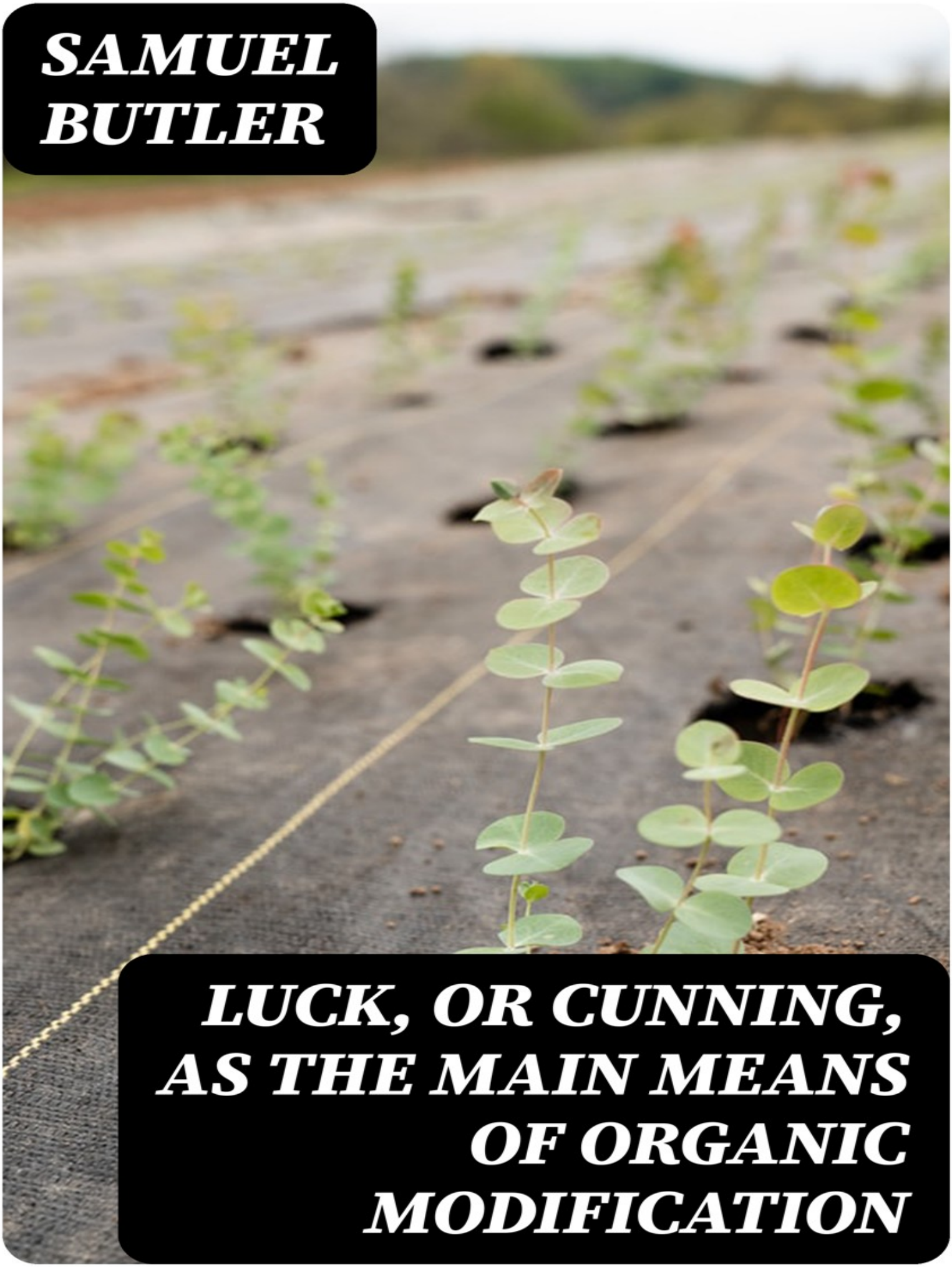
SAMUEL BUTLER



LUCK, OR CUNNING, AS THE MAIN MEANS OF ORGANIC MODIFICATION

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Contact: DigiCat@okpublishing.info

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Chapter I
Introduction

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I SHALL perhaps best promote the acceptance of the two main points on which I have been insisting for some years past, I mean, the substantial identity between heredity and memory, and the reintroduction of design into organic development, by treating them as if they had something of that physical life with which they are so closely connected. Ideas are like plants and animals in this respect also, as in so many others, that they are more fully understood when their relations to other ideas of their time, and the history of their development are known and borne in mind. By development I do not merely mean their growth in the minds of those who first advanced them, but that larger development which consists in their subsequent good or evil fortunes—in their reception, favourable or otherwise, by those to whom they were presented. This is to an idea what its surroundings are to an organism, and throws much the same light upon it that knowledge of the conditions under which an organism lives throws upon the organism itself. I shall, therefore, begin this new work with a few remarks about its predecessors.

