Evolution and Ethics, and Other Essays

by Thomas Henry Huxley

Free public domain classic — Noveliopdf

The Project Gutenberg eBook of Evolution and Ethics, and Other Essays

This eBook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this eBook or online at www.gutenberg.org. If you are not located in the United States, you will have to check the laws of the country where you are located before using this eBook.

Title: Evolution and Ethics, and Other Essays

Author: Thomas Henry Huxley

Release date: November 1, 2001 [eBook #2940] Most recently updated: February 9, 2024

Language: English

Other information and formats: www.gutenberg.org/ebooks/2940

Credits: Scanned and edited by T. Dave Gowan for Project Gutenberg

*** START OF THE PROJECT GUTENBERG EBOOK EVOLUTION AND ETHICS, AND OTHER ESSAYS ***

EVOLUTION AND ETHICS AND OTHER ESSAYS

By Thomas H. Huxley

CONTENTS

PREFACE

I. EVOLUTION AND ETHICS.

I.

II.

III.

IV.

V.

VI.

VII.

VIII.

IX.

X.

XI.

XII.

XIII.

XIV.

II. EVOLUTION AND ETHICS.

NOTES.

III. SCIENCE AND MORALS (1886)

I

II

III

V. SOCIAL DISEASES AND WORSE REMEDIES

PREFACE

INTRODUCTORY ESSAY.

THE SALVATION ARMY ARTICLES OF WAR

PREFACE

THE discourse on "Evolution and Ethics," reprinted in the first half of the present volume, was delivered before the University of Oxford, as the second of the annual lectures founded by Mr. Romanes: whose name I may not write without deploring the untimely death, in the flower of his age, of a friend endeared to me, as to so many others, by his kindly nature; and justly valued by all his colleagues for his powers of investigation and his zeal for the advancement of knowledge. I well remember, when Mr. Romanes' early work came into my hands, as one of the secretaries of the Royal Society, how much I rejoiced in the accession to the ranks of the little army of workers in science of a recruit so well qualified to take a high place among us.

It was at my friend's urgent request that I agreed to undertake the lecture, should I be honoured with an official proposal to give it, though I confess not without misgivings, if only on account of the serious fatigue and hoarseness which public speaking has for some years caused me; while I knew that it would be my fate to follow the most accomplished and facile orator of our time, whose indomitable youth is in no matter more manifest than in his penetrating and musical voice. A certain saying about comparisons intruded itself somewhat importunately.

And even if I disregarded the weakness of my body in the matter of voice, and that of my mind in the matter of vanity, there remained a third difficulty. For several reasons, my attention, during a number of years, has been much directed to the bearing of modern scientific thought on the problems of morals and of politics, and I

did not care to be diverted from that topic. Moreover, I thought it the most important and the worthiest which, at the present time, could engage the attention even of an ancient and renowned University.

But it is a condition of the Romanes foundation that the lecturer shall abstain from treating of either Religion or Politics; and it appeared to me that, more than most, perhaps, I was bound to act, not merely up to the letter, but in the spirit, of that prohibition. Yet Ethical Science is, on all sides, so entangled with Religion and Politics that the lecturer who essays to touch the former without coming into contact with either of the latter, needs all the dexterity of an egg-dancer; and may even discover that his sense of clearness and his sense of propriety come into conflict, by no means to the advantage of the former.

I had little notion of the real magnitude of these difficulties when I set about my task; but I am consoled for my pains and anxiety by observing that none of the multitudinous criticisms with which I have been favoured and, often, instructed, find fault with me on the score of having strayed out of bounds.

Among my critics there are not a few to whom I feel deeply indebted for the careful attention which they have given to the exposition thus hampered; and further weakened, I am afraid, by my forgetfulness of a maxim touching lectures of a popular character, which has descended to me from that prince of lecturers, Mr. Faraday. He was once asked by a beginner, called upon to address a highly select and cultivated audience, what he might suppose his hearers to know already. Whereupon the past master of the art of exposition emphatically replied "Nothing!"

To my shame as a retired veteran, who has all his life profited by this great precept of lecturing strategy, I forgot all about it just when it would have been most useful. I was fatuous enough to imagine that a number of propositions, which I thought established, and which, in fact, I had advanced without challenge on former occasions, needed no repetition.

I have endeavoured to repair my error by prefacing the lecture with some matter—chiefly elementary or recapitulatory—to which I have given the title of "Prolegomena" I wish I could have hit upon a heading of less pedantic aspect which would have served my purpose; and if it be urged that the new building looks over large for the edifice to which it is added, I can only plead the precedent of the ancient architects, who always made the adytum the smallest part of the temple.

If I had attempted to reply in full to the criticisms to which I have referred, I know not what extent of ground would have been covered by my pronaos. All I have endeavoured to do, at present, is to remove that which seems to have proved a stumbling-block to many—namely, the apparent paradox that ethical nature, while born of cosmic nature, is necessarily at enmity with its parent. Unless the arguments set forth in the Prolegomena, in the simplest language at my command, have some flaw which I am unable to discern, this seeming paradox is a truth, as great as it is plain, the recognition of which is fundamental for the ethical philosopher.

We cannot do without our inheritance from the forefathers who were the puppets of the cosmic process; the society which renounces it must be destroyed from without. Still less can we de with too much of it; the society in which it dominates must be destroyed from within.

The motive of the drama of human life is the necessity, laid upon every man who comes into the world, of discovering the mean between self-assertion and self-restraint suited to his character and his circumstances. And the eternally tragic aspect of the drama lies in this: that the problem set before us is one the elements of which can be but imperfectly known, and of which even an approximately right solution rarely presents itself, until that stern critic, aged experience, has been furnished with ample justification for venting his sarcastic humour upon the irreparable blunders we have already made.

I have reprinted the letters on the "Darkest England" scheme, published in the

"Times" of December, 1890, and January, 1891; and subsequently issued, with additions, as a pamphlet, under the title of "Social Diseases and Worse Remedies," because, although the clever attempt to rush the country on behalf of that scheme has been balked, Booth's standing army remains afoot, retaining all the capacities for mischief which are inherent in its constitution. I am desirous that this fact should be kept steadily in view; and that the moderation of the clamour of the drums and trumpets should not lead us to forget the existence of a force, which, in bad hands, may, at any time, be used for bad purposes.

In 1892, a Committee was "formed for the purpose of investigating the manner in which the moneys, subscribed in response to the appeal made in the book entitled 'In Darkest England and the Way out,' have been expended." The members of this body were gentlemen in whose competency and equity every one must have complete confidence; and in December, 1892, they published a report in which they declare that, "with the exception of the sums expended on the 'barracks' at Hadleigh," the moneys in question have been "devoted only to the objects and expended in the methods set out in that appeal, and to and in no others."

Nevertheless, their final conclusion runs as follows: "(4) That whilst the invested property, real and personal, resulting from such Appeal is so vested and controlled by the Trust of the Deed of January 30th, 1891, that any application of it to purposes other than those declared in the deed by any 'General' of the Salvation Army would amount to a breach of trust, and would subject him to the proceedings of a civil and criminal character, before mentioned in the Report, ADEQUATE LEGAL SAFEGUARDS DO NOT AT PRESENT EXIST TO PREVENT THE MISAPPLICATION OF SUCH PROPERTY."

The passage I have italicised forms part of a document dated December 19th, 1892. It follows, that, even after the Deed of January 30th, 1891, was executed, "adequate legal safeguards" "to prevent the misapplication of the property" did not exist. What

then was the state of things, up to a week earlier, that is on January 22nd, 1891, when my twelfth and last letter appeared in the "Times"? A better justification for what I have said about the want of adequate security for the proper administration of the funds intrusted to Mr. Booth could not be desired, unless it be that which is to be found in the following passages of the Report (pp. 36 and 37):—

"It is possible that a 'General' may be forgetful of his duty, and sell property and appropriate the proceeds to his own use, or to meeting the general liabilities of the Salvation Army. As matters now stand, he, and he alone, would have control over such a sale. Against such possibilities it appears to the Committee to be reasonable that some check should be imposed."

Once more let it be remembered that this opinion given under the hand of Sir Henry James, was expressed by the Committee, with the Trust Deed of 1891, which has been so sedulously flaunted before the public, in full view.

The Committee made a suggestion for the improvement of this very unsatisfactory state of things; but the exact value set upon it by the suggestors should be carefully considered (p.37).

"The Committee are fully aware that if the views thus expressed are carried out, the safeguards and checks created will not be sufficient for all purposes absolutely to prevent possible dealing with the property and moneys inconsistent with the purposes to which they are intended to be devoted."

In fact, they are content to express the very modest hope that "if the suggestion made be acted upon, some hindrance will thereby be placed in the way of any one acting dishonestly in respect of the disposal of the property and moneys referred to."

I do not know, and, under the circumstances, I cannot say I much care, whether the suggestions of the Committee have, or have not, been acted upon. Whether or not, the fact remains that an unscrupulous "General" will have a pretty free hand, notwithstanding "some" hindrance.

Thus, the judgment of the highly authoritative, and certainly not hostile, Committee of 1892, upon the issues with which they concerned themselves is hardly such as to inspire enthusiastic confidence. And it is further to be borne in mind that they carefully excluded from their duties "any examination of the principles, government, teaching, or methods of the Salvation Army as a religious organization, or of its affairs" except so far as they related to the administration of the moneys collected by the "Darkest England" appeal.

Consequently, the most important questions discussed in my letters were not in any way touched by the Committee. Even if their report had been far more favourable to the "Darkest England" scheme than it is; if it had really assured the contributors that the funds raised were fully secured against malversation; the objections, on social and political grounds, to Mr. Booth's despotic organization, with its thousands of docile satellites pledged to blind obedience, set forth in the letters, would be in no degree weakened. The "sixpennyworth of good" would still be out-weighed by the "shillingsworth of harm"; if indeed the relative worth, or unworth, of the latter should not be rated in pounds rather than in shillings.

What would one not give for the opinion of the financial members of the Committee about the famous Bank; and that of the legal experts about the proposed "tribunes of the people"?

HODESLEA, EASTBOURNE,

July, 1894.

I. EVOLUTION AND ETHICS.

PROLEGOMENA.

(1894)

I.

IT may be safely assumed that, two thousand years ago, before Caesar set foot in southern Britain, the whole country-side visible from the windows of the room in which I write, was in what is called "the state of nature." Except, it may be, by raising a few sepulchral mounds, such as those which still, here and there, break the flowing contours of the downs, man's hands had made no mark upon it; and the thin veil of vegetation which overspread the broad-backed heights and the shelving sides of the coombs was unaffected by his industry. The native grasses and weeds, the scattered patches of gorse, contended with one another for the possession of the scanty surface soil; they fought against the droughts of summer, the frosts of winter, and the furious gales which swept, with unbroken force, now from the

Atlantic, and now from the North Sea, at all times of the year; they filled up, as they best might, the gaps made in their ranks by all sorts of underground and overground animal ravagers. One year with another, an average population, the floating balance of the unceasing struggle for existence among the indigenous plants, maintained itself. It is as little to be doubted, that an essentially similar state of nature prevailed, in this region, for many thousand years before the coming of Caesar; and there is no assignable reason for denying that it might continue to exist through an equally prolonged futurity, except for the intervention of man.

Reckoned by our customary standards of duration, the native vegetation, like the "everlasting hills" which it clothes, seems a type of permanence. The little Amarella Gentians, which abound in some places to-day, are the descendants of those that were trodden underfoot, by the prehistoric savages who have left their flint tools, about, here and there; and they followed ancestors which, in the climate of the glacial epoch, probably flourished better than they do now. Compared with the long past of this humble plant, all the history of civilized men is but an episode.

Yet nothing is more certain than that, measured by the liberal scale of time-keeping

of the universe, this present state of nature, however it may seem to have gone and to go on for ever, is

but a fleeting phase of her infinite variety; merely the last of the series of changes which the earth's surface has undergone in the course of the millions of years of its existence. Turn back a square foot of the thin turf, and the solid foundation of the land, exposed in cliffs of chalk five hundred feet high on the adjacent shore, yields full assurance of a time when the sea covered the site of the "everlasting hills"; and when the vegetation of what land lay nearest, was as different from the present Flora of the Sussex downs, as that of Central Africa now is.* No less certain is it that, between the time during which the chalk was formed and that at which the original turf came into existence, thousands of centuries elapsed, in the course of which, the state of nature of the ages during which the chalk was deposited, passed into that which now is, by changes so slow that, in the coming and going of the generations of men, had such witnessed them, the contemporary conditions would have seemed to be unchanging and unchangeable.

* See "On a piece of Chalk" in the preceding volume of these Essays (vol. viii. p. 1).

