Final report

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Contents

1. In a world worlds apart from home *1*

2. School *3*

   2.1 In and around the classroom …..*3*
   2.2 Where Science meets Dharma …..*9*
   2.3 Integrative / interdisciplinary projects …..*12*
   2.4 His Holiness and *Science meets Dharma* …..*15*
   2.5 Teaching English to Tibetan monks …..*17*
   2.6 The future of *Science meets Dharma* …..*18*

3. Some final personal thoughts *23*

Appendix: Excerpts from the weekly course reports

1. In a world worlds apart from home

It was a bit more than three and a half years ago when a colleague approached me in the staffroom of the school I used to work for. In her hands, she held a copy of a teachers' magazine and she was apparently pointing at a job advertisement. She knew that I was looking for a new challenge, preferably a job abroad. When I took a closer look at the *Science meets Dharma* ad, I knew immediately, without a second thought, that this was, even though I didn't have 'above average knowledge' about Tibet or Tibetan Buddhism, the job I was looking for and I would like to apply for – which I did, no sooner said than done. I considered the way I'd found out about this post as a science teacher and the fact I got a positive response a couple of weeks later nothing but sheer coincidence coupled with a good portion of luck…

A (stunning!) world worlds apart from home…

A couple of months later, in mid-July 2003, I found myself in a completely changed environment, amidst nearly 5000 male Tibetan individuals with shaved heads; surrounded by numerous Buddhist temples with outstanding (religious) artwork, superb craftsmanship and stunning architectural features; near a lush tropical forest with a long elephant trench all around it, which is, at certain places, not quite deep enough to keep the pachyderms away from fields and villages; at the foothills of the *Western Ghats,* where you can enjoy – believe it or not – an even quieter weekend (for instance on an extensive coffee plantation) than at the monastery; approximately

eight kilometres from *Kushalnagar,* the typical rural Indian town with all its beggars you feel sorry for and the rather chaotic, but nevertheless fascinating market on Tuesdays; in *Karnataka State,* on the Indian subcontinent. Surprisingly, it didn't take long till it felt a bit like home. This was, first and foremost, because of the warm welcome that was given to us not only by our 'target group' (the Tibetan monk students) and the monastic authorities, but also by the Tibetan lay population. Obviously, we had a lot more contact with the 'Treasurers of Tibetan Buddhism', as the monks are sometimes referred to, than with Tibetan lay people. We were, however, invited for dinner in one of the surrounding camps every now and then, for instance during *Losar,* the Tibetan New Year. On occasions like these, we were served piles of mouth-watering Tibetan dishes in all conceivable varieties – a treat for our taste buds, a manifestation of the typical Tibetan hospitality. Most of the Tibetans we met are indeed very friendly, even though they sometimes tend to keep their distance, for instance by not eating at the same table with us. The Tibetans generally are, in my opinion, more content with their lives than one would expect, considering all the hardships they (and their families back home) have suffered. Instead of feeling bitter the people have seemingly decided to make the best of their situation in exile. I'm convinced that Buddhism and particularly their spiritual leader, the Dalai Lama with his ceaseless efforts to promote forgiveness and compassion, have helped them tremendously in order to lead happier lives.

It goes without saying, however, that by far not all Tibetans in exile are happy (like the ones who desperately try to 'go West'…) and that neither Buddhism nor the Dalai Lama can save them miraculously from their suffering. Some of them do have too much attachment to material comforts and things (as we do…), others are (like anywhere else on this planet) depressed, short-tempered, jealous, or even full of anger or hatred; but most of them always had a warm smile ready for us or anybody else they came across. On different occasions, Tibetan lay people expressed their heartfelt thanks towards us for our work at the monastery to the benefit, as they were convinced, of the Tibetan community in exile and our own karma.

"Downtown" Sera

When I attended *pujas,* debates and other rituals at Sera Monastery or went to a Tibetan concert, folk dance or traditional festival, I was rather astonished to see how successful the Tibetans in Bylakuppe have been in their endeavours to keep their colourful, lively and rich culture and spiritual tradition alive, which is certainly not easy far away from their homeland. Experiencing such diverse events sometimes almost made us forget that, after all, we were still in India! The fact that we got the unique opportunity to delve into two fascinating, yet completely different cultures undoubtedly made our stay on the subcontinent more exciting and intriguing: We spent the weekdays in surroundings that could well be called the 'Little Tibet of Karnataka', whereas, as my colleague Ulysses used to put it, at the weekends, we "went to India". (I could [and would like to…], there's no doubt about it, write books about what we experienced when we "went to India", as well as about our life in 'Little Tibet', but this is scarcely the right occasion to do so…)

2. School

As the Secretary of His Holiness told us in Dharamsala, our most important task was 'simply' to teach science to the monks. It therefore seems sensible to make *School* the central topic of my report. As manifold as our experiences were, the report can offer but a glimpse into our Sera classrooms or rather into our activities in and around the classroom. In my weekly course reports, I recorded numerous observations, reflections, insights, comparisons (mainly between science and Buddhism), experiences, topics discussed or presented (by monks) and other general remarks in connection with the lessons taught. More detailed information about school can be found in the ***Appendix,*** at the end of this report, which contains a collection of excerpts from the above mentioned course reports.

2.1 In and around the classroom

I did have quite a swarm of butterflies in my stomach when I was standing in front of one of our two classes for the first time in a temple (!) of Sera Monastery, on Friday, July 25, 2003. The ambience was nothing short of being perfect for a classroom where Tibetan monks were to be taught: The room was glowing with saturated colours which appeared to radiate from all the intricately painted *thangkas;* beautifully crafted ornaments and gold-plated Buddha statues caught the observer's eye; the Dalai Lama smiled benevolently from a picture which was placed on his golden throne, seemingly giving us his blessing and wishing us all the best. I was looking, rather timidly, into approximately sixty eyes, belonging to a group of uniformly dressed individuals who were sitting in neat rows on the floor, aged between 20 and 42, and I could literally feel how the air was filling up with high expectations and great curiosity. It seemed to be up to me to break the ice. The monks, however, turned out to be far better at 'ice breaking' than I was: It took them but minutes to get fully involved in the lesson and to show an admirable level of interest, which caused my initial nervousness to vanish as suddenly as it had arisen.

Newton's Law of Action…

… and Reaction

The 'protagonists' of our lessons, our monk students, are perhaps the most cheerful, compassionate, energetic and helpful bunch of people I've ever come across in my life. During his teachings in Switzerland in 2005, the Dalai Lama coined the expression *joyful perseverance* (or, at least, I'd never heard it before), which undoubtedly suits our former students just fine when it comes to describing their attitude towards their involvement in the project *Science meets Dharma* as well as towards their Buddhist studies.

The students' endurance showed, for instance, when they were to tackle a rather demanding exercise on a Physics worksheet. I regularly witnessed how some of them tried very hard and ceaselessly to come up with the correct solution of a problem, got it all wrong, started all over, again, and again… at least half a dozen times, not giving up until they finally got it right, but not only that, also until they fully understood why the problem had to be solved in a particular way. Similarly, the monks never hesitated or grew tired of asking well thought-out and often quite challenging questions in order to gain a deeper and more detailed knowledge of what was being taught; questions which pushed me, every now and then, towards or beyond the limits of my knowledge, especially in Astronomy (I learnt a great deal when I was teaching Astronomy!). The monks, for instance, always listened in fascination when I showed them a film or tried to explain to them what scientists 'know' about the *Big Bang.* This phenomenon particularly appealed to them in connection with Buddhist theories dealing with the beginning of the, or rather *a* universe, yet at the same time, it caused hordes of questions to race through their minds (including mine and those of scientists all over the world). There was no such thing as hesitation when it came to bombarding the teacher with questions such as the following: *"What about the time before the Big Bang? We would like to know more about that…!"* or *"If, due to gravitational forces, an explosion of a Black Hole, where the mass of a single (huge) star is gathered, is impossible and not even light can escape, how was an explosion like the Big Bang possible, where the whole matter that exists today, which is million upon millionfold the mass of a star, was crammed into a tiny area or even an infinitely small dot?"* – In

situations like these it was well possible that my reply consisted of slightly unscientific statements like *"Excellent question…-ahem-… answer tomorrow!?"* or *"I'm sorry, this is the end of the lesson!"* – It goes without saying that in such cases I was ambitious enough to try my level best to find some slightly more scientific answers, which was highly appreciated by the monks. At times I felt, however, that the answers to complex questions were beyond my students' reach (e.g. about Quantum Physics) and would rather have caused confusion than clarification. Once the students were aware of the fact that their background knowledge was simply not profound enough to fully understand what they asked for, and this needs to be communicated (!), they generally accepted it without showing any signs of disappointment.

