

Section for Mathematics and Astronomy

The consciousness soul impulse of projective geometry in the 21st century

In the early twentieth century Rudolf Steiner repeatedly mentioned projective geometry to scientists, mathematicians, teachers and artists. He pointed out that projective geometry could help to acquire forms of thinking which are fundamental for understanding life.



Part of the scientific community: group photo with Section Leader Oliver Conradt (back row, seventh from left)

Projective geometry is a child born in modern times and it rests on two pillars. The first is that infinitely distant points, straight lines and planes in space are actively included as equivalent with the ‘usual’ geometrical elements. Secondly, the universal principle of duality applies, which was discovered in the early nineteenth century.

These two pillars of projective geometry, which have become accessible at the dawn of the age of the consciousness soul, led to the thorough renewal of Euclidean geometry, which goes back to pre-Christian times. People realized that Euclidean geometry constitutes merely an important specialization within the metric geometries and that there are other non-Euclidian geometries.

Analytic and algebraic assessment

A number of twentieth-century scientists and artists took up Rudolf Steiner’s indications, which meant that synthetic projective geometry could be developed further by some anthroposophists – among whom George Adams Kaufmann and Louis Locher-Ernst are best known – and described in various books for research and teaching purposes.

With the beginning of the 21st century the need grew to assess projective geometry not just synthetically but also in analytic and algebraic terms. The relevant research was carried out by Peter Gschwind and Hanns-Jörg Stoß among others. In recent years the work group ‘Mathematics and Spiritual Science’, which is part of the Section for Mathematics and Astronomy, has worked intensively on this task.

At the tenth “International Conference on Clifford Algebras and their Applications in Mathematical Physics”, which was held at the University of Tartu (Estonia) from 4 to 9 August 2014, two members of the work group ‘Mathematics and Spiritual Science’ – Charles Gunn from Berlin (DE) and Oliver Conradt from Dornach (CH) – each presented their research findings in plenary lectures. Both contributions will be included in the conference proceedings.

With their research, Charles Gunn and Oliver Conradt contribute to ensuring that the consciousness soul impulse of projective geometry can gain ground not only in synthetic geometry (imaginative character), but also in analytic geometry and algebra (inspirative character). | Oliver Conradt, Leader of the Section for Mathematics and Astronomy.

Medical Section

Where research and training meet

What does further training need to be like if one wants to make sure that it can be adapted to the conditions and possibilities of a given country? What can be done so that Anthroposophic Medicine and its therapies will be available wherever people ask for it? The International Postgraduate Medical Training (IPMT) of the Medical Section has been devoted to these questions since 2002.

Qualified physicians or therapists who take part in the annual five-week training blocks, attend the regular basic studies in the small groups which are offered locally and work under a specialist mentor for a minimum period of two years can acquire certificates as anthroposophic physicians or therapists.

Training particular faculties

It is a special characteristic of this study course that it does not primarily focus on conveying knowledge, but on training certain faculties. It needs training opportunities that will give participants qualifications within their country so that they can practise their profession based on the anthroposophical knowledge of the world and of the human being and on the related ethical foundations.

There have so far been IPMT courses in 23 countries on all five continents. At the moment more than 1200 people are involved in the IPMT weeks every year. Seventy anthroposophic physicians have qualified to date within the IPMT and have received their international certification; so have more than sixty therapists and nurses. Eighteen further training weeks are scheduled to take place in 2015. Mexico and Columbia will join as the 24th and 25th IPMT countries. (For more information visit ipmt.medsek-tion-goetheanum.org.)

Such a global project would be unthinkable without lecturers who work without pay, without the local organizers most of whom also work on an honorary basis, and without those who donate funds because they find this work meaningful. | Michaela Glöckler, Leader of the Medical Section, and Stefan Langhammer, in charge of training and of the accounts of the Medical Section