

Popularization

Meeting the Public: Popular Observatories

Josip Kleczek

Astronomical Institute, Czechoslovak Academy of Sciences,
25165 Ondřejov, Czechoslovakia

“L’homme est infiniment petit par son corps,
mais il est infiniment grand par son esprit”.
Blaise Pascal

1. The flow of information and popular observatories

Popular observatories (PO) are an important link between astronomers and the public. Fig.1 represents the flow of information about the Cosmos and the role of POs.

The flow of information about celestial bodies starts with photon emission. The emitted photons carry the information about the moment when they are born. They transfer the encoded

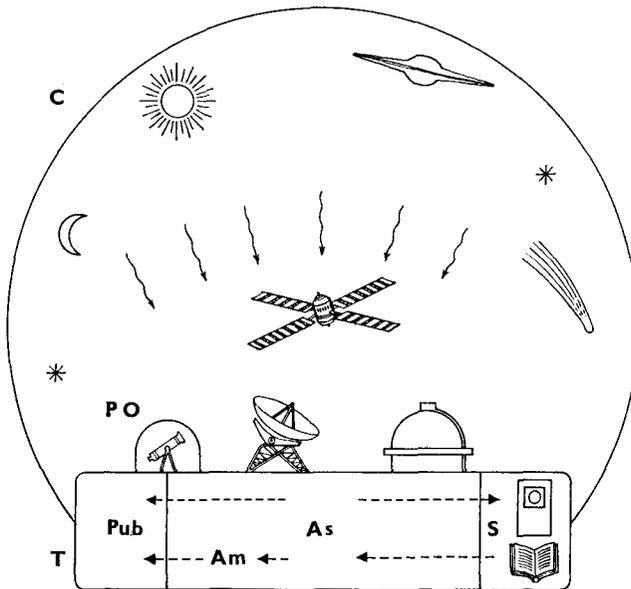


Fig. 1. Photons (corrugated arrows) transfer information from the Cosmos (C) to terrestrials (T). The information is received and decoded by observational instruments. By astronomers' minds it is interpreted and integrated into a system of knowledge. The flow of astronomical knowledge in the community of terrestrials is shown by dotted arrows. It is in the minds of astronomers (As), or stored in books, journals and on magnetic tapes (S). It is communicated to amateur astronomers (Am) and to the public (Pub). Popular observatories (PO) are an important interface between astronomers and the public.

information through cosmic space in all directions, among others towards our planet. By ground-based or space-based instruments astronomers decode the information in the photons. The size and shape of celestial bodies are determined with great precision (by photography and interferometry). Direction from which the photons arrive determines the position of their source (astrometry). The amount of photons (photometry), their frequency (spectrophotometry) and the direction of their oscillation (polarimetry) are other information decoded from the incident photons. The observational instruments are the interface between the Cosmos and astronomers' minds.

Observational data represent the fundamental information for our knowledge of the Cosmos. For the astonishing achievements of astronomy, however, we owe much more to the logical reasoning of the scientists who interpret the data. Our knowledge of the Cosmos is based on two pillars : the observational data decoded from photons and the ordered thought of the human mind. The flow of astronomical knowledge within our terrestrial civilization is marked in Fig.1 by dotted arrows.

The knowledge may be stored (S) to be retrieved later. It is communicated to amateur astronomers or the other way round. Both the astronomers and amateurs (As, Am) communicate the knowledge to the public (Pub). Who is the public ? Undoubtedly not every terrestrial belongs to the public in our sense. The greek word for man is *anthropos* which means "the one who turns one's head upwards". There are some terrestrials who turn their head upwards only to drink. They are rather rare and do not belong to the public in this context.

There are various channels of communicating knowledge to the public : radio, TV, newspapers, popular journals and books, lectures, planetaria and popular observatories. In particular, popular observatories represent a very active and the most efficient interface between astronomers and the public. In a PO one listens to lectures and discusses various problems; one sees movies, models of celestial bodies and of their systems, or one can see them with a telescope; and most important of all, one can do astronomy under the supervision of experienced amateurs and astronomers. There is a Chinese proverb : "I hear-I forget, I see-I remember, I do-I understand". Of all three activities at POs, the last one is the most efficient. Regular visitors of POs often "get their hands dirty on astronomy" to understand the structure of the Cosmos. They become amateurs and sometimes professional astronomers. After all, every amateur or astronomer has been recruited from the public. New-born amateurs or new-born astronomers do not exist.

2. Popular observatories in Czechoslovakia

Czechoslovakia is a small country. But we have more than 70 POs – autonomous institutions in their own buildings, with domes, telescopes, a conference hall and a library. Their staff is 2 – 5 (in small POs) up to 15 – 22 (in large POs). The foundation of our Astronomical Society, popularization of astronomy and construction of POs were stimulated by the Société Astronomique de France and Camille Flammarion, whose books were translated into our language. We owe much to them.

Activities in the POs consist in : 1) popularization of astronomy; 2) practical training in observations, data reduction and interpretation; 3) systematic observations in cooperation with academic and university observatories; 4) regular courses of lectures at secondary-school level; 5) two-year courses (3–4 days per month) at university level in POs at Hurbanovo and Valašské Meziříčí; 6) special activities such as the grinding of mirrors, the construction of telescopes, meteorological and seismological observations, tours with the ‘astrobus’ (it is a vehicle with telescopes and binoculars to observe the Sun and stars, movie and slide projectors; the driver is an astronomer), ‘Bicycle tours’ of astronomers and amateurs on bicycles (one week in the summer vacation going from one PO to another, with lectures and discussions), etc... Whenever I go to a PO, I am overwhelmed by deep admiration of the human will and impressed by noble perseverance. From what does their enthusiasm for astronomy stem ? Why do they spend so much effort to know more about the Cosmos and to share their knowledge with others ? What is the final value looked for ?

It is joy that comes from grasping the structure and beauty of the Cosmos, I presume. Thinking and understanding is the noblest human activity which brings joy and happiness : ‘Felix qui potuit rerum cognoscere causas’ (Vergilius)*. When composing the few bars, full of tension, in the Ninth Symphony, Beethoven had in mind the creation of the Cosmos; after the bars, the chorus sings the ‘Ode in Praise of Joy’.

The joy of understanding and of sharing the knowledge with others is the final reward for all astronomers and amateurs who meet the public in popular observatories and elsewhere. Or do you have a better explanation for their enthusiasm and unselfish effort ?

* ‘Happy is he who is able to know the causes of things ’. – Eds