Perseverance also seems to be the monks' key (or at least one of their keys) to successfully complete their Buddhist studies (considering the fact that these last up to 25 years!). The amazing thing about this perseverance was that it always came across in a very cheerful manner. Once I asked my students whether their enthusiasm never reached a low, whether they never had a day when they felt blue and didn't feel like studying. This didn't seem to be the case; on the contrary, there are apparently monks who regularly skip meals in order to be able to study even harder! As the monks explained to me, this enthusiasm, which seems to know no limits, can be derived from their desire to accomplish as much as possible in their present life, on their journey to enlightenment (which generally lasts a great number of lives). My students seemed to be perfectly happy with what they were doing (when I had shaved my head they even tried to convince me to become a monk in order to enjoy a wonderful life as they did…) and the spark I could spot in their eyes indicated an extraordinarily high level of *joie de vivre*. Their energy seemed to be inexhaustible and hardly ever did I see a monk who yawned or even dozed off during my lessons. This can certainly not be taken for granted, taking into account the monk students' tight schedule (they generally get up at about five o'clock in the morning and often keep studying till after midnight) and the fact that they sacrificed part of their free time to join *Science meets Dharma* (after lunch, which is, scientifically speaking, certainly not an ideal time for high performance…).

"I won't give up till I get it right!"

One sunny afternoon, I reached our classroom with my students after they had run an 80m-sprint in order to calculate their average speed and to compare it with the speed of the world record runner when I noticed that one of the monks had gone missing. After a more or less intensive search, I found him, 'armed' with pencil, calculator, ruler and stop-watch, kneeling in front of a wall. He had spotted a caterpillar and, with a smile on his face, he explained to me that after calculating the speeds of so many fast-moving creatures and objects, like the *MIR* (the ***M**en **i**n **R**ed*) running eighty metres, he now wanted to find out the speed of a slow animal – the idea for a new task the students could tackle together was born. I mention this situation because it illustrates how eager the students were to be fully involved and to take an active part in the lessons. They showed a great deal of initiative of their own; they made suggestions, for instance, on how to perform an experiment in a slightly different way and they wanted to conduct as many experiments as possible by themselves in order to discover new phenomena and to explore unknown ground as much as possible on their own instead of simply being taught in some kind of a lecture. This often allowed me to step back, take the role of an observer, a guide, a supporter, an advisor (rather than a spoon-feeder) and to let the monks work as independently as possible. It's often astounding how much students can find out without being taught! Besides making suggestions concerning the content of the lessons, the monks didn't hesitate (well, at the beginning they did) to give feedback on the organization of the course, different teaching approaches, the timing of lessons, the performance of both teachers and translators, the quality of (written and oral) translations, etc. We considered it crucial to encourage the students to do so in order to maintain or enhance the quality of the lessons.

After the 80m-sprint…

…one of the monks goes missing

Have you ever experienced students who return from their school holidays and spontaneously take a broom, start sweeping the corridor floor leading to the classroom and tidying up its surroundings? Neither had I… – before I went to Sera! This is what I mean when I describe my former students as being helpful and compassionate. They didn't think twice when I asked them to do me a favour like, for instance, recording typical sounds in a Tibetan monastery on tape; they helped me, without having been told to do so, to set up or clean up the equipment for an experiment; they insisted on carrying my bags when we went on an excursion to Mysore or Bangalore. Talking about compassion: After an object to which I had, measured on a Buddhist scale, undoubtedly built up far too much attachment, had got stolen and the students had read my frustration and sorrows straight from my face, they came to me, nearly by the dozen, to tap on my shoulders and console me, making me understand that my anger and sorrows meant nothing but 'self-made' suffering. – One of the students, knowing that I'm a Catholic, even approached me to express his condolences when he heard that our Pope had passed away.

One day I told the monks in full excitement about an extraordinary insect I had found – and captured (!) – that same morning and I gave them some rather lengthy information about this fascinating creature called *Glutaeus Maximus,* including its anatomical features and the fact that it was threatened with extinction. Explaining that this little animal was not dangerous for human beings, I added that it would, if in deep emotional distress, inject a tiny amount of a substance into our body that would immediately put us to sleep. Since such emotional distress could be caused by an overdose of carbon dioxide, I asked the monks to shut their nostrils and mouth and to hold their breath as they approached the insect. Shortly afterwards, all the students silently walked, or rather tiptoed, towards the bucket where the mysterious creature was to be found, their hands covering nostrils and mouth. It took a while until one of the students plucked up his courage and carefully removed the towel that prevented the insect from 'taking French leave'. Much to his amazement, he found nothing but a sheet of paper inside the bucket with something written on it, which he read and then showed to his fellow monks, whereupon they all burst into laughter. *Do you know today's date?* was written on the paper. Needless to say that they had all known about April Fool's Day and that Tibetans (or at least those who live in exile), like people all over the world, play practical jokes on April 1st. (*Glutaeus Maximus* is, as you may know, our largest muscle in our buttocks.) – The monks' reaction showed me, once again, that they have a refreshing sense of humour. Tibetans do have their own peculiar humour and I often didn't quite grasp why our students were laughing – had I, by any chance, missed the punchline? (The Tibetans felt, by the way, the same the other way around, trying to find out what makes a Swiss joke funny…). One of the wonderful things about working with monks, who sometimes call themselves 'gas cylinders' (!) [because of their red robes], is the fact that their cheerfulness is contagious. Whenever I hadn't slept well, was in a rather bad mood for some reason or had a headache, it was the best medicine to go to the classroom and spend the afternoon teaching Physics, Mathematics and English and having a good laugh or two with our students every now and then.

Under the above mentioned circumstances, it wasn't much of a challenge for us to establish a good rapport with our students. The relationship was based on trust and mutual respect. – To sum it up, the monks were as motivated, interested, energetic, lively and enthusiastic as a teacher could possibly ask for. In addition, some of them expressed their sincere gratitude, for instance, by giving written feedback such as the

following: *I would like to thank you from the bottom of my heart!* (If one of the pimply adolescent girls and boys I taught in Switzerland had ever given me such a feedback, I would have instantly turned somersaults and crashed into the ceiling – out of sheer astonishment!). – I'm aware of the fact that I've drawn a picture of our monk students which is not complete. It doesn't come as much of a surprise that not all our students, and certainly not all the monks at the monastery, are as described in the above paragraphs. I do believe, however, that most of the monks who have committed themselves to *Science meets Dharma* fit quite well into this picture.

