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Why Teach Astronomy? The Business Model

by **Paul Murdin**

Cambridge University Institute of Astronomy

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In London's National Gallery in Trafalgar Square is exhibited a 1663 work by Cornelis Bega called An Astrologer (<http://www.nationalgallery.org.uk/cgi-bin/WebObjects.dll/CollectionPublisher.woa/wa/work?workNumber=NG1481>). A scholar dressed in cap and gown sits alone in his study, slumped in a chair with absent gaze and melancholic state of mind.

Bega's painting is typical of a tradition that represents astrologers and other isolated scholars, disconnected from any concerns of the world outside. Other examples are Carl Spitzweg's Scholar of Natural Sciences (<http://www.mam.org/site/spitzweg.asp>)(1865-70) in the Milwaukee Art Museum, and Jan Vermeer's The Astrologer (http://www.culture.gouv.fr/public/mistral/joconde_fr?ACTION=CHERCHER&FIELD_1=AUTR&VOLUME_1=VERMEER Johannes&DOM=All&REL_SPECIFIC=1&IMAGE_ONLY=CHECKED)(1668) in the Louvre Museum in Paris. The 17th-century paintings are from the days when astrology was synonymous with astronomy, and today we could say that an astronomer like the ones painted lived in an "ivory tower."

I would not be surprised if this view of astronomers is still common. If it is true, it is an argument against teaching astronomy in schools and universities, except to potential astronomers. Why teach students to become disconnected from life?

However, I spent the last 10 years working in the United Kingdom government as a science funder and policy maker, and I found, to my surprise, that astronomers are not viewed in this way by many of the politicians and civil servants whom I met, and teaching astronomy is favoured by them.

Astronomers work in their science by assimilating what they can about one of its problems. They plan what to do and set out to collect more data. They have to cooperate with others and often work in an international team, getting on with its disparate members. They have to gain access to a telescope through competition, and if they win, they have logistical problems in getting there, planning a trip through airports (possibly in a foreign country), and executing their observing programs in a limited time. Having

gathered information, they make up their minds about what is going on, even if the information is incomplete. They draw a scientific inference that must fit into the general picture of science. They make presentations about their discoveries in order to persuade others about their views.

The politicians' and civil servants' perspective on astronomy is that its practice is a lot like real life and not "ivory tower" at all. Students are drawn to astronomy through some inner motivation, which we may be hard put to explain but about which we can wonder. Given that fact, it is worth teaching them the practice of astronomy because they will learn how to do business--studying a proposition, making up their minds from incomplete data, working with others, and networking with them as part of a team.

I call this surprising conclusion the "Business Model of Astronomy." It means that we need not apologize for teaching and studying astronomy; it helps people become more effective citizens in the real world.

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