But it is also certain that, before the deposition of the chalk, a vastly longer period had elapsed; throughout which it is easy to follow the traces of the same process of ceaseless modification and of the internecine struggle for existence of living things; and that even when we can get no further

back, it is not because there is any reason to think we have reached the beginning, but because the trail of the most ancient life remains hidden, or has become obliterated.

Thus that state of nature of the world of plants which we began by considering, is far from possessing the attribute of permanence. Rather its very essence is impermanence. It may have lasted twenty or thirty thousand years, it may last for twenty or thirty thousand years more, without obvious change; but, as surely as it

has followed upon a very different state, so it will be followed by an equally different condition. That which endures is not one or another association of living forms, but the process of which the cosmos is the product, and of which these are among the transitory expressions. And in the living world, one of the most characteristic features of this cosmic process is the struggle for existence, the competition of each with all, the result of which is the selection, that is to say, the survival of those forms which, on the whole, are best adapted, to the conditions which at any period obtain; and which are, therefore, in that respect, and only in that respect, the fittest.* The acme reached by the cosmic

process in the vegetation of the downs is seen in the turf, with its weeds and gorse. Under the conditions, they have come out of the struggle victorious; and, by surviving, have proved that they are the fittest to survive.

* That every theory of evolution must be consistent not merely with progressive development, but with indefinite persistence in the same condition and with retrogressive modification, is a point which I have insisted upon repeatedly from the year 1862 till now. See Collected Essays, vol. ii. pp. 461-89; vol. iii. p. 33; vol. viii. p. 304. In the address on "Geological Contemporaneity and Persistent Types" (1862), the paleontological proofs of this proposition were, I believe, first set forth.

That the state of nature, at any time, is a temporary phase of a process of incessant change, which has been going on for innumerable ages, appears to me to be a proposition as well established as any in modern history.

Paleontology assures us, in addition, that the ancient philosophers who, with less reason, held the same doctrine, erred in supposing that the phases formed a cycle, exactly repeating the past, exactly foreshadowing the future, in their rotations. On the contrary, it furnishes us with conclusive reasons for thinking that, if every link in the ancestry of these humble indigenous plants had been preserved and were accessible to us, the whole would present a converging series of forms of gradually

diminishing complexity, until, at some period in the history of the earth, far more remote than any of which organic remains have yet been discovered, they would merge in those low groups among which the Boundaries between animal and vegetable life become effaced.*

* "On the Border Territory between the Animal and the Vegetable Kingdoms," Essays, vol. viii. p. 162

The word "evolution," now generally applied to the cosmic process, has had a singular history, and is used in various senses.* Taken in its popular signification it means progressive development, that is, gradual change from a condition of relative uniformity to one of relative complexity; but its connotation has been widened to include the phenomena of retrogressive metamorphosis, that is, of progress from a condition of relative complexity to one of relative uniformity.

As a natural process, of the same character as the development of a tree from its seed, or of a fowl from its egg, evolution excludes creation and all other kinds of supernatural intervention. As the expression of a fixed order, every stage of which is the effect of causes operating according to definite rules, the conception of evolution no less excludes that of chance. It is very desirable to remember that evolution is not an explanation of the cosmic process, but merely a generalized statement of the method and results of that process. And, further, that, if there is proof that the cosmic process was set going by any agent, then that agent will be, the creator of it and of all its products, although supernatural intervention may remain strictly excluded from its further course.

So far as that limited revelation of the nature of things, which we call scientific knowledge, has

yet gone, it tends, with constantly increasing emphasis, to the belief that, not merely the world of plants, but that of animals; not merely living things, but the whole fabric of the earth; not merely our planet, but the whole solar system; not merely our

star and its satellites, but the millions of similar bodies which bear witness to the order which pervades boundless space, and has endured through boundless time; are all working out their predestined courses of evolution.

* See "Evolution in Biology," Essays, vol. ii. p. 187

With none of these have I anything to do, at present, except with that exhibited by the forms of life which tenant the earth. All plants and animals exhibit the tendency to vary, the causes of which have yet to be ascertained; it is the tendency of the conditions of life, at any given time, while favouring the existence of the variations best adapted to them, to oppose that of the rest and thus to exercise selection; and all living things tend to multiply without limit, while the means of support are limited; the obvious cause of which is the production of offspring more numerous than their progenitors, but with equal expectation of life in the actuarial sense. Without the first tendency there could be no evolution. Without the second, there would be no good reason why one variation should disappear and another take its place; that is to say there would be no selection. Without the

third, the struggle for existence, the agent of the selective process in the state of nature, would vanish.*

* Collected Essays, vol. ii. passim.

Granting the existence of these tendencies, all the known facts of the history of plants and of animals may be brought into rational correlation. And this is more than can be said for any other hypothesis that I know of. Such hypotheses, for example, as that of the existence of a primitive, orderless chaos; of a passive and sluggish eternal matter moulded, with but partial success, by archetypal ideas; of a brand-new world-stuff suddenly created and swiftly shaped by a supernatural power; receive no encouragement, but the contrary, from our present knowledge. That our earth may once have formed part of a nebulous cosmic magma is certainly possible, indeed seems highly probable; but there is no reason to doubt that order reigned there, as

completely as amidst what we regard as the most finished works of nature or of man.** The faith which is born of knowledge, finds its object in an eternal order, bringing forth ceaseless change, through endless time, in endless space; the manifestations of the cosmic energy alternating between phases of potentiality and phases of explication. It may be that, as Kant suggests,*** every cosmic

magma predestined to evolve into a new world, has been the no less predestined end of a vanished predecessor.

**Ibid., vol. iv. p. 138; vol. v. pp. 71-73. ***Ibid., vol. viii. p. 321.

II.

Three or four years have elapsed since the state of nature, to which I have referred, was brought to an end, so far as a small patch of the soil is concerned, by the intervention of man. The patch was cut off from the rest by a wall; within the area thus protected, the native vegetation was, as far as possible, extirpated; while a colony of strange plants was imported and set down in its place. In short, it was made into a garden. At the present time, this artificially treated area presents an aspect extraordinarily different from that of so much of the land as remains in the state of nature, outside the wall. Trees, shrubs, and herbs, many of them appertaining to the state of nature of remote parts of the globe, abound and flourish. Moreover, considerable quantities of vegetables, fruits, and flowers are produced, of kinds which neither now exist, nor have ever existed, except under conditions such as obtain in the garden; and which, therefore, are as much works of the art of man as the frames and glasshouses in which some of them are raised. That the "state of Art," thus created in the state of nature by man, is sustained by and dependent on him, would at once become

apparent, if the watchful supervision of the gardener were withdrawn, and the antagonistic influences of the general cosmic process were no longer sedulously

warded off, or counteracted. The walls and gates would decay; quadrupedal and bipedal intruders would devour and tread down the useful and beautiful plants; birds, insects, blight, and mildew would work their will; the seeds of the native plants, carried by winds or other agencies, would immigrate, and in virtue of their long-earned special adaptation to the local conditions, these despised native weeds would soon choke their choice exotic rivals. A century or two hence, little beyond the foundations of the wall and of the houses and frames would be left, in evidence of the victory of the cosmic powers at work in the state of nature, over the temporary obstacles to their supremacy, set up by the art of the horticulturist.

It will be admitted that the garden is as much a work of art,* or artifice, as anything that can be mentioned. The energy localised in certain human bodies, directed by similarly localised intellects, has produced a collocation of other material bodies which could not be brought about in the state of nature. The same proposition is true of all the

* The sense of the term "Art" is becoming narrowed; "work of Art" to most people means a picture, a statue, or a piece of bijouterie; by way of compensation "artist" has included in its wide embrace cooks and ballet girls, no less than painters and sculptors.

works of man's hands, from a flint implement to a cathedral or a chronometer; and it is because it is true, that we call these things artificial, term them works of art, or artifice, by way of distinguishing them from the products of the cosmic process, working outside man, which we call natural, or works of nature. The distinction thus drawn between the works of nature and those of man, is universally recognized; and it is, as I conceive, both useful and justifiable.

III.

No doubt, it may be properly urged that the operation of human energy and

intelligence, which has brought into existence and maintains the garden, by what I have called "the horticultural process," is, strictly speaking, part and parcel of the cosmic process. And no one could more readily agree to that proposition than I. In fact, I do not know that any one has taken more pains than I have, during the last thirty years, to insist upon the doctrine, so much reviled in the early part of that period, that man, physical, intellectual, and moral, is as much a part of nature, as purely a product of the cosmic process, as the humblest weed.*

* See "Man's Place in Nature," Collected Essays, vol. vii., and "On the Struggle for Existence in Human Society" (1888), below.

But if, following up this admission, it is urged

that, such being the case, the cosmic process cannot be in antagonism with that horticultural process which is part of itself—I can only reply, that if the conclusion that the two are antagonistic is logically absurd, I am sorry for logic, because, as we have seen, the fact is so. The garden is in the same position as every other work of man's art; it is a result of the cosmic process working through and by human energy and intelligence; and, as is the case with every other artificial thing set up in the state of nature, the influences of the latter, are constantly tending to break it down and destroy it. No doubt, the Forth bridge and an ironclad in the offing, are, in ultimate resort, products of the cosmic process; as much so as the river which flows under the one, or the seawater on which the other floats. Nevertheless, every breeze strains the bridge a little, every tide does something to weaken its foundations; every change of temperature alters the adjustment of its parts, produces friction and consequent wear and tear. From time to time, the bridge must be repaired, just as the ironclad must go into dock; simply because nature is always tending to reclaim that which her child, man, has borrowed from her and has arranged in combinations which are not those favoured by the general cosmic process.

Thus, it is not only true that the cosmic energy, working through man upon a portion

of

the plant world, opposes the same energy as it works through the state of nature, but a similar antagonism is everywhere manifest between the artificial and the natural. Even in the state of nature itself, what is the struggle for existence but the antagonism of the results of the cosmic process in the region of life, one to another?*

* Or to put the case still more simply. When a man lays hold of the two ends of a piece of string and pulls them, with intent to break it, the right arm is certainly exerted in antagonism to the left arm; yet both arms derive their energy from the same original source.

IV.

Not only is the state of nature hostile to the state of art of the garden; but the principle of the horticultural process, by which the latter is created and maintained, is antithetic to that of the cosmic process. The characteristic feature of the latter is the intense and unceasing competition of the struggle for existence. The characteristic of the former is the elimination of that struggle, by the removal of the conditions which give rise to it. The tendency of the cosmic process is to bring about the adjustment of the forms of plant life to the current conditions; the tendency of the horticultural process is the adjustment of the conditions to the needs of the forms of plant life which the gardener desires to raise.

The cosmic process uses unrestricted multiplication

as the means whereby hundreds compete for the place and nourishment adequate for one; it employs frost and drought to cut off the weak and unfortunate; to survive, there is need not only of strength, but of flexibility and of good fortune.

The gardener, on the other hand, restricts multiplication; provides that each plant shall have sufficient space and nourishment; protects from frost and drought; and, in

every other way, attempts to modify the conditions, in such a manner as to bring about the survival of those forms which most nearly approach the standard of the useful or the beautiful, which he has in his mind.

If the fruits and the tubers, the foliage and the flowers thus obtained, reach, or sufficiently approach, that ideal, there is no reason why the status quo attained should not be indefinitely prolonged. So long as the state of nature remains approximately the same, so long will the energy and intelligence which created the garden suffice to maintain it. However, the limits within which this mastery of man over nature can be maintained are narrow. If the conditions of the cretaceous epoch returned, I fear the most skilful of gardeners would have to give up the cultivation of apples and gooseberries; while, if those of the glacial period once again obtained, open asparagus beds would be superfluous, and the training of fruit

trees against the most favourable of South walls, a waste of time and trouble.

But it is extremely important to note that, the state of nature remaining the same, if the produce does not satisfy the gardener, it may be made to approach his ideal more closely. Although the struggle for existence may be at end, the possibility of progress remains. In discussions on these topics, it is often strangely forgotten that the essential conditions of the modification, or evolution, of living things are variation and hereditary transmission. Selection is the means by which certain variations are favoured and their progeny preserved. But the struggle for existence is only one of the means by which selection may be effected. The endless varieties of cultivated flowers, fruits, roots, tubers, and bulbs are not products of selection by means of the struggle for existence, but of direct selection, in view of an ideal of utility or beauty. Amidst a multitude of plants, occupying the same station and subjected to the same conditions, in the garden, varieties arise. The varieties tending in a given direction are preserved, and the rest are destroyed. And the same process takes place among the varieties until, for example, the wild kale becomes a cabbage,

or the wild Viola tricolor, a prize pansy.

V.

