

## ERNESTO CAPOCCI AND ASTRONOMICAL RESEARCH IN NAPLES AROUND THE MIDDLE OF THE NINETEENTH CENTURY

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### Introduction

The eighteenth century wasn't a very productive age for astronomy in Naples, but one cannot disregard the works of skilful scientists such as Niccolò De Martino, Vito Caravelli and Felice Sabatelli.

The professorship of astronomy after Sabatelli's death was entrusted to F. Ferdinando Messia da Prado, who became afterwards a professor in the University of Pavia. When, in 1806, Giuseppe Bonaparte had dethroned the Borboni, F. Messia da Prado refused professorship, Federico Zuccari obtained it. The latter scientist had been coming back since two years from Milan, where he was sent by the Royal Academy of Naples so as to improve his knowledge of astronomy with Oriani's guidance. Zuccari obtained as well the headmastership of the observatory that was been built by Casella in the former Monastery of S. Gaudioso upon S. Aniello hill.

The site of this observatory wasn't fit for astronomy: horizon wasn't entirely clear, the house hadn't steady foundations and wasn't suitable for the necessary improvements so as to place further astronomical instruments.

The Royal Academy of Naples, after realizing such a situation and with regard to the development of astronomy, suggested to King Gioacchino Murat's government to build a new observatory.

Zuccari took trouble so as to carry out the plan and with some but not all necessary money, on November 1812 laid the foundation stone according to architect Stefano Gasse's planning. The site was been chosen upon Capodimonte hill, in the Villa called Miradois or la Riccia, about 150 m above sea level, with a quite clear horizon.

The construction went on so slowly that Ferdinando I (come back to Naples in 1815 as King of Two Sicilies) entrusted F. Giuseppe Piazzì, afterwards director of the Observatory of Palermo, with continuing the building, in place of Zuccari (who died in 1817, aged only 33). The observatory was brought to an end in 1819 and Piazzì, according to Oriani's proposal, got Carlo Brioschi designated as a director. Brioschi had been in Milan as an apprentice engineer at the Istituto Geografico Militare Lombardo and at the Observatoy of Milan.

The Observatory of Capodimonte was then equipped with quite good instruments and distinguished itself for its works about refraction, aberration and latitude. The early works were “Comentarj Astronomici della Specola Reale di Napoli” (I volume).

## Ernesto Capocci

Brioschi died in 1833 and Ernesto Capocci was designated as a director; Antonio Nobile was second astronomer and Leopoldo Del Re was designated as an assistant.

Capocci was director since 1833 till 1850, when he was removed from the duty by the government, by reason of the charge to have taken hand in the 1848 liberal revolution. In his place Leopoldo Del Re was designated as a director, while Antonio Nobile was ignored by suspicion of liberalism too. Annibale De Gasparis became a new assistant.

Capocci was restored to his former office by Vittorio Emanuele II in 1860 and was at the head of the Observatory of Capodimonte till 1864.

Ernesto Capocci di Belmonte was born at Picinisco in the province of Caserta in 1798; he was Federico Zuccari's nephew. He studied up to high school level in the Seminar of Sora; come to Naples, was designated as a second astronomer of the Observatory of Capodimonte during Brioschi's headmastership. He began to observe meteorological phenomena (*Giornale Enciclopedico di Napoli*, 1815-16) and published a notice about Piazzzi's lessons in the same magazine (tom.II, pp.84-94). He collaborated with Brioschi to publish the first volume of “Comentarj astronomici” (1824-26) and the “Calendario di Napoli” (“Calendar of Naples”) that was published by Observatory since 1821.

He published in 1824-25 in the “Correspondance Astronomique” edited by Saverio Zach: 1) “Osservazioni delle nuove comete degli anni 1824-25” (“Observations of the new comets appeared in 1824-25”), 2) “Calcolo di 4 orbite di nuove comete non mai prima determinate” (“Calculation of the orbits of four new comets till now never established”).

Zach esteemed highly Capocci as a diligent observer and as a skilful researcher in calculating the orbits of comets. In 1825 Capocci published again in *Progresso* a notice about “Nuovo metodo per citare i luoghi delle carte geografiche” (“A new method to point at places marked on a geographical map”) and “Dialogo sulle comete scritto in occasione delle 5 apparse nel 1825” (Napoli, in 4°, p.87, Tipografia del *Giornale delle Due Sicilie*) (“Dialogue about comets written with regard to the five appeared in 1825”).

