Mittag-Leffler Institute, 20 June 2016, Introduction

Circulating Mathematics via Journals: The rise of internationalization 1850-1920

As the discussions at our meeting in Trento have clearly shown, nation-states, which emerged over the course of the nineteenth century, still frame research in history of mathematics of the modern period. To focus on circulation and on the internationalization process in the period chosen for this meeting, 1850-1920, should allow us to open new perspectives transcending national closures and their pitfalls. According to Karen Parshall, internationalization is “the process by which a globalized community of mathematicians, which shares a set of values or goals, has developed” (in Robson/Stedall). Some research has already been done on this process over the last years, for instance in Karen Parshall’s and Adrian Rice’s *Mathematics Unbound* (2002). Or by Olli Lehto who studied the history of the International Mathematical Union (1998). We can also mention the work done on reviewing journals, like the German *Jahrbuch* and the French *Répertoire*, which are both truly international endeavours (by Philippe Nabonnand, Laurent Rollet, and Reinhard Siegmund-Schultze) or Reinhard’s study of the Rockefeller foundation and its achievements in mathematics, and a host of others.

In a globalized community of mathematicians, circulations are vital. An ever ongoing flux of mathematicians, students or publishers, of texts which vehicle ideas, techniques, and values, of material objects, of services, of organizational forms, and so on creates international or more often transnational spaces, spaces that not only cross national borders, but establish also connections at different scales (local, regional, national or international). Think at connections between two local societies, like the Hamburg and Amsterdam mathematical societies in the 17th century, at exchanges between for instance Latin American national societies, or at the collaboration of research groups in different countries sharing a particular mathematical technique, and so on. To study the forms and operations of these circulation spaces, to understand their ways of being active, is one of the tasks we are facing when studying (mathematical) circulations. How do transnational circulations transform mathematicians and mathematical research, what impact do they have on local conditions of doing mathematics? Like switching to English instead of communicating in a national or vernacular language. (Selection processes, place-specific appropriations, networking, impact on validation processes, on production spaces like universities, labs,…). And inversely, how do local settings shape transnational circulation? (American standards exported)

During these few days at the Mittag-Leffler, we shall focus on a particular mode of circulation, circulation via journals. International specialized journals play of course a major role in the process of getting mathematics on its international track. In history of mathematics, journals have always been used as a major source for research. Many of the most important titles have been extensively studied in their own right but it is only in the last decades, in the wake of the development of the social history of mathematics, that broader questions concerning the circulation of mathematics at different scales and in different cultural areas, its main actors (producers of mathematics, popularizers, teachers, users, publishers), and the editorial backgrounds and strategies, have moved to centre stage. Studies centred on one journal or a single country are insufficient to have a good understanding of the whole dynamics of circulation.

Starting with the propositions you have made for this conference, we have organized our discussions around five themes:

1. The first focuses on individual mathematicians and their publication strategies. Why do they look for international venues for publication? What are the reasons for their choices.
2. The second theme concerns the strategies of the journals building international audiences, from local undertakings with a national or an international dimension to journals with an expressly international outlook. Mittag-Leffler’s *Acta mathematica*, created in 1882, but also the *Rendiconti del Circolo matematico di Palermo* (Palermo 1887) will be prominent here.
3. A third one is devoted the role of institutions in the way mathematics are circulating, without neglecting more material aspects like libraries.
4. The fourth focuses on some practices induced by international circulation, like translating, reviewing, answering questions asked in foreign journals.
5. Finally, we will have a closer look at emerging mathematical disciplines and how they manage to find publication venues.