



The impact of A. R. Wallace's Sarawak Law paper reassessed



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ABSTRACT

This article examines six main elements in the modern story of the impact of Alfred Russel Wallace's 1855 Sarawak Law paper, particularly in the many accounts of Charles Darwin's life and work. These elements are:

- 1 It was Wallace's first avowal of evolution.
- 2 Wallace laid out the theory of evolution minus only a "mechanism".
- 3 Darwin failed to see how close Wallace was approaching.
- 4 Lyell did see how close Wallace was approaching.
- 5 Lyell urged Darwin to publish because of Wallace.
- 6 Darwin wrote to Wallace to warn him off his patch.

Each of these are very frequently repeated as straightforward facts in the popular and scholarly literature. It is here argued that each of these is erroneous and that the role of the Sarawak Law paper in the historiography of Darwin and Wallace needs to be revised.

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'To kill an error is as good a service as, and sometimes even better than, the establishing a new truth or fact.'

Charles Darwin¹

Over the past forty years or so, six elements about the Sarawak Law Paper have emerged which now constitute most of the substantive points usually made about the paper and its role in the story of Darwin and Wallace. To anyone familiar with Wallace and Darwin these elements will be instantly recognizable.

Introduction

The story of the first proposal of evolution by natural selection by Charles Darwin and Alfred Russel Wallace in 1858 has been told countless times by popular writers, biographers, scientists and historians over the last 150 years. Wallace's 1855 paper forms a very important and, more recently, a pivotal part of that story. The paper, 'On the law which has regulated the introduction of new species' is now often referred to as the Sarawak Law paper. (Wallace, 1855). It was written while Wallace was on his famous specimen collecting expedition in the province of Sarawak, on the great island of Borneo in the heart of the Malay archipelago. It was published in the popular science magazine *Annals and Magazine of Natural History* the same year.

1. The Sarawak Law Paper was Wallace's first avowal of evolution.
2. Wallace laid out the theory of evolution minus only a "mechanism".
3. Darwin failed to see how close Wallace was approaching.
4. Lyell did see how close Wallace was approaching.
5. Lyell urged Darwin to publish because of Wallace.
6. Darwin wrote to Wallace to warn him off his patch.

And yet, surprisingly, these elements are not found in the earliest sources, nor in the early secondary literature. Some are derived from later recollections by Wallace but most have slowly accrued since the middle of the 20th century as the story was told and retold. After all, when a researcher has seen the same element in dozens of publications it is only natural to take it as simply a fact. Each will be examined in turn.

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¹ C. Darwin to A. Stephen Wilson 5 March 1879, in Darwin and Seward (1903), vol. 2, p. 422.

1. The paper was Wallace's first avowal of evolution

The Sarawak Law paper is almost always described as Wallace's first public declaration of his belief in transmutation or evolution.² For example, the historian Martin Fichman called the Sarawak paper Wallace's 'first public statement' and even 'among the most forceful statements of evolution prior to the reading in 1858.'³ Darwin biographers Desmond and Moore claimed that the paper 'argued that one species could only derive from another, "closely allied species".' (Desmond & Moore, 2009). Biologist Andrew Berry (2002, pp. xv, 34) even called the paper Wallace's 'evolutionary bombshell.' One popular writer went so far as to call the paper 'the most significant advance in evolutionary theory since the time of Lamarck' (Severin, 1997). In consequence the paper is almost as frequently said to be a *bold* announcement in contrast to Darwin who was supposedly too afraid to go public. For example, the biologist Ernst Mayr wrote that 'Wallace had boldly sketched a theory of evolution' and had 'firmly come out in favor of evolution.'⁴

Yet the Sarawak Law paper makes no mention of evolution of any kind. It never states that species can change or that newer ones are actually descended from preceding ones. Instead, Wallace stressed that there was a striking pattern, his 'law'. New species always somehow appear in the same place, and subsequent to, similar species. This coincident replacement was described in terms that were entirely consistent with a form of creationism. Indeed the language of the paper suggested, to its contemporary audience, more of a creationist than a transmutationist interpretation. Wallace referred to the fact that 'the present condition of the organic world is clearly derived by a natural process of gradual extinction and creation of species' (Wallace, 1855, p. 186). Nor is this an isolated remark. The paper is replete with language of creation: 'species were created', 'have been created', 'modified prototypes were created', 'new species have been created', 'species and their successive creation', 'new species are successively created', 'the creation of new ones', 'have been created', 'the creations', 'extinctions might exceed the creations', 'each species has been created' and so forth. Nevertheless, the term creation at the time was rather vague. It could mean both divine special creation or appearing through some unknown natural causes.

The title of the paper addresses 'the introduction of new species.' Naturally this strikes a modern reader as a reference to evolution. But the phrase was taken from Charles Lyell's *Principles of Geology* (1830–5).⁵ Lyell was not discussing evolution when he used this phrase throughout his influential book. Lyell was famously opposed to evolution, especially the version proposed by Jean-Baptiste Lamarck. Lyell argued that the order of nature was one of 'gradual extinction of certain animals and plants, and the successive introduction of new species.'⁶ This wording is almost identical to Wallace's. Historian Jon Hodge has discussed the Lyellian context or background in which Wallace was working in the 1850s. Wallace's paper 'not only took its title from Lyell quite

silently, it began defining its very objectives in three opening paragraphs that insisted on the 'light thrown' on geographical distribution by 'geological investigations'; the three paragraphs being nothing more nor less than an encapsulation of Lyell's teaching, but with no reference to the *Principles*, which, Wallace clearly assumed, would be instantly recognized as this source.'⁷ Hence Wallace's readers were presented with a phrase and an issue that they were already familiar with – and it was not evolution. It was the generally progressive, though discontinuous, fossil record as then known.

There is another reason why modern commentators believe that the paper propounded a theory of evolution. Wallace later wrote descriptions of it such that it was his 'first contribution to the great question of the origin of species' (Wallace, 1905; vol. 1, p. 354). In one sense this is perfectly true. It was a contribution to the broad subject area. Given the paucity of contemporary evidence of Wallace's early theoretical work, retrospective stories were naturally used to fill the gaps. And finally, it is now well known that Wallace privately believed in some form of evolution since his reading of *Vestiges of the natural history of creation* in 1845. Since we know Wallace was an evolutionist, we read the paper accordingly. But this insider knowledge was not available to Wallace's original readers, except for a few friends. The language of 'creation' used throughout the paper is very different from the language Wallace used in his private notebooks at this time when discussing evolution.

While he was still in the Malay archipelago, Wallace himself described the paper very differently than he did in later years, after the dramatic impact of Darwin's *Origin of species* (1859). Around the time of writing it, Wallace referred to it as a paper on 'succession' rather than evolution. Succession referred to the order in which species had followed one another during geological time. During his voyage, Wallace kept a list of his published articles in a notebook. There he referred to this paper as: 'On Law of Succession of Species (Sept. 55).'⁸ Writing to Darwin, Wallace mentioned 'my views on the order of succession of species' and even to his evolutionary confidant Bates, Wallace referred to it as 'my Paper "On the Succession of Species."⁹ Hence Wallace, and his readers, saw the paper in the 1850s as a discussion of species succession rather than of evolution.¹⁰

Like many other authors, Lyell (1835, vol. 3, 15, 100, 174) and Darwin had already discussed succession. In his *Journal of researches* (1839) Darwin had even called it a law. 'The law of the succession of types, although subject to some remarkable exceptions, must possess the highest interest to every philosophical naturalist, and was first clearly observed in regard to Australia, where fossil remains of a large and extinct species of Kangaroo and other marsupial animals were discovered buried in a cave' (Darwin, 1839, p. 210). In his second edition of the book Darwin hinted: 'This wonderful relationship in the same continent between the dead and the living, will, I do not doubt, hereafter throw more light on the appearance of organic beings on our earth, and their disappearance from it, than any other class of facts' (Darwin, 1845, p. 173). Wallace read this edition of Darwin during his voyage, but it is unclear when.

