

# THE PHENOLOGICAL OBSERVATIONS AND NETWORKING OF ADOLPHE QUETELET AT THE ROYAL OBSERVATORY OF BRUSSELS

## LE OSSERVAZIONI FENOLOGICHE E LA RETE DI ADOLPHE QUETELET ALL'OSSERVATORIO REALE DI BRUSSELS

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### Abstract

The history and publications around the plant phenological observations of Adolphe Quetelet at the Royal Observatory of Brussels is traced. Quetelet's phenological data are located within the time frame 1839-1872. He played an important role in the development of phenological observations by issuing and distributing his instructions and creating a network of observers on the national and international level.

**Keywords:** phenology, Quetelet, Brussels, 19<sup>th</sup> century, networking, statistics

### Riassunto

*L'articolo traccia un profilo storico e bibliografico delle osservazioni fenologiche condotte da Adolphe Quetelet all'Osservatorio Reale di Brussels nel periodo che va dal 1839 al 1872. In particolare viene posto in risalto l'importante ruolo di Quetelet in termini di sviluppo delle attività osservative fenologiche tramite la creazione e distribuzione di istruzioni e la creazione di una rete nazionale ed internazionale di osservatori.*

**Parole chiave:** fenologia, Quetelet, Brussels, 19° secolo, reti fenologiche, statistica

### 1. History of the phenological observations at the Royal Observatory of Brussels

In 1826 King Guillaume I of the United Kingdom of the Netherlands founded the Royal Observatory of Brussels. Two years later, Adolphe Quetelet (1796-1874) was appointed astronomer but it took many more years – and a Belgian revolution - before the Brussels Observatory started to carry out climatological observations on 1 January 1833 (Demarée, 1996; Demarée *et al.*, 2002).

Quetelet's work in phenology did take place within the framework of the Belgian Academy of Sciences of which Quetelet was the Permanent Secretary till his death. An early set of instructions for the periodical phenomena was published by the Academy in 1842 (Quetelet, 1842a). Quetelet carried out the observations on the grounds of the old Observatory in Sint-Joost-ten-Noode. The first year of observations was 1839 (Quetelet, 1842b). A first overview of the observations of the periodical phenomena was published as chapter IV of the book '*Sur le Climat de la Belgique*' (Quetelet, 1849). A 15-pages leaflet, dated 25 April 1853, was printed by the Royal Academy of Sciences containing the instructions for the observation of periodical phenomena (Quetelet, 1853). Soon the network created by Quetelet spread out over Belgium and over Europe (Ihne, 1884; Schnelle, 1955).

Observations of periodical phenomena at the garden of the Observatory of Brussels (as well as from other Belgian and foreign sites) were published by Quetelet in the

Memoirs of the Belgian Academy under the headings 'Observations botaniques', 'Observations zoologiques' and 'Observations faites à des époques déterminées' as a part of the 'Observations des phénomènes périodiques' for the years 1839 till 1872 (Quetelet, 1841/1875, 1842b, 1848/1851, 1852/1853, 1855a, 1855b, 1857, 1861a, 1861b, 1863). Edmond de Selys-Longchamps (1813-1900), a botanist, ornithologist and entomologist at Waremmes, requested to add to the phenological observations of the state of the vegetation on the days of 21 March, April and October.

Adolphe Quetelet died in Brussels on 17<sup>th</sup> February 1874. His son Ernest replaced him as acting Director of the Observatory until the nomination of Jean-Charles de Houzeau de Lehaie (1820-1888) in 1876. The last published phenological observations from the Quetelet period date from the year 1872. A few observers continued to forward their phenological observations to the Academy. It is not known exactly what happened afterwards with the phenological observations at the old site. The Observatory was definitely relocated to the present site at the Plateau of Ukkel by December 1890. Jean Vincent (1851-1932) published instructions for the plant and animal phenological observations (Vincent, 1894). His instructions contained a list of plants and animals to be observed. The carrying out of phenological observations at the new site started in 1896 and was continued till 1983 date at which all phenological observations stopped at