

EMBO editorial policy

Turning Transparent

The *European Molecular Biology Organisation Journal (EMBO J.)* has begun the year ambitiously. As of January 2009, normally private correspondence for manuscripts submitted to the journal, including referees' comments and editorial decisions, will become openly accessible over the internet.

Pernille Rørth, executive editor of *EMBO J.*, feels there is a real need for greater transparency, "The editorial process often appears to be a black box. When things work well, referee-author-editor interactions can be very constructive. But they can also be endlessly frustrating." All too often authors wonder if they are being treated fairly, "One may ask: is the editorial process at a journal efficient and reasonable? Are referees rightfully critical or too picky and demanding? Do editors make reasoned decisions and minimise unnecessary back-and-forth cycles?"

The new initiative, the 'Transparent Editorial Process', seeks to address these doubts. Currently, standard publication procedures for accepted articles allow readers to see just the final product of the reviewing process – only corresponding authors, referees and editors are privy to underlying exchanges of critiques, questions, calls for revision, authors' responses and subsequent editorial decisions.

However, now, upon publication of a paper in *EMBO J.*, there will be an "additional supplementary editorial process file linked to it on the web", containing all dates relevant to the processing of the article and

all the pertinent communications between the corresponding author and the editorial office, including the referees' comments and the decision letter.

Authors still have the option not to participate. And referees' confidential comments to the editor will remain confidential "to avoid compromising anonymity".



Rørth hopes the process files will show why referees found accepted articles to be interesting and important, what initial shortcomings were (if any) and to what extent this was resolved in revision.

But to facilitate transparency, referees are also being asked to explain more clearly what revisions they require, making it easier for authors and editors to understand how to proceed, "Often without the need for further consultation".

"We are fortunate to have some excellent and thoughtful referees evaluating sub-

mitted papers for the journal. It seems reasonable for their work and insights to be made more visible, including their explanation of why they think a piece of work is significant."

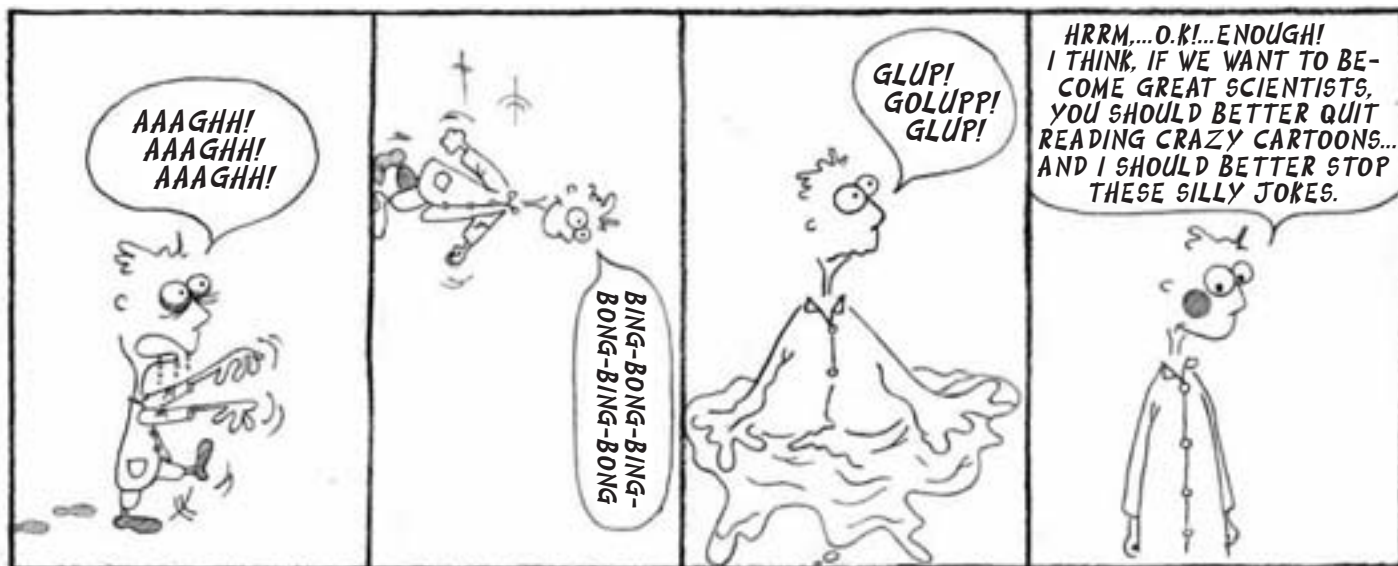
Furthermore, knowledge that their communications will become public "May cause some referees and authors to hesitate before writing. We hope that ill-considered or dismissive comments will be omitted and thoughtful, reasoned arguments will be enhanced. Referees may think twice about whether the requests they make are indeed important."