It has recently emerged that Wallace intended his 1855 paper, as he wrote to Sir James Brooke, to 'feel the pulse of scientific men in regard to this hypothesis.'¹¹ Wallace was feeling the pulse – not

² For example Pantin (1959); Wichler (1961), p. 148; George (1964); Williams-Ellis (1966); McKinney (1966, 1972); Kohn (1981, p. 1106); Bowlby (1990); Severin (1997); Wilson (2000, p. xii); Shermer (2002); Smith (2005); Davies (2008); Desmond and Moore (2009), p. 297; Lloyd, Wimpenny, and Venables (2010); Stott (2012); Costa (2009); et al. A few authors have pointed out that the Sarawak paper does not mention evolution, e.g. Browne (1983), p. 172; Bulmer (2005); Van Wyhe (2013), pp. 106–112; Benton (2013), p. 86.

³ Fichman (2004). A point also made in Wilson (2000), pp. xii, 87.

⁴ Mayr (1982), pp. 419, 423. This purported difference is another popular trope. See for example Rosen (2007) and 'Bill Bailey's Jungle Hero' (BBC 2013). On the traditional belief that Darwin was afraid or postponed publishing his theory see Van Wyhe (2007; 2013, chapter 10).

⁵ See Hodge (1983), pp. 30–1. Wallace had with him a copy of Lyell (1835).

⁶ Lyell (1835), vol. 3, p. 372. The same line also occurs in the first edition.

⁷ Hodge (1983), pp. 31–32.

⁸ A.R. Wallace, *Notebook 4* (Linnean Society of London MS180), p. 121.

⁹ A.R. Wallace to Darwin [27 Sept. 1857] in van Wyhe & Rookmaaker (2013), p. 132. C. Darwin to A. R. Wallace, 6 April 1859, in Burkhardt (1985–), vol. 7, p. 279 [CCD hereafter]; A.R. Wallace to H.W. Bates, 4 and 25 January 1858, in van Wyhe & Rookmaaker (2013), p. 146.

¹⁰ This has rarely been observed but does appear in Eiseley (1958), p. 164.

¹¹ James Brooke to A.R. Wallace, 5 November 1856 in van Wyhe & Rookmaaker (2013), p. 99.

nailing his colours to the mast. This is why he made no explicit reference to species changing and instead employed vague language of co-incident creations of new species in the same location as similar earlier species. He was not ready to come out of the closet. Indeed his language was so carefully chosen that almost all contemporary readers seem to have taken Wallace to mean a series of special creation events according to a law of necessary successive similarity. He marshalled a powerful array of contemporary evidence to argue for a progressive and spatially specific order in which new species appeared during the history of life. It was as close as one could get to arguing that new species evolve from earlier ones- but while at the same time never suggesting that species might change. While remaining entirely on the side of non-transmutation, Wallace summarized the main features of paleontological knowledge which were consistent with an evolutionary explanation. By judging the 'pulse' of the reaction to it, he may have then seen how much further he could push his arguments in later writings on such a controversial and unorthodox direction.

In 1903 Wallace recalled:

My paper of 1855 had merely shown that each new species was in some way dependent on the circumstance that there had been always, in the very same locality, a closely allied species, of which the new species seemed to be a modification. I myself firmly believed that it was a direct modification of the pre-existing species through the ordinary process of generation, as had been argued in the *Vestiges of Creation*; but as I could not yet see any mode or process by which the change could be effected, and the characters of the new species fixed and rendered permanent by natural law, I left it to be inferred till such a law should be discovered (Wallace, 1903, pp. 25; 78).

This is entirely consistent with what is being argued here. Wallace left evolution 'to be inferred' from his generalizations. He did not publically state that he believed evolution to be true or even probable.

Some of the wording in this recollection is potentially misleading, e.g. 'of which the new species seemed to be a modification.' This is what he privately thought, or his explanation in 1903, and is not in the 1855 paper. Secondly, the point that 'I could not yet see any mode or process' is a post-*Origin of species* (1859) manner of speaking - eventually, after 1900, to be replaced by many writers with the term 'mechanism'. Wallace was not prevented from saying that new species were or seemed to be descended from earlier ones because he lacked a 'mechanism' for how they did so. He very carefully refrained from saying that new species were physically derived from earlier ones. A recently discovered rough draft of the Sarawak Law shows just how carefully he considered and re-worked the wording of the paper.¹² At the time, succession was a wide and profound area of speculation. After the *Origin of species* it seemed to have become a footnote.

2. Wallace laid out the theory of evolution minus only a "mechanism"

Another almost equally common way of describing the Sarawak Law paper is to claim that in it Wallace provided an evolutionary theory which, as biographer Michael Shermer put it 'still lacked a mechanism.'¹³ More recently biologist James Costa has repeated

that Wallace's paper 'lacked only a mechanism' (Costa, 2013). It appears to be used by some writers as the only explanation needed for why the Sarawak Law paper was so vague on certain points, such as indicating that species could evolve. This is a modernized version of Wallace's retrospective accounts. Wallace (1905, vol. 1, p. 355) wrote in his autobiography that the Sarawak paper 'suggested the *when* and the *where* of its occurrence, and that it could only be through natural generation ... but the *how* was still a secret only to be penetrated some years later.'

Not only is the use of the term 'mechanism' an inappropriate if almost omnipresent anachronism, but the way of thinking and telling the story of Wallace and Darwin is also anachronistic. This leads to the ahistorical approach so common in telling this story, especially by non-historians, that naturalists had long been in search of 'the mechanism' for how species change or adapt. And, so the story goes, this was discovered in natural selection. As Fichman wrote, in 1858 Wallace finally arrived at natural selection, 'the mechanism he had been seeking' (Fichman, 1981, 2004, p. 54, also). Darwin may have been the first to speak in such a way at the start of *Origin of species*.

In considering the Origin of Species, it is quite conceivable that a naturalist, reflecting on the mutual affinities of organic beings, on their embryological relations, their geographical distribution, geological succession, and other such facts, might come to the conclusion that each species had not been independently created, but had descended, like varieties, from other species. Nevertheless, such a conclusion, even if well founded, would be unsatisfactory, until it could be shown how the innumerable species inhabiting this world have been modified, so as to acquire that perfection of structure and coadaptation which most justly excites our admiration (Darwin, 1859, p. 3).

Here Darwin seems to downplay descent with modification in order to emphasize his prized explanation for adaptation. At any rate, 'mechanism' talk is a subtle post-1859 shift in discussing this story which should not be read into earlier documents.

Wallace's references to the paper while he was still in the Malay archipelago contradict the traditional 'search for a mechanism' idea. Writing to Darwin in 1857, Wallace stated: 'The mere statement & illustration of the theory in [the Sarawak] paper is of course but preliminary to an attempt at a detailed proof of it, the plan of which I have arranged, & in part written, but which of course requires much research in English libraries & collections.'¹⁴ Similarly, writing to his friend Bates in 1858, Wallace indicated: 'That paper is of course merely the announcement of the theory, not its development. I have prepared the plan & written portions of an extensive work embracing the subject in all its bearings & endeavouring to prove what in the paper I have only indicated.'¹⁵ In other words, Wallace just needed to do the work of proving what was in the 1855 paper. He makes no allowance for, or suggestion of, something missing or not yet found. More importantly, his four scientific notebooks from the voyage reveal the same thing.¹⁶ The idea that any component, cause or 'mechanism' is sought for, missing or still to be identified is not in the contemporary sources. Yet modern accounts consistently describe Wallace as searching for a

¹² Natural History Museum (London) WP6/1/4. Transcribed and discussed in Van Wyhe (2016).