I am aware that what I may say on this head is likely to prove more interesting to future students of the literature of descent than to my immediate public, but any book that desires to see out a literary three-score years and ten must offer something to future generations as well as to its own. It is a condition of its survival that it shall do this, and herein

lies one of the author's chief difficulties. If books only lived as long as men and women, we should know better how to grow them; as matters stand, however, the author lives for one or two generations, whom he comes in the end to understand fairly well, while the book, if reasonable pains have been taken with it, should live more or less usefully for a dozen. About the greater number of these generations the author is in the dark; but come what may, some of them are sure to have arrived at conclusions diametrically opposed to our own upon every subject connected with art, science, philosophy, and religion; it is plain, therefore, that if posterity is to be pleased, it can only be at the cost of repelling some present readers. Unwilling as I am to do this, I still hold it the lesser of two evils; I will be as brief, however, as the interests of the opinions I am supporting will allow.

In "Life and Habit" I contended that heredity was a mode of memory. I endeavoured to show that all hereditary traits, whether of mind or body, are inherited in virtue of, and as a manifestation of, the same power whereby we are able to remember intelligently what we did half an hour, yesterday, or a twelvemonth since, and this in no figurative but in a perfectly real sense. If life be compared to an equation of a hundred unknown quantities, I followed Professor Hering of Prague in reducing it to one of ninety-nine only, by showing two of the supposed unknown quantities to be so closely allied that they should count as one. I maintained that instinct was inherited memory, and this without admitting more exceptions and qualifying clauses than arise, as it

were, by way of harmonics from every proposition, and must be neglected if thought and language are to be possible.

I showed that if the view for which I was contending was taken, many facts which, though familiar, were still without explanation or connection with our other ideas, would remain no longer isolated, but be seen at once as joined with the mainland of our most assured convictions. Among the things thus brought more comfortably home to us was the principle underlying longevity. It became apparent why some living beings should live longer than others, and how any race must be treated whose longevity it is desired to increase. Hitherto we had known that an elephant was a long-lived animal and a fly short-lived, but we could give no reason why the one should live longer than the other; that is to say, it did not follow in immediate coherence with, or as intimately associated with, any familiar principle that an animal which is late in the full development of its reproductive system will tend to live longer than one which reproduces early. If the theory of “Life and Habit” be admitted, the fact of a slow-growing animal being in general longer lived than a quick developer is seen to be connected with, and to follow as a matter of course from, the fact of our being able to remember anything at all, and all the well-known traits of memory, as observed where we can best take note of them, are perceived to be reproduced with singular fidelity in the development of an animal from its embryonic stages to maturity.

Take this view, and the very general sterility of hybrids from being a *crux* of the theory of descent becomes a stronghold of defence. It appears as part of the same story

as the benefit derived from judicious, and the mischief from injudicious, crossing; and this, in its turn, is seen as part of the same story, as the good we get from change of air and scene when we are overworked. I will not amplify; but reversion to long-lost, or feral, characteristics, the phenomena of old age, the fact of the reproductive system being generally the last to arrive at maturity—few further developments occurring in any organism after this has been attained—the sterility of many animals in confinement, the development in both males and females under certain circumstances of the characteristics of the opposite sex, the latency of memory, the unconsciousness with which we grow, and indeed perform all familiar actions, these points, though hitherto, most of them, so apparently inexplicable that no one even attempted to explain them, became at once intelligible, if the contentions of “Life and Habit” were admitted.

Before I had finished writing this book I fell in with Professor Mivart’s “Genesis of Species,” and for the first time understood the distinction between the Lamarckian and Charles-Darwinian systems of evolution. This had not, so far as I then knew, been as yet made clear to us by any of our more prominent writers upon the subject of descent with modification; the distinction was unknown to the general public, and indeed is only now beginning to be widely understood. While reading Mr. Mivart’s book, however, I became aware that I was being faced by two facts, each incontrovertible, but each, if its leading exponents were to be trusted, incompatible with the other.