The *MIR*…

… in action

My work with adult monks in Sera was, in many ways, different from teaching adolescents back home. Whereas in Switzerland I often have to put a great deal of energy into motivating the students, asking them to pay attention and concentrate on the topic, the monk students always seemed to be highly interested in what I taught and they showed, as mentioned before, an exemplary perseverance and eagerness to learn more about science and the world around us. This was, however, only one of the more obvious differences. Besides teaching and preparing lessons, there was a wide range of other duties we were supposed to fulfil, from establishing a social network and relations with monastic authorities, finding out who to approach for which

problem, organizing classrooms, purchasing equipment, reporting to the project management, checking accounting, paying salaries, preparing classroom materials in English and having them translated into Tibetan, drafting a curriculum and coordinating timetables for the different classes to holding staff meetings, solving problems within the team, preparing and coordinating the lessons with our translators, advertising posts as science teachers or translators, conducting job interviews, guiding, supporting and training suitable applicants for the mentioned posts, employing new staff members or, if necessary, dismissing staff members from their post, and so forth. This simplified job description shows that we were asked to take on quite a lot of responsibilities within the project. This was a challenge as well as an opportunity. Especially the latter part of the list was far from what I'd been used to do. It wasn't always easy to deal with problems that arouse within the team; to decide if, when and how to approach somebody who apparently struggled with some (personal) problems; to dismiss someone as a last resort, when all attempts to talk and get the trouble out of our way had failed. – The (newly) selected team members, however, mostly proved to be more than just suitable people for the advertised jobs. The working atmosphere could generally be described as very pleasant. I always worked in close collaboration with my colleague Ulysses and we got along very well. The whole staff were, in general, working hard, showed the indispensable commitment and regularly put in a great deal of effort into their work. During the job interviews, one or the other Tibetan applicant outlined their attitude towards the commitment to *Science meets Dharma* as follows: *I'm convinced that working for Science meets Dharma will be very beneficial to my karma,* or, *I consider it my duty to serve the Tibetan community and I'd therefore be more than happy to work for you.* – After a couple of months, my fellow team members had become more than merely my colleagues, but rather the 'major segment' of my Swiss-Tibetan circle of friends in Sera. Every now and then, we spent some leisure time together having dinner; sitting around a bonfire under the breathtaking Karnataka night sky, singing Tibetan, English and (Swiss-) German songs, dancing, going on a weekend trip together, etc.

2.2 Where Science meets Dharma

The most fascinating ritual I observed at Sera Monastery was, there's no doubt about it, the daily debate, where the atmosphere often seemed to be so thick with tension that the involved monks were going to get into a violent fight within the following seconds. This was, of course, only the first impression of an ignorant onlooker… As I was told, the Buddhist teachers at the monasteries don't simply provide their students with answers to their manifold questions; the students themselves are supposed to verify or falsify whatever they learn, hear or read. Lord Buddha himself, the students explained to me, never wanted his disciples or followers to blindly believe in what he or anybody else said. Everything should always be checked and verified. There our students detected a major similarity between their studies and scientific research which uses the same or at least a very similar approach, namely to measure, calculate and verify or falsify all observable phenomena. This means, as far as I understand it, that (during their highly philosophical discussions [debates]) the monks mutually lead or guide each other towards a more profound understanding of the Buddhist scriptures and, by doing so, towards truth and reality. They check each other's statements and understanding; they correct and prove each other wrong; they conduct, as they put it, "mental experiments". Thus, the Buddhist approach of gathering knowledge apparently bears a strong resemblance to the *scientific method* (as described in our

course book, *Conceptual Physics*). Both Buddhist scholars and scientists make hypotheses and conduct (mental or physical) experiments in order to verify or falsify such hypotheses. – I often watched my students in awe when they had their (at times rather heated) discussions during class. At the beginning, I must admit, I was rather taken aback as I'd been used to a more quiet classroom back home; but, after all, it's by debating how the monks gather and consolidate their knowledge in their Buddhist studies, and such discussions are, even if not in a ritualistic form, undoubtedly a very effective way of learning not only Buddhist philosophy, but also science, and should therefore remain part of *SmD* lessons.

Debating – 'The Tibetan way of learning'

We regularly discussed science in connection with Buddhism. This often happened spontaneously and sometimes when I least expected it, as, for instance, when we were dealing with the topic *speed.* I hadn't anticipated that speed could possibly be mentioned in Buddhist scriptures, but it apparently is. When the speed of light was being referred to as the highest speed possible (according to science), one of the monk students intervened in a rather resolute manner. Mind, he claimed assertively, was capable of travelling even faster than light. This triggered yet another intriguing discussion in our classroom. All the monks agreed upon the supposed fact that mind needs to be connected to *lung* (Tibetan for *air / wind*) 'particles' in order to travel across (seemingly) empty space. Thus, one of the students argued that, if mind was linked to air particles, it couldn't possibly be faster than light, considering the scientifically proven (?) fact that no kind of matter whatsoever can move at a higher speed than the speed of light. It took another student but an instant to reply to this argument. According to him, Buddhist scriptures describe different types of *lung*, and only one of them roughly corresponds to the scientific perception of air, being made of tiny particles / matter. Having experienced the seemingly endless nights of debate at Sera Monastery, it wasn't really much to my surprise that the monk students didn't always, if not to say they hardly ever did, come to an agreement after discussions such as the one described above.

Besides spontaneously evolving discussions and comparisons between science and Buddhism we made together with the monks whenever we considered it sensible and appropriate, we allotted some time (once per school year) for more in- and extensive research into similarities and differences between the two seemingly completely different views. These periods of in-depth studies, which were, as per the monks' wish, not to exceed two weeks at a time, were highly appreciated by our students. After the students had chosen the topic, both the scientific and the Buddhist views were presented and explained. Researching the topic from the Buddhist perspective required a lot of extra effort from the monks' side (since there was, however, enthusiasm in abundance, this never seemed to be much of a problem for them…). It goes without saying that we often found significant differences, but also astonishing similarities between science and Buddhism, such as the following: Lord Buddha supposedly taught that nothing was lost in the Universe and that matter turned into energy and energy into matter! Apparently, he already had knowledge of phenomena scientists discovered more than 2000 years later… – Rather astonishingly, modern science seems to be continuously moving closer to the central Buddhist concept of interdependence. The Dalai Lama even believes that *"Science and the teachings of Buddha show us the same: the unity of all things."* For ages, scientists all over the world have been dealing with questions of how things or phenomena are interrelated or interconnected. In the realm of ecology, for instance, it has become more than obvious that natural phenomena can not be investigated without taking the impact of a wide range of factors into account. Recent research in the field of Quantum Physics appears to heave scientific knowledge to a level where it's no longer inconceivable that (all?) things are not only interconnected, but *interdependent*…

While teaching science in a monastic classroom, I often put myself in my students' *chappals* (Indian 'English' for sandals, flip-flops and slippers that come in a wide variety of materials, makes and colours), and, in cases where what I taught was apparently in contradiction to Buddhist belief, I regularly asked myself in bewilderment: "How the heck can these monks just sit there quietly without rejecting ideas that are a far cry from what they are learning from their Dharma teachers?" Confronted with this question (in a slightly different wording), the students showed an admirable amount of open-mindedness. Every now and then, some of the monks tended to believe in the scientific view in case of contradiction, but on numerous occasions they showed me how the two seemingly completely different views were, in their eyes, often only contradictory at first sight. Placing either the Sun *or* the Earth in the centre of our solar system is, as a monk put it, only a question of one's perspective: "It only depends on your reference frame whether you consider the Sun or the Earth to be in the centre. If you take the Earth as a reference, the Sun *does* go around it…" It seems as if Lord Buddha had taught his followers *according to their perception.* – Not only the students, but also their teacher, were rather amazed when, one beautiful starlit night on one of the roofs of Sera Monastery, they looked through the *SmD* telescope in sheer excitement and saw, for the first time in their life, the rings of Saturn and four of Jupiter's moons. In preparation for this stargazing experience, I had printed out a sky chart from the Internet in order to find my bearings in the vast night sky and to spot the celestial bodies we were looking for, namely the 'Fab Five' (as *The Times of India* inspiringly called them on the occasion of their alignment in March 2004), the five planets that are visible to the naked eye. To my utter astonishment, one of the monks had made an illustration of our solar system (Buddhist view) – on his own initiative! Based on Buddhist astronomy, he had

calculated the constellation of the planets on that particular day – and it was remarkably similar to the one shown on the sky chart I held in my hands! This demonstrated, as the monks were convinced, that accurate astronomical calculations were possible regardless of whether one considered the Sun or the Earth as being in the centre of our solar system.
When they compared Buddhism and science, the students often used similes and metaphors, such as the following: *"It's as if we [Buddhists] saw one side of the world, whereas science sees the other – together we see it all!"* or *"Buddhism and science are like two different lanes on the same street; they both lead us to a wider knowledge and a deeper understanding of ourselves and our world on our search for truth or reality."* Getting acquainted with "the other lane" can undoubtedly broaden one's horizon, and several of our students strongly believe that Buddhism and science can mutually benefit from each other. This coincides with the views of His Holiness. (See also *Appendix* and document *Research Astronomy.*)