¹³ Shermer (2002, p. 90). This goes back at least as far as Himmelfarb (1959); McKinney (1966, 1972); Beddall (1973, 1988b).

¹⁴ Wallace to Darwin, [27 September 1857] in van Wyhe & Rookmaaker (2013), p. 132 and CCD, vol. 6, p. 457. Darwin annotated the fragment: "(Alfred R Wallace. Letter Sept. 1857.)" The full date is included in Darwin's letter to Wallace of 22 December 1857.

¹⁵ Wallace to Bates, 4 and 25 January 1858, in van Wyhe & Rookmaaker (2013), p. 143.

¹⁶ van Wyhe and Rookmaaker eds., *Alfred Russel Wallace's notebooks from the Malay archipelago*. CUP, forthcoming.

mechanism. This is an important disjuncture between modern descriptions and the original sources.

As Wallace would shortly thereafter write to Bates in what is probably the clearest expression of his views before the change of direction marked by his 1858 Ternate epiphany:

I have been much gratified by a letter from Darwin, in which he says that he agrees with ‘almost every word’ of my [Sarawak] paper. He is now preparing for publication his great work on *Species & Varieties*, for which he has been collecting information 20 years. He may save me the trouble of writing the 2nd part of my hypothesis, by proving that there is no difference in nature between the origin of species & varieties.¹⁷

Here we see that, even three years later, Wallace indicated that what remained for him was ‘the trouble of writing’ the second part – that species and varieties originate in the same way, by descent. It was already widely accepted that varieties arose by genealogical descent from a parent species. But species were commonly held to be created by quite different means, possibly by divine creation. Wallace’s growing focus on the disparate causes accepted for the formation of varieties and the formation species was the point of his important though very brief ‘Note on the theory of permanent and geographical varieties’ written a few months before, probably around August 1857.¹⁸

Wallace most certainly was not seeking a ‘mechanism’ for how organisms become adapted. He was wholeheartedly anti-adaptationist at this time of his life and theorizing. In an 1856 paper on orangutans, for example, Wallace wrote:

Do you mean to assert, then, some of my readers will indignantly ask, that this animal, or any animal, is provided with organs which are of no use to it? Yes, we reply, we do mean to assert that many animals are provided with organs and appendages which serve no material or physical purpose. ... We conceive it to be a most erroneous, a most contracted view of the organic world, to believe that every part of an animal or of a plant exists solely for some material and physical use to the individual,—to believe that all the beauty, all the infinite combinations and changes of form and structure should have the sole purpose and end of enabling each animal to support its existence.¹⁹

In a paragraph added at the end of the Sarawak Law paper, Wallace discussed rudimentary organs. These were not vestigial leftovers from earlier ancestors, but biological structures that appeared in organisms that did not need them. These structures were not the result of environmental influences. There was some higher law of nature responsible for this. But it was the opposite of an adaptive law. It was a law that formed structures that were superfluous. To describe Wallace as seeking a mechanism for evolutionary change is to apply an anachronistic perspective to Wallace’s pre-Ternate essay and pre-*Origin* thinking. Seeking a mechanism however neatly fits the mental furniture of the late 20th- and early-21st centuries.

3. Darwin failed to see how close Wallace was approaching

The preceding two elements lead directly to a third, that Darwin himself failed to understand Wallace’s paper and how close Wallace

was approaching the same theoretical position. For example, Darwin biographer Janet Browne (1995, p. 537) stated that ‘Darwin blindly stared straight past the implications in Wallace’s words.’ Browne is one of the few writers to recognize that Wallace’s real views were only implied. Shermer (2002, p. 140) found it surprising that Darwin did not see Wallace coming. Biologist Richard Dawkins also wrote that ‘oddly, Darwin did not see in the 1855 paper any warning that Wallace was by then a convinced evolutionist.’²⁰ Berry (2014) has recently written that Darwin ‘failed to recognize in Wallace a competitor.’ And the explorer Tim Severin (1997) wrote ‘astonishingly, Darwin himself missed the significance of the Sarawak essay’ and the same point is repeated again in the television programme ‘Bailey, Bill Bailey’s Jungle Hero’ (BBC 2013) and countless other publications and broadcasts.

The surprise and even astonishment experienced by so many recent commentators results from the difference between modern understandings of the paper as a striking declaration of evolution and how it was understood by its original audience. With the benefit of hindsight, knowing as we do that Wallace was a convinced transmutationist and that in 1858 he would converge with Darwin, it is almost impossible not to read our understanding of the Sarawak paper into what its original readers must have read in it.

Darwin’s understanding of the paper is quite clear from his reading notes on a slip of blue paper at the back of his copy of that issue of *Annals and Magazine of Natural History*. After notes on Forbes, J.E. Gray, Weinland and Owen amongst others, Darwin jotted his notes on the Sarawak Law paper.

[p.] 185 Wallace’s paper: Laws of Geograph. Distrib. Nothing very new – [p.] 186 His general summary ‘Every species has come into existence coincident in time & space with preexisting species.’ – Uses my simile of tree – It seems all creation with him – Alludes to Galapagos

[p.] 189 on even adjoining species being closest – (It is all creation, but why does his law hold good; he puts the facts in striking point of view – [p.] 194 argues against our supposed geological perfect knowledge – Explains rudimentary organs on same idea (I sh^d. state that put generation for creation & I quite agree)²¹

The first line reveals what Darwin took to be the topic of the paper: the laws of geographical distribution. Distribution through time was succession. Geographical distribution was one of the categories of Darwin’s own evolutionary note-taking and writing. From Darwin’s perspective, Wallace’s paper was ‘Nothing very new’. One can see why Darwin would react in this way. He had long collected notes on the subject with an evolutionary intent and had discussed geographical distribution in his 1842 and 1844 species sketches and was devoting an entire chapter to it in his so-called ‘big book’, *Natural selection*.²² (These would become two chapters in *Origin of species*.) At the very time this issue of *Annals* was published, Darwin was principally engaged with geographical distribution. Wallace’s concise summary was utterly dwarfed by Darwin’s massive accumulation of data in both breadth and detail.

Wallace referred to ‘the analogy of a branching tree, as the best mode of representing the natural arrangement of species.’ Darwin noted this as ‘Uses my simile of tree.’ In fact, Wallace was explicitly

¹⁷ Wallace to Bates, 4 and 25 January 1858, in van Wyhe & Rookmaaker (2013), p. 143. Wallace cites: Darwin to Wallace, 1 May 1857 in CCD, vol. 6, p. 387.

¹⁸ Wallace (1858). See Van Wyhe (2013), pp. 177–182.

¹⁹ Wallace (1856a). See also Van Wyhe (2013), p. 139.

²⁰ Dawkins (2011), p. 213.

²¹ Cambridge University Library, Manuscripts room: DAR.LIB.PER U244–U255.

²² Darwin (1909) and Stauffer (1975). Like all of Darwin’s works, these are available in van Wyhe (2002–) *Darwin Online* (<http://darwin-online.org.uk/>).