On the one hand there was descent; we could not read Mr. Darwin’s books and doubt that all, both animals and plants, were descended from a common source. On the other, there was design; we could not read Paley and refuse to admit that design, intelligence, adaptation of means to ends, must have had a large share in the development of the life we saw around us; it seemed indisputable that the minds and bodies of all living beings must have come to be what they are through a wise ordering and administering of their estates. We could not, therefore, dispense either with descent or with design, and yet it seemed impossible to keep both, for those who offered us descent stuck to it that we could have no design, and those, again, who spoke so wisely and so well about design would not for a moment hear of descent with modification.

Each, moreover, had a strong case. Who could reflect upon rudimentary organs, and grant Paley the kind of design that alone would content him? And yet who could examine the foot or the eye, and grant Mr. Darwin his denial of forethought and plan?

For that Mr. Darwin did deny skill and contrivance in connection with the greatly preponderating part of organic developments cannot be and is not now disputed. In the first chapter of “Evolution Old and New” I brought forward passages to show how completely he and his followers deny design, but will here quote one of the latest of the many that have appeared to the same effect since “Evolution Old and New” was published; it is by Mr. Romanes, and runs as follows:—

"It is the *very essence* of the Darwinian hypothesis that it only seeks to explain the *apparently* purposive variations, or variations of an adaptive kind." [17a]

The words "apparently purposive" show that those organs in animals and plants which at first sight seem to have been designed with a view to the work they have to do —that is to say, with a view to future function—had not, according to Mr. Darwin, in reality any connection with, or inception in, effort; effort involves purpose and design; they had therefore no inception in design, however much they might present the appearance of being designed; the appearance was delusive; Mr. Romanes correctly declares it to be "the very essence" of Mr. Darwin's system to attempt an explanation of these seemingly purposive variations which shall be compatible with their having arisen without being in any way connected with intelligence or design.

As it is indisputable that Mr. Darwin denied design, so neither can it be doubted that Paley denied descent with modification. What, then, were the wrong entries in these two sets of accounts, on the detection and removal of which they would be found to balance as they ought?

Paley's weakest place, as already implied, is in the matter of rudimentary organs; the almost universal presence in the higher organisms of useless, and sometimes even troublesome, organs is fatal to the kind of design he is trying to uphold; granted that there is design, still it cannot be so final and far-foreseeing as he wishes to make it out. Mr. Darwin's weak place, on the other hand, lies, firstly, in the supposition that because rudimentary organs imply no purpose now, they could never in time past have done so—

that because they had clearly not been designed with an eye to all circumstances and all time, they never, therefore, could have been designed with an eye to any time or any circumstances; and, secondly, in maintaining that “accidental,” “fortuitous,” “spontaneous” variations could be accumulated at all except under conditions that have never been fulfilled yet, and never will be; in other words, his weak place lay in the contention (for it comes to this) that there can be sustained accumulation of bodily wealth, more than of wealth of any other kind, unless sustained experience, watchfulness, and good sense preside over the accumulation. In “Life and Habit,” following Mr. Mivart, and, as I now find, Mr. Herbert Spencer, I showed (pp. 279–281) how impossible it was for variations to accumulate unless they were for the most part underlain by a sustained general principle; but this subject will be touched upon more fully later on.

The accumulation of accidental variations which owed nothing to mind either in their inception, or their accumulation, the pitchforking, in fact, of mind out of the universe, or at any rate its exclusion from all share worth talking about in the process of organic development, this was the pill Mr. Darwin had given us to swallow; but so thickly had he gilded it with descent with modification, that we did as we were told, swallowed it without a murmur, were lavish in our expressions of gratitude, and, for some twenty years or so, through the mouths of our leading biologists, ordered design peremptorily out of court, if she so much as dared to show herself. Indeed, we have even given life pensions to some of the most notable of these

biologists, I suppose in order to reward them for having hoodwinked us so much to our satisfaction.

Happily the old saying, *Naturam expellas furcâ*, *tamen usque recurret*, still holds true, and the reaction that has been gaining force for some time will doubtless ere long brush aside the cobwebs with which those who have a vested interest in Mr. Darwin's reputation as a philosopher still try to fog our outlook. Professor Mivart was, as I have said, among the first to awaken us to Mr. Darwin's denial of design, and to the absurdity involved therein. He well showed how incredible Mr Darwin's system was found to be, as soon as it was fully realised, but there he rather left us. He seemed to say that we must have our descent and our design too, but he did not show how we were to manage this with rudimentary organs still staring us in the face. His work rather led up to the clearer statement of the difficulty than either put it before us in so many words, or tried to remove it. Nevertheless there can be no doubt that the "Genesis of Species" gave Natural Selection what will prove sooner or later to be its death-blow, in spite of the persistence with which many still declare that it has received no hurt, and the sixth edition of the "Origin of Species," published in the following year, bore abundant traces of the fray. Moreover, though Mr. Mivart gave us no overt aid, he pointed to the source from which help might come, by expressly saying that his most important objection to Neo-Darwinism had no force against Lamarck.

