Editorial

Kaushal Verma, Associate Editor

Anyone wishing to trace the growth of modern mathematics in Poland will do well, to begin with, Zygmunt Janiszewski (1888–1920). Born in Warsaw, he studied mathematics at Zurich, Munich, Göttingen, and finally Paris, where he received his degree in 1911 with a thesis on topology written under Lebesgue's supervision. What was to later be known as the Polish School of Mathematics, grew from an enthusiastic and decisive blueprint proposed by Janiszewski towards the end of World War I.

Writing in *Polish Science: Its Needs, Organization, and Development* (a publication supported by a bank! Is such a thing possible today?), Janiszewski called for a culture of collaborative effort in focused areas and more importantly, the creation of an international journal of mathematics to serve as a platform for fostering mathematical activity.

Unfortunately, Janiszewski did not live long. The inaugural volume of *Fundamenta Mathematicae*, the new journal that he had envisaged, appeared in 1920 along with his obituary. Fortunately, his proposals crystallized and eventually matured.

Fundamenta survived and continues to thrive. In addition, two main centers of mathematical activity grew up around Sierpinski in Warsaw and Steinhaus in Lvov (now Lviv). While the Warsaw group focused on topology and logic, the one at Lvov began with the newly developed measure theory but soon found its calling with the emergence of Stefan Banach, who is today credited with the development of functional analysis.

Any attempt to understand Banach must invariably take into account his three major contributions. One, his book – *Théorie des Opérations Linéaires*, an influential and scholarly monograph published in 1932, which served the dual role of a comprehensive compendium of existing results and a repository of many

Email:

kverma@iisc.ac.in

new ones in functional analysis. The notation and terminology introduced in it were widely accepted, paving way for many further developments. Second, his creation, along with his fatherly mentor Steinhaus, of yet another journal – *Studia Mathematica* – that showcased the rapid developments in functional analysis and finally, his role in the growth of an almost mythical collaborative café work culture. It is perhaps no exaggeration to say that this went on to define ‘the Polish way of doing mathematics’ for many years to come. The meetings of mathematicians at the Scottish Café were irregular to start with, but these became a ritual quite soon. The café had tables with marble tops on which were scribbled mathematical formulae in a heady atmosphere charged with heated discourse, shouting, and of course, jokes. Problems were posed and solutions were obtained, theorems were proved and counterexamples constructed, and all of these happened in circumstances that now seem almost impossible to recreate even in one’s imagination. Banach was there, and so were Steinhaus, Mazur, Schauder, Kuratowski, Nikodym, Ulam, Eilenberg, Orlicz, and a host of others including visitors. The scribbles on tabletops eventually gave way to jottings in the Scottish Book – a notebook which Mrs. Banach purchased for the group from a local drugstore. Janiszewski would surely have been pleased, for these developments resonated well with his recommendations from the post-war years.

Banach comes across as a person who lived his life fully; his actions were not reactions to what he saw or heard but came from a central core that was without pretense. Student accounts never fail to mention his accessibility or for that matter his crystal clear classroom lectures. He found time to be the Supervisor of the Student Mathematical-Physical Circle, served as Dean, and was even elected to the Lvov City Council. Apart from all this, he has left behind an elegant mathematical edifice which remains fertile to this day and whose relevance will only increase with time. It is gratifying to note that Indian contributions in this area have been very substantial, to say the least.