The process of colonisation presents analogies to the formation of a garden which are highly instructive. Suppose a shipload of English colonists sent to form a settlement, in such a country as Tasmania was in the middle of the last century. On landing, they find themselves in the midst of a state of nature, widely different from that left behind them in everything but the most general physical conditions. The common plants, the common birds and quadrupeds, are as totally distinct as the men from anything to be seen on the side of the globe from which they come. The colonists proceed to put an end to this state of things over as large an area as they desire to occupy. They clear away the native vegetation, extirpate or drive out the animal population, so far as may be necessary, and take measures to defend themselves from the re-immigration of either. In their place, they introduce English grain and fruit trees; English dogs, sheep, cattle, horses; and English men; in fact, they set up a new Flora and Fauna and a new variety of mankind, within the old state of nature. Their farms and pastures represent a garden on a great scale, and themselves the gardeners who have to keep it up, in watchful antagonism to the old regime. Considered as a whole, the colony is a composite unit introduced into the old state of nature; and,

thenceforward, a competitor in the struggle for existence, to conquer or be vanquished.

Under the conditions supposed, there is no doubt of the result, if the work of the colonists be carried out energetically and with intelligent combination of all their forces. On the other hand, if they are slothful, stupid, and careless; or if they waste their energies in contests with one another, the chances are that the old state of nature will have the best of it. The native savage will destroy the immigrant civilized

man; of the English animals and plants some will be extirpated by their indigenous rivals, others will pass into the feral state and themselves become components of the state of nature. In a few decades, all other traces of the settlement will have vanished.

VI.

Let us now imagine that some administrative authority, as far superior in power and intelligence to men, as men are to their cattle, is set over the colony, charged to deal with its human elements in such a manner as to assure the victory of the settlement over the antagonistic influences of the state of nature in which it is set down. He would proceed in the same fashion as that in which the gardener dealt with his garden. In the first place, he would, as far as possible, put a

stop to the influence of external competition by thoroughly extirpating and excluding the native rivals, whether men, beasts, or plants. And our administrator would select his human agents, with a view to his ideal of a successful colony, just as the gardener selects his plants with a view to his ideal of useful or beautiful products.

In the second place, in order that no struggle for the means of existence between these human agents should weaken the efficiency of the corporate whole in the battle with the state of nature, he would make arrangements by which each would be provided with those means; and would be relieved from the fear of being deprived of them by his stronger or more cunning fellows. Laws, sanctioned by the combined force of the colony, would restrain the self-assertion of each man within the limits required for the maintenance of peace. In other words, the cosmic struggle for existence, as between man and man, would be rigorously suppressed; and selection, by its means, would be as completely excluded as it is from the garden.

At the same time, the obstacles to the full development of the capacities of the

colonists by other conditions of the state of nature than those already mentioned, would be removed by the creation of artificial conditions of existence of a more favourable character: Protection against extremes of heat and cold would

be afforded by houses and clothing; drainage and irrigation works would antagonise the effects of excessive rain and excessive drought; roads, bridges, canals, carriages, and ships would overcome the natural obstacles to locomotion and transport; mechanical engines would supplement the natural strength of men and of their draught animals; hygienic precautions would check, or remove, the natural causes of disease. With every step of this progress in civilization, the colonists would become more and more independent of the state of nature; more and more, their lives would be conditioned by a state of art. In order to attain his ends, the administrator would have to avail himself of the courage, industry, and co-operative intelligence of the settlers; and it is plain that the interest of the community would be best served by increasing the proportion of persons who possess such qualities, and diminishing that of persons devoid of them. In other words, by selection directed towards an ideal.

Thus the administrator might look to the establishment of an earthly paradise, a true garden of Eden, in which all things should work together towards the well-being of the gardeners: within which the cosmic process, the coarse struggle for existence of the state of nature, should be abolished; in which that state should be replaced by a state of art;

where every plant and every lower animal should be adapted to human wants, and would perish if human supervision and protection were withdrawn; where men themselves should have been selected, with a view to their efficiency as organs for the performance of the functions of a perfected society. And this ideal polity would have been brought about, not by gradually adjusting the men to the conditions around them, but by creating artificial conditions for them; not by allowing the free

play of the struggle for existence, but by excluding that struggle; and by substituting selection directed towards the administrator's ideal for the selection it exercises.

VII.

But the Eden would have its serpent, and a very subtle beast too. Man shares with the rest of the living world the mighty instinct of reproduction and its consequence, the tendency to multiply with great rapidity. The better the measures of the administrator achieved their object, the more completely the destructive agencies of the state of nature were defeated, the less would that multiplication be checked.

On the other hand, within the colony, the enforcement of peace, which deprives every man of the power to take away the means of existence from another, simply because he is the stronger,

would have put an end to the struggle for existence between the colonists, and the competition for the commodities of existence, which would alone remain, is no check upon population.

Thus, as soon as the colonists began to multiply, the administrator would have to face the tendency to the reintroduction of the cosmic struggle into his artificial fabric, in consequence of the competition, not merely for the commodities, but for the means of existence. When the colony reached the limit of possible expansion, the surplus population must be disposed of somehow; or the fierce struggle for existence must recommence and destroy that peace, which is the fundamental condition of the maintenance of the state of art against the state of nature.

Supposing the administrator to be guided by purely scientific considerations, he would, like the gardener, meet this most serious difficulty by systematic extirpation, or exclusion, of the superfluous. The hopelessly diseased, the infirm aged, the weak or deformed in body or in mind, the excess of infants born, would be put away, as the gardener pulls up defective and superfluous plants, or the breeder destroys

undesirable cattle. Only the strong and the healthy, carefully matched, with a view to the progeny best adapted to the purposes of the administrator, would be permitted to perpetuate their kind.

VIII.

Of the more thoroughgoing of the multitudinous attempts to apply the principles of cosmic evolution, or what are supposed to be such, to social and political problems, which have appeared of late years, a considerable proportion appear to me to be based upon the notion that human society is competent to furnish, from its own resources, an administrator of the kind I have imagined. The pigeons, in short, are to be their own Sir John Sebright.* A despotic government, whether individual or collective, is to be endowed with the preternatural intelligence, and with what, I am afraid, many will consider the preternatural ruthlessness, required for the purpose of carrying out the principle of improvement by selection, with the somewhat drastic thoroughness upon which the success of the method depends. Experience certainly does not justify us in limiting the ruthlessness of individual "saviours of society"; and, on the well-known grounds of the aphorism which denies both body and soul to corporations, it seems probable (indeed the belief is not without support in history) that a collective despotism, a mob got to believe in its own divine right by demagogic missionaries, would be capable of more thorough

work in this direction than any single tyrant, puffed up with the same illusion, has ever achieved. But intelligence is another affair. The fact that "saviours of society" take to that trade is evidence enough that they have none to spare. And such as they possess is generally sold to the capitalists of physical force on whose resources they depend. However, I doubt whether even the keenest judge of character, if he had before him a hundred boys and girls under fourteen, could pick out, with the least chance of success, those who should be kept, as certain to be serviceable members

of the polity, and those who should be chloroformed, as equally sure to be stupid, idle, or vicious. The "points" of a good or of a bad citizen are really far harder to discern than those of a puppy or a short-horn calf; many do not show themselves before the practical difficulties of life stimulate manhood to full exertion. And by that time the mischief is done. The evil stock, if it be one, has had time to multiply, and selection is nullified.

* Not that the conception of such a society is necessarily based upon the idea of evolution. The Platonic state testifies to the contrary.

IX.

I have other reasons for fearing that this logical ideal of evolutionary regimentation—this pigeon-fanciers' polity—is unattainable. In the absence of any such a severely scientific administrator as we have been dreaming of, human society is kept together by bonds of such a singular character, that the attempt to perfect society after his fashion would run serious risk of loosening them. Social organization is not peculiar to men. Other societies, such as those constituted by bees and ants, have also arisen out of the advantage of co-operation in the struggle for existence; and their resemblances to, and their differences from, human society are alike instructive. The society formed by the hive bee fulfils the ideal of the communistic aphorism "to each according to his needs, from each according to his capacity." Within it, the struggle for existence is strictly limited. Queen, drones, and workers have each their allotted sufficiency of food; each performs the function assigned to it in the economy of the hive, and all contribute to the success of the whole cooperative society in its competition with rival collectors of nectar and pollen and with other enemies, in the state of nature without. In the same sense as the garden, or the colony, is a work of human art, the bee polity is a work of apiarian art, brought about by the cosmic process, working through the organization of the

hymenopterous type.

Now this society is the direct product of an organic necessity, impelling every member of it to a course of action which tends to the good of the whole. Each bee has its duty and none

has any rights. Whether bees are susceptible of feeling and capable of thought is a question which cannot be dogmatically answered. As a pious opinion, I am disposed to deny them more than the merest rudiments of consciousness.* But it is curious to reflect that a thoughtful drone (workers and queens would have no leisure for speculation) with a turn for ethical philosophy, must needs profess himself an intuitive moralist of the purest water. He would point out, with perfect justice, that the devotion of the workers to a life of ceaseless toil for a mere subsistence wage, cannot be accounted for either by enlightened selfishness, or by any other sort of utilitarian motives; since these bees begin to work, without experience or reflection, as they emerge from the cell in which they are hatched. Plainly, an eternal and immutable principle, innate in each bee, can alone account for the phenomena. On the other hand, the biologist, who traces out all the extant stages of gradation between solitary and hive bees, as clearly sees in the latter, simply the perfection of an automatic mechanism, hammered out by the blows of the struggle for existence upon the progeny of the former, during long ages of constant variation.

* Collected Essays, vol. i., "Animal Automatism"; vol. v., "Prologue," pp. 45 et seq.

X.

I see no reason to doubt that, at its origin, human society was as much a product of organic necessity as that of the bees.* The human family, to begin with, rested upon exactly the same conditions as those which gave rise to similar associations among animals lower in the scale. Further, it is easy to see that every increase in the duration of the family ties, with the resulting co-operation of a larger and larger

number of descendants for protection and defence, would give the families in which such modification took place a distinct advantage over the others. And, as in the hive, the progressive limitation of the struggle for existence between the members of the family would involve increasing efficiency as regards outside competition.

But there is this vast and fundamental difference between bee society and human society. In the former, the members of the society are each organically predestined to the performance of one particular class of functions only. If they were endowed with desires, each could desire to perform none but those offices for which its organization specially fits it; and which, in view of the good of the whole, it is proper it should do. So long as a new queen does not make her appearance, rivalries, and competition are absent from the bee polity.

* Collected Essays, vol v., Prologue, pp. 50-54,

Among mankind, on the contrary, there is no such predestination to a sharply defined place in the social organism. However much men may differ in the quality of their intellects, the intensity of their passions, and the delicacy of their sensations, it cannot be said that one is fitted by his organization to be an agricultural labourer and nothing else, and another to be a landowner and nothing else. Moreover, with all their enormous differences in natural endowment, men agree in one thing, and that is their innate desire to enjoy the pleasures and to escape the pains of life; and, in short, to do nothing but that which it pleases them to do, without the least reference to the welfare of the society into which they are born. That is their inheritance (the reality at the bottom of the doctrine of original sin) from the long series of ancestors, human and semi-human and brutal, in whom the strength of this innate tendency to self-assertion was the condition of victory in the struggle for existence. That is the reason of the aviditas vitae*—the insatiable hunger for enjoyment—of all mankind, which is one of the essential conditions of success in the war with the state of nature outside; and yet the sure agent of the destruction of society if allowed free play

within.

* See below. Romanes' Lecture, note 7.

The check upon this free play of self-assertion, or natural liberty, which is the necessary condition for the origin of human society, is the product

of organic necessities of a different kind from those upon which the constitution of the hive depends. One of these is the mutual affection of parent and offspring, intensified by the long infancy of the human species. But the most important is the tendency, so strongly developed in man, to reproduce in himself actions and feelings similar to, or correlated with, those of other men. Man is the most consummate of all mimics in the animal world; none but himself can draw or model; none comes near him in the scope, variety, and exactness of vocal imitation; none is such a master of gesture; while he seems to be impelled thus to imitate for the pure pleasure of it. And there is no such another emotional chameleon. By a purely reflex operation of the mind, we take the hue of passion of those who are about us, or, it may be, the complementary colour. It is not by any conscious "putting one's self in the place" of a joyful or a suffering person that the state of mind we call sympathy usually arises; * indeed, it is often contrary to one's sense of

right, and in spite of one's will, that "fellow-feeling makes us wondrous kind," or the reverse. However complete may be the indifference to public opinion, in a cool, intellectual view, of the traditional sage, it has not yet been my fortune to meet with any actual sage who took its hostile manifestations with entire equanimity. Indeed, I doubt if the philosopher lives, or ever has lived who could know himself to be heartily despised by a street boy without some irritation. And, though one cannot justify Haman for wishing to hang Mordecai on such a very high gibbet, yet, really, the consciousness of the Vizier of Ahasuerus, as he went in and out of the gate, that this obscure Jew had no respect for him, must have been very annoying.**

* Adam Smith makes the pithy observation that the man who sympathises with a

woman in childbed, cannot be said to put himself in her place. ("The Theory of the Moral Sentiments," Part vii. sec. iii. chap. i.) Perhaps there is more humour than force in the example; and, in spite of this and other observations of the same tenor, I think that the one defect of the remarkable work in which it occurs is that it lays too much stress on conscious substitution, too little on purely reflex sympathy. ** Esther v. 9-13. ". . . but when Haman saw Mordecai in the king's gate, that he stood not up, nor moved for him, he was full of indignation against Mordecai. . . . And Haman told them of the glory of his riches . . . and all the things wherein the king had promoted him . . . Yet all this availeth me nothing, so long as I see Mordecai the Jew sitting at the king's gate." What a shrewd exposure of human weakness it is!

