A PEBBLE IN TIME

AS HE PREPARES TO DONATE HIS BELOVED COPY OF GIDEON MANTELL'S *THOUGHTS ON A PEBBLE* TO THE GEOLOGICAL SOCIETY, JONATHAN BUJAK RECONSTRUCTS THE PROVENANCE OF THIS RARE LITERARY GEM

Gideon Mantell first published *Thoughts on a Pebble* in 1831 as a slim 18-page book based on answers he gave to his young son about a flint pebble found in a nearby stream. Strangely, there is no surviving record of the second through fifth editions. The sixth edition, published in 1842, was expanded to 43 pages, while the final, eighth edition, published in 1849, runs to 102 pages.

It is the sixth edition that I hold in my hands. I open the book – as always, with a feeling of wonder – but also with sadness, knowing we will soon be parted. Now in my late seventies, I will take the book to Burlington House to entrust it to a new protector, the Geological Society of London, so that this gem can be preserved and appreciated by future generations.

Portrait of Gideon Mantell

Inside, the book bears various inscriptions, written in three different hands. Before parting with it, I need to dig deeper into its history. Can I trace the journey of this slim volume through time using the handwritten inscriptions on its first pages?

From dinoflagellates to dinosaurs

I found my copy of *Thoughts on a Pebble* in a London bookshop in the 1970s. Having recently finished my PhD at the University of Sheffield, describing dinoflagellate (a type of phytoplankton) cysts from the Eocene Barton Beds of the Isle of Wight, I was first attracted to the illustrations of "Fossil Animalcules in Flint" – Mantell's observations of microscopic fossils revealed after striking a fragment off a pebble and preparing a thin section for examination. His drawings resembled Cretaceous and Paleogene species I'd seen in the literature, later confirmed by William Sarjeant in 1992.

These microfossils – described in the 19th century as hystrichospheres and *Xanthidia* – puzzled palaeontologists for decades. It wasn't until the 1960s that Stanford University's William (Bill) Evitt identified them as dinoflagellate cysts: dormant forms of motile plankton, bearing elaborate features that mirror the configuration ('tabulation') of the original theca. While the theca, made of cellulose, rarely fossilises, the cysts endure thanks to their highly resistant organic walls – much like pollen or spores.

Such resilient microfossils underpin palaeopalynology, offering high-resolution dating and environmental reconstructions. A few grams of sediment can yield millions of specimens – a dense, microscopic archive of ancient seas and shifting climates encapsulated in structures smaller than a grain of sand.

But not all dinos are microscopic. Gideon Mantell, a medical doctor, is best remembered for