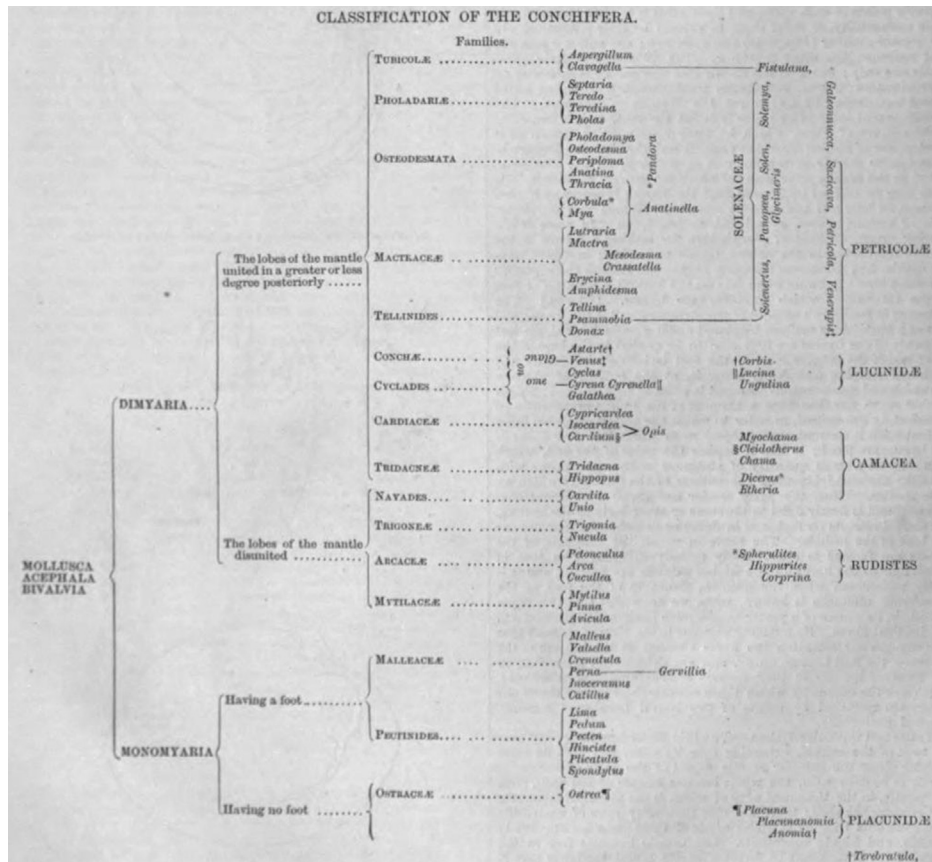


Fig. 1. 'Classification of the conchifera' in Knight's *English cyclopaedia*.

referring to 'the analogy' of ornithologist Hugh Edwin Strickland (1840). This has long been overlooked by some commentators in favor of attributing a pioneering use of evolutionary tree imagery to the Sarawak Paper. Strickland was no evolutionist and his proposal to graphically represent the varying degrees of similarities between groups of animals on tree-like diagrams had long been in the literature (Bredenkamp, 2006; Archibald, 2014; Van Wyhe, 2005).

Similarly, Wallace wrote: 'Returning to the analogy of a branching tree, as the best mode of representing the natural arrangement of species and their successive creation, let us suppose that at an early geological epoch any group (say a class of the Mollusca) has attained to a great richness of species.' This passage was perhaps inspired by the fine tree diagram of mollusca (below) in Knight's *English cyclopaedia* (1854) which Wallace had with him at the time of writing the paper.²³ The diagram is far more suggestive (at least to a modern reader) of a branching evolutionary tree than Wallace's Strickland-inspired diagrams in his 1856 paper 'Attempts at a natural arrangement of birds' (Wallace, 1856b) (below = Fig. 2). Needless to say, the *English cyclopaedia* entry was simply classifying according to similarities, not suggesting evolutionary descent (see Fig. 1).

Nevertheless, Wallace moved beyond Strickland's analogy for 'the natural arrangement of species' by adding to it a historical, rather than a simply static, dimension 'and their successive creation'. This point is surely what struck Darwin as 'my simile.'

Wallace's language of 'creation' certainly seemed unequivocal to Darwin, who noted: 'It seems all creation with him.' Indeed, it puzzled Darwin, since 'It is all creation, but why does his law hold good.' Darwin could not see how Wallace expected this pattern of similar species following earlier ones to persist because Darwin did not know that Wallace privately believed in actual descent. This is unmistakably clear from Darwin's conclusion: 'I sh^d. state that put generation for creation & I quite agree.' By generation Darwin meant reproduction from parent to offspring. Had Wallace said this, rather than creation, Darwin would have entirely agreed with the paper. But Wallace *had* written creation. Hence Darwin did not stare blindly past Wallace's message.

This interpretation exactly matches what Darwin later wrote to Wallace in late 1857: 'Though agreeing with you on your conclusion's in that paper, I believe I go much further than you.'²⁴ Darwin went 'much further' because he held that species actually changed and evolved one into another whereas he took the Sarawak Law paper to mean that new species were separately created one after another. Only later in *Origin of species* (1859) did Darwin note of the Sarawak Law paper: 'I now know from correspondence, that this coincidence [Wallace] attributes to generation with modification.'²⁵ Here Darwin states explicitly that this information was not in the paper itself. Because the paper did not mention evolution, Darwin

²⁴ Darwin to Wallace 22 Dec. 1857 in CCD, vol. 6, p. 514.

²⁵ Darwin (1859), p. 355. Darwin told Wallace he would write this, in Darwin to Wallace 6 Apr. 1859 in CCD, vol. 7, 279: 'have added that I know from Correspondence that your explanation of your law is the same as that which I offer.' In the index of *Origin*, the Sarawak Law paper was called 'on law of geographical distribution.'

²³ Knight (1854), p. 155. Wallace's lightly annotated copy survives in the Library of the Linnean Society of London.

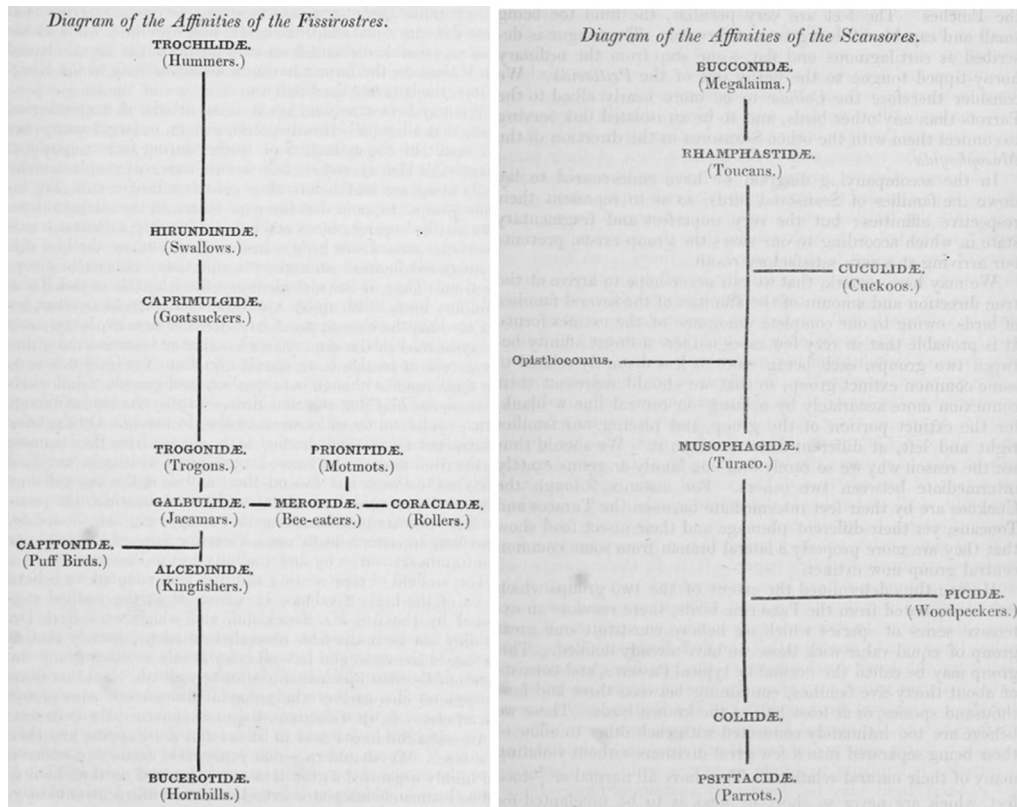


Fig. 2. 'Affinity' diagrams in Wallace, Attempts at a natural arrangement of birds.