To Lamarck, therefore, I naturally turned, and soon saw that the theory on which I had been insisting in "Life and Habit" was in reality an easy corollary on his system, though

one which he does not appear to have caught sight of. I saw also that his denial of design was only, so to speak, skin deep, and that his system was in reality teleological, inasmuch as, to use Isidore Geoffroy's words, it makes the organism design itself. In making variations depend on changed actions, and these, again, on changed views of life, efforts, and designs, in consequence of changed conditions of life, he in effect makes effort, intention, will, all of which involve design (or at any rate which taken together involve it), underlie progress in organic development. True, he did not know he was a teleologist, but he was none the less a teleologist for this. He was an unconscious teleologist, and as such perhaps more absolutely an upholder of teleology than Paley himself; but this is neither here nor there; our concern is not with what people think about themselves, but with what their reasoning makes it evident that they really hold.

How strange the irony that hides us from ourselves! When Isidore Geoffroy said that according to Lamarck organisms designed themselves, [20a] and endorsed this, as to a great extent he did, he still does not appear to have seen that either he or Lamarck were in reality reintroducing design into organism; he does not appear to have seen this more than Lamarck himself had seen it, but, on the contrary, like Lamarck, remained under the impression that he was opposing teleology or purposiveness.

Of course in one sense he did oppose it; so do we all, if the word design be taken to intend a very far-foreseeing of minute details, a riding out to meet trouble long before it comes, a provision on academic principles for contingencies

that are little likely to arise. We can see no evidence of any such design as this in nature, and much everywhere that makes against it. There is no such improvidence as over providence, and whatever theories we may form about the origin and development of the universe, we may be sure that it is not the work of one who is unable to understand how anything can possibly go right unless he sees to it himself. Nature works departmentally and by way of leaving details to subordinates. But though those who see nature thus do indeed deny design of the prescient-from-all-eternity order, they in no way impugn a method which is far more in accord with all that we commonly think of as design. A design which is as incredible as that a ewe should give birth to a lion becomes of a piece with all that we observe most frequently if it be regarded rather as an aggregation of many small steps than as a single large one. This principle is very simple, but it seems rather difficult to understand. It has taken several generations before people would admit it as regards organism even after it was pointed out to them, and those who saw it as regards organism still failed to understand it as regards design; an inexorable “Thus far shalt thou go and no farther” barred them from fruition of the harvest they should have been the first to reap. The very men who most insisted that specific difference was the accumulation of differences so minute as to be often hardly, if at all, perceptible, could not see that the striking and baffling phenomena of design in connection with organism admitted of exactly the same solution as the riddle of organic development, and should be seen not as a result reached *per saltum*, but as an accumulation of small

steps or leaps in a given direction. It was as though those who had insisted on the derivation of all forms of the steam-engine from the common kettle, and who saw that this stands in much the same relations to the engines, we will say, of the Great Eastern steamship as the amœba to man, were to declare that the Great Eastern engines were not designed at all, on the ground that no one in the early kettle days had foreseen so great a future development, and were unable to understand that a piecemeal *solvitur ambulando* design is more omnipresent, all-seeing, and all-searching, and hence more truly in the strictest sense design, than any speculative leap of fancy, however bold and even at times successful.

From Lamarck I went on to Buffon and Erasmus Darwin—better men both of them than Lamarck, and treated by him much as he has himself been treated by those who have come after him—and found that the system of these three writers, if considered rightly, and if the corollary that heredity is only a mode of memory were added, would get us out of our dilemma as regards descent and design, and enable us to keep both. We could do this by making the design manifested in organism more like the only design of which we know anything, and therefore the only design of which we ought to speak—I mean our own.

