Chapter 0

HISTORICAL STRANDS OF GEOMETRY

All people by nature desire knowledge.
— Aristotle (384 B.C.–322 B.C.), *Metaphysics*

History is the witness that testifies to the passing of time; it illumines reality, vitalizes memory, provides guidance in daily life and brings us tidings of antiquity.
— Cicero (106 B.C.–43 B.C.), *Pro Publio Sestio*

Inherited ideas are a curious thing, and interesting to observe and examine.
— Mark Twain (1835–1910), *A Connecticut Yankee in King Arthur's Court*

The ways in which different ideas have become abstract geometric concepts depend on the ways in which they have been explored. H. Graham Flegg wrote in his book *From Geometry to Topology* (Dover, 2001, p.168):

> New branches of mathematics come into being, not because they are created overnight out of nothing by some individual genius, but because the soil has been prepared over the previous decades (or even centuries) and because some internal or external stress (or perhaps a combination of both) provides the appropriate impetus and motivation at the crucial point in time. More often than not, it is the case that several minds produce independently and almost simultaneously the germs of what subsequently develops into a new theatre of mathematical investigation. For this reason, it is usually ill-advised to point to any one man as being the founder or inventor of any particular branch of mathematics.