The small volume is divided into three parts:

1. “Delle comete in generale” (“About comets in general”).
2. “Delle comete del 1825” (“About comets in 1825”)

### 3. "Quistioni sulle comete" ("Problems about comets").

In 1827 Capocci began attending to an important astronomical work, that involved the Observatory in an international joint-work. Giovanni Encke (1791-1865), director of the Berliner Astronomical Observatory, entrusted Capocci with drawing up a map of the sky (according to the Bessel's proposal at Berliner Academy in 1825) at XVIII hour, in collaboration with Inghirami, director of the Florentine Observatory. They'd been working assiduously for three years, with the collaboration of Del Re, as an astronomer, and of Comte, as a miniature painter, when the map was finally ready (at the same time, they collected data for an astral catalogue that would have consisted of about eight thousands stars; it wasn't published on medical grounds and on account of political events).

The Capocci's map included 7,900 stars; each one of them has been observed and their positions have been improved in accuracy, in comparison with Lalande's, Piazzzi's and Bessel's catalogues. (Cfr. E. Taddei, "Del Reale Osservatorio di Napoli", *Progresso*, V, XII, pp.149 and ff.). Because of this work, Capocci was called by Baron Zach "The Italian Encke". His notice about sun-spots was brought out on *Astronomische Nachrichten*. Its title was "Über die Sonnenflecken, von E. Capocci" (pp.5 in 4°, A.N. n.115). In 1832 he published on *Progresso* (vol. IV, 1832, pp.1-14): "Indagini sulla resistenza dell'etere e sulla luce delle comete fatta al ritorno della cometa periodica di Biela nel 1832" ("Investigations about the resistance of aether and about the light of comets, on occasion of coming back of Biela's recurring comet in 1832"). Afterwards, he brought out his work: "Di alcune apparenze particolari osservate nell'Eclissi lunare del 24 dicembre 1833" (*Annali Civili*, V. 4, 1834) ("About some peculiar phenomena observed in the lunar Eclipse on December 24th 1833"). At the same year he published on *Progresso*: "Nuove ricerche sul noto fenomeno delle colonne perforate dalle foladi nel tempio di Serapide a Pozzuoli" ("New investigations of the well-known phenomenon of columns perforated by piddocks at the Serapide's temple in Pozzuoli").

He spent several time at Paris, London and Brussels. At Paris, he published a novel: "Il primo Viceré di Napoli" ("The first Viceroy of Naples") dedicated to his wife Almerinda Farina (on the age of Barlettan Challenge). He published as well at Paris: "Brevi notizie intorno alle scoperte sul calorico del Sig. Melloni" ("A brief notice about Mr. Melloni's discovery in relation to caloric"); besides, Capocci was a good Melloni's friend. He got a diathermic glass, an electric micrometer and a photometer made in Paris, according to his own invention. Besides, he got a "device to help shipwrecked people" made by MacIntosh (*Journal de la Societé des naufrages*), 1830. After his coming back to Naples, he brought out the notice: "About periodical recurrence of aerolites and meteors" presented to the Academy of Naples on August 6th, 1843. On 1840 in the *Spettatore Campano* he got a work published, whose title was: "About the best way to build carriages". Further works came after;

- "About the total sun eclipse on July 8th, 1842".

- "About scintillation"
- "Observations of the 1843 comet"
- "About a new chromatic phenomenon in twilight"
- "About the new comet sighted at Paris on July 7th, 1844"
- "About recurring meteors of August 10th, 1844" (R. 1844, p.281 and R. 1845, pp.305).
- "About the comet discovered by Peters in 1845" (Christian Henry Frederick Peters had been working since 1840 at the Observatory of Capodimonte; he gauged magnetical declination and dip by Gauss' magnetic declinometer).
- "About Ross' telescope" (R. 1845, p.111).
- "Observations about nebulae, about a comet discovered at Rome and about sun-spots" (R. 1845, p.111)
- "About observations of May 11st and 13rd, 1845 with regard to globes passing above the sun" (R. 1845, p.162).
- "About an unusual volcanic phenomenon upon Vesuvius on December 1845" (R. 1846, pp.6, 14, 20).

(R. = *Rendiconti della Reale Accademia delle Scienze di Napoli*).

In 1845 the Seventh Conference of Italian Scientists took place in Naples; Capocci was present at it by reading some announcements:

- "About the spots of the sun and its physical constitution"
- "About Peters' comet"
- "About diving-dress and tide-gauge" (invented by him himself; he spoke as well of the works in the Observatory).

After he has been designated as director of the Capodimonte Observatory, he had been travelling for two years throughout France, England and Belgium. He was elected as a member of the Neapolitan Parliament during the reign of Ferdinando II; he was compelled to resign from directing the Observatory, as we said above, by reasons of politics.

As a private person, Capocci attended to Divina Commedia and wrote a commentary with regard to cosmography in the poem; he translated as well Arago's Lessons of Astronomy.

When the Kingdom of Italy has been established, he was designated as a senator and as a commended knight of the Order of the Saints Maurice and Lazarus. He died on January, 1864 and his biography was reported by the astronomical English review *Monthly Notices*. His obituary was published by the *Rivista Illustrata di Napoli*, 1865, p.471.