It is needful only to look around us, to see that the greatest restrainer of the anti-social tendencies of men is fear, not of the law, but of the opinion of their fellows. The conventions of honour bind men who break legal, moral, and religious bonds; and, while people endure the extremity of physical pain rather than part with life, shame drives the weakest to suicide.

Every forward step of social progress brings

men into closer relations with their fellows, and increases the importance of the pleasures and pains derived from sympathy. We judge the acts of others by our own sympathies, and we judge our own acts by the sympathies of others, every day and all day long, from childhood upwards, until associations, as indissoluble as those of language, are formed between certain acts and the feelings of approbation or disapprobation. It becomes impossible to imagine some acts without disapprobation, or others without approbation of the actor, whether he be one's self, or any one else. We come to think in the acquired dialect of morals. An artificial personality, the "man within," as Adam Smith* calls conscience, is built up beside the natural personality. He is the watchman of society, charged to restrain the anti-social tendencies of the natural man within the limits required by social welfare.

* "Theory of the Moral Sentiments," Part iii. chap. 3. On the Influence and Authority of Conscience.

XI.

I have termed this evolution of the feelings out of which the primitive bonds of human society are so largely forged, into the organized and personified sympathy we call conscience, the ethical process.* So far as it tends to

* Worked out, in its essential features, chiefly by Hartley and Adam Smith, long before the modern doctrine of evolution was thought of. See Note below, p. 45.

make any human society more efficient in the struggle for existence with the state of nature, or with other societies, it works in harmonious contrast with the cosmic process. But it is none the less true that, since law and morals are restraints upon the struggle for existence between men in society, the ethical process is in opposition to the principle of the cosmic process, and tends to the suppression of the qualities best fitted for success in that struggle.*

* See the essay "On the Struggle for Existence in Human Society" below; and Collected Essays, vol. i. p. 276, for Kant's recognition of these facts.

It is further to be observed that, just as the self-assertion, necessary to the maintenance of society against the state of nature, will destroy that society if it is allowed free operation within; so the self-restraint, the essence of the ethical process, which is no less an essential condition of the existence of every polity, may, by excess, become ruinous to it.

Moralists of all ages and of all faiths, attending only to the relations of men towards one another in an ideal society, have agreed upon the "golden rule," "Do as you would be done by." In other words, let sympathy be your guide; put yourself in the place of the man towards whom your action is directed; and do to him what you would like to have done to yourself under the circumstances. However much one

may admire the generosity of such a rule of

conduct; however confident one may be that average men may be thoroughly depended upon not to carry it out to its full logical consequences; it is nevertheless desirable to recognise the fact that these consequences are incompatible with the existence of a civil state, under any circumstances of this world which have obtained, or, so far as one can see, are, likely to come to pass.

For I imagine there can be no doubt that the great desire of every wrongdoer is to escape from the painful consequences of his actions. If I put myself in the place of the man who has robbed me, I find that I am possessed by an exceeding desire not to be fined or imprisoned; if in that of the man who has smitten me on one cheek, I contemplate with satisfaction the absence of any worse result than the turning of the other cheek for like treatment. Strictly observed, the "golden rule" involves the negation of law by the refusal to put it in motion against law-breakers; and, as regards the external relations of a polity, it is the refusal to continue the struggle for existence. It can be obeyed, even partially, only under the protection of a society which repudiates it. Without such shelter, the followers of the "golden rule" may indulge in hopes of heaven, but they must reckon with the certainty that other people will be masters of the earth.

What would become of the garden if the

gardener treated all the weeds and slugs, and birds and trespassers as he would like to be treated, if he were in their place?

XII.

Under the preceding heads, I have endeavoured to represent in broad, but I hope faithful, outlines the essential features of the state of nature and of that cosmic process of which it is the outcome, so far as was needful for my argument; I have contrasted with the state of nature the state of art, produced by human intelligence

and energy, as it is exemplified by a garden; and I have shown that the state of art, here and elsewhere, can be maintained only by the constant counteraction of the hostile influences of the state of nature. Further, I have pointed out that the "horticultural process," which thus sets itself against the "cosmic process" is opposed to the latter in principle, in so far as it tends to arrest the struggle for existence, by restraining the multiplication which is one of the chief causes of that struggle, and by creating artificial conditions of life, better adapted to the cultivated plants than are the conditions of the state of nature. And I have dwelt upon the fact that, though the progressive modification, which is the consequence of the struggle for existence in the state of nature, is at an end, such modification may still be effected

by that selection, in view of an ideal of usefulness, or of pleasantness, to man, of which the state of nature knows nothing.

I have proceeded to show that a colony, set down in a country in the state of nature, presents close analogies with a garden; and I have indicated the course of action which an administrator, able and willing to carry out horticultural principles, would adopt, in order to secure the success of such a newly formed polity, supposing it to be capable of indefinite expansion. In the contrary case, I have shown that difficulties must arise; that the unlimited increase of the population over a limited area must, sooner or later, reintroduce into the colony that struggle for the means of existence between the colonists, which it was the primary object of the administrator to exclude, insomuch as it is fatal to the mutual peace which is the prime condition of the union of men in society.

I have briefly described the nature of the only radical cure, known to me, for the disease which would thus threaten the existence of the colony; and, however regretfully, I have been obliged to admit that this rigorously scientific method of applying the principles of evolution to human society hardly comes within the

region of practical politics; not for want of will on the part of a great many people; but because, for one reason, there is no hope that mere human beings will ever possess enough intelligence to select the fittest. And I

have adduced other grounds for arriving at the same conclusion.

I have pointed out that human society took its rise in the organic necessities expressed by imitation and by the sympathetic emotions; and that, in the struggle for existence with the state of nature and with other societies, as part of it, those in which men were thus led to close co-operation had a great advantage.* But, since each man retained more or less of the faculties common to all the rest, and especially a full share of the desire for unlimited self-gratification, the struggle for existence within society could only be gradually eliminated. So long as any of it remained, society continued to be an imperfect instrument of the struggle for existence and, consequently, was improvable by the selective influence of that struggle. Other things being alike, the tribe of savages in which order was best maintained; in which there was most security within the tribe and the most loyal mutual support outside it, would be the survivors.

* Collected Essays, vol. v., Prologue, p. 52.

I have termed this gradual strengthening of the social bond, which, though it arrest the struggle for existence inside society, up to a certain point improves the chances of society, as a corporate whole, in the cosmic struggle—the ethical process. I have endeavoured to show that, when the ethical process has advanced so far as to secure

every member of the society in the possession of the means of existence, the struggle for existence, as between man and man, within that society is, ipso facto, at an end. And, as it is undeniable that the most highly civilized societies have substantially reached this position, it follows that, so far as they are concerned, the struggle for existence can play no important part within them.* In other words, the kind of evolution which is brought about in the state of nature cannot take place.

* Whether the struggle for existence with the state of nature and with other societies, so far as they stand in the relation of the state of nature with it, exerts a selective influence upon modern society, and in what direction, are questions not easy to answer. The problem of the effect of military and industrial warfare upon those who wage it is very complicated.

I have further shown cause for the belief that direct selection, after the fashion of the horticulturist and the breeder, neither has played, nor can play, any important part in the evolution of society; apart from other reasons, because I do not see how such selection could be practised without a serious weakening, it may be the destruction, of the bonds which hold society together. It strikes me that men who are accustomed to contemplate the active or passive extirpation of the weak, the unfortunate, and the superfluous; who justify that conduct on the ground that it has the sanction of the cosmic process, and is the only way of ensuring the progress of the race; who, if

they are consistent, must rank medicine among the black arts and count the physician a mischievous preserver of the unfit; on whose matrimonial undertakings the principles of the stud have the chief influence; whose whole lives, therefore, are an education in the noble art of suppressing natural affection and sympathy, are not likely to have any large stock of these commodities left. But, without them, there is no conscience, nor any restraint on the conduct of men, except the calculation of self-interest, the balancing of certain present gratifications against doubtful future pains; and experience tells us how much that is worth. Every day, we see firm believers in the hell of the theologians commit acts by which, as they believe when cool, they risk eternal punishment; while they hold back from those which are opposed to the sympathies of their associates.

XIII.

That progressive modification of civilization which passes by the name of the

"evolution of society," is, in fact, a process of an essentially different character, both from that which brings about the evolution of species, in the state of nature, and from that which gives rise to the evolution of varieties, in the state of art.

There can be no doubt that vast changes have taken place in English civilization since the reign

of the Tudors. But I am not aware of a particle of evidence in favour of the conclusion that this evolutionary process, has been accompanied by any modification of the physical, or the mental, characters of the men who have been the subjects of it. I have not met with any grounds for suspecting that the average Englishmen of to-day are sensibly different from those that Shakspere knew and drew. We look into his magic mirror of the Elizabethan age, and behold, nowise darkly, the presentment of ourselves.

During these three centuries, from the reign of Elizabeth to that of Victoria, the struggle for existence between man and man has been so largely restrained among the great mass of the population (except for one or two short intervals of civil war), that it can have had little, or no, selective operation. As to anything comparable to direct selection, it has been practised on so small a scale that it may also be neglected. The criminal law, in so far as by putting to death or by subjecting to long periods of imprisonment, those who infringe its provisions, prevents the propagation of hereditary criminal tendencies; and the poor-law, in so far as it separates married couples, whose destitution arises from hereditary defects of character, are doubtless selective agents operating in favour of the non-criminal and the more effective members of society. But the proportion of the population which they influence

is very small; and, generally, the hereditary criminal and the hereditary pauper have propagated their kind before the law affects them. In a large proportion of cases, crime and pauperism have nothing to do with heredity; but are the consequence, partly, of circumstances and, partly, of the possession of qualities, which, under

different conditions of life, might have excited esteem and even admiration. It was a shrewd man of the world who, in discussing sewage problems, remarked that dirt is riches in the wrong place; and that sound aphorism has moral applications. The benevolence and open-handed generosity which adorn a rich man, may make a pauper of a poor one; the energy and courage to which the successful soldier owes his rise, the cool and daring subtlety to which the great financier owes his fortune, may very easily, under unfavourable conditions, lead their possessors to the gallows, or to the hulks. Moreover, it is fairly probable that the children of a "failure" will receive from their other parent just that little modification of character which makes all the difference. I sometimes wonder whether people, who talk so freely about extirpating the unfit, ever dispassionately consider their own history. Surely, one must be very "fit," indeed, not to know of an occasion, or perhaps two, in one's life, when it would have been only too easy to qualify for a place among the "unfit."

In my belief the innate qualities, physical, intellectual, and moral, of our nation have remained substantially the same for the last four or five centuries. If the struggle for existence has affected us to any serious extent (and I doubt it) it has been, indirectly, through our military and industrial wars with other nations.

XIV.

What is often called the struggle for existence in society (I plead guilty to having used the term too loosely myself), is a contest, not for the means of existence, but for the means of enjoyment. Those who occupy the first places in this practical competitive examination are the rich and the influential; those who fail, more or less, occupy the lower places, down to the squalid obscurity of the pauper and the criminal. Upon the most liberal estimate, I suppose the former group will not amount to two per cent. of the population. I doubt if the latter exceeds another two per cent.; but let it be supposed, for the sake of argument, that it is as great as five

per cent.*

* Those who read the last Essay in this volume will not accuse me of wishing to attenuate the evil of the existence of this group, whether great or small.

As it is only in the latter group that any thing comparable to the struggle for existence in the state of nature can take place; as it is

only among this twentieth of the whole people that numerous men, women, and children die of rapid or slow starvation, or of the diseases incidental to permanently bad conditions of life; and as there is nothing to prevent their multiplication before they are killed off, while, in spite of greater infant mortality, they increase faster than the rich; it seems clear that the struggle for existence in this class can have no appreciable selective influence upon the other 95 per cent. of the population.

