Mendel, memories and meaning

In this issue of *Nature Genetics*, we celebrate the legacy of Gregor Mendel, who was born 200 years ago. We also note the 30th anniversary of the launch of *Nature Genetics*. The convergence of these two milestones helps us to look back on how far the genetics field has come, and also to look to the future to see where we are heading.

The foundation of genetics can be traced back to the garden of an nineteenth-century monk and the humble pea plant. As we have previously noted, the field has made astounding progress from the initial cataloguing of the segregation of traits in the 1840s to the high-quality full genome sequence of *Pisum sativum* a few years ago. For this 200th anniversary of Gregor Mendel's birth, this issue of *Nature Genetics* presents perspective and commentary articles that examine the history of Mendel's discoveries, the legacy of geneticist W. G. Hill, and the future of plant genomics for crop improvement. In addition, to mark the occasion of the 30th anniversary of the launch of *Nature Genetics*, we have invited the founding chief editor, Kevin Davies, to share his account of the origins and early days of the journal.

First, there is a historical Perspective article from Peter Van Dijk and colleagues that revisits contemporary sources to reconstruct Mendel's discoveries in the context of the scientific knowledge at the time and Mendel's probable exposure to new theories. Included in this piece are some images of Mendel's original notebooks, providing a window into the process of his research. The authors show that Mendel had an applied vegetable breeding program but argue that he also had a scientific research program, which led to the discovery of the rules of inheritance. Mendel's scientific inquiry contributed substantially to the field of genetics, and we think that it is interesting to consider these discoveries through the lens of science history.

Next, there is a Perspective article from former colleagues of quantitative geneticist W. G. (Bill) Hill, who died in December 2021. This piece provides a tour of Hill's impressively comprehensive contributions to developments across the genetics field, including in the areas of population genetics, complex traits and evolution. In this tribute to Hill's legacy, the authors tie his impact back to Mendel and his discoveries, emphasizing how theory leads to application and ultimately to the advancement of science. We think that it is illustrative to show what effect individuals can have on a field, while recognizing that their contributions are passed down ('inherited') to the next generation of scientists, who go on to train the next generation. In this way, Mendel's findings can be linked to Hill's research and the research of his trainees, which continues to this day.

In addition to the two pieces that look back on the genetics field, this issue features a forward-facing Commentary from Carol Nkechi Ibe on the present state and future prospects of agricultural genomics. In a world that must confront increasingly serious stresses from climate change and population growth, it becomes crucial to carefully manage how we grow our food. The genomics era has revolutionized agriculture and advanced breeding technologies far beyond what was known in Mendel's day. To meet the challenges of a warming world, Ibe argues that more resources should be devoted to analyzing understudied indigenous crops from African, Latin American and Asian countries, and that technologies and practices must be more inclusive and accessible. Looking to the future, it is clear that global problems require global solutions, and it is in everyone's interest to democratize science.

Finally, to celebrate our 30th birthday, we are pleased to present a Commentary from former *Nature Genetics* chief editor Kevin Davies. Here he shares the story of the launch of the journal with some behind-the-scenes anecdotes and recollections, including some vintage 1990s photographs. To add to the celebration, our cover this month is an homage to the first issue of *Nature Genetics* from 1992. The past 30 years have been an extremely exciting time in genetics and genomics, and we look forward to many more.

We hope that you enjoy looking back at some of the stories that contribute to the deep tapestry that is the field of genetics, and in this context contemplate where the field can and should go. Here's to 200 more years of exciting genetics discoveries! ❐

Published online: 11 July 2022
https://doi.org/10.1038/s41588-022-01146-4