

e11 Darwin's pigeons < selective breeding >

QUO VADIS (Whither goest thou?)

Darwin acquainted himself with the robust knowledge of hoi-polloi pigeon fanciers who bred varieties of pigeons and was delighted to receive answers to requests for information placed in popular journals such as the *Gardiner's Chronicle* (**Footnote e11.1**). He bought, begged, and kept in a dovecote at Down (the name of his farm-estate home southeast of London on the North Downs of The Weald), every British breed: fifteen species that fanciers had achieved by selective breeding that furthered slight variations which added to distinct and divergent trends of form from an original dove stock. His findings allow for a disarming beginning to *On the Origin of Species*, 1859¹ and are discussed at length in *The Variation of Animals and Plants under Domestication*, 1868.²

So different from utilitarian pigeons (carriers and racers) are gaudy pigeons (pouters and fan tails), that, were it not for the known fact of their relatedness and their demonstrable interfertility, they would be classified as different species or even genera. The truth was undeniable that humans can incrementally create a wide variety of forms by selective breeding from a *wild* uniform parental stock. The racing pigeon, as we know it today, derives from the blue rock dove (*Columba Livia*) and the actual breeding was first performed by a Mr. Ulens an Antwerp fancier. Darwin discerned that all domestic pigeons descend from this same ancestor.

When a bird presenting some conspicuous variation has been preserved, and its offspring have been selected, carefully matched, and again propagated, and so onwards during successive generations, the principle is so obvious that nothing more need be said about it.

In *Origin*,¹ species arise as a direct consequence of the struggle between individuals for ecological elbow room.³ But, a folk-entrenched argument against speciation was: “the farmer does not turn a pig into a cow”⁴ (true for both artificial and natural selection—two species can have evolved from common ancestor but neither can evolve into the other) and Stuart Kauffman in *Investigations*, 2000,⁵ reminds, “Darwin’s theory of evolution is a theory of descent with modification. It does not yet explain the genesis of forms, but the trimmings of the forms, once they are generated. ‘Rather like achieving an apple tree by trimming off all the branches,’ said a late-19th-century skeptic.” Darwin needed to advance beyond the understanding of variation expressed by others, including the founder of geology James Hutton in his prolix way, who had seen selection for fitness that produced “races” to be entirely consistent with the fixity of species.⁶ Also, Richard Owen had offered that the origin of species theory needed a “Newton” to enlighten where Darwin himself confessed: “Our ignorance of the laws of variation [that can change an existing species into another or can produce an entirely new species out of a former species] is profound.”⁷ □

Footnote e11.1 A cobbler, Walter Drawbridge Crick (Francis Crick’s grandfather) wrote to Darwin February 18, 1882, that he was forwarding him a freshwater cockle that had attached itself to the leg of a water beetle in a local pond. In the flurry of correspondence that ensued, Crick could cite another example of *Sphaerium corneum* (which cockle, as amateur malacologist, he had correctly identified) clamped to the foot of a frog that had died on land by the pond. Matt Ridley, who unearthed this information in 2004, points out that “the issue mattered because freshwater invertebrates vary surprisingly little from one region of the world to another.[⁸] This could mean either that the diffusion of freshwater shells ‘took place before the present distribution of land and water’, as suggested by John Gwyn Jeffreys in his *British Conchology* (1862-1869)[⁹]—or that there is frequent dispersal and population mixing, as argued by Darwin.” Darwin’s note *on the dispersal of freshwater bivalves*, appeared in *Nature*, April 6, 1882.¹⁰ (Darwin died, afternoon April 19, 1882, “... of degenerative heart failure, ... Emma and Frank and Henrietta and Bessy were at his bedside. ... His white beard was streamed and sticky with red [blood]. Between the attacks [of retching] he caught his breath weakly. At one point he said, ‘I am not the least afraid to die,’ knowing people would wonder.” —Quammen.¹¹)