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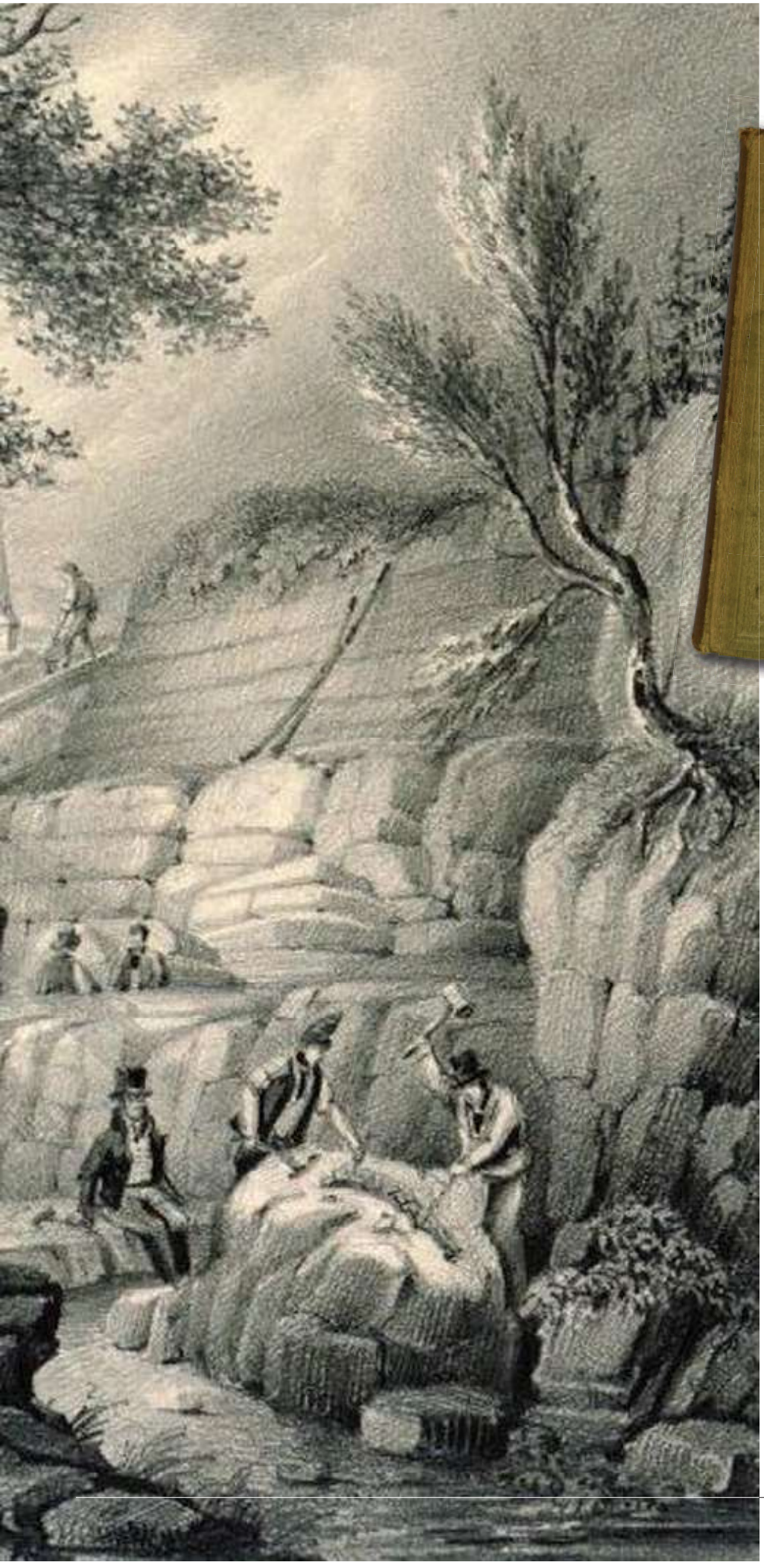

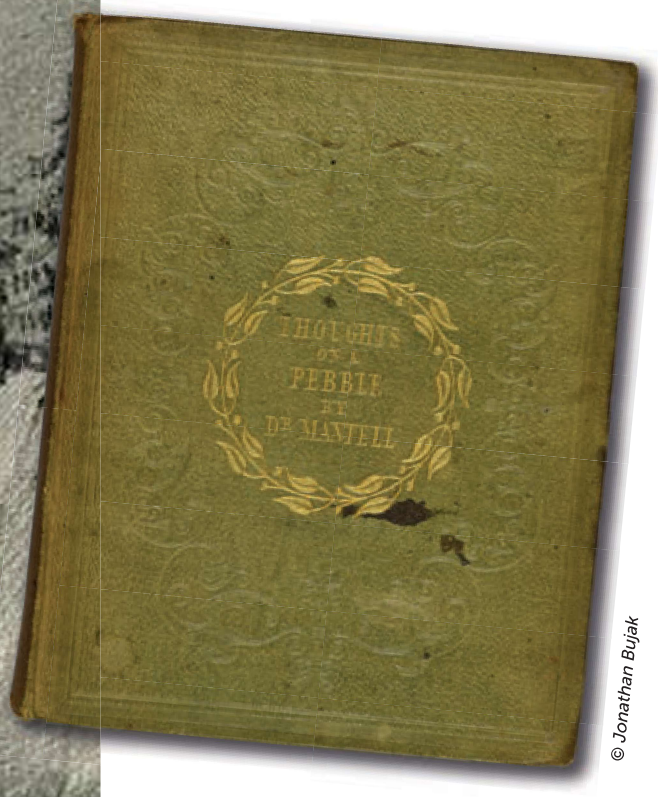

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Thoughts on a Pebble (front cover). Gideon Mantell first published *Thoughts on a Pebble* in 1831 as a slim 18-page book. The published dedication in this sixth edition from 1842 is to his elder son, Reginald Neville Mantell, but some accounts suggest the book was inspired by conversations with his younger son, Walter, about a flint pebble found in a nearby stream

Left: Sketch of Gideon Mantell and colleagues uncovering fossils in Tilgate Quarry, Sussex, UK (Artist unknown.)

fossil discoveries in the chalk and clay of southern England. Accompanied by his wife Mary (née Woodhouse), he explored quarries and roadside exposures. In his 1851 book *Petrifactions and Their Teachings*, Mantell recalls unearthing a peculiar tooth near Cuckfield – a find that would become central to the story of *Iguanodon*. Initially dismissed as a fish or rhinoceros tooth when presented at a meeting of the Geological Society in 1822, Charles Lyell later showed it to Georges Cuvier in Paris, who also misidentified it (though he revised his view the next day; Darwin Online, 1863; GBIF, 2023).

