

Social impact of the Shaw Prize in Astronomy

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Abstract

The Shaw Prize in Astronomy, first awarded in 2004, is an international prize that is unofficially known as the Nobel Prize in the East. This annual prize carries a monetary award of US\$1 million, and honours distinguished astronomers for their significant achievements in astronomy. The Nobel Prize is well known for its profound impact in the public domain; it lays down the milestones of human progress. Similarly, the Shaw Prize hopes to have a profound social impact in the public perception of astronomy. This prize is very recent, but communicating astronomy with the public by the means of astronomical milestones could make a significant social impact. This social impact and possible ways of communicating the prize are investigated.

Introduction

Communicating astronomy to the general public is a no easy task, especially in the modern age of information explosion, when attracting the public's interest and attention is not easy. Establishing the Shaw Prize in Astronomy is a very good opportunity to create a platform to attract people's attention and inspire future generations.

The Pearl of the Orient

Hong Kong, where the Shaw Prize Foundation is based, is a modern and international city, and a very special city in terms of economics and political history. Hong Kong is small but dense, with a population of around seven million living on an area of less than 2000 km².

Starry nights are often used to cultivate people's interest in the Universe and stimulate the imagination. However, in highly modernised cities, such as Hong Kong, light pollution is usually very serious, and using the night sky as a means to let people get in touch with astronomy is not feasible. Many people in Hong Kong have never seen the Milky Way, so other more effective ways are needed.

For Hong Kong and China, the term, "Astronomy Popularisation" is used for work related to disseminating astronomy to a broader range of citizens with no prior knowledge or experience in astronomy; while the term "Astronomy Communication" means giving a deeper and more up-to-date understanding of astronomy to the people. In other words, the scope of astronomy popularisation is horizontal while astronomy communication is vertical.

Nowadays, astronomy news is updated rapidly, but mainly in English, and most books in other languages are not quite up-to-date. Generally, there is a lag time for a piece of new information to reach new recipients if they are not English-speaking. The problem of a language barrier exists in many countries and it is a major problem in astronomy communication. In Hong Kong, although English is one of the official languages and students learn English from primary school on, English is not the mother tongue and this has proved to be a major obstacle for astronomy communication in Hong Kong.

In addition, in highly commercialised cities like Hong Kong, capitalism makes it difficult for astronomy to get in touch with the general public. So both astronomy communication and astronomy popularisation are not easy.

What is the Shaw Prize?

Sir Run Run Shaw(1907–), a leader in the media industry in Hong Kong, established the Shaw Prize in 2002. According to the Shaw Prize press release¹ issued when the prize was established on 15 November 2002:

The Prize honours individuals, regardless of race, nationality, and religious belief, who have achieved significant breakthrough in academic and scientific research or application, and whose work has resulted in a positive and profound impact on humankind.

The Shaw Prize currently consists of three annual awards: the Prize in Astronomy, the Prize in Life Science and Medicine, and the Prize in Mathematical Sciences. Each prize carries a monetary award of US\$1 million. The adjudication process will begin next summer, and the first prize presentation will be held in mid 2004.

There are a number of scientific prizes in different fields of science. The Nobel Prize is undoubtedly the most famous, and another prestigious example is the Fields Medal in mathematics. Since there are a number of similarities between the Nobel Prize and the Shaw Prize, the media have dubbed the Shaw Prize “the Nobel Prize of the East”.

The Nobel Prize in Physics is only occasionally awarded to astronomers, so the annual Shaw Prize can truly represent the remarkable discoveries in astronomy and inspire coming generations.

Here is the list of the Shaw Laureates in astronomy²:

2004	P. James E. Peebles	for his groundbreaking contribution to cosmology. He laid the foundations for almost all modern investigations in cosmology, both theoretical and observational, transforming a highly speculative field into a precision science.
2005	Geoffrey Marcy and Michel Mayor	for finding and characterising the orbits and masses of the first planets around other stars, thereby revolutionising our understanding of the processes that form planets and planetary systems.

¹ <http://www.shawprize.org/en/events/establishment/release.html>

² <http://www.shawprize.org/en/laureates/index.html>

2006	Saul Perlmutter, Adam Riess and Brian Schmidt	for discovering that the expansion rate of the Universe is accelerating, implying in the simplest interpretation that the energy density of space is non-vanishing even in the absence of any matter and radiation.
2007	Peter Goldreich	in recognition of his lifetime achievements in theoretical astrophysics and planetary sciences.

The Shaw Prize as a brand

Revolutionary discoveries often mean complex concepts for the general public. The important discoveries and concepts honoured by the award are often new to most of the general public, while textbooks and normal school syllabus haven't yet caught up with these remarkable new milestones.

