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DEVELOPING ORIGINS

BÁRBARA BORDALEJO

Charles Darwin first published the *Origin of Species* in 1859. The book was immediately revised and a second edition was released in 1860. These two editions were followed by four others, in 1861, 1866, 1869 and 1872. Each of them was revised by Darwin, some more heavily than others. These revisions make the textual history of the *Origin* complex and intriguing. This article describes the new Online Variorum, presents the types of changes that Darwin introduced in his text and offers hypotheses about the reasons for the changes.

The Development of the Online Variorum

The Online Variorum is not the first attempt at presenting the variant texts of the printed editions of the *Origin*. In 1959, Morse Peckham published a print version which he called a Variorum Text, rather than a Variorum Edition.¹ The Peckham Variorum is difficult to use and it can prove frustrating if one attempts to reconstruct the text of any one of the editions. In the introduction, Peckham describes the methodology he used for producing his book:

¹ Peckham makes a clear distinction between the two: «I have prepared a variorum text. The next step is a variorum edition, with the sources of his [Darwin's] information tracked down and verified, authorities already published up to 1872 and authorities whom he consulted as revealed in the various volumes of his correspondence and in the letters, apparently a great body, which remain unpublished.» I have never seen a Variorum edition as described by Peckham. Instead, the editions of this type that I am aware of, present all the variants as available in the chosen source texts, which is what I did for the Online Variorum.

First a sentence... was cut out of the photographic copy of the first edition, pasted on a piece of standard typing paper and numbered. Above the working space were arranged in order of publication the subsequent five editions.

... To be sure, this arrangement makes the text difficult to read, but I cannot imagine anyone reading such an edition in order to gain a general knowledge of the book. (Peckham 26)

Peckham here admits that he did not expect people who wanted to read the *Origin* to use his book, which he clearly envisioned as a tool for specialized researchers. The quotation also explains the strange appearance of the text (see FIGURE 1), as phrases appear one under the other making little sense to the uninitiated.

If we take the first sentence of the first chapter as shown in FIGURE 1 (beginning «4. When we look to the individuals») as an example, we find that, in the second edition, the comma after the word «other» has been removed (4:b in FIGURE 1). The same has occurred in 1861 and 1866. The 1869 edition (4:e) substitutes «look» with «compare,» removes the comma after «us,» and moves «more» from after «differ» to insert it after «other.»

If a reader wants to ensure that this was understood correctly, he or she might have to check each of the editions in parallel to the Variorum, which leads us to ask the question what is the use of a Variorum if not to make up for the lack of access to each of the editions? Alternatively, even if we are only going to use it in conjunction with those, it is not easy enough to read as to facilitate the appreciation of the variation or even to call attention to it.

The Online Variorum was designed to offer an alternative to Peckham's edition and to allow readers easy access to both the text itself and its variant states (see FIGURES 2, 3 and 4). The Online Variorum of the *Origin of Species* allows the user to see the variation at a glance. On the left hand side of the Online Variorum, there is a column with the numbers of each of the editions (see FIGURE 2). Each of the editions appears in a different color: 1859 appears in grey, 1860 in pink, 1861 in blue, 1866 in green, 1869 in red and 1872 in brown. This color-coding facilitates reference and makes the meaning of the places of variation evident at first sight. There are also colored words in the text of the 1859 edition. Each of those locations is a place of variation and the color corresponds to the edition that first introduced the variant. In many cases, the reader has access to a great deal of information just by looking at the screen. For example, the word «look to,» at the beginning of the first

1 **CHAPTER I.**

2 **VARIATION UNDER DOMESTICATION.**

3 **Causes of Variability—Effects of Habit—Correlation of Growth—Inheritance—Character of Domestic Varieties—Difficulty of distinguishing between Varieties and Species—Origin of Domestic Varieties from one or more Species—Domestic Pigeons, their Differences and Origin—Principle of Selection anciently followed, its Effects—Methodical and Unconscious Selection—Unknown Origin of our Domestic Productions—Circumstances favourable to Man's power of Selection.**

3:d Selection, anciently followed, their Effects

3:e Habit—Correlated Variation—Inheritance

3:f Habit and the use or disuse of Parts—Correlated

3.1:d [*Center*] *Causes of Variability.* [*Space*]

4 **WHEN we look to the individuals of the same variety or sub-variety of our older cultivated plants and animals, one of the first points which strikes us, is, that they generally differ much more from each other, than do the individuals of any one species or variety in a state of nature.**

4:b differ more from each other than

4:e **WHEN we compare the individuals of the same/us is, that/generally differ from each other more than**

4:f differ more from each other than

FIGURE 1

1859
1860
1861
1866
1869
1872

CHAPTER I.