did not include it in his 'An historical sketch of the recent progress of opinion on the origin of species' added to the third and later editions of the *Origin of species* (1861). Several recent writers have condemned Darwin for omitting the Sarawak Law paper from the historical sketch, as if Darwin sought to downplay Wallace's contributions. This is yet another error derived from a modern and ahistorical understanding of Wallace's paper. It was not openly evolutionary.

The naturalist Edward Blyth wrote to Darwin from Calcutta in late 1855 about Wallace's paper. 'What think you of Wallace's paper in the *Ann. M. N. H.*? Good! Upon the whole! ... Wallace has, I think, put the matter well; and according to his theory, the various domestic races of animals have been fairly developed into *species*. ... What do you think of the paper in question? Has it at all unsettled your ideas regarding the persistence of species,—not perhaps so much from novelty of argument, as by the lucid collation of facts & phenomena.'²⁶

This is a very interesting letter. It is often cited as if it was a typical reaction to Wallace's paper. Thus Darwin's interpretation seemed all the more surprising. In fact, Blyth seems to be the only person who did not know Wallace to take it as an evolutionary paper. Wallace did not discuss domesticated animals, this was a topic of interest to Blyth and Darwin. Wallace also did not indicate that domestic races or breeds are incipient species. Hence Blyth interpolated quite a lot from Wallace's paper. Firstly that it was about 'development' or evolution and that according to such a view, the implications for domesticated animals were of relevance to the topics in his correspondence with Darwin.

Two others who wrote to Wallace about the paper were personal friends, Bates and Brooke. Bates had no doubts that Wallace

really meant evolution, since the two had long been confidants and co-conspirators on the subject. Bates reminded Wallace: 'The theory I quite assent to, & you know, was conceived by me also.'²⁷ Yet even as he thanked Bates for these complimentary words, Wallace still pointed out: 'To persons who have not thought much on the subject I fear my Paper "On the Succession of Species" will not appear so clear as it does to you.'²⁸ This was no understatement. At the time, Wallace was well aware of how much the paper said and didn't say.

Another respondent was Brooke. One of Brooke's recently published letters reveals unequivocally that Wallace had discussed his 'view of the transmutation of species' during their conversations in Sarawak from mid-December 1854.²⁹ Brooke thought it was a shame that Wallace needed 'such caution' in concealing his full meaning in the Sarawak Law paper because of the widespread 'bigotry & intolerance at which views or facts apparently adverse to received systems & doctrines are received'. Thus Darwin's reading of the paper was not a strange anomaly, nor in any way surprising, it was a consequence of the guarded and ambiguous manner in which the paper was written. Wallace hid evolution too well.

4. Lyell did see how close Wallace was approaching

Charles Lyell is always referred to as another person who read the Sarawak Law paper as arguing for evolution. Indeed it is almost always claimed that the paper 'provoked Charles Lyell into opening

²⁷ From Henry Walter Bates, 19 and 23 November 1856 in van Wyhe & Rookmaaker (2013), pp. 108–9.

²⁸ Wallace to Henry Walter Bates, 4 and 25 January 1858.

²⁹ James Brooke to Wallace, 5 November 1856 in van Wyhe & Rookmaaker (2013), p. 99.

²⁶ From Edward Blyth 8 December 1855 in CCD, vol. 5, 519–520.

the first of what would become seven notebooks on the “species question” (Costa, 2014, p. 28; also Shermer, 2002, p. 88 and Van Wyhe, 2013, p. 110). This too is misleading and not entirely correct. Lyell did put Wallace’s name at the start of a notebook in November 1855 (Wilson, 1970). However, Lyell did not suddenly start to keep scientific notebooks because of Wallace. In fact, Lyell had kept a continuous series of scientific notebooks since the 1820s.³⁰ However, he did indeed start a separate set of seven notebooks about this time. These were edited and published by Leonard Wilson in 1970 because they notebooks discuss Darwin and his theory, and so are of particular interest to modern readers.³¹ Published alone, these notebooks have led some writers to conclude that Lyell began keeping scientific notebooks because he was prompted by Wallace.

It is almost always said that, being so shaken by Wallace’s paper, Lyell immediately began to seriously consider evolution by opening these notebooks. For example, Shermer wrote that Lyell was ‘so impressed [by the Sarawak paper] that it stimulated him to open his own species notebook (the first of seven) to consider further the mutability of species and the mechanism of change’ (Shermer, 2002, p. 88). Costa (2014) describes this episode in the usual manner: ‘Lyell clearly recognized the paper’s evolutionary implications’ and it was ‘clearly suggesting to Lyell that Wallace was converging on Darwin’s ideas’ (Costa, 2013; also 2009). Similarly historian Janet Browne wrote that Lyell ‘thought it covered the same kind of issues that Darwin was trying to resolve.’³²

These interpretations are probably based on the name by which Lyell’s notebooks are known, his ‘scientific journals on the species question’. But this title is by their editor, Leonard Wilson (1970, p. vii). Lyell himself called them his ‘scientific journals.’ The phrase ‘species question’ is an anachronism that Lyell did not and could not have used. The notebooks deal with a much wider range of issues about the history of the earth and geographical distribution than is usually recognized.

Early in 1854 Lyell had visited Madeira and the Canary Islands. One of his companions from that expedition, Georg Hartung, came to London in November 1855. The two continued their study of the high proportion of unique species found on these oceanic islands. Lyell wrote to his sister Fanny about ten days before reading Wallace: ‘It seems to me that many species have been created, as it were expressly for each island since they were disconnected & isolated in the sea. ... But I must not run on as it w.^d take me too long to point out how all these bear on one & the same theory—of the mode of the first coming in of species.’ This sparks a modern reader to think of evolution. But Lyell had long discussed the ‘the order of nature’ as consisting of ‘the gradual extinction of certain animals and plants, and the successive introduction of new species’ in his *Principles of geology*.³³

Wallace’s name at the top of the first page of the notebook is not a heading for the notes, but a cross reference to earlier reading notes on Wallace’s paper in Lyell’s ‘Index Books.’ As Wilson described: ‘Lyell kept a separate series of notebooks in which he indexed books and articles he had read.’ (Wilson 1970, p. 65) The notes on Wallace’s paper occur on Lyell’s page 31 of the first volume of these and are dated 26–27 November 1855.

Contrary to the way Lyell’s notebooks have long been described, they do not indicate that he understood Wallace’s paper to be about evolution. Instead, Lyell was puzzled by the co-incident pattern of new species introductions that Wallace described as universal. Lyell’s notes show that he was convinced that species do not evolve – indeed he would not be until long after he had read *Origin of species*. Instead, he seems to have attempted to explain away why new species resembled earlier ones in the same place.

