



1790	Born Gideon Algernon Mantell in Lewes, East Sussex, on 3 <sup>rd</sup> February, the son of a shoemaker
1805	Apprenticed to James Moore, surgeon in Lewes
1811	Gained diploma for MRCS
1813	Published in Sussex Advertiser ' <i>Geology of the Environs of Lewes</i> '
1814	First published geological paper
1816	Married Mary Ann Woodhouse. Appointed military surgeon at the Royal Artillery Hospital, Ringmer, Lewes. Purchased practice of James Moore at Lewes for £95
1818	Purchased 2 houses at Castle Place, Lewes. Published <i>A Sketch of the Geological Structure of the South-eastern part of Sussex</i> . Birth of his first child, Ellen Maria, on 30 <sup>th</sup> May
1820	Birth of his second child, Walter, March 11 <sup>th</sup>
1822	Published <i>The Fossils of the South Downs</i> . Discovery of Iguanodon tooth by Mary Ann. Birth of third child, Hannah, on November 24 <sup>th</sup>
1825	Elected a Fellow of the Royal Society on 28 <sup>th</sup> October
1827	Published <i>Illustrations of the Geology of Sussex: The Fossils of Tilgate Forest</i> . Published <i>Observations on the Medical Evidence necessary to prove the presence of Arsenic in the Human body</i> . Birth of his fourth child, Reginald, August 11 <sup>th</sup>
1831	Published <i>The Age of Reptiles</i>
1833	Published <i>The Geology of South-East England</i> . Moved to 20, The Steyne, Brighton. Opened his house as a Fossil Museum - the first in Britain.
1834	Discovery of the <u>Maidstone Iguanodon</u>
1836	Published <i>Thoughts on a Pebble</i> , dedicated to his youngest son Richard
1837	His daughter Hannah falls ill in April

1838	Very ill - 'much broken in health and spirits'. Wrote to Natural History Museum, offering his entire collection for £5000. Agreed purchase for £4000. Moved to London and took over practice at Clapham Common
1840	His daughter Hannah died in March, aged 18
1841	Involved in carriage accident. Afterwards he was always subjected to persistent pain. His whole attitude to life changed - he became morose and dispirited. Published <i>On the Fossil Remains of Turtles, discovered in the Chalk Formation of the South-East of England</i>
1844	Left Clapham Common and moved to Pimlico
1845	Began taking opium to alleviate his pain
1847	Published <i>Geological Excursion around the Isle of Wight</i>
1850	Published <i>A Pictorial Atlas of Fossil Remains</i>
1851	Published <i>Petrifications and their Teachings</i>
1852	'swallowing 32 times the maximum dose'... of opium! Lapsed into unconsciousness on 10 <sup>th</sup> November, and died during the afternoon. Purchase of remainder of his collection by Natural History Museum - they had now received over 25000 of his specimens. Part of his diseased spine remains pickled on a shelf in the Royal College of Surgeons!
2000	The Mantell Monument unveiled at Whiteman's Green, Cuckfield, in commemoration of Mantell's discovery in 1825.

## The Changing Shape of a Dinosaur

### Mantell's Discovery of Iguanodon

It was on a sunny morning in 1822 that the young doctor, Gideon Mantell and his wife Mary Ann, from Lewes made a unique discovery. While Dr. Mantell was making a house call on a patient in Cuckfield, his wife decided to take a stroll through the village. She passed a pile of broken rock on the roadside, waiting to be used to repair the road, and noticed an unusual object embedded in a piece of the rock.

On closer examination she realised that it was a fossil of some kind, and so put it in her pocket to show her husband later - this must surely have been one of the most significant events in the whole of dinosaur study.



The tooth picked up by Mary Ann Mantell

Mantell, a keen fossil collector, immediately recognised the object as a fossil tooth but was unable to match it to any known creature. He traced the source of the rock which had held the tooth to a quarry in Whiteman's Green, Cuckfield, where he found more teeth and other remains. He widened his search to pits in Tilgate Forest where again he found teeth and bones of this unknown creature, and from the age of the rock he realised that the creature responsible must have died about 130 million years ago - long before any mammals evolved.



Mantell sent the teeth and fossil bones to 2 famous scientists - Baron Georges Cuvier in Paris, and Dr. William Buckland, Professor of Geology at Oxford University. Cuvier wrote back suggesting that the remains were from a rhinoceros. Buckland thought they were from a

large fish, and suggested Mantell pursue the matter no further.

