprehensive cloud atlas, as certain cloud types and forms simply do not appear. This is astonishing given the dominance of the sky in the landscape paintings of the Golden Age, which devoted up to three quarters of the painting surface to the sky. The debate about meteorological realism in this painting goes back to the last century, as the American meteorologist S. Gedzelman proves. And it continues to this day.

The explanation for this selective choice can be found in the design of the paintings. Clouds indeed always dominate the sky, but they are clouds, rather than *cloud structures*.

In nature, the straight line outside crystalline structures is the exception. The same applies to repetitive patterns. Straight lines and repetitive structures are therefore eye-catchers in nature. In the sky, these include, for example, wave structures, regular surface patterns, lenticularis clouds, but also the sharply defined base of cumuli. A sky with such a striking structure of its own would completely dominate the composition of the picture; it would no longer be the sky and the cloud above the landscape that would be the main picture elements, but their *structure*.

The Opposite: A Lack of Structure

Eye-catching cloud structures are therefore not to be found in the paintings, as they would draw attention away from what is happening in the picture or would dominate the painting‘s composition.

But the exact opposite is also the case: a uniform, grey nimbostratus or a blanket of stratocumulus (the most common cloud in temperate latitudes) do not appear in the scenes either. The argument above applies in reverse here: the sky serves to build up drama in the picture, so very often the sky is depicted breaking up after a shower, after a front has passed through, or the like. A stable stratus or nimbostratus sky with a steady drizzle lacks any drama and thus cannot contribute much to the picture's narrative; stratus breaking up, on the other hand, enlivens the picture.

These statements, however, are to be taken *cum grano salis* as there are also the sharply defined lower edges of cumulus clouds, almost boring stratocumulus clouds, as well as long plumes of feathery cirrus clouds. However, these depictions of the sky are the exception in 17th century Dutch painting.

Recommendation

All written descriptions or photographic explanations cannot replace one thing: experiencing the painting in reality in the museum. Berlin in particular has one of the most important collections of Dutch masters in its Painting Gallery. The daily view of the sky can certainly be transformed by attentive contemplation of the Dutch cloud depictions of the 17th century.

Painting Gallery Berlin, Staatl. Museen zu Berlin (Stiftung Preussischer Kulturbesitz),
Kulturforum am Matthäikirchplatz
10785 Berlin Tiergarten
opening hours: Tue – Sun 10-18 hrs., Info-Tel. 030 266 42 42 42

References:

Busch, W. (Ed.), ”*Landschaftsmalerei*”, Geschichte der klassischen Bildgattungen in Quellentexten und Kommentaren, Reimer-Verlag, Berlin 1997

Deutsche Meteorologische Gesellschaft DMG (Ed.), ”*Die Vier Jahreszeiten nach einer Bildfolge von Joos de Momper (1615) in Geschichte, Meteorologie, Astronomie und Musik*”, CD-ROM, Eigenverlag der Deutschen Meteorologischen Gesellschaft, Berlin 1998

Flohn, Hermann: “*Climatic Evolution During the Last Millenium*”, in Eddy, J./Oeschger, H.: “Global Changes in the Perspective of the Past”, Dahlem Workshop Reports ES12, Chichester, New York, Brisbane, Toronto, Singapore 1993, pp. 295-316

Freedberg, David und Jan de Vries (Ed.), “*Art in History - History in Art. Studies in Seventeenth-Century Dutch Culture”*. Santa Monica: The Getty Center for the History of Art and the Humanities, 1991

Frijhoff, Willem/Spies, Marijke: „*1650. Bevochten eendracht*“, unter Mitarbeit von Wiep van Bunge und Natascha Veldhorst, Reihe *Nederlandse Cultuur in Europese Context*, Sdu Uitgevers, Den Haag, 1999

Gedzelman, Stanley David. ”*The Soul of all Scenery. A History of the Sky in Art”*, unveröffentlichtes Manuskript. New York. o.J.

Gedzelman, Stanley David. ”*Cloud Classification Before Luke Howard”*, in: Bulletin of the American Meteorological Society *70*. S. 381-394. 1989

Gedzelman, Stanley David. ”*Atmospheric Optics in Art”*, in: Applied Optics *30*. S. 3514- 3522. 1991a

Gedzelman, Stanley David. ”*Weather Forecasts in Art”,* in: Leonardo *24*. S. 441-451. . 1991b

Kelch, J./ Ossing, F., ”*Wolken, Himmel und atmosphärische Optik bei Joos de Momper*”, Beitrag in: Deutsche Meteorologische Gesellschaft DMG (Ed.), 1998

Lamb, Hubert H.: “*Klima und Kulturgeschichte. Der Einfluß des Wetters auf den Gang der Geschichte”* (gekürzte deutsche Ausgabe von: Climate, History and the Modern World. London 1982). Reinbek, 1987

Neumann, Nathalie/ Ossing, Franz/ Zick, Christian: ”*Wolken-Ge-Bilde*”, Interaktiver Vergleich der Himmelsdarstellung der holländischen Landschaftsmalerei des 17. Jahrhunderts mit Himmelsfotografien, Kapitel der CD-ROM "Wolken-Malerei-Geschichte", Ed.: Deutsche Meteorologische Gesellschaft (DMG) Brandenburg/Berlin, Berlin 1996

North, Michael. *Kunst und Kommerz im Goldenen Zeitalter. Zur Sozialgeschichte der niederländichen Malerei des 17. Jahrhunderts*. Köln: Böhlau, 1992

Ossing, F.: “*Ein virtueller Museumsbesuch - Wetterinformation für eine bestimmte Öffentlichkeit*”, in: Wehry, W. (Hg.), “Wetterinformation für die Öffentlichkeit - aber wie?”, Deutsche Meteorologische Gesellschaft, Berlin, 205 S., S. 13-24, 1998

Schönwiese, Christian, “*Europäische Klimageschichte und ihre Verbindungen zur Kunst, insbesonder Malerei*”, in Wehry,W. /Ossing, F. (Ed.), S. 143-158, 1997

Schulze, Hagen. *Staat und Nation in der europäischen Geschichte*, München: Beck, 1994

Sutton, P.C. (Ed.): "*Masters of the 17th Century Dutch Landscape Painting*", 563 S., Boston, 1987

van der Woude, Ad, "*The Volume and Value of Paintings in Holland at the Time of the Dutch Republic",* in Freedberg, David und Jan de Vries [Hg.] 1991

Wehry, W./Ossing,F. (Ed.): "*Wolken Malerei Klima in Geschichte und Gegenwart*", Eigenverlag der Deutschen Meteorologischen Gesellschaft, 191 S., Berlin 1997

WMO (World Meteorological Organization), 1987: "*International Cloud Atlas*", Vol. II, Genf

Zumthor, Paul: *Das Alltagsleben in Holland zur Zeit Rembrandts*. Leipzig: Reclam 1992 [Original: La vie quotidienne en Hollande au temps de Rembrandt. Paris: Hachette 1959]

Thanks go to Ara Lee for for her native English translation.

Citation suggestion:

Ossing, F. (2000): "*Baroque Clouds. A Meteorological Walk through the Charlottenburg Palace Park*", accompanying paper for the event: Charlottenburg Art Office, Whitsun 2000, "Baroque Clouds", June 11, 2000, Berlin; translation and editing remarks by Ara Lee.