

Mind & Life Dialogue Bylakuppe 14.–18. December 2015

Evening Session Monday 14. December 2015 | Topic: Monastic Education Programs ETSI + SFM + SmD



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Science meets Dharma (SmD)

First of all, I express my heartfelt thanks to the organizers of this evening session for the opportunity to present the project *Science meets Dharma*. I shall outline its origin and rationale, the experience it has yielded and the practical tasks it is ready to face.

THE ORIGIN OF THE PROJECT

The Tibet-Institute of Rikon is, essentially, a small monastery established almost fifty years ago to serve as a religious and cultural center for the Tibetan refugees living in Switzerland. Founded under the auspices of His Holiness the Dalai Lama, and comprising of an abbot and around ten monks from all four Tibetan Buddhist traditions, it is the only monastery of its kind in Europe. In 1998, at the occasion of the monastery's 30th anniversary, His Holiness suggested to broaden Rikon's original mandate so as to explore practical ways to acquaint Tibetan monks in India with Western Natural Science. Based on this suggestion, the Tibet-Institute offered not only to teach science to the monks of Rikon, but also to undertake a respective pilot-project in Tibetan exile monasteries in Karnataka. With the consent and support of His Holiness, this project was started in 2001 and was given the name *Science meets Dharma (SmD)*.

A PIONEERING ENDEAVOUR

Subsequently, during the years 2001 through 2011, selected topics from physics, chemistry, biology, geography and astronomy were taught to several hundred monks and nuns in various monasteries of Bylakuppe and Mundgod. These pioneers had chosen to follow such courses on a voluntary basis and devoted much of their daily free time around noon for respective classes five times a week. Their coaches were professional science teachers from Switzerland, serving as volunteers for periods varying from 6 months to several years. Tibetan translators cum-assistant supported them. Thus, *Science meets Dharma* became a living reality: Not only did Tibetan monastics gradually discover the world of science; at the same time, the Swiss-Tibetan teaching team, step by step, discovered the specific needs and conditions, under which science classes within monasteries could yield positive effects. The over-all result was encouraging: by 2012, the monasteries in Bylakuppe and Mundgod took over full responsibility for the continuity of science classes within their precincts, throughout long periods of the year. Since then, wherever requested and possible, they have been supported by the *SmD*-Project in recruiting teachers, providing teaching materials and building-up teaching infrastructure.





THE RATIONALE OF TEACHING SCIENCE TO TIBETAN MONKS AND NUNS

In order to appreciate the rationale of teaching science to Tibetan monastics, we must consider the over-all conditions under which a large majority of Tibetan refugees lives in exile today. These conditions are predominantly determined by globalized economic and technological systems which, in turn, have largely been shaped by so-called Western scientific reasoning and engineering. Whether rich or poor, female or male, whether India – or America-based, Tibetans today – like billions of other human beings – have become part of a world which cannot be understood nor mastered nor influenced without a minimum of Western scientific concepts. Thus, there are many practical reasons for Tibetan monastics to become acquainted with such concepts. Among these reasons may be mentioned:

- the fact that the dynamic forces of our globalized technological world have since long entered the precincts of monasteries and the life of their inhabitants;
- the hope that the dialogue between Buddhism and the Western world-view may contribute to the promotion of intercultural understanding and world peace; such a dialogue, however, will only be fruitful if it is based – on both sides – on the study of the partner's key concepts and assumptions; in particular most important, that monastics are able to communicate with Tibetan lay people living in a Western dominated world.
- the experience according to which pooling the conceptual resources of both sides may indeed yield inspiring and creative scientific and philosophical results, as shown by the Mind & Life Dialogue in which we are all interested.