VARIATION UNDER DOMESTICATION.

Causes of Variability— Effects of Habit— Correlation of Growth— Inheritance— Character of Domestic Varieties— Difficulty of distinguishing between Varieties and Species— Origin of Domestic Varieties from one or more Species— Domestic Pigeons, their Differences and Origin— Principle of Selection anciently followed, its Effects— Methodical and Unconscious Selection— Unknown Origin of our Domestic Productions— Circumstances favourable to Man's power of Selection. ↑

WHEN we look to the individuals of the same variety or sub-variety of our older cultivated plants and animals, one of the first points which strikes us, is, that they generally differ much more from each other, than do the individuals of any one species or variety in a state of nature. When we reflect on the vast diversity of the plants and animals which have been cultivated, and which have varied during

CHAP. I. VARIATION UNDER DOMESTICATION. 7

CHAPTER I.

VARIATION UNDER DOMESTICATION.

Causes of Variability— Effects of Habit— Correlation of Growth— Inheritance— Character of Domestic Varieties — Difficulty of distinguishing between Varieties and Species— Origin of Domestic Varieties from one or more Species— Domestic Pigeons, their Differences and Origin— Principle of Selection anciently followed, its Effects— Methodical and Unconscious Selection— Unknown Origin of our Domestic Productions— Circumstances favourable to Man's power of Selection.

WHEN we look to the individuals of the same variety or sub-variety of our older cultivated plants and animals, one of the first points which strikes us, is, that they generally differ much more from each other, than do the individuals of any one species or variety in a state of nature. When we reflect on the vast diversity of the plants and animals which have been cultivated, and

FIGURE 2

1859
1860
1861
1866
1869
1872

CHAPTER I.

VARIATION UNDER DOMESTICATION.

Causes of Variability— Effects of Habit— Correlation of Growth—
Growth— Inheritance— Character of Domestic Varieties—
Difficulty of distinguishing between Varieties and Species—
Origin of Domestic Varieties from one or more Species—
Domestic Pigeons, their Differences and Origin— Principle
of Selection anciently followed, its Effects— Methodical and
Unconscious Selection— Unknown Origin of our Domestic
Productions— Circumstances favourable to Man's power of
Selection. ↑

**WHEN we look to the individuals of the same variety or
Variant In Chapter 1, Paragraph 100, Sentence 100, Word 3:**
look to 1859 1860 1861 1866
compare 1869 1872

is simply due to our domestic productions having been

CHAP. I. VARIATION UNDER DOMESTICATION. 7

CHAPTER I.

VARIATION UNDER DOMESTICATION.

Causes of Variability—Effects of Habit—Correlation of Growth—
Inheritance—Character of Domestic Varieties—Difficulty of
distinguishing between Varieties and Species—Origin of Domestic
Varieties from one or more Species—Domestic Pigeons, their
Differences and Origin—Principle of Selection anciently followed,
its Effects—Methodical and Unconscious Selection—Unknown
Origin of our Domestic Productions—Circumstances favourable
to Man's power of Selection.

**WHEN we look to the individuals of the same variety or
sub-variety of our older cultivated plants and animals,
one of the first points which strikes us, is, that they
generally differ much more from each other, than do the
individuals of any one species or variety in a state of
nature. When we reflect on the vast diversity of the
plants and animals which have been cultivated, and
which have varied during all ages under the most
different climates and treatment, I think we are driven
to conclude that this greater variability is simply due to**

FIGURE 3

The Complete Work of Charles Darwin Online
Online Variorum of Darwin's *Origin of Species*: 1859 edition, page 7

1859 Page 7 or chapter Compare None Go! < Hide variants >

1859
1860
1861
1866
1869
1872

CHAPTER I.

VARIATION UNDER DOMESTICATION.

Causes of Variability— Effects of →Habit— Correlation of Growth— Inheritance— Character of Domestic Varieties— Difficulty of distinguishing between Varieties and Species— Origin of Domestic Varieties from one or more Species— Principles

Domestic Pigeons, their Differences and Origin— Principle Selection, their of Selection anciently followed, its Effects— Methodical and Unconscious Selection— Unknown Origin of our Domestic Productions— Circumstances favourable to Man's power of Selection. →

compare

WHEN we look to the individuals of the same variety or sub-variety of our older cultivated plants and animals,

us

one of the first points which strikes us, is, that they

→ Habit— Correlation of Growth— 1859 1860 1861 1866
Habit— Correlated Variation— 1869
Habit and the use or disuse of Parts— Correlated Variation— 1872
← *Subtile not present* 1859 1860 1861 Causes of Variability. 1866 1869 1872

FIGURE 4

sentence present a variant that was introduced in the 1869 edition. What we cannot know at a glance is whether there is more than one variant at that place or what the variant or variants might be. In order to discover this, the reader has to click on any of them, and a window pops up to show what each edition does at that particular place. In this case, we discover that «look to» was substituted by «compare» in 1869, and this reading was retained in 1872 (see FIGURE 3).