What sort of a sheep breeder would he be who should content himself with picking out the worst fifty out of a thousand, leaving them on a barren common till the weakest starved, and then letting the survivors go back to mix with the rest? And the parallel is too favourable; since in a large number of cases, the actual poor and the convicted criminals are neither the weakest nor the worst.

In the struggle for the means of enjoyment, the qualities which ensure success are energy, industry, intellectual capacity, tenacity of purpose, and, at least, as much sympathy as is necessary to make a man understand the feelings of his fellows. Were there none of those artificial arrangements by which fools and knaves are kept at the top of society instead of sinking to their natural place at the bottom,* the struggle for the means

of enjoyment would ensure a constant circulation of the human units of the social compound, from the bottom to the top and from the top to the bottom. The survivors of the contest, those who continued to form the great bulk of the polity, would not be those "fittest" who got to the very top, but the great body of the moderately "fit," whose numbers and superior propagative power, enable them always to swamp the

exceptionally endowed minority.

* I have elsewhere lamented the absence from society of a machinery for facilitating the descent of incapacity. "Administrative Nihilism." Collected Essays, vol. i. p. 54.

I think it must be obvious to every one, that, whether we consider the internal or the external interests of society, it is desirable they should be in the hands of those who are endowed with the largest share of energy, of industry, of intellectual capacity, of tenacity of purpose, while they are not devoid of sympathetic humanity; and, in so far as the struggle for the means of enjoyment tends to place such men in possession of wealth and influence, it is a process which tends to the good of society. But the process, as we have seen, has no real resemblance to that which adapts living beings to current conditions in the state of nature; nor any to the artificial selection of the horticulturist.

To return, once more, to the parallel of horticulture. In the modern world, the gardening of men by themselves is practically restricted to the performance, not of selection, but of that other function of the gardener, the creation of conditions more favourable than those of the state of nature; to the end of facilitating the free expansion of the innate faculties of the citizen, so far as it is consistent with the general good. And the business of the moral and political philosopher appears to me to be the ascertainment, by the same method of observation, experiment, and ratiocination, as is practised in other kinds of scientific work, of the course of conduct which will best conduce to that end.

But, supposing this course of conduct to be scientifically determined and carefully followed out, it cannot put an end to the struggle for existence in the state of nature; and it will not so much as tend, in any way, to the adaptation of man to that state. Even should the whole human race be absorbed in one vast polity, within which "absolute political justice" reigns, the struggle for existence with the state of nature outside it, and the tendency to the return to the struggle within, in consequence of

over-multiplication, will remain; and, unless men's inheritance from the ancestors who fought a good fight in the state of

nature, their dose of original sin, is rooted out by some method at present unrevealed, at any rate to disbelievers in supernaturalism, every child born into the world will still bring with him the instinct of unlimited self-assertion. He will have to learn the lesson of self-restraint and renunciation. But the practice of self-restraint and renunciation is not happiness, though it may be something much better.

That man, as a "political animal," is susceptible of a vast amount of improvement, by education, by instruction, and by the application of his intelligence to the adaptation of the conditions of life to his higher needs, I entertain not the slightest doubt. But so long as he remains liable to error, intellectual or moral; so long as he is compelled to be perpetually on guard against the cosmic forces, whose ends are not his ends, without and within himself; so long as he is haunted by inexpugnable memories and hopeless aspirations; so long as the recognition of his intellectual limitations forces him to acknowledge his incapacity to penetrate the mystery of existence; the prospect of attaining untroubled happiness, or of a state which can, even remotely, deserve the title of perfection, appears to me to be as misleading an illusion as ever was dangled before the eyes of poor humanity. And there have been many of them.

That which lies before the human race is a

constant struggle to maintain and improve, in opposition to the State of Nature, the State of Art of an organized polity; in which, and by which, man may develop a worthy civilization, capable of maintaining and constantly improving itself, until the evolution of our globe shall have entered so far upon its downward course that the cosmic process resumes its sway; and, once more, the State of Nature prevails over the surface of our planet. Note: (See p. 30).—It seems the fashion nowadays to ignore Hartley; though, a century and a half ago, he not only laid the foundations but

built up much of the superstructure of a true theory of the Evolution of the intellectual and moral faculties. He speaks of what I have termed the ethical process as "our Progress from Self-interest to Self-annihilation." Observations on Man (1749), vol. ii p. 281.

II. EVOLUTION AND ETHICS.

[The Romanes Lecture, 1893.]

Soleo enim et in aliena castra transire, non tanquam transfuga sed tanquam explorator. (L. ANNAEI SENECAE EPIST. II. 4.)

THERE is a delightful child's story, known by the title of "Jack and the Bean-stalk," with which my contemporaries who are present will be familiar. But so many of our grave and reverend Juniors have been brought up on severer intellectual diet, and, perhaps, have become acquainted with fairyland only through primers of comparative mythology, that it may be needful to give an outline of the tale. It is a legend of a bean-plant, which grows and grows until it reaches the high heavens and there spreads out into a vast canopy of foliage. The hero, being moved to climb the stalk, discovers that the leafy expanse supports a world composed of the same elements as that below but yet strangely new; and his adventures there, on which I may not dwell, must

have completely changed his views of the nature of things; though the story, not having been composed by, or for, philosophers, has nothing to say about views.

My present enterprise has a certain analogy to that of the daring adventurer. I beg you to accompany me in an attempt to reach a world which, to many, is probably strange, by the help of a bean. It is, as you know, a simple, inert-looking thing. Yet, if planted under proper conditions, of which sufficient warmth is one of the most important, it manifests active powers of a very remarkable kind. A small green

seedling emerges, rises to the surface of the soil, rapidly increases in size and, at the same time, undergoes a series of metamorphoses which do not excite our wonder as much as those which meet us in legendary history, merely because they are to be seen every day and all day long.

By insensible steps, the plant builds itself up into a large and various fabric of root, stem, leaves, flowers, and fruit, every one moulded within and without in accordance with an extremely complex but, at the same time, minutely defined pattern. In each of these complicated structures, as in their smallest constituents, there is an immanent energy which, in harmony with that resident in all the others, incessantly works towards the maintenance ,of the whole and the efficient performance of the part which it has to play in the economy of nature.

But no sooner has the edifice, reared with such exact elaboration, attained completeness, than it begins to crumble. By degrees, the plant withers and disappears from view, leaving behind more or fewer apparently inert and simple bodies, just like the bean from which it sprang; and, like it, endowed with the potentiality of giving rise to a similar cycle of manifestations. Neither the poetic nor the scientific imagination is put to much strain in the search after analogies with this process of going forth and, as it were, returning to the starting-point. It may be likened to the ascent and descent of a slung stone, or the course of an arrow along its trajectory. Or we may say that the living energy takes first an upward and then a downward road. Or it may seem preferable to compare the expansion of the germ into the full-grown plant, to the unfolding of a fan, or to the rolling forth and widening of a stream; and thus to arrive at the conception of "development," or "evolution." Here, as elsewhere, names are "noise and smoke"; the important point is to have a clear and adequate conception of the fact signified by a name. And, in this case, the fact is the Sisyphaean process, in the course of which, the living and growing plant passes from the relative simplicity and latent potentiality of the seed to the full epiphany of a highly differentiated type, thence to fall back to simplicity

and potentiality.

The value of a strong intellectual grasp of the nature of this process lies in the circumstance that what is true of the bean is true of living things in general. From very low forms up to the highest—in the animal no less than in the vegetable kingdom—the process of life presents the same appearance [Note 1} of cyclical evolution. Nay, we have but to cast our eyes over the rest of the world and cyclical change presents itself on all sides. It meets us in the water that flows to the sea and returns to the springs; in the heavenly bodies that wax and wane, go and return to their places; in the inexorable sequence of the ages of man's life; in that successive rise, apogee, and fall of dynasties and of states which is the most prominent topic of civil history.

As no man fording a swift stream can dip his foot twice into the same water, so no man can, with exactness, affirm of anything in the sensible world that it is.[Note 2} As he utters the words, nay, as he thinks them, the predicate ceases to be applicable; the present has become the past; the "is" should be "was." And the more we learn of the nature of things, the more evident is it that what we call rest is only unperceived activity; that seeming peace is silent but strenuous battle. In every part, at every moment, the state of the cosmos is the expression of a transitory adjustment of contending forces; a scene, of strife, in which all the combatants fall in turn. What is true of each part, is true of the whole. Natural knowledge tends more and more to the conclusion that "all the choir of heaven and furniture of the earth" are the transitory forms of parcels of cosmic substance wending along the road of evolution, from nebulous potentiality, through endless growths of sun and planet and satellite; through all varieties of matter; through infinite diversities of life and thought; possibly, through modes of being of which we neither have a conception, nor are competent to form any, back to the indefinable latency from which they arose. Thus the most obvious attribute of the cosmos is its impermanence. It assumes the aspect

not so much of a permanent entity as of a changeful process in which naught endures save the flow of energy and the rational order which pervades it.

We have climbed our bean-stalk and have reached a wonderland in which the common and the familiar become things new and strange. In the exploration of the cosmic process thus typified, the highest intelligence of man finds inexhaustible employment; giants are subdued to our service; and the spiritual affections of the contemplative philosopher are engaged by beauties worthy of eternal constancy.

But there is another aspect of the cosmic process, so perfect as a mechanism, so beautiful as a work of art. Where the cosmopoietic energy

works through sentient beings, there arises, among its other manifestations, that which we call pain or suffering. This baleful product of evolution increases in quantity and in intensity, with advancing grades of animal organization, until it attains its highest level in man. Further, the consummation is not reached in man, the mere animal; nor in man, the whole or half savage; but only in man, the member of an organized polity. And it is a necessary consequence of his attempt to live in this way; that is, under those conditions which are essential to the full development of his noblest powers.

Man, the animal, in fact, has worked his way to the headship of the sentient world, and has become the superb animal which he is, in virtue of his success in the struggle for existence. The conditions having been of a certain order, man's organization has adjusted itself to them better than that of his competitors in the cosmic strife. In the case of mankind, the self-assertion, the unscrupulous seizing upon all that can be grasped, the tenacious holding of all that can be kept, which constitute the essence of the struggle for existence, have answered. For his successful progress, throughout the savage state, man has been largely indebted to those qualities which he shares with the ape and the tiger; his exceptional physical organization; his cunning, his sociability, his curiosity, and his imitativeness; his

ruthless and

ferocious destructiveness when his anger is roused by opposition.

But, in proportion as men have passed from anarchy to social organization, and in proportion as civilization has grown in worth, these deeply ingrained serviceable qualities have become defects. After the manner of successful persons, civilized man would gladly kick down the ladder by which he has climbed. He would be only too pleased to see "the ape and tiger die." But they decline to suit his convenience; and the unwelcome intrusion of these boon companions of his hot youth into the ranged existence of civil life adds pains and griefs, innumerable and immeasurably great, to those which the cosmic process necessarily brings on the mere animal. In fact, civilized man brands all these ape and tiger promptings with the name of sins; he punishes many of the acts which flow from them as crimes; and, in extreme cases, he does his best to put an end to the survival of the fittest of former days by axe and rope.

I have said that civilized man has reached this point; the assertion is perhaps too broad and general; I had better put it that ethical man has attained thereto. The science of ethics professes to furnish us with a reasoned rule of life; to tell us what is right action and why it is so. Whatever differences of opinion may exist among experts there is a general consensus that the ape and

tiger methods of the struggle for existence are not reconcilable with sound ethical principles.

The hero of our story descended the bean-stalk, and came back to the common world, where fare and work were alike hard; where ugly competitors were much commoner than beautiful princesses; and where the everlasting battle with self was much less sure to be crowned with victory than a turn-to with a giant. We have done the like. Thousands upon thousands of our fellows, thousands of years ago, have preceded us in finding themselves face to face with the same dread problem of evil.

They also have seen that the cosmic process is evolution; that it is full of wonder, full of beauty, and, at the same time, full of pain. They have sought to discover the bearing of these great facts on ethics; to find out whether there is, or is not, a sanction for morality in the ways of the cosmos.

Theories of the universe, in which the conception of evolution plays a leading part, were extant at least six centuries before our era. Certain knowledge of them, in the fifth century, reaches us from localities as distant as the valley of the Ganges and the Asiatic coasts of the Aegean. To the early philosophers of Hindostan, no less than to those of Ionia, the salient and characteristic feature of the phenomenal world was its changefulness; the unresting flow of all things, through birth to visible being and thence to not being, in which they could discern no sign of a beginning and for which they saw no prospect of an ending. It was no less plain to some of these antique forerunners of modern philosophy that suffering is the badge of all the tribe of sentient things; that it is no accidental accompaniment, but an essential constituent of the cosmic process. The energetic Greek might find fierce joys in a world in which "strife is father and king;" but the old Aryan spirit was subdued to quietism in the Indian sage; the mist of suffering which spread over humanity hid everything else from his view; to him life was one with suffering and suffering with life.

