

To what extent is research in secret 'anti-scientific'? What is the relationship between shared and personal knowledge in the natural sciences?

Photo 51

The hidden woman in DNA evolution

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Rosalind Franklin, an unknown genius behind the DNA breakthrough discovery. When we look at the history and evolution of DNA, there are several crucial steps that were made by many different people. However, being one of those events and one of the most important ones, Photo 51 was never granted as it should have been, and neither was the owner. Many events, circumstances, and historical contexts contribute to the result in the history of Photo 51, and it raises questions about how scientific methods and discoveries are handled, and how they are respected.

Rosalind Franklin's unrecognized is not the first or only time a woman's discovery has been unrecognized or stolen, due to the time and context of the XIX and XX centuries' women were not qualified as real competitors, and in these fields of work, they were very easily shadowed by other scientists. A similar comparable case is Lise Meitner's'. She was a physicist in the XX century who along with her partner Otto Hahn, discovered Protactinium, a radioactive element, and nuclear fission. After the discovery of nuclear fission, Otto Hahn being a chemist was awarded the Nobel Prize in Chemistry without including Meitner in the discovery even though her theoretical and view through physics were crucial for the discovery. After time passed, we now know the better and true version of these events, but why were they hidden and unknown at the moment? How can that relate to the way scientific breakthroughs were revealed and accredited? What is the relationship between shared and personal knowledge in the natural sciences?

In 1952, when the photo was taken, Franklin did not show her discovery right away, James Watson was the one that "acted" upon discovering the photograph. This led them to investigate more about it, leading to their published success. However, if Franklin had published or immediately followed the breakthrough it could have given her time to publish herself or as a collaborator. This falls on the relationship between shared and personal knowledge, Watson, and Crick had almost nothing without photo 51 and Franklin's personal notebooks, notes, and papers. The unrecognized that Watson and Crick granted Franklin should be acknowledged, and the diminishing of her name in the book *The Double Helix* by James Watson even in her absence was an insult to her legacy and a lie about her and her work. These events reflect the reality of gender equality and opportunity at the time, and how the social context can affect the outcome of a situation.

Shared and personal knowledge in the natural sciences will always be related as well as hand in hand, without one, you don't have the other. In order to accomplish shared and

collaborative work each person contributes of their own expertise and personal knowledge to compliment the others and make the experiment work. It is also somewhat essential to the method being practiced, it helps for getting more exact results and thorough applications as well as corrections.

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