tasks, providing another window to prevention through psychomotor training (*2*). Finally, with the use of methods that build on those of Manuca and Savit and the team at the University of Michigan, we have found that more than half of epileptic crises can be anticipated by a brief window and are amenable to electrical intervention of the kind described in Glanz's article (*3*).

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Glanz quotes one investigator to the effect that neural noise does not have clinical application as yet. But three decades ago, it was discovered that the pupil motor response has a neural noise component (*1*). We uncovered a signal processing method to isolate this noise from the rest of the pupil response and found that the noise variance had a significant clinical application in that it could accurately (90% confidence) distinguish individuals with attention deficit disorder (narcoleptics) from normal (control) individuals (*2*). In memory experiments, we also observed that neural noise has a dramatic impact on cognitive performance. We believe that the reticular activating system controls the noise we measure and, if so, there should be more clinical applications for attention deficit disorders in the future.

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■

Haeckel's Embryos

A recent paper that we authored with several colleagues challenges the idea that there is a single, highly conserved embryonic stage in the vertebrates (*1*). Principally because of our conclusions regarding the inaccuracies of drawings made by the 19th-century naturalist-philosopher Ernst Haeckel, our paper received considerable coverage in the popular and scientific press (*2*), including an article by Elizabeth Pennisi ("Haeckel's embryos: Fraud rediscovered," Research News, 5 Sept., p. 1435). Regrettably, in the resulting debate over Haeckel and the reality of the vertebrate "phylotypic" stage, what we regard as one of the main implications of our results for contemporary studies of the developmental basis of evolutionary change has been largely overlooked.

The idea that there is an identical embryonic stage (the phylotypic stage) common to all vertebrates implies that changes in development that underlie the considerable variation in adult morphology of these animals appear only later in ontogeny. In this sense, the concept of the phylotypic stage is an explicit statement, or hypothesis, about the temporal deployment of evolutionary changes in development. Yet we show that at least some significant differences in adult morphology, involving characters as fundamental to the vertebrate body plan as limbs and somites, begin to appear before, and are apparent at, the putative phylotypic stage. These and similar observations (*3*) seriously diminish the validity and applicability of the phylotypic stage concept for the vertebrates. More important, they remind us of the potential significance of earlier developmental events to the determination of animal form, and that these too are frequent targets of evolutionary perturbation.

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■

Secretion of Thiols and Disulfide Bond Formation: Retraction

In our report "Cysteine and glutathione secretion in response to protein disulfide bond

formation in the ER" (12 Sept., p. 1681) (*1*), we describe data suggesting that cysteine and glutathione are secreted through the exocytic pathway in response to disulfide bond formation in the endoplasmic reticulum (ER). However, we have been unable to replicate some of the experiments conducted by the first author of that report. This calls into question our results and conclusions.

We are now in the process of repeating most of the experiments, and are ready to communicate the available results on request. Meanwhile, we wish to alert readers that the original conclusion that cysteine and glutathione are secreted through the exocytic pathway is not supported unless further experimental evidence becomes available. We apologize for any difficulties that may have been experienced by the scientific community.

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Corrections and Clarifications

■ In the article "EU bodies on collision course over research budget" (News & Comment, 20 Feb., p. 1125) by Nigel Williams, a currency conversion error led to all the dollar figures in the text and the table being smaller than they should have been. All of these figures should have been increased by 18%; thus, the value of the new Framework 5 budget proposed by the Council of Research Ministers is $15.2 billion, while those proposed earlier by the European Commission and European Parliament are $17.7 billion and $18.1 billion, respectively. The percentage cuts reported in the article were all correct.

■ The team that discovered the 90-minute clock discussed in Elizabeth Pennisi's article "New developmental clock discovered" (News, 28 Nov., p. 1564) included Portuguese researchers as well as French and British scientists.

■ Elizabeth Pennisi's article "The architecture of hearing" (Research News, 14 Nov., p. 1223) did not make clear that Christine Petit of the Pasteur Institute in Paris was one of the researchers who, with Steve Brown and Karen Steel, showed that Usher syndrome 1B is caused by a mutant *myosin VIIA* gene.

■ In the report "Formation of a silicate L_3 phase with continuously adjustable pore sizes" by K. M. McGrath *et al.* (25 July, p. 552), the solutions used to prepare the L_3 phase silicate materials were incorrectly listed in the middle of the second column on page 553. The text should have read, "Solutions were prepared with a hexanol-to-CpCl ratio of 1.15 .... "

Letters to the Editor

Letters may be submitted by e-mail (at science_letters@aaas.org), fax (202-789-4669), or regular mail (*Science*, 1200 New York Avenue, NW, Washington, DC 20005, USA). Letters are not routinely acknowledged. Full addresses, signatures, and daytime phone numbers should be included. Letters should be brief (300 words or less) and may be edited for reasons of clarity or space. They may appear in print and/or on the World Wide Web. Letter writers are not consulted before publication.