Evo: Ten Questions Everyone Should Ask about Evolution

directed by John Feldman
Spencertown (NY): Hummingbird Films, 2011. 107 minutes

reviewed by Mitchell B Cruzan

This collection of short videos provides clear explanations for some of the basic principles of evolution and the history of life on the earth. The ten individual chapters are nicely tied together by several themes: the narrator's son finds fossils in their gravel driveway, the timeline for the history of the earth is illustrated by markers along the length of a person's forearm, and an international conference on evolution is held in the Galápagos Islands, which provides a nice backdrop of interesting organisms and scenery. The film is structured around explanations of evolution by attendees at the conference—some of the best known researchers in the field of evolutionary biology. Their lucid explanations of evolutionary processes are separated by colorful footage of organisms in nature that illustrate the primary ideas. The major points in each chapter are made clear by “pop-up” captions that appear regularly throughout each video. The narrator ends each chapter with questions that provide natural segues to subsequent chapters. Overall this video would be an excellent tool to supplement instruction on evolution in an advanced course at the high school level or an introductory college course.

The first chapter of this video answers the question, “What is evolution?” Subsequent chapters in the first half of the video provide a biography of Charles Darwin and explanations of concepts such as natural selection, speciation, genetic drift, and mutation. The second half of the video takes on additional topics such as the importance of symbiosis and cooperation in evolution and patterns in evolution such as punctuated equilibrium, and also provides a brief history of life on Earth using the “arm timeline” metaphor. There are also two chapters addressing the history of misrepresentations of evolution, including a chapter dedicated to the misunderstanding that evolution is random. The last chapter asks the question, “Why should anyone care about evolution?” The primary reasons given are related to challenges associated with anthropogenic changes to our planet, understanding why some pathogens such as HIV are so successful, and the challenges of genetic engineering. I would have preferred to see this question framed more positively—for example, “How has our understanding of evolution improved our lives?” The answers to that question are too numerous to count; many advances in biology and many other fields, such as engineering and computer science, have been made possible through the applications of principles from evolutionary biology. It would have been preferable to include more optimistic reasons for the importance of understanding evolution and science in general.

While I give this video high marks for content and for including commentary from some of the most well-known evolutionary biologists of our time, the presentation was bland and probably would not hold the attention of most students. My suspicion on this point was
confirmed by my niece, a high school biology teacher—she thought that the video would have lost the attention of most of her students five minutes into the first chapter. Like many videos of this genre, this one relies too heavily on images of scientists espousing their wisdom with hand gestures. I can’t help but contrast this video to one promoted by the Discovery Institute on the “discovery” of “intelligent design”. There are many parallels—scientists gathering for a conference and shots of articulate individuals explaining their perspectives in various “science” settings (labs or offices with lots of books). The “intelligent design” video, however, does a much better job of illustrating ideas with animated graphics; its depictions of the “molecular machinery” are much more vivid and memorable than anything presented in *Evo*. Without contextual guidance, any student viewing these two presentations side-by-side would more likely be drawn to the “intelligent design” video.

On balance, I would recommend the *Evo* video for classroom use or as online content as long as supplemental information and opportunities for discussion are provided. Students need help with understanding why these particular scientists were interviewed—with respect to the important contributions they have made to our understanding of evolution—and with understanding that these scientists are just a small sample of tens of thousands of evolutionary biologists from around the world. The use of captions during the video provide nice “pause points” for discussion and assessment of understanding. The impact of the questions posed by *Evo* could be improved if an instructor were to provide additional examples to illustrate the major principles being covered. The video proceeds at a good pace, and the inclusion of nature scenes and other minor themes provide nice breaks that will help retain students' attention. This video may be poor competition for the barrage of imagery and media that today’s students are exposed to on a daily basis, but with some effort, instructors will be able to utilize *Evo* as an effective instructional tool.

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