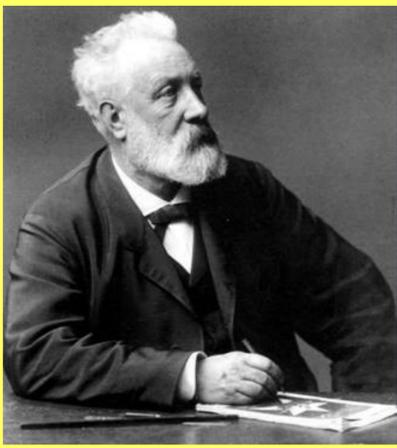


Planets, comets and small bodies in Jules Verne's novels



Jules Verne
Nantes – 8 February 1828
Amiens – 24 March 1905

J. Crovisier
Observatoire de Paris
LESIA, CNRS, UPMC, Université Paris-Diderot
5 place Jules Janssen, 92195 Meudon, France



An original binding of
From the Earth to the Moon and Around the Moon

Almost all the *Voyages Extraordinaires* written by Jules Verne refer to astronomy. In some of them, astronomy is even the leading theme. However, Jules Verne was basically not learned in science. His knowledge of astronomy came from contemporaneous popular publications and discussions with specialists among his friends or his family. Here, we examine, from selected texts and illustrations of his novels, how astronomy — and especially planetary science — was perceived and conveyed by Jules Verne, with errors and limitations on the one hand, with great respect and enthusiasm on the other hand.

Jules Verne was born in Nantes, where most of the manuscripts of his novels are now deposited in the municipal library. They were heavily edited by the publishers Pierre-Jules and Louis-Jules Hetzel, by Jules Verne himself, and (for the last ones) by his son Michel Verne.

This poster briefly discusses how astronomy appears in the texts and illustrations of the *Voyages Extraordinaires*, concentrating on several examples among planetary science. More material can be found in the abstract and in the web page :

http://www.lesia.obspm.fr/perso/jacques-crovisier/JV/verne_gene_eng.html

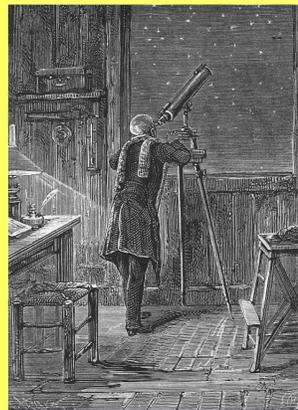
De la Terre à la Lune (1865, *From the Earth to the Moon*) and *Autour de la Lune* (1870, *Around the Moon*) are probably the most famous novels on lunar exploration.

Hector Servadac (1877, *Off on a Comet*) tells the voyage across the Solar System aboard a comet of a small community, including the free-lance astronomer Palmyrin Rosette

Sans dessus dessous (1889, *Topsy-Turvy*) reports a foolish attempt to tilt the rotation axis of the Earth, using the recoil effect of a giant cannon. The attempt fails, due to a miscalculation. The story is based upon a sound technical study by Albert Badoureau (1853–1923), a mining engineer who lived in Amiens from 1884 to 1894. The study of Badoureau was published in extenso, packed with formulas and scientific drawings, as the last chapter in the first edition of the novel.

La Chasse au météore (1908, *The Chase of the Golden Meteor*), a posthumous novel rewritten by Jules Verne's son Michel (1861–1925), narrates the rivalry between two amateur astronomers who both discovered a bolid (in fact an asteroid). The asteroid is made of gold, and the announcement of its fall on Earth provokes a financial crisis.

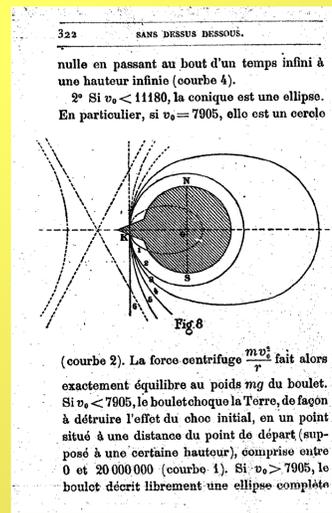
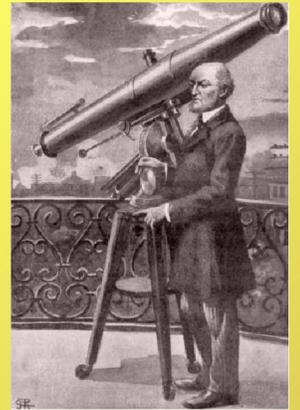
Jules Verne's scientific novels inform us on how astronomy was understood by an honnête homme in the late 19th century. Their scientific content is of course outdated, but they can still be used in the classroom, as a lively introduction to the history of science.



Palmyrin Rosette, the free-lance astronomer in *Hector Servadac*.



The rival astronomers in *The Chase of the Golden Meteor*.



A page taken from the last chapter of *Topsy-Turvy*, written by Badoureau, inspired from the cannon experiment of Newton.

