The Factorization Method for Inverse Problems
Andreas Kirsch and Natalia Grinberg

This book is devoted to problems of shape identification in the context of (inverse) scattering problems and problems of impedance tomography. In contrast to traditional methods which are based on iterative schemes of solving sequences of corresponding direct problems, this book presents a completely different method. The Factorization Method avoids the need to solve the (time consuming) direct problems. Furthermore, no a-priori information about the type of scatterer (penetrable or impenetrable), type of boundary condition, or number of components is needed. The Factorization Method can be considered as an example of a Sampling Method. The book aims to construct a binary criterium on the known data to decide whether or not a given point z is inside or outside the unknown domain D. By choosing a grid of sampling points z in a region known to contain D, the characteristic function of D can be computed (in the case of finite data only approximately). The book also introduces some alternative Sampling Methods.

The psychology of music – an overview
Eric Clarke, Nicola Dibben, and Stephanie Pitts

The psychology of music is a well-established discipline and has been instrumental in understanding social and cultural phenomena that regularly transpire in human beings' daily lives. As a formative and well-founded discipline of study, the psychology of music has its own institutions, empirical methods, research agenda, and a wide range of publications. Since the book generally focuses on trying to
understand phenomena and to answer questions related to music and veers away from reflecting on the psychology of music as a well-established discipline, this chapter attempts to compensate by providing a foundation on the book's primary field of study. This final chapter presents a brief history of the psychology of music which dates back to the era of well-known Greek philosophers such as Plato, Aristotle, and Aristoxenus. This brief account presents how the psychology of music has developed over time and how the discipline looks at present in this contemporary era. Its development, however, brought forth a number of preoccupations and blind spots which this chapter touches upon as it closes.