Access to these editorial process files will be "Very educational for younger scientists who are learning how to publish their findings and how to deal with critique."

However, this background information will only be available for manuscripts that are finally accepted for publication. What happens to all the other articles? To have a full picture of the editorial process, Rørth says that authors and readers may want to know what happens to rejected manuscripts. Article processing statistics will now be available online, providing details of the average time for each step, the percentage of articles rejected, who makes the decisions, etc. The stats for 2007 are already available showing that of 3,185 manuscripts submitted, only 10% were accepted. Manuscripts were rejected at several steps: 74% weren't even sent out for a review being promptly returned (within 4 days!) by the executive editor (16%) and the editorial team (58%). Of those that actually made it to the reviewing process, 61% were rejected. But, manuscripts sent back for ►►

BY RAFAEL FLORÉS

PAUL THE POSTDOC



Recently Awarded

▶ Seven young researchers will receive the **2008 EMBO Installation Grants**, assisting them to relocate and set up their research groups in the Czech Republic, Estonia, Hungary, Poland, Portugal and Turkey. Each of them receives €50,000 annually for three to five years to help them establish their groups and themselves in the European scientific community. They constitute the third group of awardees since the European Molecular Biology Organization (EMBO) introduced the scheme in 2006 and will be integrated into the EMBO Young Investigator network. The awardees in detail:

* **Martin Anger** moves from the University of Oxford to the Academy of Sciences, Libechev, CZ; Research area: Chromosome segregation during meiosis.

* **Viljar Jaks** moves from Karolinska Institute, Stockholm, to the University of Tartu in Estonia; Research area: Hedgehog signalling in liver stem cells.

* **Attila Gacser** moves from Albert Einstein College of Medicine in New York to the University of Szeged, Hungary; Research area: *Candida* infectivity.

* **Rita Sinka** moves from the Medical Research Council, Cambridge, UK, to the University of Szeged, Hungary; Research area: Spermatogenesis in *Drosophila*.

* **Tomasz Guzik** moves from Emory University, Atlanta, to Jagiellonian University in Poland; Research area: T-cells in hypertension.

* **Tiago Outeiro** moves from Harvard Medical School in Boston to the Institute of Molecular Medicine, Lisbon; Research area: The molecular basis of neurodegeneration.

* **Ertugrul Kilic** moves from the University of Zurich to Yeditepe University in Turkey; Research area: Cholesterol transport & drug delivery.

▶ **Sabrina Büttner** from the Institute for Molecular Biosciences at the University of Graz was awarded the European part of **GE & Science Prize for Young Life Scientists**. Her essay "Endonuclease G Regulates Cellular Fate", which described her doctoral thesis from 2007, yielded her \$5,000 of prize money.

▶▶ revision fared better – only 3% finally failed at this last hurdle.

