

## Circulation of Mathematics in and by Journals: history, territories and publics.

As the forms of mathematical communication are in the process of deep change, imposing a restructuring of the system of communication as it had developed since the end of the 17th century, it appears enlightening to analyse, at different scales, the various modes of circulation, which operated until the middle of the 20th century. The project Cirmath aims to study the circulation of mathematics, over a long time period and in various geographical areas (including the main countries in which we can identify significant mathematical activity). This study includes not only mathematics circulating in a certain area or between various territories, but also among or inside different milieus (those of academics, teachers, engineers, servicemen, amateurs, etc). The main *sources* on which this project in the history of mathematics will build are mathematical periodicals understood in a wide sense, including journals specialised in mathematics, as well as journals publishing regular columns on mathematics. In order to structure this collection of sources, the project Cirmath will build upon a database of the mathematical journals (1700-1950), from which it will produce statistical results and maps representing the main editorial centres (task 1).

The notion of editorial centre will be at the heart of our analysis because it allows the investigation of the material production of periodicals (and the main actors in that production: printers, booksellers, publishers, editors) as well as its scientific and academic contexts (teaching, learned and professional societies, circles interested in mathematics...). Case studies will be dedicated to *editorial centres* chosen from the analysis of the maps and to mathematics circulating at different scales: local, regional, national, and international (task 2). In particular, we shall study *mathematical subjects circulating* among journals, communities and disciplines (via reprints, translations, etc.) (task 4). Questions concerning relationships between mathematical journals and their *audiences*, will be posed, especially in the case of journals specialised in mathematics or having "mathematics" in their title, but also including the case of journals intended for users of mathematics, such as engineers, military personnel or teachers (task 3). Finally, studies centred on the *editorial forms*, the structure of the periodicals, their sections, typeface, advertisements, the bibliography, indexes, etc. will take into account the fact that mathematical journals are also material objects belonging to the print and publishing culture (task 5).

Interwoven with a research undertaking of this kind is the attempt at understanding the social role of mathematics over a long time period, while putting a comparative approach between various geographical areas or countries in the foreground. From this point of view, our project chooses to analyse the processes of acculturation and appropriation of mathematics by various audiences, with a particular attention to the questions of training and teaching. Such historical phenomena are brought into sharp relief in a period when the role of mathematics in teaching curricula is questioned and where more and more people express doubt concerning the utility of a mathematical and scientific training or culture. Moreover, by focusing on circulation, communication, exchanges and acculturation of mathematics (by professionals, users, amateurs, teachers, students) over a long time period, we shall be led to take into account and to deepen the questions of co-construction of knowledge in a wide social frame, with long chronologies and in diversified geographical areas.