Seeking modern analogues, in 1824 Mantell visited the Royal College of Surgeons, where assistant curator Samuel Stutchbury noted its similarity to modern iguana teeth. Mantell proposed "Iguanosaurus", but William Conybeare advised "Iguanodon" – meaning "iguana →

tooth" (Dean, 1999; Simpson, 2015).

The tooth later made its way to New Zealand with Mantell's son, Walter, and was displayed at the Colonial Museum (now Te Papa). A label noted it as the very specimen Cuvier misidentified in 1823.

Though the term "dinosaur" was coined in 1842 by Richard Owen, the anatomist who founded and was the first Director of London's Natural History Museum, Mantell's finds – including *Hylaeosaurus* – were among the first to challenge biblical chronology, offering the thrilling and unsettling notation of a far older and stranger Earth that was once dominated by giant, reptilian creatures, or "antediluvian monsters". These discoveries captivated Victorian society, with figures including Mary Anning, Charles Lyell, William Buckland and William Smith (to name a few) shaping the golden age of geology. Women, often uncredited, played essential roles as collectors, artists, and field assistants.

Mantell's contributions were later overshadowed by Owen, who, with institutional backing, marginalised his rival and claimed credit for key discoveries. Where Owen enjoyed royal favour and prestige, Mantell endured chronic pain, financial hardship, and professional isolation – described sensitively in Deborah Cadbury's 2010 book *The Dinosaur Hunters*.

Yet Mantell never gave up. His writings, including *The Wonders of Geology* and *Thoughts on a Pebble*, reflect a deep belief that fossils were not just curiosities, but windows into lost worlds – evidence of Earth's vast, ever-changing story.

A book passed through time

The cover of my copy of *Thoughts on a Pebble* is embossed green cloth with gold writing, encircled by a ring of leaves and berries resembling a laurel wreath. There is some minor scuffing at the top and bottom of the spine and a small ink stain, but the inside of the book is pristine. The first two pages are blank, except for several inscriptions, written in what appear to be three different hands.

The inscription on the lower right-hand page, written in bold, italic hand, seems oldest:

To Dr Nichol with the respects of the author.

Comparison of the handwriting in this inscription with letters signed by Gideon Mantell shows that they were almost certainly written by Mantell himself.

But what is the story behind the other entries? The handwriting styles, ink colours, and careful inscriptions tell a story of stewardship – of a book not merely stored but cherished. As I followed the trail, I found that *Thoughts on a Pebble* had passed through the hands of astronomers, authors, antiquarians, suffragists, and scientists – a lineage as remarkable as the book itself.