Variation in the Origin of Species

Charles Darwin heavily revised the *Origin of Species*, introducing many different types of changes in each subsequent edition of his book. However, just to state that each edition was markedly different from the previous one would be an understatement. The variation in the *Origin* is much more marked than this, and was concisely summarized by Peckham when he wrote:

Of the 3,878 sentences in the first edition, nearly 3000, about 75 per cent, were rewritten from one to five times each. Over 1,500 sentences were added, and of the original sentences plus these, nearly 325 were dropped. Of the original and added sentences there are nearly 7,500 variants of all kinds. In terms of added sentences, the sixth edition is nearly a third as long again as the first. (9)

For anyone who has studied the text of the *Origin*, that Darwin heavily revised the text of the *Origin* needs hardly be shown. However, it is important to understand the extent of Darwin's revisions to then assess how he revised it and why he did it as he did. My introduction to the Online Variorum lists six different types of changes: depersonalization, reinforcement, objectivization, clarification, updating and semantic changes.² Depersonalization changes personal constructions into impersonal ones.³ Reinforcement takes an idea that has been presented in a hesitant or vague manner and transforms it into a forceful

² These categories of classification were devised to aid understanding and they are not intended to be definitive or to cover all possible instances of variation.

³ For example, in chapter 1, paragraph 1300, sentence 100, the first four editions read «When we attempt to estimate the amount of structural difference...» (1859, 16) In 1869, the fourth edition, this is replaced by «In attempting to estimate the amount of structural difference...» (18). Although Darwin had used a first person plural, the impersonal construction makes the phrase appear less as an opinion and more as an objective fact.

proposition.⁴ Objectivization removes the more colloquial words or syntax from the text.⁵ Clarification rewrites a sentence and gives it a clearer more intelligible structure.⁶ Updating includes any changes that occur because a new discovery has been made, so they also include corrections suggested by others.⁷ Unclassified semantic changes are those which have not been clearly classified as updates, but that could in the future fall into that category, if new evidence is discovered about their origin. The first four types of changes are all related to matters of style, something which worried Darwin to a high degree and that occupied his mind both before and after the publication of the first edition of the *Origin*.

Darwin's preoccupation with Style

Even before the publication of the first edition, Darwin was very concerned about the readability of the text and about his powers to convey what he wanted to say. During 1859, while he was working on the book, he wrote several letters to Hooker and Lyell which convey his doubts about the way in which he was expressing his ideas. In a letter to Hooker from the 11th of March 1859, he states:

I cannot correct style & still less stops till I see it in type; all that I have attempted is to make sense moderately intelligible. – Nevertheless if any bad grammar happens to strike you please mark it. – Especially I sh^d be glad to have any

⁴ In the following example (taken from chapter 8, paragraph 3300, sentence 300), we find that: «I cannot persuade myself that this parallelism is an accident or an illusion» (1859, 267; 1860, 267; 1861, 289; 1866, 319; 1869, 326). «I am fully persuaded that this double parallelism is by no means an accident or an illusion» (1872, 252).

⁵ This type of change involves the removal of words that give a colloquial feel to the text. Here are a few examples, taken from chapter 1, of words that were eliminated in later editions: simply (paragraph 100, sentence 300), much (paragraph 100, sentence 100), quite (paragraph 200, sentence 1100; paragraph 800, sentence 100; paragraph 1000, sentence 100), little (paragraph 1000, sentence 200). In effect, the removal of these words adds to the objectivity of the text, acting in a similar way to depersonalization). See for example, chapter 1, paragraph 200, sentence 1100: acting not quite regularly, (1859, 9; 1860, 9; 1861, 9; 1866, 9) vs acting irregularly (1869, 10; 1872, 7).

⁶ An examples of this is: «When a deviation appears not unfrequently» (1859, 13), «When any deviation of structure often appears» (1860, 12; 1861, 13; 1866, 13; 1869, 14; 1872, 10).

