The editors' 'Conclusion: metapatterns, metadisciplines' rejects the search for metapatterns as the culmination of disciplinary knowledge, which might be expressed as 'theories of everything', for the 'tangled bank' of disciplines and disciplinary change. The disciplines are characterized by shapes, forms and relations that change. That change may be driven by different forces, such as professionalization and popularization, the formation of societies and of universities, and by the tensions and interactions between developing individual disciplines. It is that contingency, which yet leads to evolution, that comes foremost out of these essays.

doi:10.1017/S0007087421000492

Tom Sharpe, The Fossil Woman: A Life of Mary Anning

Wimborne Minster: The Dovecote Press, 2020. Pp. 240. ISBN 978-0-9955-4629-5. £20.00 (hardback).

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'Mary Anning Rocks', a crowd-funding campaign launched in 2019 to commission a statue of the 'Princess of Palaeontology' (1799–1847) for her home town of Lyme Regis on Dorset's Jurassic Coast, reached its target £100,000 within eighteen months. Anning's importance in the history of vertebrate palaeontology has never been in question. A professional 'fossilist', exploring the sedimentary rocks deposited under the sea around Lyme about 200 million years ago, she became a significant figure in the burgeoning geological community. Anyone interested in fossils went to Lyme Regis to meet and learn from her. She corresponded with leading scientists in Britain and Europe, including William Buckland, Henry De la Beche, Charles Lyell, Roderick Murchison, Adam Sedgwick, Georges Cuvier and Louis Agassiz. Murchison called her 'that indefatigable purveyor to the store-houses of our science', and Anning herself informed Frederick Augustus II of Saxony that she was 'well known throughout the whole of Europe' (p. 10).

Geologist Tom Sharpe points out that more has been written about Anning than any other British geologist apart from Charles Darwin. However, much of the literature is for young readers and the repeated retelling of her story has meant aspects of her life accepted as fact with scant evidence to support them. There is no straightforward 'Mary Anning' archive and she left few personal effects. She was a working-class woman in rural Dorset, one of the most deprived counties in England, and a contemporary of the Tolpuddle Martyrs (1833–4), who came to represent the early union and workers' rights movements. Following her father's death in 1810, leaving debts of £120, the family required parish relief, and 'fossilizing' was a necessity.

It has been twenty-six years since the publication of Hugh Torrens's scholarly article in this journal, and Sharpe has brought the Anning story up to date, exploring new material and including many excellent images of her discoveries. From 1811, sometimes accompanied by her older brother Joseph, Mary's discoveries included ichthyosaur skeletons and skulls, the first complete *Plesiosaurus dolichodeirus* (which Cuvier thought might be a forgery), a *Plesiosaurus macrocephalus* (which she called 'the most beautiful fossil I have ever

seen'), the first 'Pterodactyle' (*Dimorpodon macronyx*) seen in Britain, the fossil fish *Squaloraja*, belemnite fossils and their sepia ink bags, ammonites, 'verteberries' (isolated ichthyosaur vertebrae), coprolites and fossil crinoids. Anning faced daily hazards in her work, walking for miles under the hanging Lias cliffs, usually after winter storms when cliff falls and landslides revealed fresh rock. She possibly enlisted the help of quarrymen to move large blocks of stone onto barges and row them to the Cobb (Lyme harbour). She then exposed the fossil from the rock in which it was embedded – a skilled task requiring an understanding of the creature's anatomy. She often made a number of forays to search for missing anatomical sections before fitting together the blocks of bone-bearing rock. She was not reconstructing the skeleton but recognized the importance of displaying the fossil as it was preserved in the rock.

As more of these hitherto unknown animals came to light, the Great Chain of Being, which repudiated extinction, became increasingly vulnerable. This caused particular difficulties for the Anglican clergy, especially as some were at the forefront of the new science of geology. Buckland, who became reader in geology at Oxford (1818), and eventually dean of Westminster (1845), believed in evidence for a universal deluge and held that geology supported the authority of the Bible. Anning's family were Dissenters and Mary learned to read and write at the Chapel Sunday School in Lyme. Later, she and her brother joined the Anglican congregation but she seems to have reconciled the significance of her fossil discoveries with her beliefs. She was more piqued by attitudes towards her sex, education and social status. Described by a visitor to her fossil shop as a 'poor, ignorant girl', Anning later responded tartly to Edward Charlesworth, editor of the *Magazine of Natural History,* who queried her observation on the hooked teeth of a newly discovered fossil shark, *Hybodus delabecheii.* She replied, 'as I am illiterate, [I] am not able to give a correct opinion' (p. 134). To a female friend she was said to have bemoaned 'these men of learning' who sucked her brains and made a great deal by publishing works of which she furnished the contents while deriving none of the advantages.

Whilst most of these 'men of learning' acknowledged her in their papers as the source of their specimens, she was nevertheless considered 'a dealer' – provincial, isolated and female. As such, she could not join the Geological Society of London or take part in debates in Oxford or Bristol. Whilst there *were* influential women fossil collectors, including her collaborative friends the Philpot sisters, all were gentry or aristocracy. None were to be found clambering over slippery rocks or down precipitous cliffs in all weathers hampered by voluminous skirts and hob-nailed boots. She had fame but no money. One wonders what she would have made of the sale at auction in 2020 of a letter written by her to Buckland in February 1829 which fetched over £100,000. During periods of financial hardship, however, her influential customers were generously supportive. Thomas Birch sold his fossil collection in 1819 so the Annings could pay their rent, and in 1829–30 De la Beche produced the now famous *Dura Antiquior*, a watercolour of the Lias seas of Dorset illustrating Mary's discoveries as living animals, the first ever reconstruction of its kind. Prints were sold for £2 10 s., of which a proportion went to Mary.

This is a well-researched, sympathetic and accessible biography which includes a useful who's who of people connected with Anning's story. There is a comprehensive list of her fossil discoveries and, if known, their current location. However, whilst the book is well referenced, many readers will be disappointed not to see a bibliography.

doi:10.1017/S0007087421000509