We are often tempted to force explanations of human behaviour within a simplistic Nature-versus-Nurture framework. If one were to do so in the present case, Wallace’s life could be said to be dominated by the Nature end of the range of inputs. There is an interesting ‘control experiment’ available for us to compare with Wallace. He and Bates were friends and contemporaries, had similar backgrounds, aspired to similar careers, made similar choices and, most importantly, were intrigued by similar questions (as early as 1847, Wallace is writing to Bates about a possible ‘theory of the origin of species’). Yet Wallace discovered natural selection whereas Bates did not.

Finally, a striking fact comes through this biography which puts paid to the validity of Lord Rutherford’s celebrated (or notorious) saying that in science, there is Physics, and then there is ‘stamp-collecting’. The fact is that Darwin and Wallace saw themselves pre-eminently as theorists. Both were convinced of the central importance of theory even in a field as rooted in observation as natural history. Wallace has been quoted already. Here is Darwin to Wallace, in a letter that went to Ternate and just predated Wallace’s momentous announcement to him: ‘I am extremely glad to hear that you are attending to distribution in accordance with theoretical ideas. I am a firm believer, that without speculation there is no good and original observation’. That was in 1857, approximately fifty years before genetics and developmental biology began to provide two more theoretical underpinnings to biology and about a hundred years before neurobiology ushered in a third. We would do well to ponder the irony here. Namely, modern biology, whose practitioners tend to look down on old-fashioned descriptive botany and zoology, often seems to involve little more than accumulating facts for their own sake. It has become in its turn a refuge for stamp collectors, only this time the stamps are molecule-sized.

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Erratum


Page 195: Para 2, Line 5, The sentence should be read as

This inherently nanoscale object has a persistence length of ~150 base pairs, which implies that up to lengths of ~50 nm, the DNA ...