Our own design is tentative, and neither very far-foreseeing nor very retrospective; it is a little of both, but much of neither; it is like a comet with a little light in front of the nucleus and a good deal more behind it, which ere long, however, fades away into the darkness; it is of a kind that, though a little wise before the event, is apt to be much

wiser after it, and to profit even by mischance so long as the disaster is not an overwhelming one; nevertheless, though it is so interwoven with luck, there is no doubt about its being design; why, then, should the design which must have attended organic development be other than this? If the thing that has been is the thing that also shall be, must not the thing which is be that which also has been? Was there anything in the phenomena of organic life to militate against such a view of design as this? Not only was there nothing, but this view made things plain, as the connecting of heredity and memory had already done, which till now had been without explanation. Rudimentary organs were no longer a hindrance to our acceptance of design, they became weighty arguments in its favour.

I therefore wrote “Evolution Old and New,” with the object partly of backing up “Life and Habit,” and showing the easy rider it admitted, partly to show how superior the old view of descent had been to Mr. Darwin’s, and partly to reintroduce design into organism. I wrote “Life and Habit” to show that our mental and bodily acquisitions were mainly stores of memory: I wrote “Evolution Old and New” to add that the memory must be a mindful and designing memory.

I followed up these two books with “Unconscious Memory,” the main object of which was to show how Professor Hering of Prague had treated the connection between memory and heredity; to show, again, how substantial was the difference between Von Hartmann and myself in spite of some little superficial resemblance; to put forward a suggestion as regards the physics of memory, and

to meet the most plausible objection which I have yet seen brought against “Life and Habit.”

Since writing these three books I have published nothing on the connection between heredity and memory, except a few pages of remarks on Mr. Romanes’ “Mental Evolution in Animals” in my book, [23a] from which I will draw whatever seems to be more properly placed here. I have collected many facts that make my case stronger, but am precluded from publishing them by the reflection that it is strong enough already. I have said enough in “Life and Habit” to satisfy any who wish to be satisfied, and those who wish to be dissatisfied would probably fail to see the force of what I said, no matter how long and seriously I held forth to them; I believe, therefore, that I shall do well to keep my facts for my own private reading and for that of my executors.

I once saw a copy of “Life and Habit” on Mr. Bogue’s counter, and was told by the very obliging shopman that a customer had just written something in it which I might like to see. I said of course I should like to see, and immediately taking the book read the following—which it occurs to me that I am not justified in publishing. What was written ran thus:—

“As a reminder of our pleasant hours on the broad Atlantic, will Mr. — please accept this book (which I think contains more truth, and less evidence of it, than any other I have met with) from his friend —?”

I presume the gentleman had met with the Bible—a work which lays itself open to a somewhat similar comment. I was gratified, however, at what I had read, and take this opportunity of thanking the writer, an American, for having

liked my book. It was so plain he had been relieved at not finding the case smothered to death in the weight of its own evidences, that I resolved not to forget the lesson his words had taught me.

The only writer in connection with “Life and Habit” to whom I am anxious to reply is Mr. Herbert Spencer, but before doing this I will conclude the present chapter with a consideration of some general complaints that have been so often brought against me that it may be worth while to notice them.

These general criticisms have resolved themselves mainly into two.

Firstly, it is said that I ought not to write about biology on the ground of my past career, which my critics declare to have been purely literary. I wish I might indulge a reasonable hope of one day becoming a literary man; the expression is not a good one, but there is no other in such common use, and this must excuse it; if a man can be properly called literary, he must have acquired the habit of reading accurately, thinking attentively, and expressing himself clearly. He must have endeavoured in all sorts of ways to enlarge the range of his sympathies so as to be able to put himself easily *en rapport* with those whom he is studying, and those whom he is addressing. If he cannot speak with tongues himself, he is the interpreter of those who can—without whom they might as well be silent. I wish I could see more signs of literary culture among my scientific opponents; I should find their books much more easy and agreeable reading if I could; and then they tell me

to satirise the follies and abuses of the age, just as if it was not this that I was doing in writing about themselves.

What, I wonder, would they say if I were to declare that they ought not to write books at all, on the ground that their past career has been too purely scientific to entitle them to a hearing? They would reply with justice that I should not bring vague general condemnations, but should quote examples of their bad writing. I imagine that I have done this more than once as regards a good many of them, and I dare say I may do it again in the course of this book; but though I must own to thinking that the greater number of our scientific men write abominably, I should not bring this against them if I believed them to be doing their best to help us; many such men we happily have, and doubtless always shall have, but they are not those who push to the fore, and it is these last who are most angry with me for writing on the subjects I have chosen. They constantly tell me that I am not a man of science; no one knows this better than I do, and I am quite used to being told it, but I am not used to being confronted with the mistakes that I have made in matters of fact, and trust that this experience is one which I may continue to spare no pains in trying to avoid.

