



COMMENT

Did Wallace's Ternate essay and letter on natural selection come as a reply to Darwin's letter of 22 December 1857? A brief review

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Charles Darwin's possible misappropriation of content from Alfred Russel Wallace's 'Ternate essay' of 1858 remains a topic of discussion, despite a lack of solid evidence proving misadventure. In this note new observations help clarify one critical element of the story: whether Wallace's materials represented in part a reply to the Darwin letter dated 22 December 1857. The conclusion is that they very likely did not, and in turn probably were sent in March, not April, 1858. © 2015 The Linnean Society of London, *Biological Journal of the Linnean Society*, 2016, **118**, 421–425.

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INTRODUCTION

Despite an absence of any new decisive kinds of evidence, whether Charles Darwin might have misappropriated some of Alfred Russel Wallace's thoughts for inclusion in *On the Origin of Species* remains under active discussion. This short analysis focuses on an important element of that discussion, whether Wallace's so-called 'Ternate essay' on natural selection was sent to Darwin in response to a letter the latter had dated 22 December 1857, and which ostensibly was received by Wallace in the mail that arrived in Ternate on 9 March 1858.

There are, unfortunately, 'sides' in this discussion: those who appear eager to undermine Darwin's reputation, and those who wish to protect it. Accordingly, many of the treatments that have appeared in print feature 'lawyerly' forms of argument: that is, selective use of the evidence available. My interest in this is a practical one. Personally, I do not much care whether Darwin is guilty of theft; seemingly, the overall impact of his work is not changed any by either eventuality. I do care, however, that the whole

affair has had the effect of generally increasing 'poor Wallace' thinking – his essential portrayal as a 'victim' – which inherently deflects attention away from more useful ways of assessing this brilliant man's career and influence.

THE EVIDENCE

Allegations concerning the intellectual property matter were initially raised in earnest by Brackman (1980) and Brooks (1984), both of whom investigated the mail routes and schedules between Ternate and Down with a mind toward determining whether Wallace's letter and essay could have reached Darwin sufficiently early to permit misappropriation. Two critical pieces of evidence exist in this regard. First, a letter sent out by Wallace to H. W. Bates's brother Frederick on the 9 March mail steamer actually *did* reach him in early June. Second, a letter from Darwin to Charles Lyell seeking his advice on Darwin's reception of Wallace's materials appears to be dated '18' (June, it is assumed). Conspiracy advocates argue that Darwin could thus have had more than 2 weeks to make use of Wallace's input to commit

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intellectual theft. This interpretation is bolstered by Darwin's actually having added material to the draft of his proposed 'big book' on natural selection around that time (Costa, 2014).

This is how things stood until Peter Raby noted in his biography of Wallace (Raby, 2001: 133–134) that certain remarks made by Wallace in his autobiography *My Life* in 1905 appear to indicate he was aware of the contents of Darwin's letter of 22 December 1857 before he sent the natural selection essay off to England. Van Wyhe & Rookmaaker (2012) jumped on this connection, producing an analysis that they thought showed Wallace must have sent the essay out in a later mail, in early April. It featured a close look at the likely mail routes of the time, and the conclusion that an April posting could indeed have reached Darwin just before the time of the letter to Lyell dated '18'. As further evidence supporting their argument, they pointed to Wallace's remark that he never sent replies to incoming mail back out on the same day.

Those parties still suspicious of Darwin, most especially Roy Davies (2008, 2012, 2013), have stuck with their own version of events, which had Wallace receiving the Darwin missive and sending out the essay on the same day, 9 March 1858. Davies, meanwhile, does not accept van Wyhe's interpretation of the postal route schedules involved. Furthermore, it should be remembered that there is no actual evidence of a packet mailed in April 1858 and received in June, whereas there *is* an item, the Bates letter, mailed on 9 March and received in England in early June.

Davies and van Wyhe apparently agree, however, that Wallace's packet was in some sense a response to Darwin's letter of 22 December 1857. This turns out to be an unsound assumption. Mainly, among the principal parties there are apparently no later referrals to Wallace's letter and essay as having involved a 'reply' to the Darwin letter. (Admittedly, this might have been hard for Darwin and others to determine had Wallace's cover letter been a brief one.) This leaves Raby's observation as the sole reason to believe that it had been. However, Raby's interpretation of Wallace's meaning does not stand up.

