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Editor: P.G. Boswell

Editorial and Advertising

EPS Secretariat, P.O.Box 69

CH-1213 Petit-Lancy 2, Geneva

Telephone: +41 (22) 793 11 30

Telefax: +41 (22) 793 13 17

E-mail: peter.boswell@cern.ch

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Eurocheque to EPS, Geneva

EPS Budapest Secretariat

Nádor u. 7, H-1051 Budapest

Telephone: +36 (1) 117 35 10

Telefax: +36 (1) 117 68 17

Cover illustration

Four steps in the simulated growth of a phylogenetic tree projected onto a two-dimensional plane. Each dot represents a species; the ancestor is located at the root of the tree and the living species are located on the leaves. This tree is made of 4000 living species, with the furthestmost species being the most differentiated with respect to the original ancestor, i.e., the species which is the most "genetically different" with respect to the "root". The vertical axis represents the number of mutations from the ancestor; the horizontal axis is arbitrary. The growth of such a tree involves a succession of bursts separated by periods of stasis (Gould's so-called punctuated equilibrium) occurring on a geological-like timescale. The tree shown here consists of about 250 bursts, where each of the various colours represents 25 successive bursts (see M. Ausloos and N. Vandewalle, p. 55).

Developing a Presence

With 1400 participants at the second conference in Darmstadt in April, the international World-Wide Web conference series seems to have already reached its limits. It will now probably start to atomise into specialised events catering for heterogeneous interests. In sharp contrast to last year's first event at CERN, numerous multinational companies participated, testifying to the growing commercialisation of the Web. Some aim to be technology leaders, taking over from research centres (e.g., Silicon Graphics is pioneering three-dimensional browsers). Others, notably Microsoft, will interface the Web to their own technologies.

Another watershed came in 21 April when the routing tables for the US NSFNet were removed in the hand-over of the US Internet backbone to commercial operators. Aside from some support for access to Network Access Points, the US government will now focus on developing high-bandwidth backbones. Europe has a less structured approach based on relatively monopolistic operators reaching agreement so as to provide full coverage. The result, while expensive, is nonetheless stable.

So the Internet is here to stay and countless organizations have taken the plunge — including the EPS in 1993 when the Society began to use NIKHEF's Web server. A more accessible server recently became available in Lausanne and the two are now coordinated under the EurophysNet umbrella (page 59).

The real challenges of course lie elsewhere. Ensuring the development of non-proprietary solutions remains a priority. The World-Wide Web Organization, a consortium comprising the US National Science Foundation and NSCA (the originators of the pioneering Mosaic Web browser), and the European W4G interest group operating under the ERCIM banner are all very active; the Internet Engineering Task Force and the International Standards Organization also play a role. Nonetheless, Version 3 of the Web's Hyper Text Markup Language will emerge this summer, illustrating that an ever increasing number of ever more sophisticated yet accessible Web tools will become available.

Reaching agreement on ways to find a piece of data is taking much longer. A popular approach is based on defining metadata that includes the author's name, the date, the context, etc. As the discussions are endless much information tends to be repeated, with primary sources seeking visibility. EPS must unfortunately follow suite, albeit fairly modestly, and EurophysNet should provide the necessary framework.

P.G. Boswell