colour, and of touch; the latter generates the notions of hardness, solidity, and volume, and further of temperature. Without this variety given through sight and touch, the outer world or firmament would probably never detach itself as a separate existence, just as we should probably never speak of the sky were it not filled with sun, moon, and stars, with cloud and other atmospheric objects. These differences which create the enormous variety of external aspects are nevertheless of such a nature that, in the scientific treatment of things, they are almost entirely obliterated.

They are what we term qualitative differences, as distinguished from those that are quantitative. The latter are capable of exact measurement, that is to say, they can be distinctly and accurately divided into parts, and compounded out of these parts, whereas the properties of light and colour, of hardness, solidity, temperature, cannot be easily subdivided and compounded again although they come under the category of more and less, or of degree.

Language distinguishes the properties of more and less in the two cases by the terms intensity and largeness or size.

As all scientific or exact reasoning depends upon definiteness and measurement, that science which deals with measurable distances in space is the oldest science; whereas the phenomena of colour and heat were only much later made the objects of exact sciences, and then only by the discovery that certain spatial, that is, measurable relations correspond to these phenomena. This is usually expressed by saying that Science reduces qualitative to quantitative differences, which can be