When the monks learnt that Isaac Newton, who continued the research of Galileo Galilei, was born in the same year the latter died (1642; several sources, however, cite 1643 as Newton's year of birth), one of them spontaneously replied with a wry smile on his face: "So Isaac Newton must have been a reincarnation of Galileo!" – Buddhist thought was permanently present in the monastic classroom. Every once in a while, however, the monks hesitated when it came to comparing scientific 'facts' and findings with Buddhist philosophy, because they didn't feel in a position to compare the two views due to their lack of profound knowledge in both realms. Still they usually came up with highly interesting thoughts and comparisons. We were indeed teaching science on a very basic level, and the monks' knowledge of Buddhist philosophy was, in their eyes, sometimes simply not sufficient to link the two fields. One of the major goals of *Science meets Dharma,* however, is to encourage the monks to reflect upon what they learn about science in connection with Buddhism, even on a basic level. If they develop eagerness to do so, sooner or later they will be capable of joining the dialogue between science and Buddhism on a more sophisticated level.

*(See **Appendix** and document **Research Astronomy** for more detailed information on this topic).*

2.3 Integrative / interdisciplinary projects

It is undoubtedly in the sense of the Buddhist concept of interdependence as well as of modern teaching methodology to interlink different fields of science. We therefore allotted five weeks per year to an integrative / interdisciplinary project in our rough draft of a possible curriculum for *SmD* classes. We had intended to choose topics for such projects that were relevant in our students' day-to-day life and the monks could easily relate to, topics that had the potential to build bridges between the (sometimes rather theoretical) classroom and the monastic environment. Having experienced the unhygienic conditions in India and the huge problems regarding waste and sewage disposal, the topic that virtually proposed itself was *Environment;* a topic that offered us an ideal opportunity to teach interdisciplinary lessons involving the realms of Biology, Chemistry, Geography and Mathematics.
Since the monastic environment in Sera is by no means an exception in terms of pollution and its destructive impact on nature as well as the resulting health hazards to human beings and animals, my colleague Ulysses and I strongly believe that

environmental issues ought to be tackled in a project like *Science meets Dharma.* Our students turned out to be highly susceptible to the issue, not least because Buddhist scriptures (e.g. *Sutra*) apparently urge them to keep the environment clean. As we learnt from the monks, there are rules in *Sutra* that strongly advise people to drink clean water and tell them not to litter, urinate and spit in public places. Additionally, the scriptures include a 'set of rules and regulations for (personal) hygiene', telling the monks, amongst other things,

- to wash their feet before going to bed,
- to brush their teeth regularly,
- to wash their hands before meals and
- to keep not only their bodies but also their surroundings clean (i.e. for the individual: their rooms / *khangtsens*; for the monk community: the whole monastery!).

(However, there don't seem to be any *specific* rules in order to prevent pollution of water, air and soil.)

By obeying rules like these, we gain the five following benefits (in this as well as in future lives):

1. A pure mind / peace of mind (for oneself)
2. A pure mind / peace of mind (for all living beings)
3. The 'good' gods will be satisfied and help us.
4. Rebirth in the highest level of heaven in the so-called 'realm of form'
5. Rebirth in a strong, healthy and handsome body

There are, according to Buddhist scriptures, creatures such as demigods who live in water, air, fire and soil. Polluting a place provokes these demigods' anger and they can harm us. (People with a good individual karma can't be harmed much.)

By a stroke of luck, a French monk who was involved in an environmental project called *Aquassistance* approached us with the request to support him in his work for this project. The main objectives of *Aquassistance* are to improve the drinking water supply, the waste water treatment and the domestic waste situation in Sera. Considering the suggested collaboration a unique opportunity to contribute to an existing project, we gladly accepted.
During our (first-year) project *Sewage,* my colleague covered chemical and biological aspects of sewage and water pollution in general, whereas I briefly explained waste water treatment and introduced the aims and objectives of the project *Aquassistance.* Then we tackled the task we committed ourselves to. In order to reduce the pollution of the groundwater significantly, *Aquassistance* aims at establishing one or two treatment lagoons to treat the waste water in harmony with nature (i.e. without using chemicals). Since it was necessary to plan and construct a new drainage system, a map of Sera was being drawn. Having the project's equipment for topographic measurements at our disposal, we were asked to complete or rather continue the work on this map. This proved to be a challenging task. The monks had to be prepared meticulously: They learnt how to read maps and find their bearings with the help of maps, how to use equipment such as GPS, compass and transom, how to draw objects and topographical features to scale; furthermore, they improved skills such as the

appropriate use of instruments like protractor and measuring tape and they practised drawing minute details in geometric constructions, plans and maps as accurately as possible. It therefore didn't come as much of a surprise that our 'mission' was more time-consuming than initially planned. It was, however, rewarding to hand over our 'final product' and the monks were visibly satisfied by the fact that important monastic buildings such as the main temple and the debating hall of *Sera Je* were now part of the map. – We never intended to be actively involved in the project *Aquassistance.* Hence, our support solely consisted of providing surveying data and drawing parts of the above mentioned map.

Working as precisely as a Swiss watch…?

The 'field trip around the monastery' in the course of our (second-year) project *Garbage* was an eye-opener for our students. They were taken aback if not to say shocked when they saw the situation in and around Sera and understood the implications of careless disposal of waste and sewage for the monastery, its inhabitants and nature in general. It became obvious that the monks simply hadn't realized how devastating the impact of environmental pollution can be on plants and all living beings.

Batteries and *Plastic* were two of the main topics we dealt with during the project *Garbage.* Batteries in India are mostly single use – "use and throw"; opportunities for recycling or proper disposal don't seem to be provided around Sera. It is commonplace in India to 'parcel' take-away food (even *chai* and soup!) in thin plastic bags; even for the smallest conceivable purchase every customer will be given plastic bags in shops. These are just two items on a long list of reasons why way too many places in India are literally 'plastered with plastic'. The garbage dumps in Sera (70% of the waste in Sera supposedly consists of plastic) are set on fire twice a month (e.g. near the school and the hospital). This leads to a high atmospheric pollution. From our own experience we know how nauseating the fumes resulting from such fires near residential buildings can be...

Knowing that necessary infrastructure and facilities for a more eco-friendly disposal of both sewage and garbage are often simply not available in India, my colleague and I were careful not give the impression of blaming anybody at the monastery for the situation. Neither did we, by any means, want to impose any changes or measures on the monastic community, let alone approach monastic authorities with requests to take steps to prevent pollution or any such problems. Such a top-down approach would, without a doubt, be highly inappropriate for a project like *Science meets Dharma.* Instead, we focussed on the grass roots and our foremost goal was to raise awareness of the problem amongst the monks. Since we easily caught our students' undivided attention regarding this topic, the monks automatically came up with their own suggestions on how they could contribute to a 'cleaner Sera'. During a discussion, it took them but minutes to draw up a list of measures that could be taken in order to protect their surroundings and our environment in general (see also *Appendix*).

From what our students told us we know that they often discuss what they learn in *SmD* lessons with fellow monks at their *khangtsens;* they are apparently very eager to share their knowledge with others – and that's certainly a way of spreading awareness in an effective manner. – During our *Science meets Dharma Exhibition* (see *Appendix*)*,* a group of students enthusiastically informed visitors about environmental problems, particularly in and around Sera. Later I heard that members of the *Sera Je Health Committee* had discussed these problems after having visited our exhibition and were planning to include them in their website. As one of our students told me, they even considered taking steps in order to make Sera 'plastic-free' (like several hill stations in India such as Ooty and Dharamsala)! – Just recently I learnt that one of our former students from Mundgod had started placing big blue containers for waste in the streets around his *khangtsen.* He had convinced a couple of his friends to lend him a helping hand and he also makes sure the containers are emptied regularly. As soon as there's a spark in the monks' minds, their enthusiasm is most likely to be ignited and they will pursue their goals with a great deal of determination…

While I was surfing the Net one day in Sera, I discovered an Australia-based organization (which is affiliated to the *UN Environment Programme*) that encourages volunteers from every corner of the globe to participate in an annual *Clean up the World Day.* Schools are welcome to register and they will receive useful advice and support in order to conduct such a clean-up day in their area. I'd personally consider it a good idea to make an attempt at starting such a programme – and there would undoubtedly be enough manpower to do so in a monastery like Sera…!

