

## Vocabulary related to earth sciences through etymology

An article on 'Forming concepts and strengthening vocabulary in earth sciences through etymology' has appeared in the May 2006 issue of *Journal of Earth System Science Education* (<http://jesse.usra.edu/archive/jesse>), a popular on-line journal of NASA, USA, that publishes papers relating to all aspects of earth sciences education for the benefit of students and educators. The author of the article is Nittala S. Sarma, Andhra University, Visakhapatnam. In the article, Sarma has collected Greek, Latin, German and Celtic affixes and roots of numerous technical terms that occur in a disparate fashion in different disciplines related to earth sciences, namely, biology, chemistry, geology-geophysics-geography, meteorology, oceanography (and limnology), and physics. Where appropriate, he has also provided some common English words that are derived from these roots to facilitate easy and practical understanding. This pedagogical article provides a common basis for different terms and facilitates deeper understanding of a subject and cross-curricular learning.

Sarma's effort is laudable as he has etymologically connected as many as 1600 technical terms through ~300 root words. The etymological approach adopted by the

author is simple and effective; learnt from his own experience in classrooms and outside. For example, 'strophe' means 'a turning' in Greek. Knowledge of the meaning of the root word can help in easier understanding of 'geostrophic', which stands for turning or bending (strophe) of a vector (such as wind or ocean currents) due to the rotation of the earth (ge). A few other terms derived from this root word are 'cyclotrophic', 'catastrophism', 'diastrophism' and 'apostrophe' as also found in English grammar. A Greek root similar in meaning to strophe is tropos. The affix 'tropic' is specifically used in the context of change (i.e. a turning) of a property in response to another. Tropics constitute the area of the celestial sphere (between 23°28'N and 23°28'S of the earth equator), where the sun appears to turn on reaching its greatest declination. Troposphere is a region where the temperature and pressure fall (turn) rapidly with height. The terms 'barotropic' and 'heliotropic' refer to changes involving pressure (Grede baros) and diurnal radiation (Grede helios, sun) respectively. Isotropy (Grede isos, same) is the condition when physical properties, e.g. magnetic susceptibility or elastic constants, are the same in all directions; in anisotropy, the

physical properties do vary with direction, e.g. magnetic anisotropy. Familiar terms and their familiar root words are a gateway to learn new terms and their new affixes, and the chain continues so that a more complete vocabulary of earth sciences terms can be built solidly.

My realization of the importance of etymology and the impressive effort put up by Sarma has prompted me to bring his recent publication to the attention of earth sciences students and teachers in the country. It is expected that if the etymological approach is integrated into the earth sciences curriculum, students are sure to benefit from a succinct understanding of the concepts that help memorizing the terms more methodically, logically and easily. The students need not be intimidated by the high sounding Greek and Latin-derived technical terms. For the teacher, explaining a concept will become easier too. The article is available at <http://jesse.usra.edu/archive/jesse05-400-08/sarmafinal.pdf>.

**M. Dileep Kumar**, National Institute of Oceanography, Dona Paula, Goa 403 004, India. e-mail: dileep@nio.org

## MEETING REPORT

### 72nd Annual Meeting of the Indian Academy of Sciences\*

The 72nd Annual Meeting of the Indian Academy of Sciences (IASc), Bangalore witnessed over 200 Fellows and other participants meeting to discuss topics of contemporary scientific research and advancement in India. Keeping with the tradition of encouraging and providing opportunities to teachers of undergraduate colleges to pursue research (which is fostered by the Science Education Panel of IASc), about 30 teachers from various parts of the country were invited to the meeting. On the day preceding the inau-

guration of the meeting, an orientation meeting for teacher invitees was held. S. Mahadevan and S. Chandrasekaran (Indian Institute of Science (IISc), Bangalore) briefed the teachers on the purpose of the initiative, the potential opportunity that the collaboration between the Academy and the Indian National Science Academy (INSA) could offer and clarified many of the queries that the teachers had.

The inaugural session of the meeting was held in the forenoon of 9 November 2006. On behalf of the organizers, the Vice-Chancellor of the Devi Ahilya Viswavidyalaya (DAVV), Indore welcomed the participants and placed on record his

appreciation to the Academy for hosting the meeting at DAVV, which would benefit the faculty and students of the university departments and other academic institutions in Indore. T. V. Ramakrishnan (President of the Academy; Banaras Hindu University, Varanasi) formally inaugurated the meeting along with Rajkamal, the Vice-Chancellor of DAVV, which was followed by the introduction of the Fellows of the Academy.

A decadal vision document entitled *Towards Ayurvedic Biology* by M. S. Valiathan (Manipal University, Manipal) was released during the inaugural session. The document traces the evolution of the art of healing in India starting with the

\*A report on the 72nd Annual Meeting of the Indian Academy of Sciences, held at Indore during 9-11 November 2006.