In Hindostan, as in Ionia, a period of relatively high and tolerably stable civilization had succeeded long ages of semi-barbarism and struggle. Out of wealth and security had come leisure and refinement, and, close at their heels, had followed the malady of thought. To the struggle for bare existence, which never ends, though it may be alleviated and partially disguised for a fortunate few, succeeded the struggle to make existence intelligible and to bring the order of things into harmony with the moral sense of man, which also never ends, but, for the thinking few, becomes keen er with every increase of knowledge and with every step towards the realization of a

worthy ideal of life.

Two thousand five hundred years ago, the value of civilization was as apparent as it is now; then, as now, it was obvious that only in the garden of an orderly polity can the finest fruits humanity is capable of bearing be produced. But it had also become evident that the blessings of culture were not unmixed. The garden was apt to turn into a hothouse. The stimulation of the senses, the pampering of the emotions, endlessly multiplied the sources of pleasure. The constant widening of the intellectual field indefinitely extended the range of that especially human faculty of looking before and after, which adds to the fleeting present those old and new worlds of the past and the future, wherein men dwell the more the higher their culture. But that very sharpening of the sense and that subtle refinement of emotion, which brought such a wealth of pleasures, were fatally attended by a proportional enlargement of the capacity for suffering; and the divine faculty of imagination, while it created new heavens and new earths, provided them with the corresponding hells of futile regret for the past and morbid anxiety for the future. [Note 3} Finally, the inevitable penalty of over-stimulation, exhaustion, opened the gates of civilization to its great enemy, ennui; the stale and flat weariness when man delights-not, nor woman neither; when all things are vanity and vexation; and life seems not worth living except to escape the bore of dying.

Even purely intellectual progress brings about its revenges. Problems settled in a rough and ready way by rude men, absorbed in action, demand renewed attention and show themselves to be still unread riddles when men have time to think. The beneficent demon, doubt, whose name is Legion and who dwells amongst the tombs of old faiths, enters into mankind and thenceforth refuses to be cast out. Sacred customs, venerable dooms of ancestral wisdom, hallowed by tradition and professing to hold good for all time, are put to the question. Cultured reflection asks for their credentials; judges them by its own standards; finally, gathers those of which it approves into ethical systems, in which the reasoning is rarely much more

than a decent pretext for the adoption of foregone conclusions.

One of the oldest and most important elements in such systems is the conception of justice. Society is impossible unless those who are associated agree to observe certain rules of conduct towards one another; its stability depends on the steadiness with which they abide by that agreement; and, so far as they waver, that mutual trust which is the bond of society is weakened or destroyed. Wolves could not hunt in packs except for the real, though unexpressed, understanding that they should not attack one another during the chase. The most rudimentary polity is a pack of men living under the like tacit, or expressed,

understanding; and having made the very important advance upon wolf society, that they agree to use the force of the whole body against individuals who violate it and in favour of those who observe it. This observance of a common understanding, with the consequent distribution of punishments and rewards according to accepted rules, received the name of justice, while the contrary was called injustice. Early ethics did not take much note of the animus of the violator of the rules. But civilization could not advance far, without the establishment of a capital distinction between the case of involuntary and that of wilful misdeed; between a merely wrong action and a guilty one. And, with increasing refinement of moral appreciation, the problem of desert, which arises out of this distinction, acquired more and more theoretical and practical importance. If life must be given for life, yet it was recognized that the unintentional slayer did not altogether deserve death; and, by a sort of compromise between the public and the private conception of justice, a sanctuary was provided in which he might take refuge from the avenger of blood.

The idea of justice thus underwent a gradual sublimation from punishment and reward according to acts, to punishment and reward according to desert; or, in other words, according to motive. Righteousness, that is, action from right motive,

not only became synonymous with justice, but the positive constituent of innocence

and the very heart of goodness.

Now when the ancient sage, whether Indian or Greek, who had attained to this conception of goodness, looked the world, and especially human life, in the face, he found it as hard as we do to bring the course of evolution into harmony with even the elementary requirement of the ethical ideal of the just and the good.

If there is one thing plainer than another, it is that neither the pleasures nor the pains of life, in the merely animal world, are distributed according to desert; for it is admittedly impossible for the lower orders of sentient beings, to deserve either the one or the other. If there is a generalization from the facts of human life which has the assent of thoughtful men in every age and country, it is that the violator of ethical rules constantly escapes the punishment which he deserves; that the wicked flourishes like a green bay tree, while, the righteous begs his bread; that the sins of the fathers are visited upon the children; that, in the realm of nature, ignorance is punished just as severely as wilful wrong; and that thousands upon thousands of innocent beings suffer for the crime, or the unintentional trespass of one.

Greek and Semite and Indian are agreed upon

this subject. The book of Job is at one with the "Works and Days" and the Buddhist Sutras; the Psalmist and the Preacher of Israel, with the Tragic Poets of Greece. What is a more common motive of the ancient tragedy in fact, than the unfathomable injustice of the nature of things; what is more deeply felt to be true than its presentation of the destruction of the blameless by the work of his own hands, or by the fatal operation of the sins of others? Surely Oedipus was pure of heart; it was the natural sequence of events—the cosmic process—which drove him, in all innocence, to slay his father and become the husband of his mother, to the desolation of his people and his own headlong ruin. Or to step, for a moment, beyond the chronological limits I have set myself, what constitutes the sempiternal attraction of Hamlet but the appeal to deepest experience of that history of a no less

blameless dreamer, dragged, in spite of himself, into a world out of joint involved in a tangle of crime and misery, created by one of the prime agents of the cosmic process as it works in and through man?

Thus, brought before the tribunal of ethics, the cosmos might well seem to stand condemned. The conscience of man revolted against the moral indifference of nature, and the microcosmic atom should have found the illimitable macrocosm guilty. But few, or none, ventured to record that verdict.

In the great Semitic trial of this issue, Job takes refuge in silence and submission; the Indian and the Greek, less wise perhaps, attempt to reconcile the irreconcilable and plead for the defendant. To this end, the Greeks invented Theodicies; while the Indians devised what, in its ultimate form, must rather be termed a Cosmodicy. For, although Buddhism recognizes gods many and lords many, they are products of the cosmic process; and transitory, however long enduring, manifestations of its eternal activity. In the doctrine of transmigration, whatever its origin, Brahminical and Buddhist speculation found, ready to hand[Note 4} the means of constructing a plausible vindication of the ways of the cosmos to man. If this world is full of pain and sorrow; if grief and evil fall, like the rain, upon both the just and the unjust; it is because, like the rain, they are links in the endless chain of natural causation by which past, present, and future are indissolubly connected; and there is no more injustice in the one case than in the other. Every sentient being is reaping as it has sown; if not in this life, then in one or other of the infinite series of antecedent existences of which it is the latest term. The present distribution of good and evil is, therefore, the algebraical sum of accumulated positive and negative deserts; or, rather, it depends on the floating balance of the account. For it was not thought necessary that a complete settlement

should ever take place. Arrears might stand over as a sort of "hanging gale;" a period of celestial happiness just earned might be succeeded by ages of torment in a

hideous nether world, the balance still overdue for some remote ancestral error. [Note 5}

Whether the cosmic process looks any more moral than at first, after such a vindication, may perhaps be questioned. Yet this plea of justification is not less plausible than others; and none but very hasty thinkers will reject it on the ground of inherent absurdity. Like the doctrine of evolution itself, that of transmigration has its roots in the world of reality; and it may claim such support as the great argument from analogy is capable of supplying.

Everyday experience familiarizes us with the facts which are grouped under the name of heredity. Every one of us bears upon him obvious marks of his parentage, perhaps of remoter relationships. More particularly, the sum of tendencies to act in a certain way, which we call "character," is often to be traced through a long series of progenitors and collaterals. So we may justly say that this "character"—this moral and intellectual essence of a man—does veritably pass over from one fleshly tabernacle to another, and does really transmigrate from generation to generation. In the new-born infant, the character of the stock lies latent, and the Ego is little more

than a bundle of potentialities. But, very early, these become acutalities; from childhood to age they manifest themselves in dulness or brightness, weakness or strength, viciousness or uprightness; and with each feature modified by confluence with another character, if by nothing else, the character passed on to its incarnation in new bodies.

The Indian philosophers called character, as thus defined, "karma."[Note 6} It is this karma which passed from life to life and linked them in the chain of transmigrations; and they held that it is modified in each life, not merely by confluence of parentage, but by its own acts. They were, in fact, strong believers in the theory, so much disputed just at present, of the hereditary transmission of acquired characters. That the manifestation of the tendencies of a character may be greatly facilitated, or

impeded, by conditions, of which self-discipline, or the absence of it, are among the most important, is indubitable; but that the character itself is modified in this way is by no means so certain; it is not so sure that the transmitted character of an evil liver is worse, or that of a righteous man better, than that which he received. Indian philosophy, however, did not admit of any doubt on this subject; the belief in the influence of conditions, notably of self-discipline, on the karma was not merely a necessary postulate of its theory of retribution, but it presented

the only way of escape from the endless round of transmigrations.

The earlier forms of Indian philosophy agreed with those prevalent in our own times, in supposing the existence of a permanent reality, or "substance," beneath the shifting series of phenomena, whether of matter or of mind. The substance of the cosmos was "Brahma," that of the individual man "Atman;" and the latter was separated from the former only, if I may so speak, by its phenomenal envelope, by the casing of sensations, thoughts and desires, pleasures and pains, which make up the illusive phantasmagoria of life. This the ignorant take for reality; their "Atman" therefore remains eternally imprisoned in delusions, bound by the fetters of desire and scourged by the whip of misery. But the man who has attained enlightenment sees that the apparent reality is mere illusion, or, as was said a couple of thousand years later, that there is nothing good nor bad but thinking makes it so. If the cosmos is just "and of our pleasant vices makes instruments to scourge us," it would seem that the only way to escape from our heritage of evil is to destroy that fountain of desire whence our vices flow; to refuse any longer to be the instruments of the evolutionary process, and withdraw from the struggle for existence. If the karma is modifiable by self-discipline, if its coarser desires, one after another, can be extinguished, the ultimate

fundamental desire of self-assertion, or the desire to be, may also be destroyed. [Note 7} Then the bubble of illusion will burst, and the freed individual "Atman"

will lose itself in the universal "Brahma."

Such seems to have been the pre-Buddhistic conception of salvation, and of the way to be followed by those who would attain thereto. No more thorough mortification of the flesh has ever been attempted than-that achieved by the Indian ascetic anchorite; no later monachism has so nearly succeeded in reducing the human mind to that condition of impassive quasi-somnambulism, which, but for its acknowledged holiness, might run the risk of being confounded with idiocy.

And this salvation, it will be observed, was to be attained through knowledge, and by action based on that knowledge; just as the experimenter, who would obtain a certain physical or chemical result, must have a knowledge of the natural laws involved and the persistent disciplined will adequate to carry out all the various operations required. The supernatural, in our sense of the term, was entirely excluded. There was no external power which could affect the sequence of cause and effect which gives rise to karma; none but the will of the subject of the karma which could put an end to it.

Only one rule of conduct could be based upon the remarkable theory of which I have endeavoured to give a reasoned outline. It was folly to continue

to exist when an overplus of pain was certain; and the probabilities in favour of the increase of misery with the prolongation of existence, were so overwhelming. Slaying the body only made matters worse; there was nothing for it but to slay the soul by the voluntary arrest of all its activities. Property, social ties, family affections, common companionship, must be abandoned; the most natural appetites, even that for food, must be suppressed, or at least minimized; until all that remained of a man was the impassive, extenuated, mendicant monk, self-hypnotised into cataleptic trances, which the deluded mystic took for foretastes of the final union with Brahma.

The founder of Buddhism accepted the chief postulates demanded by his

predecessors. But he was not satisfied with the practical annihilation involved in merging the individual existence in the unconditioned—the Atman in Brahma. It would seem that the admission of the existence of any substance whatever—even of the tenuity of that which has neither quality nor energy and of which no predicate whatever can be asserted—appeared to him to be a danger and a snare. Though reduced to a hypostatized negation, Brahma was not to be trusted; so long as entity was there, it might conceivably resume the weary round of evolution, with all its train of immeasurable miseries. Gautama got rid of even that

shade of a shadow of permanent existence by a metaphysical tour de force of great interest to the student of philosophy, seeing that it supplies the wanting half of Bishop Berkeley's well-known idealistic argument.