2.4 His Holiness and *Science meets Dharma*

"My interest and close contact with scientists – now more than fifteen years," the Dalai Lama had told me. "It seems to me more and more scientists begin to show genuine interest in dialogue with Buddhists. I feel something useful, not only satisfying my own interest. The dialogue between scientists and Buddhists can help expand human knowledge. We have already introduced scientific study to some selected Tibetan monks for the last two, three years. I feel personally we started something right, something of benefit to the larger community." (…) "Ancient Indian thought contributes knowledge and technique to take care of inner life. Science of course also has tremendous responsibility. But I feel developing inner values more important. Look at the event in New York on September eleventh. It clearly shows how

modern technology, combined with human intelligence and guided by negative emotions such as hatred, can create disaster – something very immense. Really bring suffering to lots of people. To utilize technology more constructively, inner peace is the most important factor. That's the main reason to have closer relation between modern science and ancient human thought. Side by side, some way to make contribution to a better world. "

These words (quoted from the book *The Wisdom of Forgiveness* by HH the Dalai Lama and Victor Chan) illustrate the great importance the Dalai Lama attaches to a sincere and profound dialogue between scientists and Buddhists. On numerous occasions, he has stressed the significance of a project like *Science meets Dharma,* as, for instance, when he referred to the project as historic and compared it to the famous Nalanda University, where, 2000 years ago, Tibetan scholars studied other ways of thought to deepen and reflect upon their knowledge of Buddhism. Besides, the project has, according to the Tibetan spiritual leader, the potential to bridge the gap between the Tibetan lay and monastic communities. This gap seems to have widened over the years of exile in India. Tibetan lay people on the subcontinent are offered the opportunity to go through regular schooling (primary and secondary school) and, as they approach Buddhist monks, they sometimes seem to feel as if the monks had hardly any knowledge of our planet or what was going on around them. Tibetan monasteries have, even in exile, indeed been pretty much isolated from the outside world for several decades. A discussion I had with a Tibetan layman in Switzerland underlined my impression that, as a consequence, some lay people, especially youngsters, have lost (part of) their respect for the monastic community. A lively exchange between *Science meets Dharma* students and Tibetan lay people, as encouraged by my colleagues Ulysses Witzig and Heiri Schenkel when they took our exhibition to the *Tibetan Children's Village (TCV)* in Bylakuppe, can undoubtedly bring the two communities closer together.

An auspicious day

It was a great honour for the whole *Science meets Dharma* team to be granted an audience with His Holiness in December 2004. On this auspicious day, most of our faces had been reflecting a blend of excitement, happy anticipation and anxiety for hours before the meeting actually took place. Shortly after we, at last, had been seated in his private rooms on the top floor of the splendid *Sera Mey Temple,* the charismatic leader entered and the room instantly seemed to be filled with his radiant energy. It was after approximately ten minutes that I noticed how my right hand gently joined my lower jaw with the upper one. My mouth had, unconsciously, been wide open while I was listening in awe to the Dalai Lama's words, as he outlined the potential benefits and dangers of science and modern technology, stressed the value of a project like *Science meets Dharma,* and, last but not least, personally expressed his heartfelt gratitude for our work. As we were walking down the stairs of the temple, one of our translators asserted, with shiny eyes, that this was the happiest day in his entire life; it was, there's no doubt about it, a very memorable day for all of us.

The Dalai Lama is undoubtedly an extraordinary man. What always amazes me is the fact that, despite the burden he's obviously been carrying on his shoulders since his early childhood, His Holiness always seems to radiate an air of contentment and happiness (no wonder he is sometimes quite appropriately referred to as 'His Happiness' or 'His Cheerfulness'). No matter whether he speaks words of wisdom, expresses sympathy for soldiers who killed his countrymen, promotes peace, leads *pujas* or, seemingly out of the blue, starts giggling or even roaring with laughter, he comes across as a sympathetic, thoroughly compassionate and genuine person; he lives, as we say in German, what he 'preaches'.

2.5 Teaching English to Tibetan monks

(At this point, I would like to refer to the document ***Teaching English to Tibetan monks****, which I wrote last year after our Tibetan English teachers had asked me to give them some practical advice.)*

During an annual Tibetan festival I observed in amazement how nimbly some monastic youngsters (no older than ten years) climbed the branches of the surrounding trees in order to catch, high above the gathered crowd, a glimpse of the traditional dance that was performed on the nearby stage. This reminded me of a student who, during one of our first English lessons, had told me in a rather self-confident manner: "I'm a monkey!" – and I couldn't help but laugh to myself. Of course the mentioned monk had intended to call himself a 'monk' rather than a 'monkey', but that was how the word came across. – Pronunciation is a problem that is not to be underestimated in our monastic English classes. There are a lot of monks in Sera whose English vocabulary is quite advanced but who have difficulties in making themselves understood simply because of mispronounced words. Accumulations of consonants, for instance, cause problems for Tibetan (as well as Indian) learners. They tend to 'add an extra vowel' in such cases, as the following examples illustrate: *fil**e**m* (instead of *film*)*, s**e**chool, mil**i**k,* etc. Long vowels often become short, such as in *ship* (instead of *sheep*); similar mistakes can be observed in words like *sheet* and *beach*...
Indian (and Tibetan) English teachers will often drill all the different sounds at the same time, even with beginners. They'll add a long list of words the students don't understand to each sound. This is, in my eyes, highly confusing for the learner. The alphabet, of course, needs to be studied as soon as possible (several *SmD* students had

never come into contact with our alphabet). The different sounds, however, especially the ones that cause problems, ought to be dealt with one at a time. In my English teaching experience, it has often proved to be helpful to let the students feel where a specific sound is being formed (in the throat, front or back of the mouth, position of tongue, teeth, lips, etc.). Even practising sounds in front of a mirror, especially when the correct shape of the lips is essential, can be beneficial.

As I've experienced in my Sanskrit lessons I've been taking for a couple of months, the Indian language teaching approach involves a fair chunk of grammar at a time. This sets off, at least in my case, my in-built *GOA (**G**rammar **O**verload **A**larm)*. I therefore prefer not to, for instance, teach several tenses within a short period of time. I'm rather satisfied if my new students are well acquainted with the *present simple tense* after a couple of months of practice and consolidation.

An English teacher has to be very experienced in order to teach a group of students he can't communicate with in a common language, especially in the case of 'absolute beginners'. In Sera, we found ourselves in the fortunate situation to have enough human resources within our staff to overcome such difficulties. Some of our translators and even our cook were willing to take English classes. This enabled us to teach in small groups, to reduce the gap between the strongest and weakest students within a group and to 'pick up' the students at their individual levels. 'Absolute beginners' were exclusively taught by Tibetans. – It can't be our intention to impose 'our' teaching methodology (as described above and in the document *Teaching English to Tibetan monks*) on local teachers; every teacher should have the freedom to put their own ideas into practice and to use (or develop) their own teaching style (this is, of course, also true for our local science teachers). In our case, however, our teachers, some of whom had never taught a lesson before, explicitly asked us for advice and were therefore happy to receive some guidelines.

Special attention ought to be given to the coordination between different English teachers. When a student moves up a level, the new teacher should be well informed about what the student has been taught previously. Therefore, the use of a common coursebook could undoubtedly be of considerable benefit. This would allow for a better sense of continuity, regardless of whether teachers rigorously follow the book (by no means necessary or even recommended) or not. – In the medium term, having gained more experience and information on what can be achieved in the three and four year courses, it would be sensible to draw up a simple syllabus for *SmD* English classes.

