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for Cell Biology**

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Celebrating Darwin and the Scientific Method

The year 2009 marks the 200th anniversary of the birth of Charles Darwin, whose ideas and writings revolutionized biology. They were radical and far-reaching. And they continue to resonate through every branch of natural science, not least of all cell biology. So, as a society, let's celebrate Darwin, and try to follow his great example.

Celebrating an Inspiration

There are many sources from which to draw inspiration about Darwin in the coming year (see, for example, www.darwin200.org; www.darwin2009.cam.ac.uk; www.nature.com/news/specials/darwin; and www.sciencemag.org/darwin). Some contributions highlight the very latest advances in evolutionary research and their application to fields such as social behavior and medicine. Others reach out to the general public. These will help to address the gap between Darwin's stature among scientists and the way in which he is perceived by large numbers of people in our communities.

It is no news to any of us today that evolution and science have been under siege. I remember being astounded not long after I came to the U.S. to hear Darwin referred to as one of the Four Horsemen of the Apocalypse on a religious TV station! Surely this was not the same Charles Darwin as the gentleman hero I had revered since high school?

Today, I still have a picture of Darwin on my desk; and I still find inspiration from his example. Like all of us, I deeply admire his insatiable curiosity and his ability to communicate his ideas to a wide audience. I have particular admiration for his courage in holding to his beliefs even though he knew they would be unpopular. I hope that as scientists, teachers, and mentors, we can pass along to future generations not only the fundamental principles of evolution and natural selection, but also the essence of Darwin's great mind and personality.

Curiosity and wonder at the everyday world were hallmarks of Darwin's mind. He never seemed to stop asking questions! Importantly, his curiosity was coupled with both careful observation and a tenacious drive to test ideas. He studied barnacles, beetles, butterflies, birds, climbing plants, insect-eating plants, orchids, earthworms, seeds, pigeons, and domesticated animals... the list goes on and on. He drew on a worldwide network of fellow naturalists, experts, and laypeople to supply him with specimens and information. He had close friends and colleagues who advocated his ideas. Curiosity, experimentation, communication, and community... all characteristics that we strive to emulate.



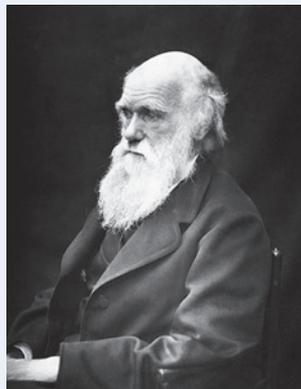
Brigid Hogan

Communicating What Science Is

I remember that the parts of *On the Origin of Species* that I enjoyed the most as a high school student were the descriptions of the experiments that Darwin had carried out almost in his own "backyard." For example, to test his ideas about the geographic dispersal of seeds, he asked how long seeds and fruits could survive being immersed in seawater or being fed to animals; he questioned how many could be germinated from dried earth found stuck on dead migratory birds. The take-home message for me as a youngster was that one doesn't need fancy equipment to think and act like a scientist. The important values are curiosity and experimentation, and conclusions based on data and logical analysis. If we fail to communicate the importance of data-driven scientific inquiry to our elected officials, nonscientific colleagues, friends, neighbors, and the public, then we fail to live up to Darwin's example. We must continue to press for the application of the scientific method to the urgent problems that face our society.

Scientists—and the ASCB—have an obligation. As many of you know, the ASCB is very active in promoting the public understanding

of science. The celebrations of the 200th anniversary of Darwin's birth provide a great opportunity to promote not only a greater public understanding of evolution, but of scientific concepts in general. By the time you read this, we will be celebrating a substantial increase in U.S. funding for science in general, and for the NIH budget in particular. However, we need to make our voices heard about how the money should be best spent. The next issue of this *Newsletter* will highlight how the funds will be spent.



Charles Darwin

Why Natural Selection Matters

It is sobering to remember that Darwin built his ideas about natural selection and evolution without any knowledge of DNA, chromosomes, genes, cell organelles, and regulatory networks. Today, we have incredibly powerful tools with which to ask questions relevant to evolution. We can explore right down to the molecular level how variations in form and function are generated for natural selection to work on. We can ask how genes regulate embryonic development and how competition and selection play out at the cellular level within tumors or stem cells and their niches.

These topics will be among the many highlighted in the symposia, minisymposia, and working groups planned for the 2009 ASCB Annual Meeting in San Diego (December 5–9). It is fun to think what Darwin's reactions would be to all the exciting new material that will be discussed. Be sure to mark the dates on your calendar and spread the word to your friends and colleagues, even though December seems a long way off.

If teaching evolution is in your immediate future, be sure to avail yourself of ASCB

resources to help you teach your students. The ASCB BioEDUCATE website links to sites showcasing evolution. Our education journal *CBE—Life Sciences Education* (www.lifescied.org), published online four times a year, features numerous articles about teaching evolution. The spring issue, online as of March 2, features a timely look at Darwin-related Web resources. And our Education Committee, under the able leadership of Chair Caroline Kane, is working on new sessions for educators at the next ASCB Annual Meeting.

Sadly, limited ASCB resources have forced us to suspend continued development of ASCB's BioEDUCATE, Image & Video Library, and CellBASE websites... for now. (See p. 1.) But these digital resources are still available for your use; and the ASCB website at www.ascb.org remains your portal for a variety of rich resources, including iBioSeminars on evo-devo topics, such as regeneration, genomes and evolution, evolution of vertebrates, and neural crest in development. (Visit www.ibioseminars.org to see the collection.) Or you might want to listen to the audiotape of the Deciphering Evolution Symposium at the 2006 ASCB Annual Meeting (www.ascb.org/evolution). Need to be reminded about the importance of *Kitzmiller v. Dover* in the defense of science and science education in the U.S.? That's why we gave the ASCB Public Service Award at that same meeting to ASCB member Ken Miller, Brown University, and Barbara Forrest, Southeastern Louisiana University.

Are you ready to celebrate Darwin in your lab or classroom? Why not visit www.ascb.org and begin? ■

Comments are welcome and should be sent to president@ascb.org.

Annual Meeting Lost & Found

ASCB has a few unclaimed items from the Annual Meeting. If you misplaced an item during the meeting, please contact Director of Meetings Trina Armstrong at (301) 347-9325 or via email at tarmstron@ascb.org. ■

Save the Date...

for the 49th ASCB Annual Meeting

in San Diego, CA

December 5–9, 2009