⁷ In Chapter 1, paragraph 700, sentence 600 we find: «...cats with blue eyes are invariably deaf» (1859, 12; 1860, 12); «...cats with blue eyes are generally deaf» (1861, 12; 1866, 12; 1869, 13); «...cats which are entirely white and have blue eyes are generally deaf; but it has been lately stated by Mr. Tait that this is confined to the males» (1872, 9).

obscure passages marked. – Or any criticisms of any kind whatever. But my chief object is to know whether facts correct, & what you most vehemently object to. Also whether I have stolen anything from you. – Please remember my general remarks always try to include animal & vegetable Kingdoms. –⁸

Darwin's first preference, it appears from this quotation, would have been only to have to make small corrections of punctuation and style when he received the proofs of the book. But he goes on to remark that, more than anything else, he is concerned with the factual correctness of the book. It is this which occupies his mind, together with whether or not he might have inadvertently taken something someone else might claim to have thought of first. The request for help to Hooker is related to this. However, the veiled allusion to the need for correcting the style is something that appears in Darwin's correspondence again and again. For example, on April 5th, Darwin writes to Murray recommending sending the whole manuscript to Miss G. Tollet to carry out the proofing of the text,⁹ marking his concern with style and linguistic correctness.

Despite his idea that it would be easier to amend the book once in print, after receiving the proofs from Murray, Darwin found that correcting them was a more onerous task than anticipated. On June 22nd, he wrote to Hooker again:

Indeed how can a man have anything to say who spends every day in correcting accursed proofs; & such proofs! I have fairly to blacken them & fasten slips of paper on, so miserable have I found the style. –

You say you dreamt that my Book was entertaining, that dream is pretty well over with me, & I begin to fear that the Public will find it intolerably dry & perplexing. But I will never give up that a better man could have made a splendid book out of the materials.¹⁰

Darwin was plagued by doubts about the style. The bitterness of his complaints makes it appear as if the proofing of his book was a hope-

⁸ Darwin to Hooker 11th March 1859, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2429> (letter no. 2429; accessed 11 March 2011).

⁹ As soon as you have done with M.S, please to send it by careful messenger & plainly directed to Miss G. Tollett 14. Queen Anne St Cavendish Sq^{re} This lady being excellent judge of style is going to look out for errors for me. – (Darwin to Murray 5th april 1859, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2447> [letter no. 2447; accessed 11 March 2011]).

¹⁰ Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2471> (letter no. 2471; accessed 2 February 2011).

less and thankless task. Thus, while he recognizes and gives due value to the ideas and the facts that support them, while he deplores the way in which they have been expressed. A random reader could construe this as false modesty, but anyone who knows the textual history of the printed editions, with its multiple corrections, and has carefully read Darwin's correspondence will begin to see an emerging pattern that is consistent with his idea that the text of the *Origin* could, and should, be improved upon.¹¹ Even after writing to Murray that he had achieved a «fairly good» style,¹² Darwin continued to complain to others about it:

I have, as Murray says, corrected so heavily as almost to have rewritten it; but yet I fear it is poorly written. Parts are intricate; & I do not think that even you could make them quite clear. Do not, I beg, be in a hurry in committing yourself, (like so many naturalists) to go a certain length & no further; for I am deeply convinced, that it is absolutely necessary to go whole vast length, or stick to creation of each separate species; I argue this point briefly in the last chapter. Remember that your verdict will probably have more influence than my Book in deciding whether such views as I hold, will be admitted or rejected at present, – in the future I cannot doubt about their admittance, & our posterity will marvel as much about the current belief as we do about fossil-shells having been thought to have been created as we now see them. – But forgive me for running on about my hobby-horse. –¹³

Although, he expected that the *Origin* would truly change the way in which species were perceived and that the concept of their transmutation would eventually be accepted, Darwin never let go of the idea that the book was poorly written and continued to work to make it worthy of the impact that he expected it to have. He expressed that he feared that the book was «written in a conceited & cock-sure style, which shames me a little,»¹⁴ that he was «beginning to despair of ever making the majority understand

¹¹ In the letters there are multiple instances that show that Darwin was a modest man. For example, even when he should be completely pleased with the reception of his book, he shows signs of humility: «But it seems to me admirably done, & as you say “oh my” about the praise of the *Origin*: I can't help liking it, which makes me rather ashamed of myself. –» (Darwin to Hooker 13 January 1863, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-3913> [letter no. 3913; accessed 11 March 2011]).

¹² Darwin to Murray July 25th 1859, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2477> (letter no. 2477; accessed 11 March 2011).

¹³ Darwin to Lyell September 2nd 1859, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2486> (letter no. 2486; accessed 11 March 2011).

¹⁴ Darwin to Hooker November 20th 1859, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2537> (letter no. 2537; accessed 1 February 2011).