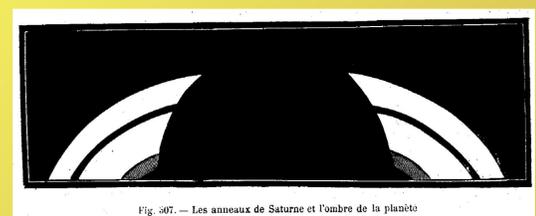
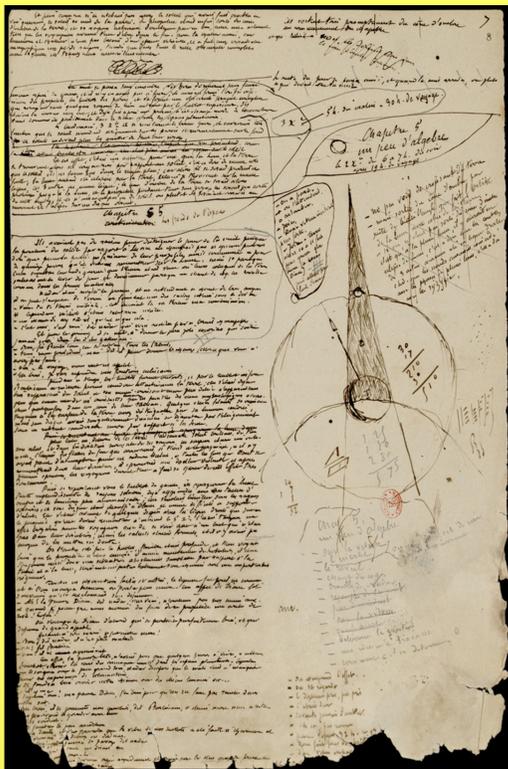


Fig. 307. — Les anneaux de Saturne et l'ombre de la planète

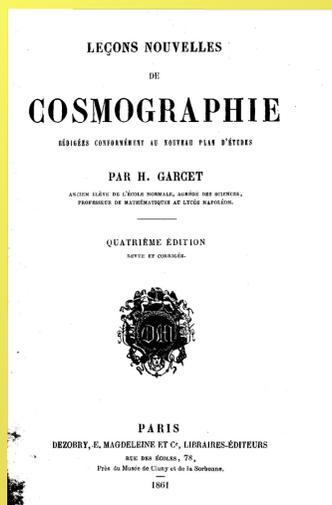
The rings of Saturn as represented by Camille Flammarion in *Les Terres du Ciel* (1877) (top) and by Jules Verne and his drawer Philippoteau in *Hector Servadac* (1877) (right).



Il se dessine sur l'horizon comme une arche lumineuse. (Page 211.)



A page of the manuscript of *Around the Moon*.
© Bibliothèque municipale de Nantes.



This textbook, written by Jules Verne's cousin, was in his library.

Table 1. Novels of Jules Verne with references to astronomy. The date is that of the first Hetzel edition. Many variants exist for the English titles.

| <i>strong references</i> | | | |
|--|------|--|--|
| <i>De la Terre à la Lune</i> | 1865 | <i>From the Earth to the Moon</i> | |
| <i>Autour de la Lune</i> | 1870 | <i>Around the Moon</i> | |
| <i>Aventures de trois Russes et de trois Anglais dans l'Afrique australe</i> | 1872 | <i>Adventures of Three Russians and Three Britons in Southern Africa</i> | |
| <i>Le Pays des Fourrures</i> | 1872 | <i>The Fur Country</i> | |
| <i>Hector Servadac</i> | 1877 | <i>Hector Servadac (Off on a Comet)</i> | |
| <i>Sans dessus dessous</i> | 1889 | <i>Topsy-Turvy</i> | |
| <i>La Chasse au météore</i> | 1908 | <i>The Chase of the Golden Meteor</i> | |
| <i>secondary references</i> | | | |
| <i>Voyages et aventures du capitaine Hatteras</i> | 1866 | <i>The Adventures of Captain Hatteras</i> | |
| <i>Le Tour du monde en quatre-vingt jours</i> | 1873 | <i>Around the World in Eighty Days</i> | |
| <i>Les Cinq cents millions de la Béguine</i> | 1879 | <i>The Begum's Millions</i> | |
| <i>Le Rayon-vert</i> | 1882 | <i>The Green Ray</i> | |
| <i>Mirifiques aventures de Maître Antifer</i> | 1894 | <i>Adventures of Captain Antifer</i> | |
| <i>L'Île à hélice</i> | 1895 | <i>Propellor Island</i> | |

almost all other novels contain episodic references to astronomy, geography, geodesy, hydrography, meteorology...

References

- Butcher, W.: *Jules Verne: The Definitive Biography*, Thunder's Mouth Press, New York, 2006.
- Crovisier, J.: *Jules Verne and Astronomy. Notes and comments on the astronomical novels of Jules Verne*, 2004-2011.
http://www.lesia.obspm.fr/perso/jacques-crovisier/JV/verne_gene_eng.html
- Crovisier, J.: *Astronomy and astronomers in Jules Verne's novels*, in *The Role of Astronomy in Society and Culture*, IAU Symp. 260, in press (arXiv:0906.1052), 2009.

Two scientific advisors of Jules Verne for astronomy:
Left: his cousin Henri Garcet (1815-1871)
Right: the mining engineer Albert Badoureau (1853-1923)