Lyell’s notes start from the first line with the assumption that species are intentionally created for a specific duration ‘Each species must probably be intended to exist for a given term.’ This is dated 28 November. After further observations, Lyell countered Wallace: ‘Hence there are innumerable reasons connected with the past & future as well as the present which will cause the new species to resemble those wh. exist or wh. lately existed’ (Wilson, 1970, p. 3). What Lyell sought was evidence or arguments that would show that a providential power must lay behind the creation of new species and that their duration, distribution and other properties were a result of this providential design. This had long been and would long remain Lyell’s law for the introduction of new species.

Jon Hodge has suggested (personal communication) that Wallace’s 1855 case against Lyell was obscured by the prominent refutation of Edward Forbes’ polarity theory of creation. Although Forbes largely followed Lyell, the former argued that the fossil record revealed a greater number of new species appearing early and late in the history of life. These disparate eras were likened to a polarity. This pattern, Forbes argued, refuted any case for an orderly and progressive transmutation of species.

Lyell argued that new species were introduced (via providential design) to suit new environmental conditions. Wallace pointed out fatal anomalies in real distributions and argued instead that new species were introduced based on gradualist resemblance to earlier species, a law of close affinity. Wallace did not challenge the providential nature of species introductions.

Two years later, in his paper on the natural history of the Aru islands, Wallace repeated more clearly his argument against Lyell’s view. Wallace proposed that ‘some other law has regulated the distribution of existing species than the physical conditions of the countries in which they are found’ (naming Lyell). Instead, it was the Sarawak law: ‘new species have been gradually introduced into each [island], but in each closely allied to the pre-existing species.’³⁴ Again descent or evolution was not mentioned.

Lyell was not alone in not being convinced that either a single law was behind the pattern Wallace pointed out, or that the pattern was as valid as he claimed. John Hamilton (1856), the President of the Geological Society of London, mentioned the Sarawak paper in his anniversary address: ‘... I think it may be doubted whether this assumed law can be maintained as a universal generalization.’ And Hamilton also saw no implication of evolution in the paper.

So, contrary to the traditional story, Lyell was not aware that Wallace actually believed that descent from ancestors explained the coincident pattern of new species appearing in the same place as similar predecessors (Wilson, 1970, p. 55). For example, in one passage Lyell noted ‘The law “that every species has come into existence coincident both in time & c space with a pre-existing closely allied species” goes far towards Lamarck’s doctrine’ (Wilson, 1970, p. 134). If Wallace’s law goes far towards Lamarck’s doctrine of evolution – but is not that doctrine, then what did Lyell think it was? An argument that wasn’t aimed at but might be

³⁰ I am grateful to Martin Rudwick for pointing this out to me. The notebooks are cited and quoted in Rudwick (2008).

³¹ I am grateful to Jim Secord, personal communication, for clarifying the separate nature of this parallel set of notebooks and further helpful discussion.

³² Browne (1995). The same sort of interpretation is presented in Van Wyhe (2013), p. 110.

³³ Lyell, 1835, vol. 3, pp. 30–31.

³⁴ Wallace (1857), pp. 481–482.

consistent with evolution? This would certainly be a plausible contemporary reading.

In another passage, written several months later and after Darwin had explained the details of his own theory, Lyell wrote in his notebook: 'The reason why Mr. Wallace[']s introduction of species, most allied to those immediately preceding in Time, or that new species was in each geol. period akin to species of the period immediately antecedent, seems explained by the Natural Selection Theory' (Wilson, 1970, p. 121). In other words, Lyell found that Darwin's theory of descent with modification explained the regularity of the successive appearances that Wallace outlined so powerfully, but without revealing any source for the species other than an unspecified 'creation'. Lyell found that Wallace's pattern was now 'explained'. Hence until then he knew of no single explanation for why similar species should follow each other in succession so regularly. Lyell did not see that Wallace's paper implied evolution. If he had seen evolution as the key to Wallace's pattern, then it could not be 'explained' by Darwin's evolution six months later.

More importantly, Lyell's notes only begin to tentatively explore evolution after his April 1856 conversation with Darwin. That was six months after reading Wallace's paper. As Leonard Wilson noted, Lyell's notes took on a radically different direction and intent after hearing the details of Darwin's theory. Clearly their conversation made a striking impact on Lyell. Wilson summarized: 'After that day, although he remains reserved and tentative in his conclusions, Lyell explores new directions. Without voicing his assumptions, he nonetheless asks if species have undergone transmutation, and, if this transmutation has been brought about by the continued action of natural selection on varieties, what then will the implications be? How will such a theory influence geology, natural history, and man's concept of himself?'

5. Lyell urged Darwin to publish because of Wallace

In the traditional version of events, Lyell was shocked by the convincing evolutionary revelations of Wallace's paper. If one accepts that, it naturally follows, as is almost always repeated in recent accounts, that he would connect that paper with the evolutionary researches of his friend Darwin. And all the more so after their April 1856 conversation. Lyell had known since the late 1830s that Darwin was working on evolution. But Lyell first learned the details of how Darwin explained many phenomena including adaptation via the struggle for existence, embryological affinities and perhaps the derivation of varieties during their April 1856 visit.

After this conversation, Lyell suggested that Darwin publish an outline of his conclusions. Virtually every writer on this episode claims that Lyell 'urged' Darwin to publish specifically because of Wallace's Sarawak Law paper. It seems to be assumed that, when Darwin detailed his theory to Lyell, the latter was reminded of Wallace's paper and warned Darwin accordingly.

As early as 1959 John C. Greene wrote that the Sarawak Law paper 'had stirred Lyell to warn Darwin that he must publish his theory or find himself anticipated by others' (Greene, 1959). In 1972 H. Lewis McKinney (1972) claimed: 'Lyell had specifically warned Darwin that he should publish before Wallace discovered the one ingredient missing from his paper—natural selection'. Eight years later the journalist and conspiracy theorist Arnold Brackman (1980, p. 32–33) claimed 'Darwin never admitted that it was Wallace's Sarawak Law that agitated Lyell and forced Darwin to undertake his "big book"' and 'The electrifying tale of Lyell's pressure on Darwin as a result of the Sarawak Law is a story which is not even hinted at in Leonard Huxley's two volumes on Lyell.'³⁵ Barbara G. Beddall

wrote in 1988: 'Lyell urge[d] Darwin to begin writing for publication on account of it.'³⁶ Shermer noted 'Lyell did much more than alert Darwin to Wallace's paper. He warned him that someone else was closing in on the species prize and that he had better get something—anything—into print.'³⁷ Berry and Browne render the story in a similar manner 'Lyell told Darwin about Wallace's paper, warning Darwin that he might be scooped.' (Berry & Browne, 2008, p. 1188). And in a review of the hugely melodramatic biopic *Darwin's Darkest Hour* (2009) Browne noted 'There is an exciting and completely accurate dramatic twist when ... Lyell warns him about Wallace's interest in the same topic.' (Browne, 2010, p. 672.) Costa imagined the conversation about Darwin's theory as prompted in the first place by Lyell's concern about Wallace's paper. Darwin then responded by revealing his theory: 'Lyell spoke with Darwin about Wallace's paper, and Darwin revealed his details of his theory for the first time.' And thereafter 'Lyell urged Darwin to publish his ideas ... he evidently sensed that Wallace was closer to Darwin than Darwin himself seemed to believe.' (Costa, 2014, p. 250, p. 250).