[his] notions,»¹⁵ that he must have been «a very bad explainer.»¹⁶ And all of this despite the fact that his correspondents provided a stream of reassuring remarks about the subject: «One thing you may set your mind at rest about – your book is as cautious & modest as any could be,»¹⁷ or «[s]tyle clear & good, but now & then wants revision for little matters.»¹⁸

Darwin's changes to the Origin of Species

When the time came to prepare the second edition for publication, Darwin corrected the text of the first and sent a letter to Murray¹⁹ in which he requested the inclusion of the following note:

This Second Edition is merely a reprint of the first with a few verbal corrections & some omissions. The only passages of the least importance added, are (p.) on fossil birds, – on (p.) nascent organs in contradistinction with rudimentary organs, – and lastly (p.) an extract on the theological bearing of the views advocated in this work.

He left out the references for Murray to fill in when the book had a firm pagination. The description of the changes is precise, but it does on its own not allow the reader to determine whether the «few verbal corrections» and the «omissions» are important.²⁰ Besides learning that there

¹⁵ Darwin to Lyell June 6th 1860, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2822> (letter no. 2822; accessed 11 March 2011).

¹⁶ Darwin to Lyell June 6th 1860, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2822> (letter no. 2822; accessed 11 March 2011).

¹⁷ Hooker to Darwin November 21st 1859, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2539> (letter no. 2539; accessed 1 February 2011).

¹⁸ Asa Gray to Darwin January 23rd 1860, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2663> (letter no. 2663; accessed 1 February 2011).

¹⁹ Darwin to Murray December 2nd 1859, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2566/> (letter no. 2566; accessed 27 September 2010).

²⁰ Although the note never made it into the 1860 edition, all the paragraphs referred to in Darwin's letter were included in the second edition of the *Origin of Species*. For example, the alluded paragraph on fossil birds can be found on page 304 of the 1860 edition: «Notwithstanding that the number of joints shown in the fossil impressions correspond with the number in the several toes of living birds feet, some authors doubt whether the animals which left the impressions were really birds». The second paragraph, about rudimentary organs, can be found on page 452 of the second edition: «Organs, however little developed, if of use, should not be called rudimentary; they cannot properly be said to be in an atrophied condition; they may be called nascent,

were only a few changes from the first to the second edition, from the same letter²¹ we also learn that Darwin seems to have thought that he would not carry on working on the *Origin*.

With the help of specialized search software,²² I have detected 748 places of variation between the first and second editions of the *Origin*. Some of these are what might indeed be considered very slight variations, perhaps changes in punctuation or corrections of typos, some of them are changes in wording. The spirit of Darwin's assertion is correct and the changes are «few,» if not in number, in degree: he didn't have the time or the inclination to introduce major changes, so he made slight stylistic alterations to the text. Here is an example of a change from the first to the second edition:

Ch. 1, Para. 1600, Sent. 600, Word. 16:

in structure, I do not doubt that they all have (1859, 19)

in structure, I do not doubt that they have all (1860, 19)

and may hereafter be developed to any extent by natural selection». The third paragraph can be found on page 480: «I have now recapitulated the chief facts and considerations which have thoroughly convinced me that species have been modified, during a long course of descent, by the preservation or the natural selection of many successive slight favourable variations. I cannot believe that a false theory would explain, as it seems to me that the theory of natural selection does explain, the several large classes of facts above specified. I see no good reason why the views given in this volume should shock the religious feelings of any one. A celebrated author and divine has written to me that “he has gradually learnt to see that it is just as noble a conception of the Deity to believe that He created a few original forms capable of self-development into other and needful forms, as to believe that He required a fresh act of creation to supply the voids caused by the action of His laws». But this last paragraph is probably more true today than Darwin could have realized at the time of writing his note. It anticipates a phenomenon that is still current and it makes it clear that, at least in his view, a need to perceive his ideas as opposed to those of organized religion is not necessary.

²¹ «I shall be glad to hear what number of copies you propose to print: I hope it will be a good many, as that will make, with lessened expences [*sic*] of several kinds, our profits larger, & because I shall not be interrupted [*sic*] by a new Edition. My plan is, subject to your & Sir C. Lyell's approval, is to leave the present work as it now stands, merely correcting errors; & at once *but slowly*, commence with my larger work...» Darwin to Murray December 2nd 1859, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2566/> (letter no. 2566; accessed 27 September 2010).

²² VBase is a specialized search tool that allows very complex searches to be carried out. It was specifically developed to isolate specific types of variants and can be used to ask multipart questions about textual groupings within large textual traditions. VBase has been used by other projects, notably for the study of the *Canterbury Tales* and Dante's *Monarchia* and *Commedia*.

