The snapdragons in this population show considerable variation in flower color. Variation among individuals is the raw material for natural selection.

IN THE INTRODUCTION TO _ON THE ORIGIN OF SPECIES_, DARWIN (1859, p. 3) WROTE THAT “a naturalist, reflecting on the mutual affinities of organic beings, on their embryological relations, their geographical distribution, geological succession, and other such facts, might come to the conclusion that each species had not been independently created, but had descended... from other species. Nevertheless, such a conclusion, even if well founded, would be unsatisfactory, until it could be shown how the innumerable species inhabiting this world have been modified...” (emphasis added).

With these words, Darwin pinpointed the relationship between the pattern and process components of a scientific theory. The early evolutionists had discovered an important phenomenon. A growing body of facts indicated that both fossilized and living organisms had descended from a common ancestor. The evidence that Darwin amassed to support this hypothesis was indirect, but persuasive enough that scientific controversy over the pattern component of the theory of evolution had virtually ended by the mid-1870s. Thanks to Darwin and his intellectual forebears, evolution became a well-established fact.

But what process could produce the pattern called evolution? Understanding the mechanism that produces a pattern in nature is the heart and soul of a scientific explanation.