Nevertheless I again freely grant that I am not a man of science. I have never said I was. I was educated for the Church. I was once inside the Linnean Society’s rooms, but have no present wish to go there again; though not a man of science, however, I have never affected indifference to the facts and arguments which men of science have made it their business to lay before us; on the contrary, I have given

the greater part of my time to their consideration for several years past. I should not, however, say this unless led to do so by regard to the interests of theories which I believe to be as nearly important as any theories can be which do not directly involve money or bodily convenience.

The second complaint against me is to the effect that I have made no original experiments, but have taken all my facts at second hand. This is true, but I do not see what it has to do with the question. If the facts are sound, how can it matter whether A or B collected them? If Professor Huxley, for example, has made a series of valuable original observations (not that I know of his having done so), why am I to make them over again? What are fact-collectors worth if the fact co-ordinators may not rely upon them? It seems to me that no one need do more than go to the best sources for his facts, and tell his readers where he got them. If I had had occasion for more facts I daresay I should have taken the necessary steps to get hold of them, but there was no difficulty on this score; every text-book supplied me with all, and more than all, I wanted; my complaint was that the facts which Mr. Darwin supplied would not bear the construction he tried to put upon them; I tried, therefore, to make them bear another which seemed at once more sound and more commodious; rightly or wrongly I set up as a builder, not as a burner of bricks, and the complaint so often brought against me of not having made experiments is about as reasonable as complaint against an architect on the score of his not having quarried with his own hands a single one of the stones which he has used in building. Let my opponents show that the facts which they and I use in

common are unsound, or that I have misapplied them, and I will gladly learn my mistake, but this has hardly, to my knowledge, been attempted. To me it seems that the chief difference between myself and some of my opponents lies in this, that I take my facts from them with acknowledgment, and they take their theories from me—without.

One word more and I have done. I should like to say that I do not return to the connection between memory and heredity under the impression that I shall do myself much good by doing so. My own share in the matter was very small. The theory that heredity is only a mode of memory is not mine, but Professor Hering's. He wrote in 1870, and I not till 1877. I should be only too glad if he would take his theory and follow it up himself; assuredly he could do so much better than I can; but with the exception of his one not lengthy address published some fifteen or sixteen years ago he has said nothing upon the subject, so far at least as I have been able to ascertain; I tried hard to draw him in 1880, but could get nothing out of him. If, again, any of our more influential writers, not a few of whom evidently think on this matter much as I do, would eschew ambiguities and tell us what they mean in plain language, I would let the matter rest in their abler hands, but of this there does not seem much chance at present.

I wish there was, for in spite of the interest I have felt in working the theory out and the information I have been able to collect while doing so, I must confess that I have found it somewhat of a white elephant. It has got me into the hottest of hot water, made a literary Ishmael of me, lost me friends

whom I have been sorry to lose, cost me a good deal of money, done everything to me, in fact, which a good theory ought not to do. Still, as it seems to have taken up with me, and no one else is inclined to treat it fairly, I shall continue to report its developments from time to time as long as life and health are spared me. Moreover, Ishmaels are not without their uses, and they are not a drug in the market just now.

I may now go on to Mr. Spencer.

Chapter II
Mr. Herbert Spencer

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Mr. Herbert Spencer wrote to the *Athenæum* (April 5, 1884), and quoted certain passages from the 1855 edition of his "Principles of Psychology," "the meanings and implications" from which he contended were sufficiently clear. The passages he quoted were as follows:—

> Though it is manifest that reflex and instinctive sequences are not determined by the experiences of the *individual* organism manifesting them, yet there still remains the hypothesis that they are determined by the experiences of the *race* of organisms forming its ancestry, which by infinite repetition in countless successive generations have established these sequences as organic relations (p. 526).
>
> The modified nervous tendencies produced by such new habits of life are also bequeathed (p. 526).
>
> That is to say, the tendencies to certain combinations of psychical changes have become organic (p. 527).
>
> The doctrine that the connections among our ideas are determined by experience must, in consistency, be extended not only to all the connections established by the accumulated experiences of every individual, but to all those

established by the accumulated experiences of every race (p. 529).

Here, then, we have one of the simpler forms of instinct which, under the requisite conditions, must necessarily be established by accumulated experiences (p. 547).

And manifestly, if the organisation of inner relations, in correspondence with outer relations, results from a continual registration of experiences, &c. (p. 551).

On the one hand, Instinct may be regarded as a kind of organised memory; on the other hand, Memory may be regarded as a kind of incipient instinct (pp. 555–6).