This what could only be classed as a stylistic change, that is a change in the order of «all have» and «have all.» This passage becomes more interesting when we look at the variants introduced in later editions:

Ch. 1, Para. 1600, Sent. 600, Word. 16:

I do not doubt that they all have descended from the common wild duck and rabbit. (1859, 19)

I do not doubt that they have all descended from the common wild duck and rabbit. (1860, 19)

the evidence preponderates in favour of their having all descended from the common wild duck and rabbit. (1861, 19)

the evidence strongly preponderates in favour of their having all all descended from the common wild duck and rabbit. (1866, 20)

the evidence is clear that they are all descended from the common wild duck and rabbit. (1869, 20; 1872, 14)

What begins as a minor change in order between the 1859 and 1860, on examination of the other variants in this context appears as the starting point for important changes in this sentence in later editions. The removal of the first person personal pronoun in this sentence typifies one of the most striking changes that Darwin enforced in the later editions of the *Origin*.

I was able, in preparing this article, to carry out searches on variant distribution for phrases using the VBase program, as well as searches on variant distribution for individual words. For example, a search for the personal pronoun «I» immediately followed by a space, limited to instances in which it is present in the first edition but removed in the following, retrieves 184 hits: that is, the first person personal pronoun, I, has been removed 184 times from the 1859 edition in the 1860 edition. In practical terms this represents a dramatic change in style. If we examine other instances of this type of change, it can be seen that there is a change of Darwin saw himself and his work differently:

Ch. 1, Para. 3400, Sent. 400, Word. 2:

Nevertheless I cannot doubt that this process, continued during centuries, would improve and modify any breed, in (1859, 34-5; 1860, 34-5)

Nevertheless we may infer that this process, continued during centuries, would improve and modify any breed (1861, 35; 1866, 36; 1869, 37; 1872, 25)

This example from the first chapter is typical of this type of change. The first version of the sentence reads very much like an impression. It seems to be Darwin's particular take on this matter, a subjective opinion. The second version, as introduced in 1861, produces a very different effect: this version brings in the reader, it makes him part of the equation and it implies that anyone with any degree of intelligence will reach the same conclusion.

There are many other examples of the elimination of the use of the first person personal pronoun. Here is another, taken from chapter 8:

Ch. 8, Para. 2900, Sent. 1000, Word. 23:

...when organic beings are placed during several generations under conditions not natural to them, they are extremely liable to vary, which is due, as I believe, to their reproductive systems having been specially affected, (1859, 265; 1860, 265; 1861, 287; 1866, 317)

...when organic beings are placed during several generations under conditions not natural to them, they are extremely liable to vary, which seems to be partly due to their reproductive systems having been specially affected, (1869, 324; 1872, 250)

In 1859 and up to 1869, the statement is presented as Darwin's own belief, as here not only the personal pronoun is eliminated, but also the verb «to believe.» In the post 1869 version, we have an impersonal construction which is more akin to modern standards of scientific objectivity.

There are many intriguing examples of the elimination of phrases which made use of the first person pronoun singular, but in cases in which this same change is accompanied by others, it acquires a different dimension.

Ch. 1, Para. 2400, Sent. 400, Word. 19:

Some authors believe that long-continued domestication eliminates this strong tendency to sterility: from the history of the dog I think there is some probability in this hypothesis, (1859, 26; 1860, 26; 1861, 27)

Some authors believe that long-continued domestication eliminates this strong tendency to sterility: from the history of the dog, and of some other domestic animals, there is great probability in this hypothesis, (1866, 28; 1869, 28)

Some authors believe that long-continued domestication eliminates this strong tendency to sterility in species. From the history of the dog, and of some other domestic animals, this conclusion is probably quite correct, (1872, 19)

This is the same type of change as in previous examples, but is supported by other alterations. Particularly interesting is the increasing sense of self-assurance, as if Darwin's confidence had grown allowing him to go from holding the personal view that there was «some probability» in the hypothesis, to a more general statement that it had great probability, to no longer a hypothesis but a «conclusion that is probably quite correct.»

The type of changes that one would classify as updates occurred in different editions, depending on when new research was available to Darwin or a correspondent pointed out a mistake or imprecision. A well-known example (Chapter 1, paragraph 700, sentence 710), is the change from «Florida» to «Virginia,» which occurs in a paragraph included for the first time in the third edition, in 1861. Around September 15th, 1860, Jeffries Wyman had sent a letter to Darwin in which he stated that:

I believe Prof Gray communicated to you a statement by me, in regard to the effect of the 'paint root' on the Hogs causing the hooves of all but the *black* varieties to drop off. I have every reason to believe the statement true not only from information which I obtained myself when in Florida, but from further enquiries made by D^r A. S. Baldwin of Jacksonville in that state; who informs me that it is not only generally believed but practiced upon. & as one of the «Crackers», (ie a Florida squatter) remarked to me, we «select» the black members of a litter for raising as they alone have a good chance of living.²³