The book's provenance

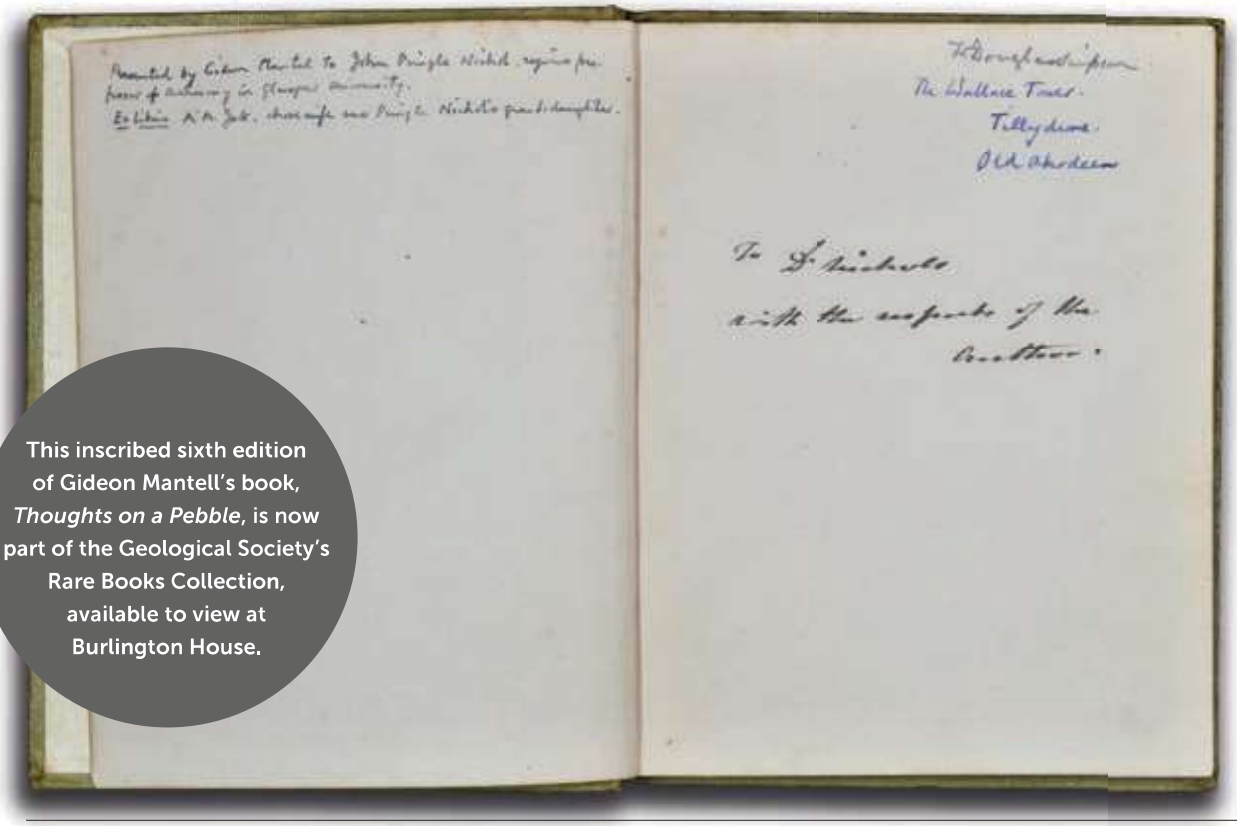
An inscription on the left-hand page reads:

Presented by Gideon Mantell to John Pringle Nichol, Regius Professor of Astronomy, University of Glasgow. Ex Libris A.A. Jack, whose wife was Nichol's granddaughter.

It is written in the same hand as the inscription written on the top right that reads:

Dr Douglas Simpson

Both were presumably written by Simpson, but how did Simpson come



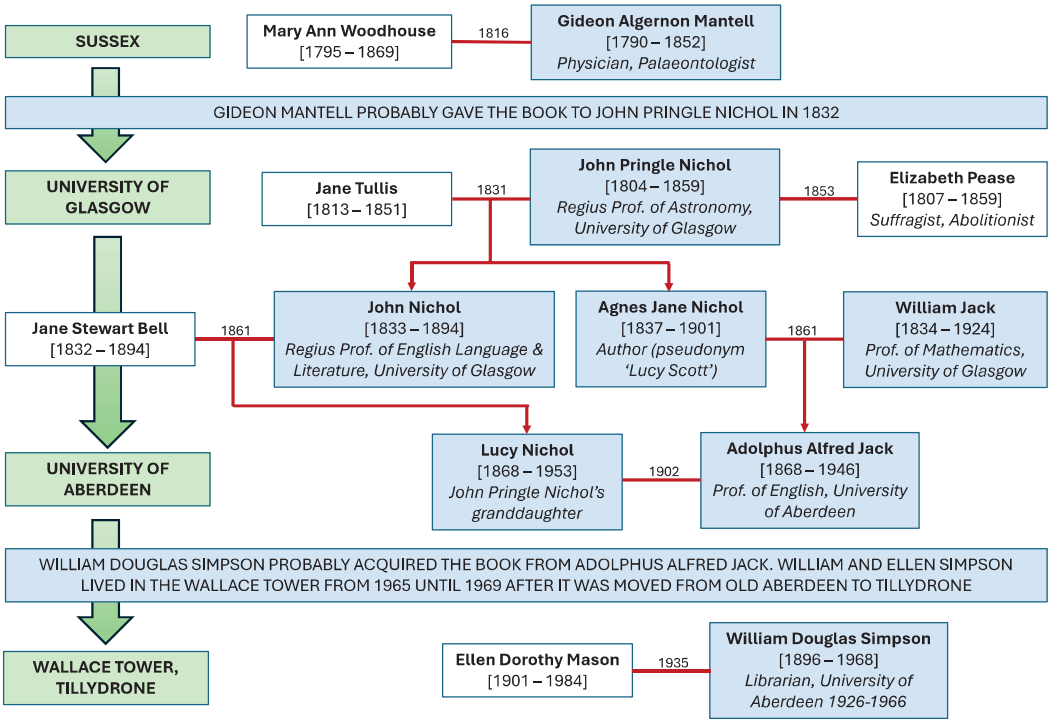
This inscribed sixth edition of Gideon Mantell's book, *Thoughts on a Pebble*, is now part of the Geological Society's Rare Books Collection, available to view at Burlington House.

