In 1994 the American neurologist, Antonio R. Damasio, drew attention to what he called ‘Descartes’ Error’. He summed up this error as a pervasive tendency in modern western thought – including the biomedical sciences – to insist on:

the abyssal separation between body and mind, between the sizable, mechanically operated, infinitely divisible body stuff, on the one hand, and the unsizable, unidimensioned, unpushable, nondivisible mind stuff; the suggestion that reasoning, and moral judgment, and the suffering that comes from physical pain or emotional upheaval might exist separately from the body.

More particularly, Damasio draws attention to the degree to which the conventional neuroscience that he was taught envisioned ‘separate neural systems for reason and emotion’. In other words, ‘the mechanisms of reason existed in a separate province of the mind, where emotion should not be allowed to intrude…’ Damasio’s own clinical experience indicated, on the contrary, that: ‘feeling was an integral component of the machinery of reason’. Based on his reading of the neurological literature – including the celebrated case of Phineas Gage – as well as on his own clinical experience, Damasio therefore proposed an alternative view of the relations between reason and emotion: one that sees the two as interdependent; that insists that feeling is integral to thinking. ‘Emotions and feelings’, he declares, ‘are not intruders in the bastion of reason at all: they may be enmeshed in its networks, for worse and for better’.
This is not the place to review the detail of Damasio’s argument. Suffice it to say that he insists on the need to understand the mechanisms of the human nervous system as the outcome of strategies elaborated over the course of evolutionary time. He adopts an explicitly Darwinian stance in maintaining that only those adaptations calculated to ensure the survival of the organism have been preserved in the course of human evolution. From this perspective, it can be seen that emotions developed from basic organismic needs and reactions at a relatively early stage. The parts of the brain that subserve what are usually regarded as purely ‘rational’ operations – notably the pre-frontal lobes – are of much more recent origin. The health and safety of the organism can, however, only be optimised when these neural systems interact and cooperate. In particular, Damasio argues that a loss of affect – the ability to feel – can undermine the organism’s ability to make rational judgments. This chapter does not seek to determine whether ‘Descartes’ error’ is an error, nor whether if it is an error the error is Descartes’. Instead it addresses the question of how, in the period running roughly from 1870–1930, the emergent brain sciences treated the emotions and their relations with other departments of the mind. In particular, it considers the impact of evolutionary ideas on how the emotions were treated.

**Placing the Emotions**

The period under consideration here is of course ‘Post-Darwinian’. However, for the purposes of this discussion Darwin is less important than some of his contemporaries. The impact of evolutionary ideas on neurology certainly is a major theme in the last decades of the nineteenth and the first of the twentieth centuries. But it is the evolution described by Herbert Spencer, rather than Darwin, that is more significant.

The period is also one in which the issue of *localisation* becomes predominant in clinical and experimental investigations of the nervous system. This was the era in which doctors, anatomists, and physiologists undertook the heroic task of mapping the brain: of identifying its functional topography – an undertaking that is sometimes referred to as the ‘New Phrenology’.

Prominent among the functions to be assigned a ‘seat’ or ‘centre’ in the brain was muscular movement and