Granting the premises, I am not aware of any escape from Berkeley's conclusion, that the "substance" of matter is a metaphysical unknown quantity, of the existence of which there is no proof. What Berkeley does not seem to have so clearly perceived is that the non-existence of a substance of mind is equally arguable; and that the result of the impartial applications of his reasonings is the reduction of the All to coexistences and sequences of phenomena, beneath and beyond which there is nothing cognoscible. It is a remarkable indication of the subtlety of Indian speculation that Gautama should have seen deeper than the greatest of modern idealists; though it must be admitted that, if some of Berkeley's reasonings respecting the nature of spirit are pushed home, they reach pretty much the same conclusion. [Note 8}

Accepting the prevalent Brahminical doctrine that the whole cosmos, celestial, terrestrial, and infernal, with its population of gods and other celestial beings, of sentient animals, of Mara and his devils, is incessantly shifting through recurring cycles of production and destruction, in each of which every human being has his transmigratory

representative, Gautama proceeded to eliminate substance altogether; and to reduce the cosmos to a mere flow of sensations, emotions, volitions, and thoughts, devoid of any substratum. As, on the surface of a stream of water, we see ripples and whirlpools, which last for a while and then vanish with the causes that gave rise to them, so what seem individual existences are mere temporary associations of phenomena circling round a centre, "like a dog tied to a post." In the whole universe there is nothing permanent, no eternal substance either of mind or of matter. Personality is a metaphysical fancy; and in very truth, not only we, but all things, in the worlds without end of the cosmic phantasmagoria, are such stuff as dreams are made of.

What then becomes of karma? Karma remains untouched. As the peculiar form of energy we call magnetism may be transmitted from a loadstone to a piece of steel, from the steel to a piece of nickel, as it may be strengthened or weakened by the conditions to which it is subjected while resident in each piece, so it seems to have been conceived that karma might be transmitted from one phenomenal association to another by a sort of induction. However this may be, Gautama doubtless had a better guarantee for the abolition of transmigration, when no wrack of substance, either of Atman or of Brahma, was left behind; when, in short, a man had but to

dream that he willed not to dream, to put an end to all dreaming.

This end of life's dream is Nirvana. What Nirvana is the learned do not agree. But, since the best original authorities tell us there is neither desire nor activity, nor any possibility of phenomenal reappearance for the sage who has entered Nirvana, it may be safely said of this acme of Buddhistic philosophy—"the rest is silence."

[Note 9} Thus there is no very great practical disagreement between Gautama and his predecessors with respect to the end of action; but it is otherwise as regards the means to that end. With just insight into human nature, Gautama declared extreme ascetic practices to be useless and indeed harmful. The appetites and the passions are

not to be abolished by mere mortification of the body; they must, in addition, be attacked on their own ground and conquered by steady cultivation of the mental habits which oppose them; by universal benevolence; by the return of good for evil; by humility; by abstinence from evil thought; in short, by total renunciation of that self-assertion which is the essence of the cosmic process.

Doubtless, it is to these ethical qualities that Buddhism owes its marvellous success.[Note 10} A system which knows no God in the western sense; which denies a soul to man; which counts the belief in immortality a blunder and the hope of it a sin;

which refuses any efficacy to prayer and sacrifice; which bids men look to nothing but their own efforts for salvation; which, in its original purity, knew nothing of vows of obedience, abhorred intolerance, and never sought the aid of the secular arm; yet spread over a considerable moiety of the Old World with marvellous rapidity, and is still, with whatever base admixture of foreign superstitions, the dominant creed of a large fraction of mankind.

Let us now set our faces westwards, towards Asia Minor and Greece and Italy, to view the rise and progress of another philosophy, apparently independent, but no less pervaded by the conception of evolution.[Note 11}

The sages of Miletus were pronounced evolutionists; and, however dark may be some of the sayings of Heracleitus of Ephesus, who was probably a contemporary of Gautama, no better expressions of the essence of the modern doctrine of evolution can be found than are presented by some of his pithy aphorisms and striking metaphors. [Note 12} Indeed, many of my present auditors must have observed that, more than once, I have borrowed from him in the brief exposition of the theory of evolution with which this discourse commenced.

But when the focus of Greek intellectual activity shifted to Athens, the leading minds

concentrated their attention upon ethical problems. Forsaking the study of the macrocosm for that of the microcosm, they lost the key to the thought of the great Ephesian, which, I imagine, is more intelligible to us than it was to Socrates, or to Plato. Socrates, more especially, set the fashion of a kind of inverse agnosticism, by teaching that the problems of physics lie beyond the reach of the human intellect; that the attempt to solve them is essentially vain; that the one worthy object of investigation is the problem of ethical life; and his example was followed by the Cynics and the later Stoics. Even the comprehensive knowledge and the penetrating intellect of Aristotle failed to suggest to him that in holding the eternity of the world, within its present range of mutation, he was making a retrogressive step. The scientific heritage of Heracleitus passed into the hands neither of Plato nor of Aristotle, but into those of Democritus. But the world was not yet ready to receive the great conceptions of the philosopher of Abdera. It was reserved for the Stoics to return to the track marked out by the earlier philosophers; and, professing themselves disciples of Heracleitus, to develop the idea of evolution systematically. In doing this, they not only omitted some characteristic features of their master's teaching, but they made additions altogether foreign to it. One of the most influential of these importations was the transcendental

theism which had come into vogue. The restless, fiery energy, operating according to law, out of which all things emerge and into which they return, in the endless successive cycles of the great year; which creates and destroys worlds as a wanton child builds up, and anon levels, sand castles on the seashore; was metamorphosed into a material world-soul and decked out with all the attributes of ideal Divinity; not merely with infinite power and transcendent wisdom, but with absolute goodness.

The consequences of this step were momentous. For if the cosmos is the effect of an immanent, omnipotent, and infinitely beneficent cause, the existence in it of real evil, still less of necessarily inherent evil, is plainly inadmissible. [Note 13} Yet the

universal experience of mankind testified then, as now, that, whether we look within us or without us, evil stares us in the face on all sides; that if anything is real, pain and sorrow and wrong are realities.

It would be a new thing in history if a priori philosophers were daunted by the factious opposition of experience; and the Stoics were the last men to allow themselves to be beaten by mere facts. "Give me a doctrine and I will find the reasons for it," said Chrysippus. So they perfected, if they did not invent, that ingenious and plausible form of pleading, the Theodicy; for the purpose of showing firstly, that there is no such

thing as evil; secondly, that if there is, it is the necessary correlate of good; and, moreover, that it is either due to our own fault, or inflicted for our benefit. Theodicies have been very popular in their time, and I believe that a numerous, though somewhat dwarfed, progeny of them still survives. So far as I know, they are all variations of the theme set forth in those famous six lines of the "Essay on Man," in which Pope sums up Bolingbroke's reminiscences of stoical and other speculations of this kind—

"All nature is but art, unknown to thee; All chance, direction which thou canst not see; All discord, harmony not understood; All partial evil, universal good; And spite of pride, in erring reason's spite, One truth is clear: whatever is is right."

Yet, surely, if there are few more important truths than those enunciated in the first triad, the second is open to very grave objections. That there is a "soul of good in things evil" is unquestionable; nor will any wise man deny the disciplinary value of pain and sorrow. But these considerations do not help us to see why the immense multitude of irresponsible sentient beings, which cannot profit by such discipline, should suffer; nor why, among the endless possibilities open to omnipotence—that of sinless, happy existence among the rest—the actuality in which sin and misery abound should be that selected.

Surely it is mere cheap rhetoric to call arguments which have never yet been answered by even the meekest and the least rational of Optimists, suggestions of the pride of reason. As to the concluding aphorism, its fittest place would be as an inscription in letters of mud over the portal of some "stye of Epicurus"[Note 14}; for that is where the logical application of it to practice would land men, with every aspiration stifled and every effort paralyzed. Why try to set right what is right already? Why strive to improve the best of all possible worlds? Let us eat and drink, for as today all is right, so to-morrow all will be.

But the attempt of the Stoics to blind themselves to the reality of evil, as a necessary concomitant of the cosmic process, had less success than that of the Indian philosophers to exclude the reality of good from their purview. Unfortunately, it is much easier to shut one's eyes to good than to evil. Pain and sorrow knock at our doors more loudly than pleasure and happiness; and the prints of their heavy footsteps are less easily effaced. Before the grim realities of practical life the pleasant fictions of optimism vanished. If this were the best of all possible worlds, it nevertheless proved itself a very inconvenient habitation for the ideal sage.

The stoical summary of the whole duty of man, "Live according to nature," would seem to imply that the cosmic process is an exemplar for human

conduct. Ethics would thus become applied Natural History. In fact, a confused employment of the maxim, in this sense, has done immeasurable mischief in later times. It has furnished an axiomatic foundation for the philosophy of philosophasters and for the moralizing of sentimentalists. But the Stoics were, at bottom, not merely noble, but sane, men; and if we look closely into what they really meant by this ill-used phrase, it will be found to present no justification for the mischievous conclusions that have been deduced from it.

In the language of the Stoa, "Nature" was a word of many meanings. There was the "Nature" of the cosmos and the "Nature" of man. In the latter, the animal "nature,"

which man shares with a moiety of the living part of the cosmos, was distinguished from a higher "nature." Even in this higher nature there were grades of rank. The logical faculty is an instrument which may be turned to account for any purpose. The passions and the emotions are so closely tied to the lower nature that they may be considered to be pathological, rather than normal, phenomena. The one supreme, hegemonic, faculty, which constitutes the essential "nature" of man, is most nearly represented by that which, in the language of a later philosophy, has been called the pure reason. It is this "nature" which holds up the ideal of the supreme good and demands absolute submission of the will to its behests. It is

which commands all men to love one another, to return good for evil, to regard one another as fellow-citizens of one great state. Indeed, seeing that the progress towards perfection of a civilized state, or polity, depends on the obedience of its members to these commands, the Stoics sometimes termed the pure reason the "political" nature. Unfortunately, the sense of the adjective has undergone so much modification, that the application of it to that which commands the sacrifice of self to the common good would now sound almost grotesque. [Note 15}

But what part is played by the theory of evolution in this view of ethics? So far as I can discern, the ethical system of the Stoics, which is essentially intuitive, and reverences the categorical imperative as strongly as that of any later moralists, might have been just what it was if they had held any other theory; whether that of special creation, on the one side, or that of the eternal existence of the present order, on the other.[Note 16} To the Stoic, the cosmos had no importance for the conscience, except in so far as he chose to think it a pedagogue to virtue. The pertinacious optimism of our philosophers hid from them the actual state of the case. It prevented them from seeing that cosmic nature is no school of virtue, but the headquarters of the enemy of ethical nature. The logic of facts was necessary to convince them

that the cosmos works through the lower nature of man, not for righteousness, but

against it. And it finally drove them to confess that the existence of their ideal "wise man" was incompatible with the nature of things; that even a passable approximation to that ideal was to be attained only at the cost of renunciation of the world and mortification, not merely of the flesh, but of all human affections. The state of perfection was that "apatheia"[Note 17} in which desire, though it may still be felt, is powerless to move the will, reduced to the sole function of executing the commands of pure reason. Even this residuum of activity was to be regarded as a temporary loan, as an efflux of the divine world-pervading spirit, chafing at its imprisonment in the flesh, until such time as death enabled it to return to its source in the all-pervading logos.

I find it difficult to discover any very great difference between Apatheia and Nirvana, except that stoical speculation agrees with pre-Buddhistic philosophy, rather than with the teachings of Gautama, in so far as it postulates a permanent substance equivalent to "Brahma" and "Atman;" and that, in stoical practice, the adoption of the life of the mendicant cynic was held to be more a counsel of perfection than an indispensable condition of the higher life.

Thus the extremes touch. Greek thought and

Indian thought set out from ground common to both, diverge widely, develop under very different physical and moral conditions, and finally converge to practically the same end.

The Vedas and the Homeric epos set before us a world of rich and vigorous life, full of joyous fighting men

That ever with a frolic welcome took The thunder and the sunshine ....

and who were ready to brave the very Gods themselves when their blood was up. A few centuries pass away, and under the influence of civilization the descendants of these men are "sicklied o'er with the pale cast of thought"—frank pessimists, or, at best, make-believe optimists. The courage of the warlike stock may be as hardly

tried as before, perhaps more hardly, but the enemy is self. The hero has become a monk. The man of action is replaced by the quietist, whose highest aspiration is to be the passive instrument of the divine Reason. By the Tiber, as by the Ganges, ethical man admits that the cosmos is too strong for him; and, destroying every bond which ties him to it by ascetic discipline, he seeks salvation in absolute renunciation.[Note 18}

Modern thought is making a fresh start from the base whence Indian and Greek philosophy set out; and, the human mind being very much what

it was six-and-twenty centuries ago, there is no ground for wonder if it presents indications of a tendency to move along the old lines to the same results.

