Cell Biology online: Ergito

When one wants to know everything there is to know about cell biology, the natural thing to do is to fetch a textbook, such as *Molecular Biology of the Cell*, off the shelf. This book is wonderful, with plenty of information, clever interpretations and beautiful drawings. However, it is a book that has to keep expanding with our inflating knowledge of molecular details, and in common with most printed textbooks, it is specialized. Ergito (http://www.ergito.com) is a different enterprise. It is an ambitious online website that intends to be a comprehensive resource for the life sciences. Because it is electronic, it can be expected to evolve smoothly over time. Ergito's goal is to become an alternative to scientific textbooks so as to offer an integrated approach to education in the life sciences by providing online access to current information at all levels of learning and knowledge. The authors set the stage by stating on the home page: "Virtual text was started in year 2000 with the purpose of providing an alternative to scientific textbooks". Ben Lewin, the creator of Cell Press, is also the creator and editor of Ergito, together with a team of scientists that includes some former colleagues from Cell Press.

Ergito has sections that feature books, special series, "techniques", "great experiments" and a glossary. It also includes an introductory biology section that should be useful to browse through once it is completed. I liked the great experiment section, which provides lively historical descriptions of particularly striking experiments from the 20th century. I especially enjoyed reading about the discovery of microtubule dynamic instability. I was working in Marc Kirschner's laboratory when Tim Mitchison did these experiments, and the website has an accurate, lively description of the development of the ideas and experiments. This section includes an introduction and background that frames the big question and explains the underlying concepts, a concluding statement on the implications of the results and a short biography of the author(s). In addition, essential figures can also be accessed alongside the text. This is excellent and should be of great interest to many readers because it conveys the atmosphere that surrounded each discovery and the way of thinking that drove scientists to make their discoveries. People who are interested in popularizing science may also use this as a starting point. A great strength of this presentation is that the information can be found in an integrated format, where experiments carried out in widely different fields of the life sciences are accessible in one place.

The book on cell biology is still under construction and will cover the major cell compartments (nucleus, membrane systems and the cytoskeleton) in a fairly traditional way, as well as cell cycle, signalling, cancer and some virus-related topics. Each chapter starts with sections on key terms and concepts, followed by short, explanatory paragraphs that are accompanied by essential figures. An interesting aspect of the presentation is that it starts with a very simple description that will be accessible to beginners in the field and progresses into a detailed account. Therefore, it is easy to obtain information in proportion to the level of one's expertise. Another aspect of the website is the relatively current nature of the available information. For example, the chapter on the nucleus starts with a general description of chromosome organization in the nucleus, but also includes recent results on the role of the small GTPase Ran in nucleo-cytoplasmic transport and contains a link to a description of the role of Ran in spindle assembly. This is a good example of the strength of this media, which allows constant updating, sometimes simply by establishing links.

However, the style can sometimes be a bit disappointing. It is somewhat dry, with descriptions that are almost always fairly mainstream. But this has the merit of making the content very accessible. In general, I have also not been impressed by the artwork.

In summary, Ergito is a convenient and user-friendly source that has the advantage of being accessible directly from your desk. It may turn into a wonderful way of readily accessing information between biological disciplines. One wonders whether this medium may, in the end, replace printed textbooks. Although I still like to read printed textbooks, when the book becomes too big, it turns into a muscle building exercise. At present, one disadvantage of the electronic media is that a fast connection is needed to enjoy it. For example, I had to write this little comment in the laboratory because I use a telephone line at home. But soon we might be able to have fast access, and then this medium may indeed be the beginning of the end for printed textbooks. □

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