

**MATHEMATICAL TRANSGRESSIONS, CRACOW, 15-19th
OF MARCH, 2015. CONFERENCE REPORT****Hubert Bożek**

Pedagogical University of Cracow

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The conference, organised for the second time (first edition took place in 2014) by the Institute of Mathematics, Pedagogical University of Cracow, was held in the PUC main lecture hall and was devoted to issues connected to teaching mathematics on various levels of education. Questions concerning the subject matter of the conference were placed in wide interdisciplinary perspective, which brought attention from diverse group of participants: from maths school teachers, school pedagogy experts, psychologists to cognitive scientists and philosophers.

The organising committee consisted of Piotr Błaszczuk (chairman), Joanna Major (co-chairman), Barbara Pieronkiewicz (vice-chairman), Maria Samborska (vice-chairman), Mirosława Sajka and Joanna Sęk. The greatest load of responsibility rested on the shoulders of Mrs Pieronkiewicz, who served as the main conference pillar and mastermind of this impressive undertaking. Amongst the members of the conference scientific committee were renown Polish and international researchers prof. Błaszczuk (Poland), Marianna Ciosek (Poland), Valéria Csépe (Hungary), Bruno D'Amore (Colombia), Gabriele Kaiser (Germany), Dorota Klus-Stańska (Poland), Stefan Kwiatkowski, Kobus Maree (South Africa), Bernard Sarrazy (France), Anna Sierpińska (Canada), Jeppe Skott (Denmark); Alan Schoenfeld (USA), Tomasz Szemberg (Poland). Erich Ch. Wittmann (Germany).

The conference spanned four days of extremely intensive programme, consisting of invited talks, workshops, parallel and plenary sessions or even an art *vernissage* of maths-inspired graphics. The invited speakers presented variety of research and methodological backgrounds: Alan Schoenfeld (University of California, USA) lectured on *What makes for powerful classrooms, and how can we support teachers in creating them?* Paul Ernest (Exeter University, United Kingdom) in his talk entitled *Challenging Myths about Mathematics* proposed to treat mathematics as a result of social construction, and consequently, demanded that it should be taught

alongside philosophy and sociology of mathematics. Erich Ch. Wittmann (Technical University of Dortmund, Germany) in *Structure-genetic didactical analyses – empirical research of the first kind* presented his view, according to which 'home-grown' methods (such as the titular) should be used in teaching mathematics as well as the ones 'imported' from other disciplines. Marianna Ciosek (professor emeritus at the Pedagogical University of Cracow, Poland), and Stefan Turnau (professor emeritus at the University of Rzeszow, Poland) spoke on *Harmonizing different kinds of mathematical thinking in mathematics Education* such as deduction, empirical reasoning, analogy, and intuition. Bernard Sarrazy (Universite de Bordeaux, France) presented a lecture under the title: *Contract, transgressions and creation. An attempt to clarify the paradoxes of the didactical relationship in mathematics education using a didactical and anthropological approach*. Jarmila Novotna (Charles University in Prague, Czech Republic) talked about *Developing a Culture of problem solving through heuristic strategies* in school children, whereas, experimental psychologist, Jacobus Maree (University of Pretoria, South Africa) addressed the problem of *Career Construction in the mathematics classroom*, to which he adopted a mixed qualitative-quantitative methodology. In whole, one hundred and eight participants took part in Transgressions including nine keynote speakers.

It is not feasible in this brief summary to contain the whole variety, diversity and intensity of thought and activities present at the Mathematical Transgressions. However, what deserves special recognition, is a spontaneously achieved, largely philosophical character of the proceedings despite the fact, that professional philosophers formed a small fraction of those present. This was the result of genuine passion for truth and ability to go beyond one's particular research field in attempt to grasp the wider context, of teaching and learning mathematics. In short, the whole conference can serve as an example of an effective Mathematical (and not only Mathematical) Transgression.