It is certainly not the most important task of *Science meets Dharma* to teach English to the Tibetan monks. They do, however, greatly appreciate being offered (optional) English lessons and they use the acquired language skills to communicate more successfully with both Indians and foreigners, to do research on the Internet and to read (scientific) books and newspapers.

2.6 The future of *Science meets Dharma*

We have discussed this key issue on numerous occasions, in Sera as well as in Switzerland, and proposals have been submitted in several of our reports. I hope that our experiences in Sera and our suggestions will help to iron out some of the initial

difficulties, to improve the quality of classes and organizational matters and to smooth the path to a sustainable project. I have compiled the following list from some additional thoughts that race through my mind when I think about the future of *Science meets Dharma*.

Future 'monastic scientists'…?

- For the first time in my teaching career, I faced the challenging task to introduce both Physics and Mathematics simultaneously. In Switzerland, students have learnt Mathematics for at least six years before they first come into contact with Physics. In a monastic classroom, however, there will be students who have no or very little previous knowledge of Mathematics. It was, at times, difficult to assess how many mathematical skills were to be taught before tackling a new Physics chapter. I asked myself, for instance, how much time I should spend on introducing fractions, decimals, percentages, and so forth. Although our focus has always been on *conceptual* Physics (with as little Mathematics as possible), a basic, but nevertheless solid foundation needs to be laid in the field of Mathematics. Even an introduction to basic operations such as addition and subtraction is indispensable. Since some of the students do have some previous knowledge, it is essential to provide the monks with a wide range of exercises, from very basic ones for the beginners to more challenging ones for the stronger students. The students will very soon come across different types of diagrams during their scientific studies. It is therefore sensible to teach them how to 'read graphs', i.e. how to extract as much information as possible from simple graphs, at an early stage.
- I felt, especially at the beginning, sometimes a bit frustrated when I realized that I wasn't able (or didn't even come close to) teach as much as I had intended to. My list of topics I had drawn up kept shrinking… Then I learnt that the monks were quite happy with the situation as it was. They don't want to rush through a great number of topics within a short time; they prefer delving deep into a subject rather than merely scratching on the surface.

Efficient time management turned out to be a tough nut to crack. You don't tell a bunch of monks to discuss something in five minutes! They carefully scrutinize whatever they learn regardless of the time involved. This made me reflect upon the different perceptions of time in both the East and the West. I wonder whether it is necessary to constantly put oneself under pressure regarding time as is commonplace in Western countries. Now that a *SmD* curriculum is being set up questions like these undoubtedly need to be taken into account. The fact that during the initial phase of the project different teachers have been teaching at various paces and have chosen different teaching approaches forms an ideal basis for discussion. I believe that the number of topics taught is of no great significance. It is far more important to get the students well acquainted with the scientific way of thinking. By helping the students gain new knowledge through scientific endeavour (and in a practical manner) the teachers can whet the monks' appetite for science and provide them with the necessary tools to continue their studies independently, at least to a certain extent, after they leave *SmD*.

- Teachers should always tailor their programme to suit the monks' needs and expectations.
- I've always been in favour of a four-year rather than a three-year programme for our students. Experience shows (not only at the monastery) that students need a lot of guidance before they are capable of working independently. The *SmD* classroom situation is completely different from what the monks are used to in their Buddhist studies. In addition, the monks hardly have any opportunities to do homework (at least in Sera). Practice, revision and consolidation work therefore take place almost entirely in the classroom. Everything that is taught has to be translated into Tibetan. A solid foundation can certainly be laid in four years. I believe, however, that under the given circumstances, attempting to educate students to a *Plus Two* or even *a 10th Standard* level in science (the Indian equivalent of 12th and 10th grade respectively) within the existing framework of the *Science meets Dharma* programme is not feasible – and by no means necessary! I was happy to learn that all the students in Sera who hadn't dropped out earlier were allowed to carry on into their fourth year *(Plus One)* last summer**.** I hope that seminars, workshops, presentations, scientific discussions, etc. will be organized in future, particularly for former students. I'm convinced that some or our students would be more than happy to participate in such events.
- It would be desirable to have monks teaching other monks in the long term. Scholars of Tibetan Buddhism who have been properly educated in science would undoubtedly be ideal teachers for *Science meets Dharma.* As discussed earlier, students who have completed *Sera Je Secondary School* would, if sufficiently supported in their further studies, be suitable candidates for such posts.
- We were able to establish a social network at the monastery as well as in the surrounding lay camps which proved to be of great value. Being on good terms with the monastic authorities is crucial for a project like *Science meets Dharma.* Therefore, we decided to pay visits to abbots, disciplinarians and the administrative staff of *Sera Lachi* as well as *Sera Mey* and *Sera Je* in order to introduce ourselves. The disciplinarians of the monastery play a key role in the relations between the monastery and our project. They are the authorities who need to be approached when, for instance, it comes to asking for permission for our students to participate in a field trip. Having the authorities well

acquainted with the project and the people involved was without a doubt beneficial during our stay in Sera.

Close contacts with both monastic and lay schools helped us tremendously. Especially the principal of *Sera Je Secondary School,* Ngawang Nyima, has been a strong supporter of *Science meets Dharma* in the last two years. On numerous occasions, he gave us valuable advice as, for instance, when we were rather desperately looking for new classrooms, teachers or translators. In addition, he generously allowed the use of the school's science laboratory and continues to do so. Two science teachers (one Tibetan and one Indian) have been working for *Sera Je Secondary School* (mornings) as well as for *Science meets Dharma* (afternoons) since last summer. This collaboration has turned out to be beneficial to both parties. Several times, one of the teachers of *Sera Mey Primary School* helped us out, even at short notice, when a translator was on leave. Students as well as teachers of the *Tibetan Children's Village (TCV)* were eager to exchange knowledge as well as ideas with the monks on the occasion of our exhibition. I hope that future *SmD* teachers will continue to work in close collaboration with the above mentioned schools and establish new ties with institutions and individuals who are often perfectly willing to support the cause of our project.

- Geshe Nyima Tashi, our local coordinator, became an indispensable member of our *SmD* team. Ever since he was our translator in Rikon, Switzerland, and then accompanied and introduced us to the monastery in Sera, he has tirelessly put a great deal of hard work and energy into the project. His numerous suggestions (regarding, for instance, our monks' exchange with *TCV* students and workshops or presentations that could be organized in future) were greatly appreciated. He helped us tremendously when it came to finding new classrooms or accommodation. Additionally, he supervised and conducted translation work, organized opening or closing ceremonies, gave us support 'in times of trouble', and so forth. People like Geshe Nyima Tashi and Tempa Tsering, Representative of His Holiness in New Delhi, establish invaluable links with the monastic community, particularly monastic authorities. I thoroughly hope that more Tibetans who are well respected in both monastic and lay communities and who are willing to take on responsibilities within the coordination, organization and local management of *Science meets Dharma* can be found in the near future.
- As mentioned above, two local teachers have been working for *SmD* since last summer. I thoroughly hope that new Tibetan (and Indian) teachers will soon be found in order to hand over more responsibilities to the local community, as it would without a doubt benefit *Science meets Dharma*. Indian teaching methodology often involves a lot of lecturing. The project, however, aims at a learner-centred and practical teaching approach – and this is greatly appreciated by the students. Our young Tibetan teacher who joined us shortly after he had finished his teacher training informed us that Indian teaching methodology is also shifting towards a more learner-centred approach. New teachers who are not yet familiar with such an approach need to be prepared in a thorough manner. We found ourselves in the favourable position to have enough time to support and coach our new teachers. They were perfectly willing to adjust their teaching methods to live up to the project's as well as the students' expectations. A learner-centred and practical teaching approach is, after all, not difficult to get acquainted with. The teachers, however, need to

be convinced that such an approach is appropriate for an effective way of learning.