This is considered common knowledge today but where does it come from? On what evidence is it based? It is absent from the earliest literature on Darwin and Wallace, hence Brackman's surprise at there being no trace of it in Leonard Huxley. By carefully laying out the sequence of events as found in the original sources a different picture emerges.

Charles Lyell and his wife Mary Elizabeth visited the Darwins at Down House from 13 to 16 April 1856.³⁸ Darwin showed Lyell his pigeon breeds and told him in greater detail about his theory of evolution by natural selection. This had been Darwin's full-time project since September 1854. Brackman claimed that 'According to Lyell's journal, they discussed "Mr. Wallace"' (Brackman, 1980, p. 32). Lyell did indeed take notes on this conversation dated 16 April 1856: 'With Darwin: On the Formation of Species by Natural Selection ... The reason why Mr. Wallace[']s introduction of species, most allied to those immediately preceding in Time, or that new species was in each geol.¹ period akin to species of the period immediately antecedent, seems explained by the Natural Selection Theory' (Wilson, 1970, p. 121). In other words, a topic that Lyell had found curious and striking is recorded as explained by what Darwin imparted during the conversation. These are Lyell's notes to himself, for all we know written on the train back to London. It is not a transcript of the course of his conversation with Darwin as they spoke. This is not clear evidence that Wallace was mentioned. He may have been. But the certainty with which this is so frequently repeated is not supported by the original evidence. As we shall see below, there are strong reasons to doubt this traditional certainty.

The passage in Lyell's notebook is significant. It states that Darwin's theory explains the pattern outlined by Wallace. It is not the role of natural selection that explained this relationship, it was the direct descent or derivation of new species from ancestors. Lyell was using natural selection as a shorthand for Darwin's theory of evolution. Natural selection was the working title of Darwin's 'big book'. As Lyell thought this 'explained' the Wallace observation, this shows that Lyell did not see an explanation in Wallace's paper itself. Hence we have no reason to assume, as it generally is, that Lyell would see Wallace as a potential competitor or rival with Darwin. There would have been nothing to warn Darwin about as far as

³⁶ Beddall (1988a), p. 5. This view goes back at least to McKinney (1966). See also Raby (1997), p. 150.

³⁷ Shermer (2002), p. 88. This is repeated in Wilson (2000), pp. 87–8. See also Desmond, Browne, and Moore (2004).

³⁸ Emma Darwin's diary for 1856 is published in John van Wyhe ed., 2002–*The Complete Work of Charles Darwin Online* [http://darwin-online.org.uk/content/frameset?itemID=CUL-DAR242\[.20\]&viewtype=image&pageseq=23](http://darwin-online.org.uk/content/frameset?itemID=CUL-DAR242[.20]&viewtype=image&pageseq=23).

³⁵ This claim is repeated in 'Bill Bailey's Jungle Hero' (BBC 2013).

Wallace's paper was concerned. And indeed there is no evidence that he did.

The day Darwin received Wallace's Ternate essay, 18 June 1858, Darwin recalled that Lyell had remarked during the 1856 visit: 'that I shd be forestalled. You said this when I explained to you here very briefly my views of "Natural Selection" depending on the Struggle for existence.'³⁹ There is still no mention of Wallace by either Darwin or Lyell. Apparently, once it was explained to him by Darwin, Lyell thought others might hit on such a simple idea. Modern writers routinely link this warning, without any evidence, to Wallace. Yet it is quite sufficient that Darwin explained his theory and Lyell replied that such an idea could be hit on by someone else if Darwin carried on with further years of detailed research.

Darwin's brother Erasmus reacted in an identical manner when Darwin explained natural selection to him. The theory sounded so simple that someone else would surely think of it or already had. As Darwin wrote to Lyell in 1860 of Scottish tree farmer Patrick Matthews' published 'anticipation' of natural selection: 'Erasmus always said that surely this [anticipation] would be shown to be the case someday.'⁴⁰ And writing to Wallace about another purported precursor, Darwin recalled 'My Brother, who is very sagacious man, always said you will find that some one will have been before you.'⁴¹

Indeed, if Lyell had warned of Wallace, of all people, then surely Darwin's June 1858 sentence about being 'forestalled' would exclaim that it was in fact the very same man he had been warned about. Being forestalled as Lyell had warned is emphatically declared, but not that it was the same man Lyell had warned about. The fact that Darwin did not cry out to Lyell (at this time or subsequently), "it is the very same man", seems good reason to conclude that Wallace's name was not mentioned as an encroaching competitor.

Two weeks after his return to London, Lyell wrote a letter to Darwin on 1–2 May 1856. After discussing numerous other subjects, Lyell mentioned briefly: 'According to any other hypothesis I cannot as yet very well see how to bring the geograph.¹ facts to bear one way or the other— I wish you would publish some small fragment of your data *pigeons* if you please & so out with the theory & let it take date—& be cited—& understood.'⁴² This 'wish you would publish' contains none of the urgency or warning that is almost always attributed to Lyell's first advice to publish. It is an almost offhand remark at the end of the letter. And there is still no mention of Wallace.

Darwin's 8 June letter to his cousin W.D. Fox does suggest that Lyell "urged" Darwin to publish. 'Sir C. Lyell was staying here lately, & I told him somewhat of my views on species, & he was sufficiently struck to suggest, (& has since written so strongly to urge me) to me to publish a sort of Preliminary Essay.'⁴³ Here Darwin makes it clear that Lyell was struck by what Darwin said of his theory and why Lyell advised publication. Lyell was 'sufficiently struck' by what Darwin said. But Lyell's 1–2 May letter is hardly an 'urging'.

Darwin visited Lyell in London on 8 May 1856 and again they discussed his theory. The following day Darwin wrote to his friend Joseph Dalton Hooker: 'I had good talk with Lyell about my species work, & he urges me strongly to publish something.'⁴⁴ So our first evidence of Darwin being *urged* is not their April conversations, or

Lyell's 1–2 May casual suggestion that Darwin publish something, but this subsequent meeting in London. Considering Darwin's reluctance to publishing a brief overview before his research was completed, the urging of Lyell must have been aimed at overcoming Darwin's reluctance. There is nothing in this letter to suggest that the 'urgency' had anything to do with a fear that another person was drawing close to Darwin's conclusions.

Usually, if not always, Lyell's urging is attributed to his concern about Wallace's Sarawak paper, as if Lyell thought Wallace was likely to soon scoop Darwin. But Darwin emphasized Lyell's "urging" in order to represent the shift from research to writing up an announcement of his general conclusions, without the full data and references, as not self-motivated (or self aggrandizement) but as following the advice of friends. Darwin said as much in the above letter to Hooker. After further consultations and advice, Darwin noted in his personal Journal on 14 May 1856 'Began by Lyell's advice *writing species sketch*'.⁴⁵ Even in his own notebook Darwin represented the shift to writing-up as coming from someone else. He did not wish to appear to be rushing into print.

The surprising revelation here is that Lyell simply suggested that Darwin 'would publish some small fragment of your data' after Darwin's theory and some of its evidence was shown to him. The traditional story that Lyell urged Darwin to publish because of Wallace's Sarawak paper is simply not in the primary evidence. That Wallace's paper had anything to do with this has gradually crept into the literature until it has become received wisdom.