On a visit to the Royal College of Surgeons in London, he was shown the skeleton of an iguana by Samuel Stutchbury, a visiting anatomist. Darwin had recently brought the creature back from the West Indies. The iguana's teeth were almost identical to the teeth that Mantell had, though much smaller.

Mantell realised he had found the remains of an extinct giant reptile, not unlike an Iguana he thought, and named his creature Iguanodon, meaning literally 'iguana tooth'. The Iguanodon, a 5m tall planteater which roamed the South of England in herds, thus became the first dinosaur in the world to be recognised and named.

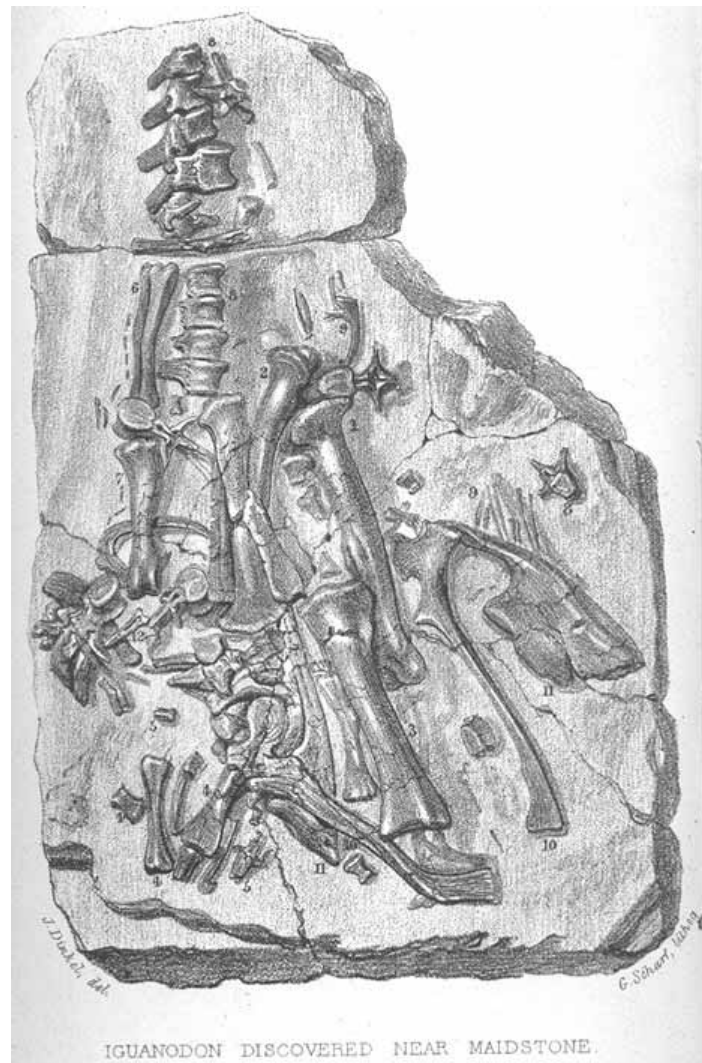
His paper announcing these discoveries was officially published in 1825 - "Notice on the Iguanodon, a newly discovered fossil reptile, from the sandstone of Tilgate Forest, in Sussex, " in: *Philosophical Transactions of the Royal Society of London*, vol. 115 (1825), pp.179-186

Mantell went on to discover and name another local dinosaur, Hylaeosaurus (1832), Peleosaurus (1850), and found the remains of the meat-eating Megalosaurus.

## Mantell's First Impressions

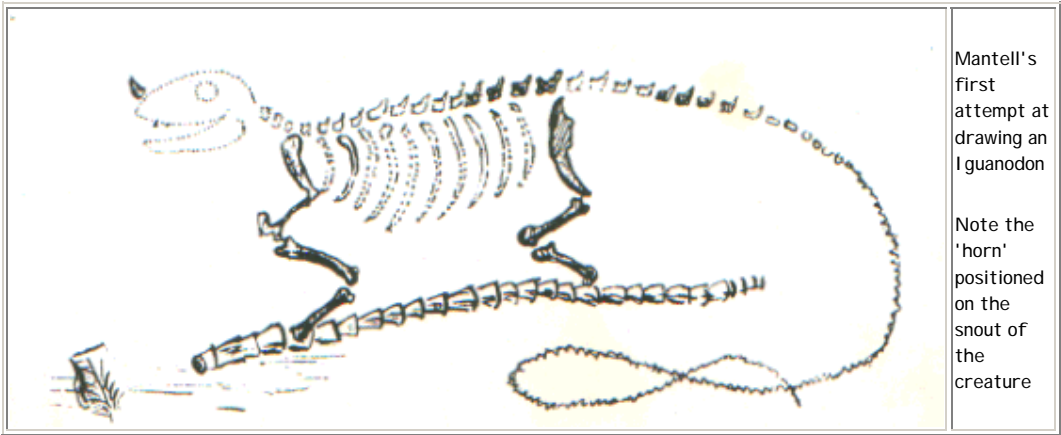
In 1834 Mantell received the news that Iguanodon remains had been discovered in a pit in Maidstone. Before he could get there, the rock had been dynamited, but a large number of bones remained embedded in a block of rock. The quarry owner wanted £25.00 for the slab of rock, and Mantell's friends clubbed together and bought it for him.