Memory, then, pertains to all that class of psychical states which are in process of being organised. It continues so long as the organising of them continues; and disappears when the organisation of them is complete. In the advance of the correspondence, each more complex class of phenomena which the organism acquires the power of recognising is responded to at first irregularly and uncertainly; and there is then a weak remembrance of the relations. By multiplication of experiences this remembrance becomes stronger, and the response more certain. By further multiplication of experiences the internal relations are at last automatically organised in correspondence with the external ones; and so conscious memory passes into unconscious or organic memory. At the same time, a

> new and still more complex order of experiences is thus rendered appreciable; the relations they present occupy the memory in place of the simpler one; they become gradually organised; and, like the previous ones, are succeeded by others more complex still (p. 563).
>
> Just as we saw that the establishment of those compound reflex actions which we call instincts is comprehensible on the principle that inner relations are, by perpetual repetition, organised into correspondence with outer relations; so the establishment of those consolidated, those indissoluble, those instinctive mental relations constituting our ideas of Space and Time, is comprehensible on the same principle (p. 579).

In a book published a few weeks before Mr. Spencer's letter appeared [29a] I had said that though Mr. Spencer at times closely approached Professor Hering and "Life and Habit," he had nevertheless nowhere shown that he considered memory and heredity to be parts of the same story and parcel of one another. In his letter to the *Athenæum*, indeed, he does not profess to have upheld this view, except "by implications;" nor yet, though in the course of the six or seven years that had elapsed since "Life and Habit" was published I had brought out more than one book to support my earlier one, had he said anything during those years to lead me to suppose that I was trespassing upon ground already taken by himself. Nor, again, had he said anything which enabled me to appeal to his authority—which I should have been only too glad to do; at last,

however, he wrote, as I have said, to the *Athenæum* a letter which, indeed, made no express claim, and nowhere mentioned myself, but “the meanings and implications” from which were this time as clear as could be desired, and amount to an order to Professor Hering and myself to stand aside.

The question is, whether the passages quoted by Mr. Spencer, or any others that can be found in his works, show that he regarded heredity in all its manifestations as a mode of memory. I submit that this conception is not derivable from Mr. Spencer’s writings, and that even the passages in which he approaches it most closely are unintelligible till read by the light of Professor Hering’s address and of “Life and Habit.”

True, Mr. Spencer made abundant use of such expressions as “the experience of the race,” “accumulated experiences,” and others like them, but he did not explain—and it was here the difficulty lay—how a race could have any experience at all. We know what we mean when we say that an individual has had experience; we mean that he is the same person now (in the common use of the words), on the occasion of some present action, as the one who performed a like action at some past time or times, and that he remembers how he acted before, so as to be able to turn his past action to account, gaining in proficiency through practice. Continued personality and memory are the elements that constitute experience; where these are present there may, and commonly will, be experience; where they are absent the word “experience” cannot properly be used.

Formerly we used to see an individual as one, and a race as many. We now see that though this is true as far as it goes, it is by no means the whole truth, and that in certain important respects it is the race that is one, and the individual many. We all admit and understand this readily enough now, but it was not understood when Mr. Spencer wrote the passages he adduced in the letter to the *Athenæum* above referred to. In the then state of our ideas a race was only a succession of individuals, each one of them new persons, and as such incapable of profiting by the experience of its predecessors except in the very limited number of cases where oral teaching, or, as in recent times, writing, was possible. The thread of life was, as I have elsewhere said, remorselessly shorn between each successive generation, and the importance of the physical and psychical connection between parents and offspring had been quite, or nearly quite, lost sight of. It seems strange how this could ever have been allowed to come about, but it should be remembered that the Church in the Middle Ages would strongly discourage attempts to emphasize a connection that would raise troublesome questions as to who in a future state was to be responsible for what; and, after all, for nine purposes of life out of ten the generally received opinion that each person is himself and nobody else is on many grounds the most convenient. Every now and then, however, there comes a tenth purpose, for which the continued personality side of the connection between successive generations is as convenient as the new personality side is for the remaining nine, and these tenth purposes—some of which are not unimportant—are

obscured and fulfilled amiss owing to the completeness with which the more commonly needed conception has overgrown the other.