The book's inscriptions written in what appear to be three different hands. Left: *Presented by Gideon Mantell to John Pringle Nichol, Regius Professor of Astronomy, University of Glasgow. Ex Libris A.A. Jack, whose wife was Nichol's granddaughter.* Top right (in the same hand): *Dr Douglas Simpson.* Below (in a different hand and fresher royal blue ink): *The Wallace Tower, Tillydrone, Old Aberdeen.* Bottom right (in bold, italic hand): *To Dr Nichol with the respects of the author.* [Or possibly: *To Dr Nichols with the respects of the author.*] *(© Jonathan Bujak)*

to obtain the book and what else do these inscriptions tell us about the book's provenance?

In their inscriptions, both Mantell and Simpson refer to John Pringle Nichol, Regius Professor of Astronomy at the University of Glasgow and a leading public communicator of science in Victorian Britain, implying that Mantell originally gave this book to John Pringle Nichol.

A friend of Sir William Hamilton and correspondent of John Stuart Mill, Nichol popularised nebular theory and wrote influentially on the plurality of worlds. He would almost certainly have crossed paths with Mantell because Nichol was also interested in geology. According to the Geological Society of London's membership indexes, Nichol was elected a Fellow (proposed by Roderick Murchison) on 24 February 1841, but his election was declared void at the Council Meeting of 5 February 1845 because he never replied to the notice informing him of his election (The Geological Society, 1845, 1841).



The provenance of *Thoughts on a Pebble* with its journey via different custodians shown in blue and to different locations shown in green. Each custodian of the book and their spouses must have cherished it as an heirloom, for the book to have been preserved in pristine condition for more than 130 years

In 1853, Nichol married Elizabeth Pease, a Quaker reformer, anti-slavery campaigner, and suffragist. She had attended the *World Anti-Slavery Convention* in London in 1840 and was the founding secretary of the Darlington Ladies' *Anti-Slavery Society*. Their marriage caused controversy within the Society of Friends, leading her to resign from the Quaker community – yet she remained a passionate advocate for abolition and women's education. Pease married Nichol following the death of his first wife, Jane Tullis, with whom he had two children, John Nichol and Agnes Jane Nichol.

John Nichol – to whom *Thoughts on a Pebble* was probably then passed – was appointed Regius Professor of English Language and Literature at the University of Glasgow in 1862 and became known for his literary criticism and philosophical writings. He was also one of the first to introduce American literature to British students. A man of deep learning and compassion, John Nichol served as both scholar and mentor.

Agnes Jane Nichol married William Jack, Professor of Mathematics at the University of Glasgow and formerly editor of the *Glasgow Herald*. Jack had a distinguished academic and literary career, and the couple fostered an intellectually vibrant home that blended scientific precision with literary curiosity. Under the pen name Lucy Scott, Agnes published two novels of Victorian fiction: *Brother and Sister* (1879) and *A Passion Flower* (1882). Her creative work – drawing on the emotional currents of family and society – adds a literary dimension to the book's legacy.

John Pringle Nichol's grandchildren re-connected when Agnes and William Jack's son, Adolphus Alfred (A. A.) Jack, married John Nichol's daughter, Lucy, who probably inherited the book from her father. Adolphus Jack – affectionately known to his family as "Dolfie" – served as Professor of English at the University of Aberdeen from 1915 to 1938. His students recalled that he frequently opened lectures with poetry and invited honours students for tea, often accompanied by Mrs Jack, fostering a warm and intellectually stimulating atmosphere.