- New translators ought to be selected carefully. They play a key role in the monastic classroom. It is, after all, the translator rather than the teacher who conveys the subject matter to the students! It is therefore crucial for them to fully understand what is being taught. Since we teach on a rather basic level, translators don't necessarily need to have a degree in science. We've had very good experiences with translators who had only taken science in secondary school (up to *10th* or *12th Standard*). They have, however, put a great deal of effort into their preparations at home as well as with the teachers. Additionally, they've often asked for explanations in case of uncertainties.
- All translation work in any of the involved monasteries needs to be well coordinated. Translations ought to be exchanged and filed systematically in order to make them easily available for new teachers. It is often difficult to assess the quality of written translations. Some of the monk students are, however, experts in the Tibetan language and they will make corrections whenever necessary. After corrections have been made they ought to be communicated to the other monasteries in order to avoid using different versions of the same translation. Similarly, all classroom materials such as worksheets should regularly be exchanged and filed. It can be very helpful for new teachers to use materials that have been prepared by previous teachers. Since most of the classroom materials are now at the teachers' disposal in electronic form, they may change them according to their personal needs and ideas. It would be advisable to appoint a person to be in charge of the 'administration' of written translations as well as classroom materials.
- Scientific terms that don't exist in the Tibetan language cause difficulties and confusion in a monastic classroom. Numerous endeavours are being made to coin new Tibetan terms in the realm of science. *Science meets Dharma* plays an important role in this process. Unfortunately, different institutions have introduced new words independently from each other. As a result, different terms are being used for the same 'things' or phenomena. I hope that the involved institutions will make a *concerted* effort to set up a standardized Tibetan science terminology.
- As my colleague and I experienced, some of the monk students are not very comfortable with change as, for instance, the arrival of new teachers. When we completed our work at the monastery, they expressed their concerns and drew up a list of suggestions, expectations and requests for the new teachers. If no previous teachers stay at the monastery, there should be an overlap of a couple of weeks while new teachers can be properly introduced and prepared for their life and work at the monastery by the leaving teacher(s). Finding themselves in a completely different world, new teachers will undoubtedly appreciate any kind of support on their arrival.
- The monk students generally appreciate feedback on their progress, both positive and negative (in the form of constructive advice). It is therefore advisable to collect notebooks every once in a while, comment on the monks' performance in tests, have personal talks with the students, etc.
- Sufficient time ought to be allotted to the students to ask questions. Since opportunities to do so either before or after class are rare, I decided to introduce a 'Sunday question session' at the beginning of our lessons on Sundays (as suggested by the monks). In addition, we were fortunate to have a translator who was willing to offer tuition to students who faced difficulties in

science class. This tuition took place during English class (in our second year at the monastery).

- Exchanging teachers between monasteries would be an attractive option for both students and teachers. If there is, for instance, a teacher who's specialized in a particular field of science (geographers, computer specialists, engineers, agronomists, etc.), they could share their expertise with a greater number of students.

3. Some final personal thoughts

"Science and religion are two windows that people look through, trying to understand the big universe outside, trying to understand why we are here. The two windows give different views, but both look out at the same universe. Both views are one-sided, neither is complete. Both leave out essential features of the real world. And both are worthy of respect."

Freeman Dyson

I'm delighted to see that, nowadays, religion and science are moving closer together. More and more people no longer believe that they exclusively have to stick to one or the other. The Catholic Church (having prosecuted scientists such as Galileo Galilei for centuries) supports the Big Bang theory and officially pronounced it to be in accordance with the bible in 1951. Even our late Pope, John Paul II, who was known as a conservative leader, supposedly said: *"Science can purify religion from error and superstition; religion can purify science from idolatry and false absolutes. Each can draw the other into a wider world, a world in which both can flourish… We need each other to be what we must be, what we are called to be."* – The Dalai Lama has been engaged in a dialogue with scientists for many years and he tirelessly encourages scientists and Buddhist scholars the world over to enter such a dialogue. He strongly believes that an exchange between the two can be enriching for both sides. He is, for instance, convinced that there's great potential for modern Psychology to learn from Buddhist principles, whereas Buddhism can derive more detailed knowledge from science in realms such as cosmology and the study of subatomic particles. His Holiness readily accepts new findings that have been verified by modern science. His open-mindedness is exemplary and many a spiritual leader (or scientist, for that matter) would do well to take a leaf out of his book.

Last year, a shrewd little know-it-all (barely older than ten years) who was serving food in a restaurant in Hampi told us in a rather assertive manner: *"Hindu, Christian, Buddhist… – no difference! All have same God."* Indeed, different religions often do convey the same or at least very similar ideas. Hinduism and Buddhism, for instance, teach us, similarly to Christianity, to share what we have without expecting any personal advantage, as illustrated by the following extracts:

"Giving simply because it is right to give, without thought of return, at a proper time, in proper circumstances, and to a worthy person, is enlightened giving. Giving with regrets or in the expectation of receiving some favour or of getting something in return, is selfish giving."

Bhagavad Gita 17.20-21

"If beings knew, as I know, the fruit of sharing gifts, they would not enjoy their use without sharing them, nor would the taint of stinginess obsess the heart and stay there. Even if it were their last bit, their last morsel of food, they would not enjoy its use without sharing it, if there were anyone to receive it."

Buddhism, Itivuttaka 18

In the past three years in India, I've been exploring similarities between different religions, philosophies and ideologies with great interest. I've met numerous people who are very tolerant towards thought and religions that are different from their own, which I find admirable. Portraits of Mahatma Gandhi can, for instance, be found in many Tibetan dwellings; Jesus Christ is widely regarded as 'a great Yogi' and Buddhists, Hindus and Muslims often respectfully refer to his teachings. Of course there is, as we all know, the other side of the coin. There are, for instance, still cases of people who are supposedly trying to convert Indians to Christianity and who are, as a consequence, severely injured or even killed; clashes between Muslims and Hindus are quite common. When I hear of such incidents, it often seems to me as if different religions were speaking different languages, but many of us were simply too narrow-minded to learn such 'foreign languages'. If we did, we would realize that our religions are not so different after all!

When we came across the word 'regret' during one of our English classes, a student referred, much to my surprise, to an Easter poem we had read and discussed more than a year earlier. Most of the monks were eager to learn more about Christianity. We therefore had some interesting inter-religious discussions and spent a few lessons explaining the significance of festivals such as Christmas and Easter. In return, we swapped our roles every once in a while and the monks became my teachers. I learnt a great deal about Buddhism from my students. – "No pain, no gain!" was the English saying that a quick-witted student spontaneously linked with the teachings of Tibetan Buddhism when we discussed 'suffering' (see also *Appendix*). Suffering is, according to Buddhist belief, necessary in our lives; we can only overcome suffering and find true happiness by knowing and experiencing it. Our compassion increases when we learn what suffering really means. Only if we suffer from time to time can we learn to appreciate the beauty of life. Similarly, the guru at the Yoga ashram where I spent four months of my (at times rather spiritual) journey across India taught us that *"Only if one experiences evil, they can do good"*. Along the same lines, I recently spotted the following sentence, written in bold letters on the wall of a Christian school: *"We learn from the things we suffer"*.

Buddhist wisdom made me reflect upon the German proverb *"Jeder ist seines eigenen Glückes Schmied"* (possible translation: *"Every man is the architect of his own fortune"*) from a new perspective. Our well-being and happiness largely depend on the way we react to external influences such as other people's behaviour or actions and physical sensations. Our own negative reactions to unpleasant events and situations make us suffer. If somebody, for instance, doesn't treat us well (or the way we expect to be treated), we tend to build up negativity within our minds, which often results in hatred – and our own misery. The arousal of other negative emotions such as anger, jealousy and greed can be explained in a similar manner. If we can learn how to react to external factors with equanimity, i.e. with neither craving (in the case of positive factors) nor aversion, we will undoubtedly live a happier life. Our Yoga teachers taught us likewise: Nobody can do us any harm (on a mental or emotional level) unless we let it happen. Our happiness is, therefore, in our own hands, just as

the above proverb suggests. *[The proverb could of course also be cited to illustrate the 'Universal Law of Karma'. Good deeds will, as Buddhists believe, have a beneficial impact on our present life as well as on future lives.]* This sounds like a very simple recipe. It doesn't come as much of a surprise, however, that it's far from being enough to understand such simple but nevertheless fundamental truths on an intellectual level. It seemingly takes an endless number of hours in meditation to reach a well-balanced state of mind; but, as one of my teachers used to say, even a journey of a thousand miles begins with the first step. My first step in this direction consisted of ten days of *Vipassana* meditation (which is derived from Buddha's teachings) – and the second step is yet to be taken…

"Mathematics is like an ocean, and now I understand a drop of it." – The way one of our students felt about Mathematics is pretty much the same as I feel about my knowledge of Buddhism. During my stay at the monastery, I was able to fit some important pieces into the 'jigsaw puzzle' of Buddhism. Although I know that I'll never be able to fit the last pieces together in order to see the full picture, I'm determined to continue my studies in this highly interesting religion (and / or philosophy).