Darwin included the reference as an update in the third edition of the *Origin*. The text of the 1866 edition reads:

Professor Wyman has recently communicated to me a good illustration of this fact; on asking some farmers in Florida how it was that all their pigs were black, they informed him that the pigs ate the paint-root (*Lachnanthes*), which coloured their bones pink, and which caused the hoofs of all but the black varieties to drop off; and one of the «crackers» (*i.e.* Florida squatters) added, «we select the black members of a litter for raising, as they alone have a good chance of living.» (12)

It is evident that Darwin was accurate in his quotation of Wyman's letter and the reader would not have had any reason to think that they text was,

²³ Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-2901> (letter no. 2901; accessed 10 March 2011).

in any way, mistaken. But in a letter from Asa Gray, dated February 25th [1868], he states: «In new ed, – correct 2, p. 227, *Florida* instead of “Virginia” for those pigs of Wyman’s. I think you have it *Florida* in *Origin*.»²⁴

This leads to the speculation that something similar might have occurred with the change from «guinea-fowl» to «goose.» The text of the first three editions of the *Origin* reads:

Has the little variability of the ass or guinea-fowl, or the small power of endurance of warmth by the reindeer, or of cold by the common camel, prevented their domestication? (1859, 17; 1860, 17; 1861, 17)

But this was modified in 1866 to:

Has the little variability of the ass and goose, or the small power of endurance of warmth by the reindeer, or of cold by the common camel, prevented their domestication? (1866, 17; 1869, 18; 1872, 13)

The reasons for this change are not clear. Even the correspondence appears to be unhelpful. We know that Darwin had been working on *Variation under Domestication*, published in 1868, since around January 1860,²⁵ which had taken a lot of his time. He could not have started work on the corrections for the fourth edition of the *Origin* before the 21 of February 1866²⁶ (the date in which Murray announced that the third edition was about to sell out, and proposed work in a new one²⁷). He also complained about working on a new edition of the book, since «after ten months intermission I am now able to work nearly two hours daily at my next book [*Variation*]; but this will be now stopped by the *Origin*.»²⁸ From the exchange between Darwin and John Murray we know that the

²⁴ Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5928> (letter no. 5928; accessed 10 March 2011). Although the letter is not dated, the year is established by the reference to *Variation*.

²⁵ See footnote 3 in Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5016> (letter no. 5016; accessed 11 March 2011).

²⁶ Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5014> (letter no. 5014; accessed 11 March 2011).

²⁷ Indeed, the Darwin’s Correspondence project states that Darwin worked on the corrections for the fourth edition between the first of March and the 10th of May, 1866 (See footnote 4 in Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5016> (letter no. 5016; accessed 11 March 2011).

²⁸ Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5016> (letter no. 5016; accessed 11 March 2011)

edition was printed in May²⁹ and ready to be bound in July, although it was not published until November 1866.³⁰ In December 1866, Darwin had an exchange with W. B. Tegetmeier in which he explained his position on the ancestry of geese, guinea-fowls and other domestic birds.³¹ Indeed, the text of *Variation*, as published in 1868, coincides with that of the *Origin* in stating that the goose, as a domestic animal had varied very little in comparison with other species.³² However, I have not been able to find evidence of the source for this change and more research will be required to clarify what triggered it.

The 1869 edition

Although Darwin introduced changes to every new edition of the *Origin* and despite the fact that some of those were very substantial,³³ the most

²⁹ Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5105> (letter no. 5105; accessed 11 March 2011).

³⁰ See footnote 2, Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5155> (letter no. 5155; accessed 11 March 2011).

³¹ See the letter from Tegetmeier, dated 10th of December (Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5299> [letter no. 5299; accessed 11 March 2011]), Darwin's answer from the 12th (Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5301> [letter no. 5301; accessed 11 March 2011]), Tegetmeier's letter of the 15th, with the reference to *Numida ptilorhyncha* as the ancestor of the guinea-fowl (Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5309> [letter no. 5309; accessed 11 March 2011]), which is acknowledged by Darwin on the 18th (Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5311> [letter no. 5311; accessed 11 March 2011]), and which latter is used in *Variation*: «The domesticated guinea-fowl is now believed by naturalists to be descended from the *Numida ptilorhynca*, which inhabits very hot, and, in parts, extremely arid districts in Eastern Africa; consequently it has been exposed in this country to extremely different conditions of life.» (*Variation* 294)

