

# Illegitimate concerns

Bryan Sykes

**The Quest for Anastasia: Solving the Mystery of the Lost Romanovs.** By John Klier and Helen Mingay. *Smith Gryphon: 1995. Pp. 246. £15.99.*

**Queen Victoria's Gene: Haemophilia and the Royal Family.** By D. M. and W. T. W. Potts. *Alan Sutton: 1995. Pp. 160. £16.99.*

In the early hours of Wednesday, 17 July 1918, the Russian royal family was taken to the basement of a house in a grim industrial city in the Urals and shot. Their bodies were dumped in the back of a lorry, taken to a nearby wood and thrown down a mine-shaft. Two days later they were pulled out and hastily buried in a shallow grave. There they remained until 1979 when, after years of searching, a local geologist found the grave. Naturally reluctant to publicize the discovery at a time when the Communist Party still had an iron grip on the Soviet Union, he reburied what he had found. (Only two years earlier, President Leonid Brezhnev had in fact instructed the then regional First Secretary, Boris Yeltsin, to flatten the house in which the Romanovs had been held for fear of its becoming a focus for a monarchist revival.) The bones had to wait another 12 years to see the light of day again, by which time the political climate had changed. Although there was never much question about the authenticity of the bones, what doubts remained were silenced when DNA was recovered and matched with living relatives.

Both these books take their cue from the publication of these DNA results to update the story of the Romanovs and, in particular, to explore the connections with the only two skeletons that were never discovered — the 17-year-old Anastasia and her younger brother the Tsarevich Alexei. In *The Quest for Anastasia*, John Klier, a professor of Russian history, and Helen Mingay, a journalist, provide a thorough and readable account of the career of the most famous, but by no means the only, pretender. Dragged freezing from a Berlin canal in 1920, the unknown woman "Fraulein Unbekannt", or Anna Anderson as she became known, never doubted that she was the Grand Duchess Anastasia. Despite some glaring anomalies (she spoke no Russian, for instance), she spent her life alternating between mental asylums and the protection of utterly devoted supporters who shared her conviction.

Equally, her claims were vigorously rejected by her closest 'relatives' after meetings that illustrated her evident eccentricities. When her putative aunt, Princess Irene of Prussia, was eventually persuaded to meet her, Anna ran away from the dinner-table and hid in her

room. Hardly the behaviour of a ruthless gold-digger eager to get her hands on what was left of the Romanov fortune. This uncertainty, this polarity of opinion, lasted for the rest of her life (she died in 1984 aged 83). After the romance of claim and counter-claim, the definitive DNA testing seems positively prosaic.



The daughters of Tsar Nicholas II: Olga, Tatiana, Marie and Anastasia.

Anna Anderson was not Grand Duchess Anastasia and that's that.

The authors finish their gripping tale by guiding us through the legal and political bickering surrounding access to the biopsy sample that was to provide the ultimate source of DNA (a process ironically, and expensively, opposed by RNA — the Russian Nobility Association in this instance). Whoever she was, Anna Anderson was a remarkable and hypnotic woman but, unfortunately, the book throws little light on how she could have known the minute details of life at the Imperial Court that so thoroughly convinced her disciples.

By contrast, *Queen Victoria's Gene* moves backwards from 1918 and concentrates not on Anastasia but on Tsarevich Alexei, her younger brother. Although his body was also missing from the grave, in the absence of a convincing pretender, no one doubts he was murdered in 1918 with the rest of the royal family. Alexei suffered from haemophilia, which he inherited from Queen Victoria of England. It is this gene that provides the thread for what is a popular history of the interbreeding European monarchy over two centuries. The authors paint a picture of greed, lust and debauchery occasionally relieved by devotion (as in

Victoria and Albert) that serves as a backdrop to their most outrageous suggestion — that Queen Victoria was probably illegitimate.

There is no dispute that Victoria was a symptomless carrier of the haemophilia gene. (The gene is carried on the X chromosome, so females with two X chromosomes can mask the haemophilia allele on one of them with its normal counterpart; men, with only one X, aren't so lucky.) But did Victoria inherit the gene or did it arise as a spontaneous mutation? Adding what was already known to their own new research, the authors, a doctor and a biologist, find no evidence of haemophilia in her recorded ancestors, so they conclude either that the defective gene was a new mutation, as it

is in roughly a third of cases, or that she inherited it from an unknown and unidentified lover of her mother, Victoire.

So far, so good. Then, in an astonishing misuse of probability statistics, they attempt to persuade us that the second explanation is the more likely. Not only would the lover have had to be an adult haemophiliac — unlikely but not impossible even in the nineteenth century — but he would also have had to be quick. Victoire arrived from Germany to marry the Duke of Kent in May 1818 and Victoria was born almost exactly a year later. Unable to identify the nimble little bleeder, the authors attempt to pass off a perversion of probability theory on their unwary readership. "Victoire might have slept with another man... but would she have chosen a haemophiliac? The chances are small but substantially greater than the chance of mutation." *Ergo* Victoria was more likely to be illegitimate than not. This is, to say the least, a naive analysis of the odds because the authors neglect the large prior expectation of legitimacy. The fact that Victoria was a carrier of haemophilia has virtually no bearing on whether or not she was illegitimate.

