
What if Mendel had died in 1840? Retrodictions in early genetics.

Mike Buttolph*¹

¹University College London - London's Global University (UCL) – Gower Street - London, WC1E 6BT, United Kingdom

Abstract

When the work of Mendel became generally known in 1900, many researchers started experimental breeding programmes designed to test his conclusions, but it was several years before these gave results. Almost all the tests of mendelism in the first few years of the century were made by *retrodiction* – the re-analysis of pre-existing data in the light of the new theory. By this process, dozens of authors then found hitherto unrecognised mendelian patterns of inheritance in their data-sets. It is perhaps unusual that so large a proportion of the early tests of a theory were made by retrodiction, and this raises interesting questions. The mendelian idea seems to have exceeded the grasp of literally dozens of dedicated, intelligent researchers; they were unable to perceive the mendelian patterns in their data until they knew of Mendel's work. What would have happened had Mendel's work not come to light in 1900? It seems likely that mendelian inheritance would never have been discovered by means of experimental breeding, but instead by the rapidly-advancing science of cytology. And the mass of breeding data that was found to be confirmatory of mendelian theory as soon as that theory became known suggests that perhaps the 'rediscovery' of 1900 was 'postmature', just as Mendel's paper of 1866 has been regarded as premature.

*Speaker