He set about the task of trying to reconstruct the Iguanodon on paper from the bones held on this slab of rock. It became known as the Maidstone Slab, and was placed on display in Mantell's personal museum where it became known as the 'Mantle-piece'. It is nowadays on display in the Dinosaur Gallery at the Natural History Museum in London.



Mantell's early drawings of Iguanodon are based largely on this evidence, and are quite inaccurate. Incidentally, the town of Maidstone has an Iguanodon on its coat of arms as a tribute to the discovery.

Mantell's first drawings of his Iguanodon showed a creature resembling an iguana lizard. The creature was drawn as a quadruped - standing on four legs.



The 'horn', found by Mantell's wife, resembled a rhinoceros horn and prompted Mantell to presume that it was from the creature's snout, especially as that is where a spike is found on an iguana.

Later discoveries in Belgium in 1878 (the Bernissart iguanodon) would show that the 'horn' was actually a thumb spike.



The Iguanodon 'horn'

## Owen's Dinosauria

In 1842 the anatomist Richard Owen attempted to bring order to the recent discoveries of prehistoric reptiles. Owen grouped the three vanished genera - Iguanodon, Megalosaurus and Hylaeosaurus together with the name Dinosauria ("terrible lizards"). The term 'dinosaur' was born.

Owen's representation of the Iguanodon, later constructed in concrete for the Crystal Palace Exhibition in 1854 in the grounds of Sydenham Park, was of a creature standing on all fours looking more like a rhinoceros, and still having the spike on it's nose - a monstrous Victorian lizard-like creature.



Richard Owen's Dinosauria (1841): Iguanodon, Megalosaurus and Hylaeosaurus emerging from the Dinosaur Quarry in Cuckfield, Sussex, with Owen's original restorations on the hillside.



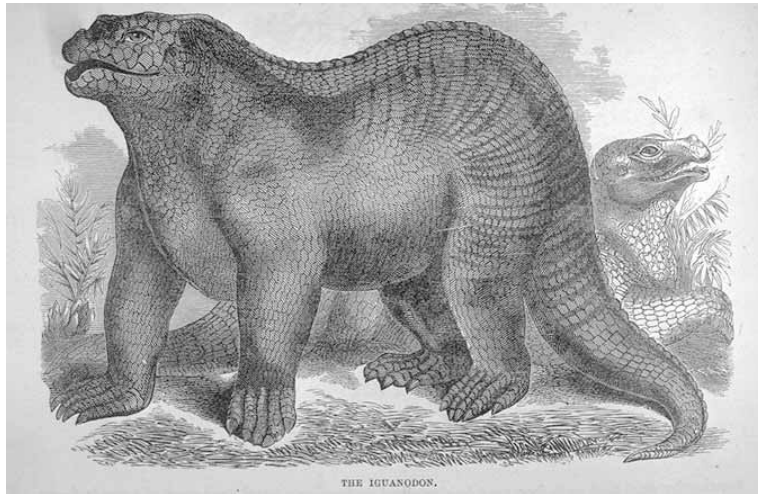


Illustration from Samuel Griswold Goodrich's *Illustrated Natural History of the Animal Kingdom* 1859

<p>Gideon Mantell</p>	<p>Commemorative Plaque</p>	<p>Where Mantell lived in Lewes</p>

**FRED THE ED**

*Tony Mitchell and myself visited Maidstone museum recently to photograph the "Mantell Piece Cast, which is on display in the gallery. Tony used his camera perched on top of a tall ladder to try to get the whole piece in the frame. I later tried the same acrobatics with my digital camera. Unfortunately I could not get the whole piece in so I will have to weld different images together on computer. I down;  
Loaded the above information from the internet, and I thank Dinosaur Bob for his hard work in putting together this information.*