Sonic experience is at once informative, affective, and cultural. A comprehensive approach to sonification (the use of non-speech audio to convey information about data sets) needs to address all of these aspects in an integrated manner. One challenge of sonification design lies in not making our auditory displays sound, as Kramer1 put it, ‘ugly’ thus raising the question of the role of aesthetics in sonification design. Therefore we argue that sonification is principally a discipline of design that involves a critical approach to the functionality and aesthetics of a designed artifact. We begin by examining some musical foreshadowings of sonification followed by some definitions of terms. We then review activity and progress on sonification design and aesthetics since Kramer’s seminal book on Auditory Display. This leads us to propose that sonification design must go beyond enlightenment era concepts of truth and beauty to take a pragmatist aesthetics approach in which sensory experience is maximized in the pursuit of usefulness and engagement. This integrated approach to design and aesthetics has the potential to move sonification from the current positioning as a scientific instrument or engineering tool towards a medium of mass communication.