Adolphus Jack's association with the University of Aberdeen explains the final inscription, which reads: *The Wallace Tower, Tillydrone, Old Aberdeen*. This refers to the home of Dr William Douglas Simpson who, as University Librarian at Aberdeen and a renowned antiquarian and architectural historian, probably acquired the book from Adolphus Jack. Dating from around 1610 and originally located at the junction of Aberdeen's Netherkirkgate and Carnegie's Brae, the Wallace Tower was "subject to an enforced move from the Netherkirkgate in 1965, to make way for a Marks and Spencer store. It was carefully reconstructed in Seaton Park under the expert supervision of renowned historian Dr Douglas Simpson" (Andonova, 2024). →

Simpson and his wife, Ellen, moved into the Wallace Tower at its new location in June 1965, but the building fell into disrepair in 1969, when Ellen probably moved out following her husband's death in 1968. It then had several tenants and was eventually left vacant, becoming a "derelict monument" until the Tillydrone Community Development Trust fought to "breathe new life into the forlorn tower", securing planning permission in 2017 to carry out refurbishment to turn it into a community café (Andonova, 2024). Their photographs show the derelict state of the building, including "a heaven for anyone with a tendency of being nosey".

Nothing is known about the disposal of Simpson's library, including his copy of *Thoughts on a Pebble*, and there is no indication that it was ever part of the University of Aberdeen's library collections.

Simpson's wife, Ellen, whom he married in 1935, died in 1984 and was buried next to him, perhaps taking answers to the questions about Mantell's book with her to the grave.

How did the book end up in a London bookstore? Was it sold or auctioned after Simpson died, perhaps with other volumes in his library? Whatever the answer, it is evident that this tiny book was cherished and preserved because of its scientific and family significance: given by Gideon Mantell to John Pringle Nichol, then handed down to his son John Nichol, then to John's daughter, Lucy, who married her cousin Adolphus Alfred (A.A.) Jack, who probably gave it to William Douglas Simpson.

The book's remarkable provenance – from Mantell's Sussex to Victorian Glasgow, from the Scottish Enlightenment to the book-lined study of a librarian-antiquarian in Aberdeen – trace a legacy that can now endure into the future.

An enduring legacy

Gideon Mantell's name lives on, not just in history books, but in the fossil record. In 2007, a revision of the *Iguanodon* genus led to the renaming of one of its species as *Mantellisaurus atherfieldensis* in honour of Gideon Mantell's pioneering work. The dinosaur, originally discovered near Atherfield on the Isle of Wight in 1914 by Reginald Walter Hooley, was found to be distinct from *Iguanodon* and now bears Mantell's name in recognition of his contributions to palaeontology.

Today, the skeleton of *Mantellisaurus atherfieldensis* stands proudly in Hintze Hall at London's Natural History Museum – a tangible reminder of Mantell's enduring impact on the science he helped to shape, and the role that his wife, Mary, played in that 'golden age of geology'.

It feels fitting, then, that the book – having passed through such hands – should now return to the Geological Society of London, where Mantell was elected a member on 15 May 1818. He later served on the Society's Council from 1841 to 1844 and again from 1847 to 1852, and in 1835 received the Society's second-ever Wollaston Medal, its highest honour. As a Fellow of the Geological Society, I see this donation, not as the end of the book's journey, but as the beginning of a new chapter – one in which it will continue to inspire, educate and quietly astonish.

And so, as I prepare to part with this remarkable book, it seems only fitting to let Gideon Mantell have the final word. On pages 36–39 of my copy of *Thoughts on a Pebble*, he writes:

"Here we must bring our 'Thoughts on a Pebble' to a close; but not without adverting to the pure and elevating gratification which investigations of this nature afford, and the beneficial influence which they exert upon the mind and character. In circumstances where the uninstructed and unenquiring eye can perceive neither novelty nor beauty, the mind imbued with a taste for natural science finds an inexhaustible source of pleasure and instruction, and new and stupendous proofs of the power and goodness of the Eternal!

"Every rock in the desert, every boulder on the plain, every pebble by the brookside, every grain of sand on the sea-shore, is fraught with lessons of wisdom to him whose heart is fitted to receive and comprehend their sublime import. Amidst the turmoil of the world, and the dreary intercourse of common life, we possess in these pursuits a never-failing source of delight, of which nothing can deprive us – an oasis in the desert, to which we can escape, and find a home 'wherever the intellect can pierce, and the spirit can breathe the air'."

DR JONATHAN BUJAK
Palaeontologist, previously a research scientist with the Geological Survey of Canada, and co-author with Alexandra Bujak of 'The Azolla Story'

FURTHER READING

A full list of further reading is available at geoscientist.online.

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