INSIGHT BY DISCOVERY AND EXPERIENCE

The deep insights of Tibetan Buddhism into the inner nature of the human mind (the psyche) were not in the first place won by theoretical deliberations, but above all by introvert discovery and meditative experience. Similarly, discovery and experience are indispensable for the study of outer (physical) nature as fostered by Western Natural Science. In either field, there is no way of gaining real understanding without a solid experiential basis. For this reason, the main focus of *SmD*-teaching was never geared towards simple amassing of theoretical knowledge, but mostly towards a practical "bottom-up-process" allowing the students to make their own discoveries and to build up their personal scientific experience. Emphasis was put upon observing and experiencing natural processes or – alternatively – upon hands-on experiments illustrating such processes in the classroom. Having achieved this, the accurate description of observations and experiences would follow. Results of one experiment would be compared with results of others. Finally, by drawing (tentative) conclusions and proposing additional experiments, leading to additional discoveries, the classical cycle of scientific investigation would be rounded off. This teaching method proved to be indispensable and effective especially in view of the fact, that a solid basis of mathematical knowledge was lacking in the case of most students and had to be built up slowly in the course of time. For these students, an experiential approach of observation and discovery seems to be the most promising way to gain real insights into the essence of Western Natural Science as well of Western thinking, into its aims, its achievements and its limitations.

HOW CAN SUCH AN APPROACH BE INTRODUCED INTO SCIENCE-CLASSES FOR MONASTICS ?

From early times on, *SmD*-teaching was structured in topical modules of several weeks' duration (five lessons a week), allowing the students to concentrate their study on a specific field and linking mathematical, algebraic and geometrical lessons very closely with more practical and experiential contents. Many respective teaching units in many fields have thus been tailored over the years by the *SmD*-team. A good number of them have been documented in both English and Tibetan language, including photographs and teaching aids. They are at the disposal of the present Tibetan teachers carrying on science-classes in the monasteries of Bylakuppe and Mundgod

today. Most of these have not only built up a science library in the service of students and teachers, but are also equipped with instruments (like microscopes) allowing the students to undertake their practical inquiries and personal discoveries.

FORMULATING EDUCATIONAL OBJECTIVES FOR THE STUDY OF SCIENCE IN MONASTERIES

In 2014, the Sera Jey Science Center at Bylakuppe took the initiative in requesting the *SmD*-Team to draft a complete Curriculum with corresponding Syllabus for future science teaching in Tibetan monasteries. What was the purpose of this initiative?

- A Curriculum is a list of educational objectives, which should be reached by a specific teaching program. With regard to teaching Science in Tibetan monasteries, a curriculum will define the kind of competence and understanding monastic students should acquire in the course of their several years of study. When it comes to intermediate or final exams, the curriculum will serve as the indispensable basis to determine what competence and understanding should be tested and whether the educational objectives have been reached or not.
- A Syllabus, on the other hand, is always based on a Curriculum. It specifies the many individual topics a teacher should take up with his class in order to reach the educational objectives listed in the Curriculum. To use a simple image: while the Curriculum informs us about the level and the depth of scientific competence students should acquire, the corresponding Syllabus defines the practical topics and steps undertaken in the classroom to reach the various educational objectives.

As requested by the Sera Jey Science Center, *Science meets Dharma*, in 2015, has submitted drafts of both a Curriculum and a Syllabus for a possible six-years' Science Programme in Tibetan Monasteries. The two documents are presently being evaluated by the Department of Religion and Culture in Dharamsala. Interested persons and institutions, upon request, may obtain them from the Tibet-Institute Rikon.

PRESENT AND POSSIBLE FUTURE TASKS OF SCIENCE MEETS DHARMA

The Tibet-Institute Rikon is ready to further support efforts to introduce and to consolidate teaching of Natural Science on a continuing basis in Tibetan Monasteries, in India as well as in Nepal. This, among others, includes the following:

- Maintaining the present offer to conduct (like in past years) "Science Introduction Workshops" in monasteries/nunneries where science would hopefully be introduced in the near future;
- Cooperating with monastic authorities and other institutions to work out a final Curriculum and Syllabus for Science teaching in monasteries;
- Cooperating with monastic authorities and other institutions in establishing practical schemes for the training of monastics as science teachers and assistant teachers for monks and nuns.

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