introductory note he gives a few details regarding the manuscript, which he believes was written in 1795 or 1796. One of the most interesting of Dolomieu's statements regards the gold deposits of La Gardette, an elevation in the southern part of Dauphiné.[1] Here gold was found in a quartz vein traversing a gneissic formation, at about 1,500 feet above the plain of Bourg d'Oisans, in the present department of Isère. As early as 1717 peasants are said to have picked up here yellow stones which when assayed in Grenoble were found to contain gold. In 1778 serious attempts were made to work this vein and a certain quantity of gold was extracted, a part of which was sent in the form of an ingot to the Comte de Provence, later Louis XVIII, who caused a medal to be struck out of this gold.[2]

G. F. K.

## NOTES ON METEOROLOGY AND CLIMATOLOGY

### THE TRANS-ATLANTIC FLIGHTS AND OCEAN WEATHER MAPS

Although some attempt has been made to post daily weather maps of the North Atlantic in the New York Customs House, the occasions of trans-Atlantic flights first brought forth daily weather maps of the North Atlantic from which oceanwide forecasts were made. In fact, for a short time in the middle of May such weather maps were being made every six hours from weather reports received by radio from European and American land stations and from the five American battleships and ten destroyers spread over the Atlantic between latitudes 36° and 51° N.

Unfavorable winds for the flight of the NC planes to the Azores lasted until May 16, when in the rear of a low pressure trough, fair weather and westerly winds prevailed from Newfoundland nearly to the Azores. Thinking (justifiably, as it proved) that such favorable conditions would not last long and would not continue again for some time, the forecasters advised that conditions were favorable for the start of the flight to the Azores. The second stage of the flight of the NC-4 to Lisbon was delayed till the twenty-seventh, when a following wind appreciably shortened this long flight. A detailed account of "The first trans-Atlantic flight," with 14 weather maps of the North Atlantic, May 12–20 and 27–31 and of the forecasts in this connection, by W. R. Gregg and E. H. Bowie have been published in the *Monthly Weather Review*, May, 1919, pp. 279–282, 347.

In addition to such weather information as the Americans gave the British aviators on this occasion, the British Meteorological Office was actively engaged in getting weather reports from merchant ships on the ocean along the route from Newfoundland to Ireland. As many have no radio outfits, and as only an occasional ship can send reports more than a few hundred miles, the conditions along this course have been but poorly known in time to be helpful. Stormy weather on either coast kept aviators from starting, but the lack of stormy conditions on either coast did not mean safety in mid-ocean. Messrs. Hawker and Grieve, after leaving Newfoundland, May 18, ran into the northern part of the storm which was so distressing to the crew of the NC-3. In spite of climbing to a considerable height they were unable to get above the clouds; and the strong north wind hindered their progress appreciably.[11]

Although Messrs. Alcock and Brown also experienced considerable cloudiness, the wind conditions, strong westerly all the way, appear to have been ideal for their flight from Newfoundland to Ireland, June 14–15. If they flew on a great circle course the average speed was about 120 miles an hour.[12]

By the time the R-34 was ready to make its trip to America, the receipt of weather reports by radio from vessels at sea was better, though there were great stretches from which no in-

[1] *Op. cit.*, pp. 16–20.

[2] In Professor Lacroix's great work "Minéralogie de la France et de ses Colonies," Vol., 1897, p. 422, this medal is figured.

[11] See *Monthly Weather Review*, May, 1919, p. 283.

[12] See account and weather maps in the *Monthly Weather Review*, June, 1919, p. 416, charts X. and XI.

formation was to be had. The weather forecasters, nevertheless, were able to pick favorable times for the trips both coming and going. The encounters with thunderstorms on the American coast, and the danger of ignition of the hydrogen by lightning have caused a call for thunderstorm statistics over the oceans. Fortunately, thunderstorms are much less numerous on coasts than inland. The danger to trans-oceanic dirigibles, however, is present the year round, and both night and day, for land thunderstorms, which may drift a short distance out to sea occur mostly by day in summer, and ocean thunderstorms occur mostly at night and in winter. Mr. W. R. Gregg, the Weather Bureau representative at Mineola during the stay of the R34, has prepared an account of the meteorological aspects of the voyage of the R34.[13]

I quote from his synopsis:

> The British dirigible R34 flew from the British Isles to the United States in 108 hours and made the return trip in 75 hours, a good illustration of the influence of the prevailing westerlies in trans-Atlantic flight. During the first day of the westward trip northeasterly and easterly winds furnished some assistance, but thereafter cross winds or head winds were encountered most of the time. On the return trip southwesterly and westerly winds added considerably to the air speed of the ship. Inasmuch as it was necessary to moor the ship in the open at Roosevelt Field [it was necessary to guard against] . . . the sea breeze, thunder-storms, and alternate heating and cooling of the gas through the interruption of insolation by passing clouds.

The British have now taken steps to inaugurate a radio collecting and issuing system for weather reports and forecasts for marine and aeronautical interests in all parts of the world.[14]

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[13] *Monthly Weather Review*, August, 1919; daily North Atlantic weather maps by F. A. Young in July issue.

[14] See *Symon's Meteorological Mag.*, May, 1919, pp. 37–38; noted in *Geog. Rev.*, June, 1919, p. 421, and reprinted in *Mo. Weather Rev.*, June, 1919, p. 417.

## SPECIAL ARTICLES

### NEW FRUIT FUNGI FOUND ON THE CHICAGO MARKET

THE present paper gives a description of the diseases as they were seen on the fruit rather than a study of the fungus itself.

The new fruit diseases found on the Chicago market are as follows: a new *Botrytis* on apple, *Polyscytalum* on grapefruit and *Fusarium* on grapefruit.

*Botrytis* sp. was first isolated from a northwestern Spitzenburg, and later found on northwestern Arkansas Black and Winesap. Five Spitzenburg apples affected with *Botrytis* were taken from the same box.

The affected Spitzenburgs were entirely rotted. The apples were very soft but the rot was firmer than that produced by *Penicillium*. The pigments of the skin had stained the underlying tissues to a depth of a quarter of an inch. The apples were covered with a very fine white growth of decumbent mycelium.

In 1918 *Botrytis* sp. was studied at the University of Illinois. The species of *Botrytis* was isolated from an apple covered with a thick, heavy growth of grayish mycelium. The fungus tufts arose a half an inch from the surface of the apple. Inoculations of conidiospores upon disease free fruit produced similar growths. The conidiospores averaged $6\mu$ in diameter. The conidiospores of the *Botrytis* in the present paper averaged $4\mu$ in diameter. As far as the writer has been able to learn, no *Botrytis* of this dscription has ever been recorded.

The perfect and the imperfect stage of *Botrytis* sp. develops in the same culture tube. The asci are arranged in a layer which constitutes a convex hymenium. The hymenium is formed on a very loose structure of mycelium. Paraphyses are present. There were no ascospores produced during the four months the fungus was under observation. The asci averaged $51\mu$ x $11.5\mu$. Sclerotia are seen in culture with the naked eye at the end of two weeks.

Five series of inoculation tests were made using the Spitzenburg variety of apple. Ten apples were used each time. Care was taken