Under the brand name of the Shaw Prize, these concepts can easily reach the public, which acts as an effective tool for communicating and popularising astronomy.

The Shaw Laureates as icons

In Hong Kong, it is not uncommon that when you ask people what stars are, they will answer with the name of a pop singer. Although it is often meant as a joke, this illustrates that for many people, stars refer to singers instead of stars in the Universe, that the public are more aware of the entertainment media than science. Nowadays, when the entertainment media industry is so influential and plays a dominant role in society, the idols of many people are often singers and movie stars. The need for a scientific idol is important as it helps to catch public attention, and thus to popularise science. A very good example is the storm raised by Professor Stephen Hawking when he visited Hong Kong in 2006. It was major headline news in all the media for an entire week and hot discussions continued for a whole month. Two thousand people were invited to attend his public lecture, while a hundred thousand people watched the live broadcast. In that week it was not hard to spot people holding *A Brief History of Time*, Stephen Hawking's famous book, on every corner in Hong Kong. To many people great scientists like Newton and Einstein are heroes, but they are too remote in time. A real and living scientific idol, like Hawking, can make a dramatic social impact, attract public and media attention, and force society to discuss and rethink the value of science and related questions. Therefore, forming scientific idols is another powerful tool for communicating and popularising astronomy.

The Shaw laureates are already icons for many astronomy lovers. Just as the Nobel Prize winners do, so the Shaw laureates give a public Shaw Prize lecture, attracting an audience of hundreds of students and the general public.

Social impact

Since the prize was established coverage has increased in Hong Kong. There are hundreds of newspaper articles, dozens of publications, TV programmes, forum discussions, blogs, web pages and even features in government news⁹ as well. The Ho Koon Nature Education cum Astro-

nomical Centre has organised several public lectures on topics relevant to the Shaw Prize, using the brand name of the “Shaw Prize”, and the lectures have attracted many people each time.

Television Broadcasts Limited, the major TV broadcasting company in Hong Kong, is owned by Sir Run Run Shaw. It is not only the major TV channel in Hong Kong, but also the southeast China. It is the largest producer of Chinese language television in the world, and its programmes are accessible to more than 30 million people every day across the world⁴.

TV documentaries about the Shaw Prize have been produced annually by Television Broadcasts Limited. The documentaries were broadcast in peak hours, reaching many people.

Since the prize is still young, the social impact of the prize in the world in general is not as large as in Hong Kong, but, there have been some press releases about the prize:

- *Planet hunter Geoffrey Marcy shares \$1 million Shaw Prize in astronomy*, UC Berkley Press Release⁵;
- *Caltech Astrophysicist Peter Goldreich Wins \$1 Million International Shaw Prize*, Caltech News⁶;
- *Dark Energy Co-Discoverer Adam Riess Shares Shaw Prize in Astronomy for 2006*, STScI News Release⁷;
- *Prize a sure thing for ANU astronomer*, ANU media release⁸.

These press releases were issued by the home institutes of the Shaw laureates.

Communicating astronomy by the Shaw Prize

The Shaw Prize presents a very good opportunity and tool for popularising and communicating astronomy. Although the prize is still young, using the brand name of the Nobel Prize of the East, it can draw people’s focus and act as a powerful tool for communication.

The Ho Koon Nature Education cum Astronomical Centre is considering producing the following materials to optimise the Shaw Prize as a communication tool.

- The Shaw Prize Education Homepage;
- Ask the Shaw Astronomers Corner;
- Hand-out booklets;
- DVD.

International cooperation is welcome for optimising the value and impact of the Shaw Prize across the whole world.

³ <http://www.hketony.gov.hk/ny/e-newsletter/06june/ShawPrize.htm>

⁴ http://www.tvb.com/affairs/faq/tvbgroup/tvb_e.html

⁵ http://www.berkeley.edu/news/media/releases/2005/09/01_shaw.shtml

⁶ http://mr.caltech.edu/media/Press_Releases/PR13004.html

⁷ <http://hubblesite.org/newscenter/archive/releases/2006/27/full/>

⁸ http://www.mso.anu.edu.au/news/media_releases/media_release_060622.php

Conclusion

People love important discoveries, admire idols, and listen to their stories. The establishment of the Shaw Prize is a great opportunity for people around the world to get to know these scientific idols and the astronomy behind the scientists. The astronomy concepts behind the award are often too new or too difficult to reach the general public by other means, but the Shaw Prize can act as a powerful tool for communicating new ideas. The Shaw Prize is not only a prestigious award for astronomers, but also a powerful tool for astronomy communicators.



Figure 1 – The face of the medal of the Shaw Prize displays a portrait of Sir Run Run Shaw, next to which are the words and Chinese characters for the “The Shaw Prize”.