The problem is more aesthetic than ethical, philosophical, sexual, psychological, or political, though it goes without saying that such divisions are unacceptable to me because *everything* that matters is, in the long run, aesthetic. (Mario Vargas Llosa, 1999, p. 194)

The general intellectual terrain in which this chapter is situated is large, heavily trafficked and contentious. The underlying scholarly question that circumscribes it – ‘What does it mean to be human?’ – has been actively pursued since classical times by both humanists and scientists. In addressing this issue, philosophers have often connected it to questions of cognition. For instance, in the opening paragraphs of his book *On Human Nature*, Harvard biologist E. O. Wilson (1978) wrote:

> These are the central questions that the great philosopher David Hume said are of unspeakable importance: How does the mind work, and beyond that why does it work in such a way and not another, and from these two considerations together, what is man’s ultimate nature. (p. 1)

A great deal of the extensive discourse around this question in the past three decades has been driven by scientific and technological advances in the biological sciences. Wilson has been just one of many scientists to make the case for socio-biological underpinnings of much human behavior. Social scientists have not been slow to pursue the implications of some level of genetic predisposition. Consider, for example, Charles Murray (2003), in the introduction to his book *Human Accomplishment*, who draws attention to two core human impulses:

> The first is the abiding impulse of human beings to understand, to seek out the inner truth of things. [...] The other impulse is *Homo sapiens’* abiding attraction to beauty. [...] Many of the most enduring human accomplishments have been, simply, things of beauty. (pp. xix-xx)

Murray’s choice of what he considers to be the two most prominent ‘embedded’ characteristics of human beings fits the theme of this chapter particularly well. This is because I am especially interested in the ways in which mathematics – seen conjointly as an artifact and an activity – both forms, and is formed by, human abilities and cultures. [1]
Other contributions to this book have included many compelling demonstrations of the role of the beautiful in mathematical functioning and varied and articulate views of mathematicians themselves about this issue. Somewhat by contrast, in this chapter I want to move outside of this particular ‘insider’ arena in two different directions.

For my first shift, I look in more detail at what the world at large (at least the world as portrayed in more popular and populist culture, as well as the images of schoolchildren) believes to be the case about mathematics and mathematicians. There is, of course, something uncomfortably familiar about the baleful looks perennially cast at the subject, its institutional purveyors and, most certainly, its perpetrators. However, I wish to look at how this public image might plausibly be argued to be undergoing something of a sea change.

Then, in a second move, I begin to explore what certain humanist figures in the arts and social sciences have had to say about the centrality and importance of mathematics to human concerns, creativity and awareness. Finally, at the end of my chapter, I return to examine in more depth my proposal of the possibly essential mathematical character of human beings.

But first, I foreshadow this later discussion by a brief excerpt from a set of lectures by the eminent literary critic George Steiner, who, in 1990, delivered the Gifford lectures at the University of Edinburgh on the idea of creation in Western thought, literature, religion and history. When published in significantly elaborated form more than a decade later (Steiner, 2001), even readers familiar with Steiner’s eclecticism and penchant for academic peregrination were startled, and in the case of some reviewers befuddled and annoyed, by the central role given to mathematics in his consideration of the wellsprings of human creativity.

To Plato, the point would have been self-evident. It is inconceivable that one should question a life of the mind without addressing mathematics and the sciences which, in the main, derive from the sovereignty of mathematics. Since Galileo and Descartes, this injunction has become theoretically and pragmatically inescapable. It is in mathematics and the sciences that the concepts of creation and of invention, of intuition and of discovery, exhibit their most immediate, visible force. […]

The difficulty, however, is twofold. Mathematicians and scientists “get on with the job”. […] they avoid too close a scrutiny of the epistemological foundations of their disciplines. […] The second difficulty is one of access. […] One needs considerable familiarity with mathematical symbolism in order to follow the controversies on whether or not there are in pure mathematics “discoveries” or, instead, an autonomous unfolding of a priori, as it were tautological, systems generated from within the human intellect and its deep-seated instinct for speculative, other-worldly play. Homo ludens. If, as Galileo ruled, nature speaks mathematics, far too many of us remain deaf. […]