There is another piece to this puzzle. From two references, we learn that Lyell had recommended the Sarawak Law paper to Darwin. First, writing to Wallace in December 1857 (a letter that reached Wallace on Ternate on 9 March 1858), Darwin informed him: 'Sir C. Lyell ... specially called my attention to it.'⁴⁶ And later to Lyell on 18 June 1858 Darwin wrote: 'Some year or so ago, you recommended me to read a paper by Wallace in the Annals, which had interested you.'⁴⁷ Traditionally this has been taken as evidence that Lyell recommended the paper during their April 1856 conversation. For example, the editors of Darwin's correspondence noted 'It was probably during that discussion that Lyell recommended Wallace's paper to CD.'⁴⁸ Darwin's wording here may be significant. Darwin recalls that Lyell said the paper had 'interested' him - not that it was pointed out as ominous for Darwin, or that Lyell mentioned it as bearing on Darwin's own work. And as we know from his notebook, the paper certainly did interest Lyell, but not as an evolutionary theory.

But we have no clue when Lyell may have mentioned Wallace's paper. It could have been any time after late November 1855. For example, Darwin visited London and met Lyell multiple times during late November and December 1855 and throughout 1856.⁴⁹ Lyell often recommended new scientific publications in his letters to Darwin. But many of Lyell's letters to Darwin from this time are lost. Any of these could have mentioned Wallace's paper. Thus there are innumerable occasions when Lyell could have recommended Wallace's interesting paper.

What we do not find in the primary sources is any evidence for the widely held belief that Lyell told Darwin about the Sarawak Law paper as a form of warning or that it had any connection with Lyell's recommendation that Darwin publish an outline of his theory before he was forestalled.

³⁹ Darwin to Lyell 18 [June 1858] in CCD, vol. 7, 107.

⁴⁰ Darwin to Lyell, 10 April [1860] CCD, vol. 8, p. 154.

⁴¹ Darwin to Wallace 18 May 1860 in CCD, vol. 8, p. 221.

⁴² Lyell to Darwin 1–2 May 1856 in CCD, vol. 6, p. 89.

⁴³ Darwin to W. D. Fox 8 [June 1856] in CCD, vol. 6, p. 135.

⁴⁴ Darwin to J. D. Hooker 9 May [1856] in CCD, vol. 6, p. 106. See the important introduction to CCD, vol. 6.

⁴⁵ John van Wyhe ed., Darwin's "Journal". <http://darwin-online.org.uk/content/frameset?pageseq=3&itemID=CUL-DAR158.1-76&viewtype=text>.

⁴⁶ Darwin to Wallace 22 December 1857 in CCD, vol. 6, p. 514.

⁴⁷ Darwin to Lyell 18 [June 1858] in CCD, vol. 7, p. 107.

⁴⁸ CCD, vol. 7, p. 107.

⁴⁹ CCD, vol. 5, p. 537; CCD, vol. 6, p. 522.

6. Darwin wrote to Wallace to warn him off his patch

The final element under consideration here is as common as the rest, and follows quite logically from the previous elements. In May 1857 Darwin, now supposedly alerted by Lyell that Wallace was drawing nigh to his own conclusions, wrote to Wallace to warn him off his patch. Here is the letter passage in question:

By your letter & even still more by your paper in Annals, a year or more ago, I can plainly see that we have thought much alike & to a certain extent have come to similar conclusions. In regard to the Paper in Annals, I agree to the truth of almost every word of your paper; & I daresay that you will agree with me that it is very rare to find oneself agreeing pretty closely with any theoretical paper; for it is lamentable how each man draws his own different conclusions from the very same fact.—

This summer will make the 20th year (!) since I opened my first-note-book, on the question how & in what way do species & varieties differ from each other.— I am now preparing my work for publication, but I find the subject so very large, that though I have written many chapters, I do not suppose I shall go to press for two years.⁵⁰

Gertrude Himmelfarb may have been the first to introduce this version of the story in 1959. In this letter, she wrote, Wallace was ‘duly warned off’ (Himmelfarb, 1959, p. 202). Once this more dramatic interpretation was introduced, it was frequently repeated. Darwin biographers Desmond and Moore noted that ‘Wallace – Creationist or not – was receiving the nicest kind of trespass notice.’⁵¹ In her acclaimed biography, Janet Browne also wrote that ‘Darwin was warning him off.’⁵² And Bill Bryson told the millions of readers of his best-selling *A short history of nearly everything* (2003): ‘Darwin had discreetly warned Wallace that he regarded the subject of species creation as his exclusive territory.’ Bryson was therefore surprised that ‘Wallace failed to grasp what Darwin was trying to tell him.’⁵³

But, as demonstrated above, Darwin had no idea that Wallace was approaching his patch. As far as Darwin could see, Wallace had not even reached his own understanding of branching descent as first depicted in Darwin’s now famous *Notebook B* tree of life sketch from 1837. And most clearly and importantly of all, the interpretation that Darwin was issuing a half-veiled warning is contradicted by the fact that Darwin was referring more and more often to his work-in-progress species book to his correspondents at this time.⁵⁴ As he was with so many others, Darwin was simply telling Wallace what he was working on. It was, after all, quite true. Darwin really was about two years away from publishing his book. As the editors of Darwin’s correspondence pointed out: ‘Seen in the context of other letters written at this time, Darwin’s remarks to Wallace about his work on species and the preparation of his manuscript ... seem innocuous and hardly the veiled threat that some historians have read into his words.’⁵⁵ Wallace, for his part, found the letter

interesting, not a warning, and eagerly told Bates about it (quoted above).

7. Conclusion

Wallace’s Sarawak Law paper has had an unusually convoluted and confusing legacy in recent decades. It’s original historical meanings have been partially lost and it has taken on different meanings for modern readers. Even in the 1850s the paper may not have been as original as is often claimed. Although Wallace’s friend Bates wrote him: ‘yet it is perfectly original,’ this may have been politeness.⁵⁶ The anthropologist, historian of science, and popular writer Loren Eiseley (1979, p. 24; 1958, p. 164) wrote that ‘Wallace was not, of course, quite as original as he thought when he wrote this paper.’ Even Lyell, writing to T. H. Huxley on 17 June 1859, noted: ‘I stumbled yesterday on a paper in the Boston Journal of Nat.¹ Hist.^y for January 1844 by S. S. Haldemann in which the transmutation theory is defended in a spirit & with a skill that appears to me to deprive Wallace of much of the originality of his two Essays. ... I quite forgot [Haldemann’s] paper when I re-edited the Principles [of geology] & when at the Linn. Soc.^y I made so much of Wallace.’⁵⁷

Wallace’s paper has also been subject to a host of misinterpretations and conspiracies. Conspiracy theorists Brackman (1980, p. 27), J. L. Brooks (1984), Roy Davies (2008) and many others have claimed that Darwin borrowed, without acknowledgement, his ‘principle of divergence’ from the Sarawak paper and/or the Ternate essay. Yet historian David Kohn (1981) unequivocally refuted this accusation in 1981. But the claim continues to be repeated. Some authors assert that Wallace was the first to put forward an evolutionary tree of life metaphor in the Sarawak paper. Instead, however, Wallace explicitly referred to Strickland’s (1840, p. 190) non-evolutionary ‘irregularly branching tree’ idea for arranging species according to similarities. Wallace was by no means the first to advance tree analogies.

The Sarawak Law paper is a fascinating and important historical document which will always have a prominent place in the history of evolutionary theory. But it is to be hoped that in the future writers will endeavour to summarize and characterize the original sources rather than repeating traditional, and has been argued here, apocryphal stories from the secondary literature.

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⁵² Browne (2002), p. 31. In 1983 Browne (1983, p. 176) wrote more tentatively: ‘If Darwin’s letter was meant as a warning to Wallace, the younger man did not notice’.

⁵³ Bryson (2003), p. 468.

⁵⁴ See CCD, vols. 5–6 and Van Wyhe (2007, 2013, chapter 10).

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