I have discussed this matter elsewhere in some detail (Smith, 2013a, 2014), but we should go through it again here, briefly, because it is central. As pointed out long ago by the celebrated American philosopher Charles Peirce in a review of *My Life* (Peirce, 1906; Smith, 2009, 2014), Wallace was in the habit of writing convoluted sentences, awkwardly connecting disparate events and/or subjects. Peirce gives a good example of this tendency in a footnote, and I have noticed such structures myself many

times (even in one of his remembrances of the writing of the Ternate essay; Smith, 2013a). On page 363 of volume 1 of *My Life*, Wallace writes 'I asked [Darwin] if he thought it sufficiently important to show it to Sir Charles Lyell, who had thought so highly of my former paper'. He is speaking of the letter he sent to Darwin in 1858, accompanying the manuscript. On page 355 of volume 1, however, he had already written 'I had in a letter to Darwin expressed surprise that no notice appeared to have been taken of my [1855] paper, to which he replied [in the letter of 27 December 1857] that both Sir Charles Lyell and Mr. Edward Blyth, two very good men, specially called his attention to it'. Lyell is not mentioned again in the autobiography until the page 363 referral; I conclude that, on that page, Wallace's words on Lyell are there simply to remind his 1905 readers of Lyell's overall role in the story, and thus provide no evidence of knowledge of content as of the date of mailing.

I did not notice originally that this sequence is further contextualized by the letter of 6 October 1858 (WCP369.5914 NHM Wallace Collection) to Wallace's mother mentioned on page 365 of volume 1, from which is quoted: 'He showed it to Dr. Hooker and Sir Charles Lyell, who thought so highly of it that they had it read before the Linnean Society'. In writing his autobiography, Wallace spent a lot of time going through old letters to help shore up his memory of events, and the similarity of wording here surely is not coincidental (note that he apparently uses the phrase 'thought so highly' nowhere else in his writings). Recycling previously-written materials was also a habit of Wallace's; this can be seen in many of his works extending back at least as far as *The Malay Archipelago*, which borrows heavily from an assortment of earlier writings. The likelihood that the remark comes from his letter to his mother is further strengthened by the fact that it is not included in any of his four previously published remembrances of the event, as pointed out in Smith (2014).

SOME FURTHER ISSUES

This is not the only relevant consideration here, however. For another, we have the accusation, frequently made by van Wyhe (Van Wyhe & Rookmaaker, 2012; Van Wyhe, 2013a,b, 2014) that, years after the fact, Wallace's recall of the events of his early years was not to be trusted. Although Wallace was indeed sometimes guilty of related mistakes, we can perhaps forgive him that, on occasion, he got a year or place wrong, or named the wrong ship. In Smith (2013a) I list five times, over a period of

36 years, how Wallace described in print the mailing of the essay; these all contain the phrases sent 'by next post' and/or 'in a day or two'. Because it is almost certain Wallace actually wrote the paper in late February or earliest March 1858, this can only mean the mail on 9 March. Furthermore, I realized recently that there is a sixth mention of the event, in which he describes the entire act of composing and sending as having taken place 'all within one week' (Smith, 2015a).

In general, it must be urged that the 'doddering old Wallace' complaint has been overplayed. In *Alfred Russel Wallace Letters and Reminiscences* (Marchant, 1916: 363), his son reported that 'he had a wonderful memory'; reviews of *My Life* featured comments such as: 'the reader cannot but be amazed at the marvelous memory which has enabled the veteran to place on paper details which the great mass of mankind would lose in the affairs of after life' (Anonymous, 1906). Numerous callers to his home, even in his latest years, reported him mentally acute, right to the end. Reviews of his last three books, written as he neared and passed 90 years old, almost uniformly congratulate him on his coherence of presentation and argument (although not always on his conclusions!). This leads to an important point, largely ignored by historians: there is a big difference between memory of the characteristics and duration of an event *per se*, and an ability to recall its exact place and date of occurrence (Bradburn, Rips & Shevell, 1987; Thompson *et al.*, 1997). Here, we are considering the single most important event of Wallace's life, have every reason to think that his recall of early events in his life was actually quite good (and indeed, some claims of mistakes in content-related autobiographical memory on his part have actually later been debunked: see examples given in Smith, 2013a), and also have independent verification of the timeframe involved. Yes, he was not so good at recalling specific dates, but why would anyone assume that later on he might have 'misremembered' that the time-to-mailing was a whopping 5 weeks later than was actually the case?