Elsewhere the book pushes the theory

of historical contingency, as Stephen Jay Gould calls it (chance to the rest of us), to preposterous limits. If only, they suggest, Victoria's haemophilic son Leopold had fallen down the stairs and died a few months earlier, then his son, Charles Edward, would not have been born. Hitler would then have lost an influential supporter and 30 million people would have been spared. They even suggest this happy outcome if Charles Edward had inherited his father's lethal gene. Wrong again. Sons inherit their single X chromosome from their mothers, so it would have been quite impossible for Leopold to have passed the haemophilia gene to his son. The only remotely persuasive historical consequence of the gene was the part it played in the rise of Rasputin to a position of influence in the Russian royal family. His hypnotic powers, so we are told, could alleviate the painful symptoms of the young Tsarevich Alexei, something the court physicians had failed to do.

As in *The Quest for Anastasia*, there is very little genetics in this book and even what there is is tinged with the depressingly negative view of humanity in general and monarchies in particular that drips from the pages. Even the five lines devoted to Watson and Crick's discovery of the structure of DNA wastes one of them by telling us they worked "in temporary accommodation".

It is a pity that the authors' account of their detailed work on this most famous of genes has been spoiled by carelessness, inaccuracies and distortions (the UK Forensic Science Service, for example, is based in Aldermaston, not Amersham). Although these infelicities may go unnoticed by the intended general readership, they do nothing to promote a real appreciation of genetics. □

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reading of the 1866 paper shows that Mendel did not in fact propose the modern concept of paired characters linked to factors (genes) in the reproductive cells. In effect, the modern ideas were read into Mendel's paper by the rediscoverers (Karl Correns and Hugo de Vries in 1900, and later William Bateson). On this interpretation, however prescient the experimental demonstrations of character-transmission, Mendel's own real interest was the formation of hybrids, not the laws of heredity.

Orel certainly warns his readers that there have been such iconoclastic claims, but, as his subtitle indicates, his account is firmly within the orthodox tradition. His discussion of "Mendelian myth-making" comes after his analysis of the experiments, an analysis that has already begged the question by translating the results into modern terms, diagrams and all. At one point Orel dismisses the revisionists as "hero-bashers". But historians of genetics as eminent as Robert Olby have argued that Mendel was not a Mendelian in the sense defined by his posthumous followers. Such warnings cannot be set aside quite so easily; we must acknowledge at least the possibility that the context of Mendel's own work differed substantially from that of the rediscoverers. Placing Mendel's work in its context means more than making a sympathetic study of his career; it requires a willingness to uncouple his key text from the layers of meaning read into it by later geneticists.

Orel's discussion of events following Mendel's death concentrates as much on the celebrations of his work as it does on the actual 'rediscovery'. One could hardly expect a biography of Mendel to spend too much time on later developments, but the question of how Mendel's own work was transformed by the rediscoverers is more fundamental. The iconoclasts are not suggesting that his work was without influence in 1900: whatever Mendel's own intentions, his demonstrations forced Correns, De Vries and Bateson to rethink their whole approach to heredity. It would become even more important to see Mendel's career in context if we thought that his insights were both crucial to later developments and proposed originally for a different purpose. The assumption that his work was 'modern' but ahead of its time hinders our ability to understand its original context. But perhaps this is a task for the historian, not the biographer. With its wealth of detail, Orel's account certainly moves the study of Mendel's life onto a new level. □

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## Putting the peas in context

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**Gregor Mendel: The First Geneticist.** By Vitezslav Orel. Oxford University Press: 1995. Pp. 353. £25.

MENDEL may be unique in the annals of modern science. According to conventional wisdom, he discovered the principles of a new science yet died before those principles were accepted. Mendel's failure to gain recognition in his own lifetime seems to enhance the romantic attraction of his story. Who can fail to be moved by the image of the painstaking experiments in the monastery garden that were ignored by all contemporaries?

Vitezslav Orel is head of the Mendelianum at the Moravian Museum in Brno, Austria, established in the monastery where Mendel worked, and is thus at the nerve-centre of international Mendel research. He is in an unrivalled position to provide a detailed account of Mendel's life and career. His biography is clearly destined to become the standard source, replacing old favourites such as Hugo Iltis's 1924 account. Orel is particularly concerned to trace Mendel's education, showing that he was by no means the untutored amateur of popular myth. On the contrary,

his scientific education laid the foundations for his unique experiments with peas, in which he traced the transmission of hereditary characters. Orel also provides detailed insights into Mendel's other activities: his research on bees and on meteorology (for which he did gain

some recognition) and his efforts as

abbot of his monastery. Here we see the character of the man: efficient, enthusiastic and at a crucial stage willing to strike out into a new method of studying nature.

There is, of course, a detailed chapter outlining Mendel's classic experiments, published in 1866. Considering the brevity of his paper, and the relative paucity of other written material left by Mendel, historians have come up with a surprising number of different interpretations of his intentions.

Orel successfully out-manoeuvres both those who would turn Mendel into a pure empiricist and those who have suggested that he cheated in order to substantiate his preconceived hypothesis.

He is less effective, though, in dealing with the challenge offered by historians who argue that the story of Mendel's discovery is a myth created by the founders of genetics in the early twentieth century. It has been suggested that a careful