Neither view is more true than the other, but the one was wanted every hour and minute of the day, and was therefore kept, so to speak, in stock, and in one of the most accessible places of our mental storehouse, while the other was so seldom asked for that it became not worth while to keep it. By-and-by it was found so troublesome to send out for it, and so hard to come by even then, that people left off selling it at all, and if any one wanted it he must think it out at home as best he could; this was troublesome, so by common consent the world decided no longer to busy itself with the continued personality of successive generations—which was all very well until it also decided to busy itself with the theory of descent with modification. On the introduction of a foe so inimical to many of our pre-existing ideas the balance of power among them was upset, and a readjustment became necessary, which is still far from having attained the next settlement that seems likely to be reasonably permanent.

To change the illustration, the ordinary view is true for seven places of decimals, and this commonly is enough; occasions, however, have now arisen when the error caused by neglect of the omitted places is appreciably disturbing, and we must have three or four more. Mr. Spencer showed no more signs of seeing that he must supply these, and make personal identity continue between successive generations before talking about inherited (as opposed to post-natal and educational) experience, than others had

done before him; the race with him, as with every one else till recently, was not one long individual living indeed in pulsations, so to speak, but no more losing continued personality by living in successive generations, than an individual loses it by living in consecutive days; a race was simply a succession of individuals, each one of which was held to be an entirely new person, and was regarded exclusively, or very nearly so, from this point of view.

When I wrote “Life and Habit” I knew that the words “experience of the race” sounded familiar, and were going about in magazines and newspapers, but I did not know where they came from; if I had, I should have given their source. To me they conveyed no meaning, and vexed me as an attempt to make me take stones instead of bread, and to palm off an illustration upon me as though it were an explanation. When I had worked the matter out in my own way, I saw that the illustration, with certain additions, would become an explanation, but I saw also that neither he who had adduced it nor any one else could have seen how right he was, till much had been said which had not, so far as I knew, been said yet, and which undoubtedly would have been said if people had seen their way to saying it.

“What is this talk,” I wrote, “which is made about the experience of the race, as though the experience of one man could profit another who knows nothing about him? If a man eats his dinner it nourishes him and not his neighbour; if he learns a difficult art it is he that can do it and not his neighbour” (“Life and Habit,” p. 49).

When I wrote thus in 1877, it was not generally seen that though the father is not nourished by the dinners that the

son eats, yet the son was fed when the father ate before he begot him.

“Is there any way,” I continued, “of showing that this experience of the race about which so much is said without the least attempt to show in what way it may, or does, become the experience of the individual, is in sober seriousness the experience of one single being only, who repeats on a great many different occasions, and in slightly different ways, certain performances with which he has already become exceedingly familiar?”

I felt, as every one else must have felt who reflected upon the expression in question, that it was fallacious till this was done. When I first began to write “Life and Habit” I did not believe it could be done, but when I had gone right up to the end, as it were, of my *cu de sac*, I saw the path which led straight to the point I had despaired of reaching—I mean I saw that personality could not be broken as between generations, without also breaking it between the years, days, and moments of a man’s life. What differentiates “Life and Habit” from the “Principles of Psychology” is the prominence given to continued personal identity, and hence to *bonâ fide* memory, as between successive generations; but surely this makes the two books differ widely.

Ideas can be changed to almost any extent in almost any direction, if the change is brought about gradually and in accordance with the rules of all development. As in music we may take almost any possible discord with pleasing effect if we have prepared and resolved it rightly, so our ideas will outlive and outgrow almost any modification which is approached and quitted in such a way as to fuse

the old and new harmoniously. Words are to ideas what the fairy invisible cloak was to the prince who wore it—only that the prince was seen till he put on the cloak, whereas ideas are unseen until they don the robe of words which reveals them to us; the words, however, and the ideas, should be such as fit each other and stick to one another in our minds as soon as they are brought together, or the ideas will fly off, and leave the words void of that spirit by the aid of which alone they can become transmuted into physical action and shape material things with their own impress. Whether a discord is too violent or no, depends on what we have been accustomed to, and on how widely the new differs from the old, but in no case can we fuse and assimilate more than a very little new at a time without exhausting our tempering power—and hence presently our temper.

Mr. Spencer appears to have forgotten that though *de minimis non curat lex*,—though all the laws fail when applied to trifles,—yet too sudden a change in the manner in which our ideas are associated is as cataclysmic and subversive of healthy evolution as are material convulsions, or too violent revolutions in politics. This must always be the case, for change is essentially miraculous, and the only lawful home of the miracle is in the microscopically small. Here, indeed, miracles were in the beginning, are now, and ever shall be, but we are deadened if they are required of us on a scale which is visible to the naked eye. If we are told to work them our hands fall nerveless down; if, come what may, we must do or die, we are more likely to die than to succeed in doing. If we are required to believe them—which