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Encyclopedia of Astronomy and Astrophysics: A Review

Jean Manfroid

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(translated by Susan Leech O'Neale) </CENTER>

([version française](#))

Review

Encyclopedia of Astronomy and Astrophysics

<http://www.ency-astro.com/>

Editor: Paul Murdin (Head of Astronomy at the Particle Physics and Astronomy Research Council;
Director of Space Science and Microgravity, British National Space Centre)

Print Set: ISBN 0-333-75088-8 / ISBN: 1-56159-268-4 (US). - 4 Volumes, 2,500 pages, 3,500
illustrations, 8-page section of colour plates in each volume.

The *Encyclopedia of Astronomy and Astrophysics (EAA)*, published in four volumes at the end of 2000, was hailed as "one of the grandest reference works in science today" (*Physics World*). With 3000 articles for a total of 2.5 million words written by 800 renowned experts, this work has hardly any competitors, at least not in the field of astronomy. We must mention, nevertheless, the rather fine volume with a similar title and philosophy, the *Astronomy and Astrophysics Encyclopedia*¹, edited by Stephen P. Maran and published by Cambridge University Press in 1992, which is starting to become dated.

The new *EAA* is available on the Internet in order to overcome this rapid obsolescence and to take advantage of the wider possibilities of the electronic medium. Search tools allow one a greater access than is possible with even the most precise index in a four-volume work. Also the electronic version comes with quarterly updates. Another advantage of the online *EAA* is the links to other sites.

Access to the *Encyclopedia* is by subscription (£130 for an individual subscription for one year, £300 for 3 clients, £350 for 5 clients, etc.). Certain items are available without a subscription. The most interesting of these is the *News*.

One can thus read the *Article of the Week*, which is chosen for its newsworthiness: for example, the article was about Callisto when the space probe Galileo was at its closest point to the satellite of Jupiter. The same goes for the *Picture of the Week*, which at the same time offered us a close-up view of the surface of Callisto. The *Breaking News* item is even more up to date, offering us access to press releases and other announcements of astronomical discoveries. The *Sun* and *Space Weather* items give live information on the state of the Sun and geomagnetic activity. Other items which are freely accessible are astronomy-related links. These are presented in different groupings. They are quite useful, but one would like to see a few more. Most astronomers have probably already found equivalent or better links. The *Nature Science Update* link sends you to the *Nature* site, but when using this link the last six months of articles are missing. By going directly to the *Nature* site, you have access to all the *Nature Science Update* articles. Using the selection obtained via the *EAA*, the articles turn out to be rather dated. When we consulted the *EAA* listing (June 2001), the latest article was dated November 2000 and referred to a shower of shooting stars 'Catch a falling star this weekend'. Fortunately, one also finds links to Leonides and other meteorite showers.

The real strength of the *EAA* is the 630 in-depth articles, accessible only to subscribers, and which give an exhaustive and rigorous presentation of current astronomical knowledge. The homogeneity of the level of these articles is remarkable considering the number and diversity of the authors. This is doubtless due to the strong editorial control of the publishers (Nature Publishing Group and the Institute of Physics). Although the general level of the articles is very high, the non-specialist can make use of the excellent introductions that normally cover the first few pages.

The articles are available in two formats: html and pdf, the former containing hyperlinks and the latter presenting a page layout with tables and figures fit for printing. In the html format the tables and figures can be opened on demand in independent windows (you can even print them if you work on a platform other than Unix). Despite the loss of legibility (equations, special characters), the advantage of this format is that one can link directly to other articles or consult the definitions.

Other articles on the same subject, figures etc. can be consulted with a single click on one of the many icons. Unfortunately, afterwards you have to reload all the files which even with a fast line and a powerful PC is rather irritating. This is the biggest drawback of *EAA* online, especially for the great majority of users who do not have the latest machines. This must of course be compared with the difficulty of consulting four large physical volumes.

There are two main search modes: 'search' and 'quick search', the first one is to be preferred since it leads to more precise results (with quick search you get 88 matches for 'Orion' and if you use more general terms like 'supernova' or 'Sun' you go beyond the capacity of the system). When searching for terms as general as 'stellar evolution' or 'comets' one retrieves many articles, some of which are not relevant and with overlaps (Novae, Dutch astronomy, etc.). As far as possible one should stick to precise search terms. You can search for terms in the body of the text, authors or article title. The search results themselves can be sorted according to simple criteria.

We found to our cost that one must avoid the use of the hyphen ('three body problem' gives 15 matches, whereas 'three-body problem leads to 'too many').

One can also use the 'browse' function. But this is very slow since basic articles are mixed in with lots of small articles such as *definitions*, etc.

The presence of these short articles in the *EEA* can be justified as far as the 'definitions' are concerned, but those on constellations, the Messier catalogue, or even biographies seem out of place. They are too short, have no links (to or from the *EEA*), have no pictures or maps, and the

Figures, Tables, Related Information icons can be clicked on but do nothing except reload the article. They leave us wishing for more and stray away from the real purpose of the *EAA*. What can we learn from a few lines about (almost) every object in the Messier catalogue? Some rare objects (like M82 or M87) have a full article dedicated to them, but do not appear in the short notices. M1 appears in a full article and a short notice, but there is no link between them. Many free Internet sites, well known to amateur astronomers, give a lot of detail on these subjects.

It is a pity that constellation maps are not accessible, either in these short articles or elsewhere in the *EAA*. There is an article entitled 'Constellation Maps' by P. Moore, but it is a short history and there is no map there. Strangely enough, even though many constellations are cited in this article, only *Ursa Major* and the *Southern Cross* have links to their respective articles (but with a mistake in that the second link in fact leads to the *Corona Australis*).

The biographical notices are far too brief to be of any real interest. Only a few giants such as Galileo or Newton receive the necessary attention in the form of an in-depth article.

The *EAA* is a remarkable work (both online and in print), unique in astronomy, and whose real worth lies in the 630 in-depth articles. The short articles do not add much, but they are not a distraction (except when they weigh down the browse function). The only negative note comes from the slowness of the Internet. One solution would be to have the *EAA* available on a local fast support.

[The Astronomy and Astrophysics Encyclopedia / Stephen P. Maran. - Cambridge University Press, 1992. - ISBN: 0521417449](#)

Author Details

Jean Manfroid

University of Liège

[Institute of Astrophysics and Geophysics](#)

[Observational Astrophysics Group](#)

Avenue de Coïnte, 5

B-4000 Liège, BELGUM

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