In the year 1945, many scientists had just won the Nobel Prize for their work in various fields of science. A few of them were Hans Selye, a Canadian who discovered stress as a concept, and Otto Hahn, a German physicist who discovered nuclear fission. However, the realist view that science is not just a matter of facts but also a process of discovery has been a persistent theme throughout the history of science. Some scientists have experienced that their work has been done in a similar manner to the process of imaginative discovery, while others have found that their work has been done in a more systematic and objective manner. In any case, the process of scientific discovery is a complex and often unpredictable one, and it is not always easy to determine exactly how a particular discovery was made.

For example, the discovery of penicillin by Alexander Fleming is a classic example of how a scientific discovery can emerge from a combination of intuition and experimentation. Fleming noticed that a mold was growing on a petri dish and that the mold was inhibiting the growth of the bacteria around it. He then experimented with cultures of the mold and found that it had the ability to inhibit the growth of other bacteria. This led to the development of penicillin as a powerful antibiotic.

Similarly, the discovery of DNA by James Watson and Francis Crick is another example of how scientific discoveries can emerge from a combination of intuition and experimentation. Watson and Crick were attempting to determine the structure of DNA, and they had the intuition that the structure of DNA must be similar to the structure of a virus that they had seen. They then used X-ray crystallography to experimentally determine the structure of DNA, and they found that their intuition was correct.

However, not all scientific discoveries are made in this way. Some scientists have found that their work has been done in a more systematic and objective manner. For example, the discovery of the double helix structure of DNA by Rosalind Franklin is a classic example of how scientific discoveries can be made through the systematic and objective study of data. Franklin's X-ray crystallography images of DNA provided valuable clues about the structure of DNA, and her work was instrumental in the development of the double helix model.

In any case, the process of scientific discovery is a complex and often unpredictable one, and it is not always easy to determine exactly how a particular discovery was made. This is why science is both a matter of facts and a process of discovery.