

# The double helix – character guide



Double Helix Readers Guide \* Max Perutz – was the head of the unit where Crick works at Cambridge University. Perutz also shared important X-ray crystallography imagery with Watson and Crick that he had received from Maurice Wilkins and Franklin. Whether he was supposed to give this information to Watson and Crick without Franklin's knowledge is unknown, nor is it entirely known how important her work was to the discovery of the structure. Sir Lawrence Bragg – the head of the Cavendish laboratory at Cambridge university, met with much resistance from Watson and especially Crick. Bragg is the youngest ever Nobel prize winner, which he won for the discovery of the Bragg law of X-ray crystallography. Bragg also wrote the foreword to Watson's book, adding dramatically to the respectability of the book. \* John Kendrew – English educated, also worked in the Cavendish laboratory under the direction of Bragg. Worked closely with Perutz and shared the 1962 Nobel prize with him for their work on X-ray crystallography. Erwin Schrodinger – his book What is Life was a great inspiration to Watson, who agreed that many secrets can be uncovered if the scientific world dedicated itself to discovery of what the true secrets of life are \* O. T. Avery – important because their research on DNA/protein after Griffiths experiment on the transforming factor, was decisive enough for Watson to believe that DNA was the genetic material (not protein as was believed) \* Max Delbruck – pioneered bacteriophage research which allowed Hershey and Chase to conduct their experiments with radioactive labeling. Maurice Wilkins – was Rosalind Franklin's partner in X-ray crystallography and played an important role in providing Watson with the B-structure of DNA that Franklin and Gosling had made. Franklin, Gosling and Wilkins all worked at King's College, London. \* Rosalind Franklin - Although Franklin had not agreed to the

exchange Wilkins had made (providing of B-structure imagery to Watson), her work proved that DNA was helical and that the bases were on the inside with the sugar phosphates on the outside (as she had said all along).

In short, her 3 contributions were crucial to Watson's development of the model, although the B-model proved one of her theories wrong but several right. Furthermore, Watson and Franklin had a very heated relationship, which led to many heated debates and sometimes even conflicts. \* Linus Pauling – the greatest chemist in the history of the United States, worked at Cal Tech and was the closest competition to Watson and Crick in the discovery of the structure of DNA. Famous for the discovery of the hydrogen bond and the alpha-helical structure of protein.

He's also famous for publishing a wrong model of DNA (three strands) for which he saw major public embarrassment. \* Herman Kalkar – was the head of the laboratory in Copenhagen where Watson did phage research soon after he graduated. He did not enjoy his time in Copenhagen, which is why he left soon after getting there. \* Salvador Luria – James Watson was Luria's first graduate student at the University of Indiana. Luria would go on to do groundbreaking work with phages in biochemistry. He would later win the Nobel prize for medicine along with Hershey and Delbruck for their work on phages. J. T. Randall – was the head of the King's College laboratory team with Wilkins as his deputy. He shared the 1962 Nobel prize with Watson and Crick \* Dorothy Hodgkin – was the other major female character in the book. Both of the women clearly struggled in a world that was heavily dominated by men. However, Hodgkin was known to get along with men much better than Franklin. She said this was because of her gender, whereas Franklin

experienced the opposite. Franklin and Hodgkin worked closely in the contemplation of the DNA structure. Both scientists were X-ray crystallographers.

Hodgkin won the 1964 Nobel prize for chemistry \* Willy Seeds – was famous for calling Watson “ honest Jim. ” Worked with Maurice Wilkins in the King’s laboratory and was famous for his pioneering work on the DNA fibers. Him calling Watson honest Jim was clearly sarcasm because they King’s scientists were still bitter about Watson stealing their data to make his model \* R. G. Gosling – this was Franklin’s lab partner at King’s College laboratory \* Erwin Chargaff – discovered the bases in the purines and pyrimidines (double and single ring) and also discovered that A matches with T and C matches with G. Gave Watson an important clue in his model building, that he had to match the bases. \* Al Hershey – was a scientist that was known for conducting the final proof of DNA being the hereditary material. Their experiment ended the race and assured the scientific world that DNA was the inherited material. \* Martha Chase – was Hershey’s lab partner, and was one of the few other women in the scientific world \* Peter Pauling – Linus’ son, came to study in London and Watson showed him around. In the process Peter gave Watson some important hints that his father was getting close to the discovery of the alpha helical structure.