Analytical stats are also available for the ultimate fate of manuscripts rejected by *EMBO J.* apparently justifying their rigorous selection process (although strictly speaking it would be necessary to see what happened to manuscripts accepted at *EMBO J.* if they were also resubmitted to other journals). There were 2,640 rejections in 2006. By July 2008, only 18% of these manuscripts had apparently disappeared without trace, 79% had been published by journals "with a lower impact factor" and, finally, 3% appeared in journals with a higher impact factor (basically *J. Cell. Biol.* and *Blood*). However, "In many cases the abstract and content of the published manuscript had been changed significantly from the one received at *EMBO J.* and published a long time after the original submission date in 2006."

EMBO J. is published by the *Nature Publishing Group*. It will be interesting to see whether its sister publications, including *Nature* this, that and the other, *Oncogene*, etc., will decide to adopt similar transparency in their editorial processes.

"Everything we do now will be open to scrutiny by all," says Rørth, before adding that he expects authors and referees "to vote with their feet" – the experiment will be discontinued if he thinks scientists aren't supporting it, although he is noticeably less transparent about what his statistical cut-off point will be.

European research area

Moving Targets

Flush with media success after assuming the highly respected presidential seat of the European Union, the French government ended 2008 with a number of self-congratulatory announcements. On December 2nd, at the ominously named "Competitiveness Council" in Brussels, Valerie Pécresse, French Minister of Research and Higher Education, proclaimed the creation of the European Research Area, a eurocratic idea for enhancing pan-European research and development that was, in fact, launched as far back as 2000.

"Creation of the European Research Area (ERA) amounts to no less than the creation of a fifth freedom – the free movement of knowledge, to sit alongside the four cornerstones of the EU, namely the free movement of people, goods, services and capital," she said. European researchers may not be aware that the EU has decided they

are severely deprived of such freedom, but help is already at hand.

The European Commission wish list has already been given a "forward-looking strategy" termed 'Vision 2020'. Pécresse continued, "Member states wished to organise this Vision 2020 around three strong ideas. The first is that the ERA must be firmly anchored in European society to meet its needs and its ambitions. The second is that the ERA is the road towards excellence and the driving force for European competitiveness. Finally, ERA must be a truly border-free area that promotes the free movement of knowledge." Still freeing up that blocked knowledge, eh? Ironically, in France, Pécresse and the French President have been heavily criticised for their own clumsy reforms of France's research infrastructure, which many fear will lead to debilitating restrictions in academic freedom and research performance (see *LT* 01, 02, and 04/2008).



However, not to be outdone by Pécresse's self-importance, Janez Potočnik, the European Commissioner for Science and Research, pointed out that although the Member States had not actually provided any concrete proposals concerning the ERA, "We are not starting from scratch: while Member States were discussing this Vision for 2020, the Commission made several proposals this year to build a more coherent and attractive ERA."

He then announced three "highlights" of the European Commission's own plans. First, the "Joint Programming Proposal": Potočnik was "Happy to note that there is recognition of the need to join forces and pool resources on some strategic research areas dealing with the major societal challenges, such as climate change, health or energy supply." The "Joint Programming proposal (JPP) is a crucial one, its implementation will be the true recognition of the interest Member States have in cooperating, sharing brains and resources to gain time, money and enhance the EU's po- ▶▶

► sition on the global scene.” To test their JPP, a pilot venture covering research on Alzheimer’s and other neurodegenerative diseases has been announced.

However, some might have wondered who was in competition with whom at the Competitiveness Council when Potočník explained, “The way I see it is simple: it is not an additional instrument or a shift of competencies to the Commission, quite the contrary. Member States will be in the driving seat, whilst the Commission will serve as a ‘co-pilot’ and will make sure that there is enough fuel in the tank!” Yes, but who’s the mechanic?

Another “brick” in the building of the ERA is to give a new legal framework to European research infrastructures. “The Commission proposes a specific legal personality, recognised in all Member States, with clear provisions on the exemption of infrastructures from VAT and excise duties, and from the procedures on public procurement. Clarity over tax status is crucial at a time when we are urged to develop rapid

and smart investments in research and to create the conditions for knowledge-based growth. Let’s not lose time in case-by-case tax negotiations when we could be building these urgently needed research infrastructures (such as deep sea-floor observatories or bio-medical data bases) because, at the end of the day, their existence will have a significant economic impact, generating jobs and income, locally and elsewhere.”

