concluded that the best answer to all these problems, or questions, is that Mendel was right.

This work on *Pisum* is, naturally enough, the centrepiece and cornerstone of Orel's book. However, there is a great deal more of interest. Thus, Mendel's other scientific work is described in detail, including his failure to repeat his results in *Pisum* during extensive experiments with several other species of plants. He also worked with great skill in the fields of meteorology and of apiculture, including attempts, ultimately unsuccessful, to acclimatise a species of bee indigenous to Brazil, *Trigona lineata*, which had migrated to Brünn by accident in the hollow of a trunk included in a consignment of wood imported from that country.

Orel's book examines in great detail the fascinating question of how it came about that a man who did not form part of the scientific establishment was able to make a contribution to science of such majesty and of such magnitude. While he was born in 1822 in humble circumstances as the only son of a peasant farmer, of mixed Czech and German origin, in Moravian Silesia, a province of the Austro-Hungarian Empire, Mendel was very far from being a self-taught prodigy, as was, for example, Srinivasa Ramanujan, the Indian mathematician of similarly humble origin. Thus, he showed great talent at school and his parents, who had enormous respect for learning, endured great financial privations to support him during his education.

From an early age, Mendel had to augment the necessarily meagre allowance provided by his parents through private tutoring. He wrote of himself in 1850 in the third person in his curriculum vitae: "His sorrowful youth taught him early the serious aspects of life, and it also taught him to work....It was impossible for him to endure such exertion further. Therefore, having finished his philosophical studies, he felt himself compelled to enter a station in life that would free him from the bitter struggle for existence. His circumstances decided his vocational choice. He requested and received in the year 1843 admission to the Augustinian monastery of St Thomas in Brno."

Mendel then led a charmed life for a quarter of a century. He was able to study natural sciences, especially physics, at the University of Vienna, and, on his return to the monastery, as long as he fulfilled his duties as a priest and a secondary school teacher, he was free to devote himself to private study, surrounded by a group of gifted colleagues, and able to play a full part in the active intellectual life of a thriving provincial city of the Austro-Hungarian Empire.

A major change occurred in Mendel's circumstances when he was elected Abbot in 1868, a post which he was to fill for 16 years until his death in 1884. He had to bid farewell to his beloved teaching and he soon had to give up his botanical researches. Even though his way of life necessarily became more worldly as he was loaded with honours and as important functions were thrust upon him, his essential humility, compassion, and kindliness remained unaltered. Much has been made of his longstanding dispute with the authorities over the taxation of the monastery. Mendel remained steadfast in his refusal to agree to payment and he stubbornly declined to consider the compromise whereby this matter was resolved soon after his death, because he firmly believed that he was in the right. However, he did not allow himself to become embittered by the dispute to the extent of abandoning his many intellectual interests. He continued until his last days to pursue his scientific enquiries vigorously, mainly in the fields of apiculture and meteorology, and, as an extremely skilful practical gardener, he remained active in breeding varieties of fruits, vegetables, and flowers. He also played chess, especially with his nephews who visited him frequently, and he took great delight in composing chess problems.

This gentle and unpretentious man, who always remained faithful to his family and to his peasant origins, became, as "the first geneticist", one of the tiny band of those responsible for substantial advances along Man's difficult road towards knowledge of himself and of his environment. This is not a road on which the lengths of advances can be exactly measured. We can say, nevertheless, that the advance along this road which we owe to Mendel is among the greatest which has ever been achieved by a single person. Our century, which began with the rediscovery of Mendel's work, is now ending in an unprecedented explosion of science and technology. It is impossible to think of the many components of this explosion which are related to genetics without thinking also of this unassuming monk tending his peas in the peaceful garden of his monastery.

This book represents a full and perceptive account of the life of a man to whom the readers of this journal, in common with the readers of hundreds of other journals, owe their profession. In return, we should strive to continue to pursue our work in directions of which Mendel, the first geneticist, would have approved.

In this context, Mendel wrote some verses in his youth in memory of Gutenberg; these sentiments can now be fittingly applied to himself.

May the might of destiny grant me
The supreme ecstasy of earthly joy,
The highest goal of earthly ecstasy,
That of seeing, when I rise from the tomb,
My art thriving peacefully
Among those who are to come after me.

To go far back in time to the 6th century BC, to the fragments which survive of the writings of Xenophanes on the limitations of human knowledge:

ΟΥΤΟΙ ΑΠ' ΑΡΧΗΣ ΠΑΝΤΑ ΘΕΟΙ ΘΝΗΤΟΙΣ' ΥΠΕΔΕΙΞΑΝ,
ΑΛΛΑ ΧΡΟΝΩ ΖΗΤΟΥΝΤΕΣ ΕΦΕΥΡΙΣΚΟΥΣΙΝ ΑΜΕΙΝΟΝ.

The gods did not reveal all things to mortals in the beginning, but in long searching man finds that which is better.

Mendel's contribution, even though it occupied only a few brief years of his life, is making this searching less long than it would have been otherwise. All who consider themselves to be geneticists would do well to study this book and to learn from it about the life of the founder of their science, and about the manner of its founding.

GEORGE R FRASER

Essential Medical Genetics. 5th edition. M Connor, M Ferguson-Smith. (£18.50.) Oxford: Blackwell Science. 1997. ISBN 0-86542-666-X.

This latest edition of a very charming, short, and efficient introduction to medical genetics tries to give both medical students and busy clinicians a rapid and reliable overview of modern genetics and its clinical ramifications. Brevity, simplicity, and clarity remain constant features of this book that continues to be updated every four years.

There are a few points to consider in future editions. Information on various causes of one disease could be more easy to find, like including maternal gonadal mosaicism as an important cause of new cases of Duchenne muscular dystrophy (p 18). Differences could be clarified between CK assay for carrier testing for Duchenne muscular dystrophy (with major influences from lyonisation) and DNA analysis, which is independent of X inactivation status. Legends to figures could be more informative, both in the colour plates and clinical examples (to explain dysmorphology). The quality of the grey tone figures is poor, another example of the continuous trend to reduce the quality of black and white reproductions. The explanation of the fragile X syndrome could be improved: this might include clarification of figure 14.5 (transmission through a normale male?). Chapter 16 (genetics of common diseases) could make reference to genes now identified in diabetes, deafness, epilepsy, etc, to show how the "multifactorial" hypothesis became validated. The role of dysmorphology, the translation of mutations in human developmental genes into clinical studies of patients with malformations, and the implications and handling of presymptomatic genetic testing might be areas to emphasise in daily clinical genetics.

Still, this "short essential" is extremely comprehensive and a fine starting text for medical students, genetic assistants, paediatricians, and other clinicians needing "working" knowledge of everyday genetics.

MARTINUS F NIERMEIJER

Correction

In the Review article "Nemaline myopathy: current concepts" by North *et al* (*J Med Genet* 1997;**34**:705-713), the correct incidence figure for nemaline myopathy should be 0.02 per 1000 livebirths (Wallgren-Pettersson C. Congenital nemaline myopathy: a longitudinal study. Academic Dissertation, University of Helsinki, Commentationes Physico-Mathematicae 111/1990. *Dissertationes* 1990;**30**:102).