Another important point is why Wallace might have written to Darwin just when he did, whether the letter and essay did or did *not* represent a reply/response. James Costa and I (Costa, 2013, 2014; Smith, 2013a,b, 2014; see also Porter, 2012) have both explored this issue and concluded that the timing was a result of: (1) Wallace's overall interest in Charles Lyell's (flawed) views on biogeography; (2) Wallace's collections in the Aru Islands, ending in July 1857, which yielded a contra-Lyellian biogeography model formulated in an important paper published on 1 January 1858 (Wallace, 1857); and (3) his new theory, natural selection, which, as a process

model, could be related to such biogeographical patterns. These impressions are fortified by an overlooked remark made by Darwin in the letter of 22 December 1857: 'I have not seen your paper on distribution of animals in the Aru Islands: I shall read it with the *utmost* interest'. Darwin's letter was a reply to one Wallace had sent him dated 27 September 1857; by then, Wallace must have known (or at least fully expected) that one or more of his papers on the subject would be reaching print right around the time Darwin received his communication, and was apparently eager to obtain his impressions even at that point. The move to involve Lyell was likely just the next step.

The same letter by Darwin of 22 December 1857 contains another remark whose significance has not been fully considered. Its second sentence reads: 'I am extremely glad to hear that you are attending to distribution in accordance with theoretical ideas'. Another of Professor van Wyhe's notions (Van Wyhe, 2014) is that Wallace's purpose in coming to the Far East might have been strictly specimen collecting-related. He accepts that Wallace had been an early convert to transmutationism but not that Wallace was out searching for a process model to explain evolutionary change. Instead, as he believes, Wallace's recognition of the adaptive significance of varying coloration patterns in tiger beetles in early 1858 provided the 'ah-ha' moment, leading to the Ternate essay. There have been many replies to this highly suspect theory (e.g. Costa, 2014; Costa & Beccaloni, 2014; Smith, 2015b) and the Darwin letter is further indication that Wallace's efforts at understanding related processes had begun earlier (Wallace's initiating letter having been sent well before the tiger beetles episode), and resulted in a cumulative (not spur-of-the-moment) argument.

CONCLUSIONS

My point in drawing these threads together here is to plead that sensationalist or revisionist claims, although not altogether deplorable, are not the way to make lasting progress in this kind of work. What we have in the present instance is a very limited set of concrete facts that have been dubiously manipulated for rank scenario-spinning. I do not claim that my counter-points necessarily represent the last word either, although I do believe they help in presenting a more attractive basis for future, more complete, understandings of Wallace's intellectual evolution. A quick summary of what I feel at this point to be the best guesses concerning this particular story follows.

I believe there is satisfactory evidence to show that Alfred Russel Wallace very likely did travel to the

East (and probably to the Amazon as well) with a desire to use his collecting work to aid him in uncovering the mechanism behind biological evolution. Furthermore, I think it is highly likely that his attempt to contact Lyell was pre-ordained and not dependent on Darwin's words in his letter of 22 December 1857. Wallace very probably came up with the theory of natural selection in late February or earliest March 1858, wrote out his essay, and deposited it and the cover letter in the mail sometime early in March, before the 9th. It was thus likely out of his hands before he received and read Darwin's incoming letter. All told, it seems extremely unlikely that the essay was mailed on 5 April, although this possibility cannot be ruled out absolutely.

What happened next remains shrouded in numerous possible alternatives (and I do not presume necessarily to have identified all of these). The main sides on the question cannot agree on the probable mail routes and, in the last analysis, these do not matter much anyway. Even if Wallace's materials were sent out on 9 March 1858, they might have been delayed by storms or mechanical failures or, more likely, temporary mail sorting errors along the way. Roy Davies is insistent that the British postal system was largely infallible, under lock and guard, but the mail had to be hand-sorted in transit *at least* three times (in Ternate, Surabaya, and London), and a minor misrouting might have taken place, delaying the delivery. At Darwin's end, meanwhile, various scenarios can be imagined.

Assuming he actually did receive the letter on 18 June, the conventional view very probably holds. But if it came into his hands sometime between 2 June and 18 June, he might have: (1) sat on the bad news for some days or weeks before writing to Lyell, out of embarrassment telling a fib about the actual date of reception; (2) written the Lyell letter immediately ('that day') but, second-guessing himself, not dated it or sent it until the 18th; (3) deliberately practiced deception, including faking the date; or (4) taken some other, yet unidentified, action. It would be nice if we had any independent evidence of intellectual theft – for example, as gained through content analysis of Darwin's texts – but it is my understanding that nothing in that direction worth reporting has so far emerged (Beddall, 1968, 1988; Costa, 2014). Until something more definite *does* emerge, it seems prudent to restrain ourselves from jumping to conclusions that cannot fully be justified.

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