The Commission’s last “brick” is the European Partnership for Researchers. “Researchers are the human face of the ERA and we need to take their particular situation seriously to help them to move from one country to another or from one sector to another.” However, many European researchers may be surprised to learn that the Commissioner has decided that social security and pensions rights are amongst the main obstacles that prevent researchers from moving. And some of us naively thought it was simply due to lack of money! Furthermore, given existing EU legislation on pensions and social security, it isn’t

clear if Potočník is seriously proposing to treat researchers differently from other EU workers in this respect.

“We are gradually lifting the barriers to the freedom of movement of knowledge; we are making the ‘5th Freedom’ a reality,” Potočník chirped in conclusion.

In effect, Vision 2020 is a continuation of the Lisbon Strategy – in 2000, the European Council recommended that European countries should embark upon an enormous expansion in research funding to attain 3% of GDP by 2010 in order to “make Europe the most competitive and the most dynamic knowledge-based economy in the world”. Unfortunately, the European Council’s mid-term review in 2005 found such a lack of enthusiasm amongst Member States that it felt obliged to revise the target date for fulfilment of the Lisbon strategy’s objectives to 2012. In many respects, the latest proposals have now moved the target date back another 8 years. Will “Vision 2020” have more success than its predecessor?

JEREMY GARWOOD

You Can’t Deny Your History

When “replaying the tape of life” of flies in the lab, only half of the gene frequencies revert to the ancestral state.

In his book, *Wonderful World*, Stephen Jay Gould writes about a thought experiment of “replaying life’s tape”, wherein one could go back in time, let the tape of life play again and see if “the repetition looks at all like the original”. Gould’s conclusion: No, it wouldn’t because the outcome of evolution is contingent on everything that came before. Now, a group of researchers headed by Henrique Teotónio at the Instituto Gulbenkian de Ciência (IGC) in Portugal provides evidence of why this is so.

Teotónio *et al.* used laboratory-grown populations of *Drosophila melanogaster*, derived from an original group of flies that had been harvested from the wild back in 1975. These ancestral flies had been grown in the laboratory, for two decades, under different environmental conditions (such as starvation and longer life-cycles) so that, in a process of forward evolution, each population had been selected for specific characteristics.

Teotónio and his colleagues placed these populations back in the ancestral environment to impose reverse evolution. After 50 generations, they looked at the phenotypes of these flies as well as the genetic changes in certain areas of chromosome 3. The results showed that there was no general loss or gain of allele diversity, however, selection had occurred at several loci. Furthermore, the researchers observed that despite a complete convergence to ancestral levels of adaptation, allele frequencies only show partial return.

Teotónio explains: “In 2001 we showed that evolution is reversible in as far as phenotypes are concerned but even then, only to a point [see *Nature* 408: 463-6, the Editor]. Indeed, not all the characteristics evolved back to the ancestral state. Furthermore, some characteristics reverse-evolved rapidly, while others took longer. Reverse evolution seems to stop when the populations of flies achieve adaptation to the

ancestral environment, which may not coincide with the ancestral state. In this study, we have shown that underlying these phenomena is the fact that, at the genetic level, convergence to the ancestral state is on the order of 50%, that is, on average, only half of the gene frequencies revert to the ancestral gene frequencies. Thus, evolution is contingent upon history at the genetic level too.” Just as Gould had hypothesised

Moreover, these findings also provide evidence for evolution happening through changes in the distribution of existing alleles in a population (so-called standing genetic variation) from generation to generation, rather

than through the appearance of mutations. This process has long been thought to be operating in natural populations that reproduce sexually but hasn’t been demonstrated until now.

(More research results from European evolutionary biology labs on pp. 30-35)