When a friend asked me last year whether I had changed after two years in India, I spontaneously replied: "I think I've become more patient." My friend found that this was hardly possible, but I assure you it is. The following is a short list of events that may slightly challenge one's peace of mind while travelling in India.

In offices, railway stations, shops, etc.

Your pulse rate might increase when

a) you try to figure out where a queue starts and ends, or whether such a thing exists in the first place,
b) you discover that Indians are world champion 'queue jumpers',
c) after having waited in a queue for three hours and forty-seven minutes, your face brightens up and you breathe a sigh of relief because it is – at last! – your turn, but the gentleman at the counter consults his watch to confirm that it's lunch time – "counter closed for two hours!"
d) you spend long afternoons at Indian embassies so you can even enjoy Indian customs (including queue jumping) when you're abroad,
e) your *Glutaeus Maximus* is getting sore from sitting in the *Office of the Superintendent of Police* where you are waiting for nothing but a signature on a document that can only be given by *Super Mario* himself and you have to change travel arrangements and cancel train tickets because at 8 p.m. you eventually learn that "*Sir* doesn't return before midnight",
f) you realize that – once again! – you have left your unputdownable thriller by John Grisham at home in cases c), d) and e),
g) you are told on your fourth visit to the same office that the forms you have filled in previously (including four of your shiniest passport pictures) have, by a very unfortunate mishap, made acquaintance with the shredder and the process starts all over,
h) somebody assures you that the item you've ordered will be delivered within the next 48 hours and you are still waiting after 504 hours,

i) somebody promises you that they will call back in five minutes – such a thing simply doesn't happen.

Auto rickshaw (sometimes affectionately called 'Tuktuk') drivers

You might feel a sudden urge to do some meditation or breathing exercises when

a) you and your friend have fixed the price for a ride at 40 units of the Indian currency and the jolly fella behind the handlebar tells you, after having dropped you, with a broad grin on his face: *"One person 40 Rupees, two persons 80 Rupees!"*
b) your *tuktuk* driver suddenly gets struck by hunger pangs and has dinner on the way to your date,
c) you are told that *"meter is not working", "railway station is twelve kilometres from here"* (even though you can see your destination a couple of blocks away)*, "petrol price more expensive", "I take you to* ***super*** *souvenir shop"* or – my personal favourite – *"first customer today"* (at 7:30 in the evening?),
d) the meter *is* working, but after 45 minutes you realize that you are being taken on a 'sightseeing tour' that was *not* exactly part of your schedule,
e) a rickshaw *wallah* persistently drives along as you walk all the way from the railway station to your guesthouse and still wants to take you to your guesthouse for five Rupees when you are virtually walking into the reception,
f) your three-wheeler driver insists that he knows a guesthouse that is not only cheaper and cleaner, but also by far more comfortable and beautiful than the one you have chosen,
g) you are told that the unfortunate driver doesn't have any change and there is no place far and wide where you could change the note with the face of Mahatma Gandhi and the number 500 printed on it.

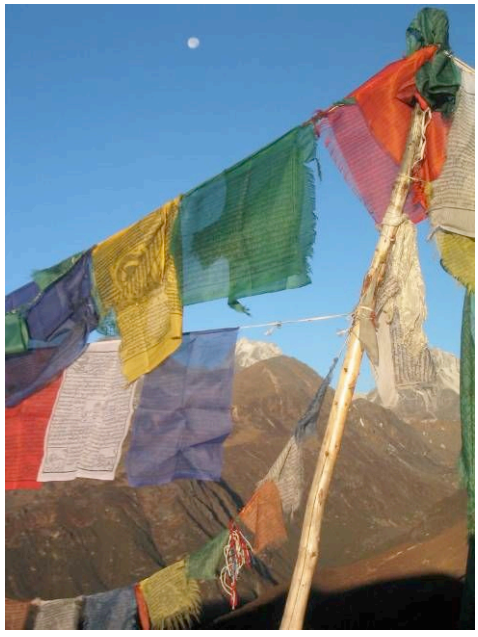
In situations like these, I often had to remind myself that, as a rather catchy tune from an Indian movie suggests, "East or West, India is the best!" – India is indeed, and I'm now 'switching back to serious mode', a fascinating country, full of surprises ("expect the unexpected!") and with an incredibly rich culture, breathtaking sites of natural beauty and people who are often outstandingly hospitable and sociable.

If somebody had told me three years ago that I'd have to live in a house without water for three months, I might have exclaimed: "No way!" – This is, however, exactly the situation we found ourselves in towards the end of our second year in Sera. One morning, we discovered that due to water scarcity and technical problems the precious liquid was no longer flowing from our taps and, day in, day out, we had to carry bucketfuls of water for cooking, washing, dishes and toilet up three flights of stairs. In spite of these difficulties, we managed the situation with ease by making a concerted team effort (okay, I'll admit that my colleague Ulysses, being "the tallest teacher of *Science meets Dharma*", was destined to carry the heaviest load…) and we even decided to stay in our dwelling after our project manager had offered us to shift to a guesthouse. Throughout my stay in India, I've always considered it an invaluable experience to do without much luxury for a change and I've realized, much to my relief, how easily I've been able to adjust to unaccustomed situations. Yet it has to be said at this point that, in terms of accommodation and everyday comforts in general, we were well looked after by the project management and our tireless staff.

Seeing poverty and misery in India repeatedly made me reflect upon the (material) comforts we enjoy in abundance in a country like Switzerland and how we often take such comforts for granted and fail to appreciate what we have. Never in our lives have we experienced or can we even imagine struggling to meet our most basic needs such as food and proper healthcare. Yet it is amazing to realize that one can see *lakhs* (hundreds of thousands) of poor people in India whose eyes still gleam with cheerfulness despite the fact that they *do* find themselves in such a struggle.

Leaving the monastery after two years was certainly not an easy thing for me to do. When the time to say goodbye had come after I'd delivered my farewell speech, the monks formed a queue (without queue jumping), and one after the other bowed in respect and put a *kathak* around my neck. Some of the students had tears in their eyes, others, who had usually been rather talkative, suddenly fell silent. The words they'd wanted to say seemingly didn't make it all the way from their vocal cords to the lips. I was overwhelmed.
It was very rewarding to see how much the monks appreciated our work. The fact that the project was still in its infancy made our job more challenging and yet at the same time more fascinating. I would like to say a heartfelt *thuk jhe nang* to my students in Sera, our staff without whom we would have been lost in 'a world worlds apart from home' (not only our teachers and translators but also our other team members such as cooks and drivers deserve special mention at this point!), Ulysses Witzig and my other colleagues, our mentor and friend Hanspeter Grossniklaus, everybody who gave us any kind of support in Switzerland as well as in and around the monastery, the weary reader who made it all the way to the end of this report and, last but not least, our project management and the people from *Interteam* as well as the *Tibetan Institute* in Rikon (Switzerland) who made my most wonderful years in my teaching career possible in the first place.

When the monks asked me how I got the opportunity to work for *Science meets Dharma* and I attributed it to "sheer coincidence", they shook their heads in unison. There is no such thing as coincidence in Buddhism. One of the students spontaneously replied: "Your karma pushed you into this job!" "In that case", I told them, "I owe a great debt of gratitude to my karma…"



André Imboden
Sera, December 2006