³² Here is the beginning of the text of *Variation* that refers to the goose: «This bird deserves some notice, as hardly any other anciently domesticated bird or quadruped has varied so little. That geese were anciently domesticated we know from certain verses in Homer; and from these birds having been kept (388 B.C.) in the Capitol at Rome as sacred to Juno, which sacredness implies great antiquity. That the goose has varied in some degree, we may infer from naturalists not being unanimous with respect to its wild parent-form; though the difficulty is chiefly due to the existence of three or four closely allied wild European species.» (*Variation* 287)

³³ He claimed that he had added 50 pages to the 1866 edition, which is 57 pages longer than the previous one (See Darwin Correspondence Project Database. <http://www.darwinproject.ac.uk/entry-5103> [letter no. 5103; accessed 11 March 2011], particularly footnote 3).

heavily revised edition (with the exception of the chapter added to the sixth), was the fifth edition, published in 1869. As Morse Peckham wrote, in it:

Darwin used the famous phrase, taken from Spencer, 'Survival of the Fittest,' and it was the most extensively revised edition yet -indeed, if we except the bulk of the extra chapter added in the sixth edition, the most extensively revised of all. It contains 29 per cent of the total number of variants: 178 sentences dropped, 1770 altered, and 227 added. (22)

There are 6319 changes at word level, more than double the previous edition. 351 sentences were added and 307 were deleted.³⁴ In this edition, there is a relative drop in the number of changes at sentence level which I attribute to the increasing amount of revisions at word level. There had been a five-year gap between the third and the fourth editions, but that gap did not result in such an impact to the text of the 1866 edition as the three-year gap between the fourth and the fifth editions. One of the most evident factors that could have impacted the text of the *Origin* was the completion of *Variation*, but this only accounts for changes to the contents rather than the style. Something else must have occurred in the intervening years that made Darwin decide that it was time to heavily edit the manner of the book.

A clue as to what might have persuaded Darwin to make so many changes in his preparation of the 1869 edition can be found in the example from the Historical Sketch which I present in the introduction to the online Variorum. The Sketch was included as part of the *Origin*, for the first time, in 1861. The second sentence in 1861 version of the Historical Sketch reads:

The great majority of naturalists believe that species are immutable productions, and have been separately created. (1861 xiii; 1866 xiii)

³⁴ The discrepancy of numbers between my assessment and that of Peckham is the result of our understanding of what constitutes a sentence. By the same token, where I count individual changes at word level, he counts alterations carried out within a sentence (which could have been altered in one or more places). Changes in the other editions are as follows: 1859 to 1860: There are 692 changes at word level; 29 sentences were added and 24 were deleted. 1860 to 1861: There are 1479 changes at word level; 267 sentences were added and 54 were deleted. 1861 to 1866: There are 2877 changes at word level; 507 sentences were added and 112 were deleted. 1869 to 1872: There are 5711 changes at word level; 285 sentences were added and 261 were deleted.

In this sentence, it is important to notice the use of the verbal tenses, «believe» in present and «have been» a present continuous. It is also important that, at the beginning of the sentence, it is stated, as a matter of fact, that «the great majority of naturalists» support this particular view. In the fifth edition, which appeared in 1869, however, we find several important variants:

Until recently the great majority of naturalists believed that species were immutable productions, and had been separately created. (1869 xv; 1872 xiii)

The changes that Darwin introduced have a tremendous effect. First, there is the inclusion of temporal adverbs at the beginning of the sentence, which now reads «Until recently the great majority of naturalists...» in addition to that there is now a preterit («believed») instead of the present («believe»). The present continuous («have been») has been replaced for a past continuous («had been»). I describe these sentences in the Online Variorum as follows:

On 24 November 1859 a gentleman naturalist living in Kent, who twenty-five years before had traveled the world and in the time since had pursued his own thoughts about how new species arise, published his theory in *On the Origin of Species by Means of Natural Selection*. His book was an instant best-seller. He corrected it, making sure that he included the latest research carried out by others, while his reputation grew. At some point between 1866 and 1869, Darwin or one of his colleagues and friends, made the decision that the world had changed. Most of the stylistic changes in the *Origin* appeared in 1869... The changes in chronological reference and, particularly, the use of the preterit in the latter version of the sentence, indicate that Darwin had now seen a radical change in the attitude of his contemporaries. What had been the norm had now ceased to be. The revisions in this sentence mark the moment when the world changed.

From this idea that the places of variation in the second sentence of the Historical Sketch mark *the moment in which the world changed*, I have developed a working hypothesis for the changes in the printed editions of the *Origin*, and particularly for the changes between 1866 and 1869. If Darwin realized in those years that his status among the scientific community had changed and that his work was now being received in a particular light, the changes between the 1866 and 1869 will reflect this. Further work on the stylistic variants in the *Origin* may elucidate this problem and confirm or deny this hypothesis.

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