

Developing Milestones

This month, we are pleased to announce the publication of 'Milestones in Development', a collaboration between *Nature Cell Biology* and four other journals: *Nature*, *Nature Reviews Genetics*, *Nature Reviews Molecular Cell Biology* and *Nature Reviews Neuroscience*. This project follows in the footsteps of the 'Milestones in Cell Division' supplement published in 2001 and, in this case, we aim to highlight the key discoveries from the past century that have shaped developmental biology today.

To help us pan for the golden papers in such a wealth of literature, we sought the expertise of 33 developmental biologists working in a range of model organisms. On the basis of their advice, 24 milestone discoveries were selected and each of these is highlighted by a short article within the supplement. Inevitably, there will be other papers of arguably equal significance that we have been unable to discuss in this finite group, but we hope you agree that the Milestones chosen have highlighted key principles that in many cases have proved to be highly conserved.

From the early newt transplantation experiments of Hans Spemann and Hilde Mangold to the fate-mapping experiments of Edwin Conklin and later Walter Vogt, what emerges as a theme in these Milestones is the critical role that early morphological studies had in building a foundation for our understanding of the common principles underlying development. In many cases, the predictions made about the nature of key processes — tissue induction, chemoattraction and lateral inhibition, to name a few — were verified only decades later after cloning of the genes responsible. Moreover, as highlighted in the Milestones, it is also now clear that unravelling the basic mechanisms of development has important implications for preventing diseases, including cancers, that occur when developmental pathways go awry. Not only this, but it paved the way for the development of techniques such as *in vitro* fertilization and embryonic stem-cell biology.

To allow access across the research community, this supplement will be available free online for six months at www.nature.com/milestones/development. The print supplement also contains a selection of articles from the participating journals and, at the website, you will find an extensive library of relevant content from each of the five journals.

If you would like to read further into these topics, we have provided links to extracts from Scott F. Gilbert's textbook, *Developmental Biology*, and we would like to thank Scott Gilbert and Sinauer Associates for allowing us free access to these chapters. We would also like to take this opportunity to acknowledge the support of our sponsors: the March of Dimes, the National Institute of Child Health and Human Development, and the Juvenile Diabetes Research Foundation. At *Nature Cell Biology*, we hope this supplement emphasizes our continued commitment to this significant area of research, and the importance of developing cell-biological models in the context of the whole organism.



US trade policies hamper global research cooperation

The pursuit of scientific research is a core cultural activity of all enlightened societies. In democracies, science has generally remained immune from unreasonable national political and religious agendas. Understandably, however, this balance can shift dramatically when national security is affected, such as with nuclear or infectious disease research, or when it enters the domain of ethics, such as cloning. All too often, cultural contributions spark overzealous public reaction — think Salman Rushdie or Richard Wagner. Nevertheless, democracies have usually taken pride in protecting the freedom of the sciences and arts; indeed, their unrestricted pursuit is a hallmark of a free society. History shows that it is invariably counterproductive to starve a nation of its cultural assets. Most scientists and artists have actively nurtured the liberal trans-national and trans-cultural pursuit of their chosen speciality, even at the worst of times (see, for example *Nature* 425, 444–449; 2003). The last decade has seen the ever-increasing globalization of science, driven not least by the internet and high-speed travel. This welcome development has not only contributed dramatically to the acceleration of scientific discovery in all countries, but equally as important, it has very actively contributed to global cultural understanding and exchange — and, as a direct consequence, world peace.

Therefore, many were rather astounded when a country that regards itself as a world leader in the areas of free speech and democracy announced last September that editing and publishing scientific manuscripts from a number of countries classified as 'enemies' by the US government was prohibited unless specifically licensed (*Nature* 427, 663; 2004). In the words of Allan Adler of the Association of American Publishers "The [US] government should not be in the business of restricting this kind of first amendment activity... we think this is wrong as a matter of law and principle". Although the US Treasury Department's Office of Foreign Assets Control (OFAC) re-affirmed this position in February, they subsequently eased restrictions on the publication of papers from countries that are under US trade embargo; this was a laudable move. However, OFAC continues to inform US researchers planning to attend conferences deemed not sufficiently international in countries such as Cuba, that they would face "criminal and/or civil penalties" as a result (*Science* 303, 1742, 2004; *Science* 304, 171, 187, 2004). Furthermore, OFAC's policy reversal still seems to prevent collaborative interactions, at least in some cases, between researchers in the US and an embargoed country that results in co-authorship (*Science* 304, 1422; 2004). Clearly, open collaboration in subject areas with no direct relevance to national security interests is still actively discouraged.

It is worrying when individuals instigate initiatives to restrict the open trans-national collaborative pursuit of science — for example, the 2002 petition to boycott Israeli science (see *Nature* 417, 1, 2002). It is infinitely more worrying when government institutions based on democratic ideals set such boycotts into legal stone.