We are more than sufficiently familiar with modern pessimism, at least as a speculation; for I cannot call to mind that any of its present votaries have sealed their faith by assuming the rags and the bowl of the mendicant Bhikku, or the cloak and the wallet of the Cynic. The obstacles placed in the way of sturdy vagrancy by an unphilosophical police have, perhaps, proved too formidable for philosophical consistency. We also know modern speculative optimism, with its perfectibility of the species, reign of peace, and lion and lamb transformation scenes; but one does not hear so much of it as one did forty years ago; indeed, I imagine it is to be met with more commonly at the tables of the healthy and wealthy, than in the congregations of the wise. The majority of us, I apprehend, profess neither pessimism nor optimism. We hold that the world is neither so good, nor so bad, as it conceivably might be; and, as most of us have reason, now and again, to discover that it can be. Those who have failed to experience the joys that make life worth living are, probably, in as small a minority as those who have never known the griefs that rob existence of its savour and turn its richest fruits into mere dust and ashes.

Further, I think I do not err in assuming that, however diverse their views on

philosophical and religious matters, most men are agreed that the proportion of good and evil in life may be very sensibly affected by human action. I never heard anybody doubt that the evil may be thus increased, or diminished; and it would seem to follow that good must be similarly susceptible of addition or subtraction. Finally, to my knowledge, nobody professes to doubt that, so far forth as we possess a power of bettering things, it is our paramount duty to use it and to train all our intellect and energy to this supreme service of our kind.

Hence the pressing interest of the question, to what extent modern progress in natural knowledge, and, more especially, the general outcome of that progress in the doctrine of evolution, is competent to help us in the great work of helping one another?

The propounders of what are called the "ethics of evolution," when the "evolution of ethics" would usually better express the object of their speculations, adduce a number of more or less interesting facts and more or less sound arguments in favour of the origin of the moral sentiments, in the same way as other natural phenomena, by a process of evolution. I have little doubt, for my own part, that they are on the right track; but as the immoral sentiments have no less been evolved, there is, so far, as much natural sanction for the

one as the other. The thief and the murderer follow nature just as much as the philanthropist. Cosmic evolution may teach us how the good and the evil tendencies of man may have come about; but, in itself, it is incompetent to furnish any better reason why what we call good is preferable to what we call evil than we had before. Some day, I doubt not, we shall arrive at an understanding of the evolution of the Ã¦sthetic faculty; but all the understanding in the world will neither increase nor diminish the force of the intuition that this is beautiful and that is ugly.

There is another fallacy which appears to me to pervade the so-called "ethics of evolution." It is the notion that because, on the whole, animals and plants have

advanced in perfection of organization by means of the struggle for existence and the consequent "survival of the fittest;" therefore men in society, men as ethical beings, must look to the same process to help them towards perfection. I suspect that this fallacy has arisen out of the unfortunate ambiguity of the phrase "survival of the fittest." "Fittest" has a connotation of "best;" and about "best" there hangs a moral flavour. In cosmic nature, however, what is "fittest" depends upon the conditions. Long since [Note 19}, I ventured to point out that if our hemisphere were to cool again, the survival of the fittest might bring about, in the vegetable kingdom, a population of more and more stunted and humbler

and humbler organisms, until the "fittest" that survived might be nothing but lichens, diatoms, and such microscopic organisms as those which give red snow its colour; while, if it became hotter, the pleasant valleys of the Thames and Isis might be uninhabitable by any animated beings save those that flourish in a tropical jungle. They, as the fittest, the best adapted to the changed conditions, would survive.

Men in society are undoubtedly subject to the cosmic process. As among other animals, multiplication goes on without cessation, and involves severe competition for the means of support. The struggle for existence tends to eliminate those less fitted to adapt themselves to the circumstances of their existence. The strongest, the most self-assertive, tend to tread down the weaker. But the influence of the cosmic process on the evolution of society is the greater the more rudimentary its civilization. Social progress means a checking of the cosmic, process at every step and the substitution for it of another, which may be called the ethical process; the end of which is not the survival of those who may happen to be the fittest, in respect of the whole of the conditions which obtain, but of those who are ethically the best.[Note 20}

As I have already urged, the practice of that which is ethically best—what we call goodness or virtue—involves a course of conduct which, in all

respects, is opposed to that which leads to success in the cosmic struggle for existence. In place of ruthless self-assertion it demands self-restraint; in place of thrusting aside, or treading down, all competitors, it requires that the individual shall not merely respect, but shall help his fellows; its influence is directed, not so much to the survival of the fittest, as to the fitting of as many as possible to survive. It repudiates the gladiatorial theory of existence. It demands that each man who enters into the enjoyment of the advantages of a polity shall be mindful of his debt to those who have laboriously constructed it; and shall take heed that no act of his weakens the fabric in which he has been permitted to live. Laws and moral precepts are directed to the end of curbing the cosmic process and reminding the individual of his duty to the community, to the protection and influence of which he owes, if not existence itself, at least the life of something better than a brutal savage.

It is from neglect of these plain considerations that the fanatical individualism [Note 21} of our time attempts to apply the analogy of cosmic nature to society. Once more we have a misapplication of the stoical injunction to follow nature; the duties of the individual to the state are forgotten, and his tendencies to self-assertion are dignified by the name of rights. It is seriously debated whether the members of a community are justified in using

their combined strength to constrain one of their number to contribute his share to the maintenance of it; or even to prevent him from doing his best to destroy it. The struggle for existence which has done such admirable work in cosmic nature, must, it appears, be equally beneficent in the ethical sphere. Yet if that which I have insisted upon is true; if the cosmic process has no sort of relation to moral ends; if the imitation of it by man is inconsistent with the first principles of ethics; what becomes of this surprising theory?

Let us understand, once for all, that the ethical progress of society depends, not on imitating the cosmic process, still less in running away from it, but in combating it.

It may seem an audacious proposal thus to pit the microcosm against the macrocosm and to set man to subdue nature to his higher ends; but I venture to think that the great intellectual difference between the ancient times with which we have been occupied and our day, lies in the solid foundation we have acquired for the hope that such an enterprise may meet with a certain measure of success.

The history of civilization details the steps by which men have succeeded in building up an artificial world within the cosmos. Fragile reed as he may be, man, as Pascal says, is a thinking reed: [Note 22} there lies within him a fund of energy operating intelligently and so far akin to that which pervades the universe, that it is competent

to influence and modify the cosmic process. In virtue of his intelligence, the dwarf bends the Titan to his will. In every family, in every polity that has been established, the cosmic process in man has been restrained and otherwise modified by law and custom; in surrounding nature, it has been similarly influenced by the art of the shepherd, the agriculturist, the artisan. As civilization has advanced, so has the extent of this interference increased; until the organized and highly developed sciences and arts of the present day have endowed man with a command over the course of non-human nature greater than that once attributed to the magicians. The most impressive, I might say startling, of these changes have been brought about in the course of the last two centuries; while a right comprehension of the process of life and of the means of influencing its manifestations is only just dawning upon us. We do not yet see our way beyond generalities; and we are befogged by the obtrusion of false analogies and crude anticipations. But Astronomy, Physics, Chemistry, have all had to pass through similar phases, before they reached the stage at which their influence became an important factor in human affairs. Physiology, Psychology, Ethics, Political Science, must submit to the same ordeal. Yet it seems to me irrational to doubt that, at no distant period, they will work as great a revolution in the sphere of practice.

The theory of evolution encourages no millennial anticipations. If, for millions of years, our globe has taken the upward road, yet, some time, the summit will be reached and the downward route will be commenced. The most daring imagination will hardly venture upon the suggestion that the power and the intelligence of man can ever arrest the procession of the great year.

Moreover, the cosmic nature born with us and, to a large extent, necessary for our maintenance, is the outcome of millions of years of severe training, and it would be folly to imagine that a few centuries will suffice to subdue its masterfulness to purely ethical ends. Ethical nature may count upon having to reckon with a tenacious and powerful enemy as long as the world lasts. But, on the other hand, I see no limit to the extent to which intelligence and will, guided by sound principles of investigation, and organized in common effort, may modify the conditions of existence, for a period longer than that now covered by history. And much may be done to change the nature of man himself. [Note 23} The intelligence which has converted the brother of the wolf into the faithful guardian of the flock ought to be able to do something towards curbing the instincts of savagery in civilized men.

But if we may permit ourselves at larger hope of abatement of the essential evil of the world than was possible to those who, in the infancy of

exact knowledge, faced the problem of existence more than a score of centuries ago, I deem it an essential condition of the realization of that hope that we should cast aside the notion that the escape from pain and sorrow is the proper object of life.

We have long since emerged from the heroic childhood of our race, when good and evil could be met with the same "frolic welcome;" the attempts to escape from evil, whether Indian or Greek, have ended in flight from the battle-field; it remains to us to throw aside the youthful overconfidence and the no less youthful discouragement of nonage. We are grown men, and must play the man

"...strong in will To strive, to seek, to find, and not to yield,"

cherishing the good that falls in our way, and bearing the evil, in and around us, with stout hearts set on diminishing it. So far, we all may strive in one faith towards one hope:

"... It may be that the gulfs will wash us down, It may be we shall touch the Happy Isles, ... but something ere the end, Some work of noble note may yet be done." [Note 24}

NOTES.

Note 1 (p. 49).

I have been careful to speak of the "appearance" of cyclical evolution presented by living things; for, on critical examination, it will be found that the course of vegetable and of animal life is not exactly represented by, the figure of a cycle which returns into itself. What actually happens, in all but the lowest organisms, is that one part of the growing germ (A) gives rise to tissues and organs; while another part (B) remains in its primitive condition, or is but slightly modified. The moiety A becomes the body of the adult and, sooner or later, perishes, while portions of the moiety B are detached and, as offspring, continue the life of the species. Thus, if we trace back an organism along the direct line of descent from its remotest ancestor, B, as a whole, has never suffered death; portions of it, only, have been cast off and died in each individual offspring.

Everybody is familiar with the way in which the "suckers" of a strawberry plant behave. A thin cylinder of living tissue keeps on growing at its free end, until it attains a considerable length. At

successive intervals, it develops buds which grow into strawberry plants; and these become independent by the death of the parts of the sucker which connect them. The rest of the sucker, however, may go on living and growing indefinitely, and,

circumstances remaining favourable, there is no obvious reason why it should ever die. The living substance B, in a manner, answers to the sucker. If we could restore the continuity which was once possessed by the portions of B, contained in all the individuals of a direct line of descent, they would form a sucker, or stolon, on which these individuals would be strung, and which would never have wholly died.

A species remains unchanged so long as the potentiality of development resident in B remains unaltered; so long, e.g., as the buds of the strawberry sucker tend to become typical strawberry plants. In the case of the progressive evolution of a species, the developmental potentiality of B becomes of a higher and higher order. In retrogressive evolution, the contrary would be the case. The phenomena of atavism seem to show that retrogressive evolution that is, the return of a species to one or other of its earlier forms, is a possibility to be reckoned with. The simplification of structure, which is so common in the parasitic members of a group, however, does not properly come under this head. The worm-like, limbless Lernoea has no resemblance to any of the stages of development of the many-limbed active animals of the group to which it belongs.

Note 2 (p. 49).

Heracleitus says,[Greek phrase Potamo gar ouk esti dis embenai to suto] but, to be strictly accurate, the river remains, though the water of which it is composed changes—just as a man retains his identity though the whole substance of his body is constantly shifting.

This is put very well by Seneca (Ep. lvii. i. 20, Ed. Ruhkopf): "Corpora nostra rapiuntur fluminum more, quidquid vides currit cum tempore; nihil ex his quae videmus manet. Ego ipse dum loquor mutari ista, mutatus sum. Hoc est quod ait Heraclitus 'In idem flumen bis non descendimus.' Manet idem fluminis nomen, aqua transmissa est. Hoc in amne manifestius est quam in homine, sed nos quoque non minus velox cursus praetervehit."

Note 3 (p. 55).

"Multa bona nostra nobis nocent, timoris enim tormentum memorin reducit, providentia anticipat. Nemo tantum praesentibus miser est." (Seneca, Ed. v. 7.)

Among the many wise and weighty aphorisms of the Roman Bacon, few sound the realities of life more deeply than "Multa bona nostra nobis nocent." If there is a soul of good in things evil, it is at least equally true that there is a soul of evil in things good: for things, like men, have "les defauts de leurs qualites." It is one of the last lessons one learns from experience, but not the least important, that a

heavy tax is levied upon all forms of success, and that failure is one of the commonest disguises assumed by blessings.

Note 4 (p. 60).

"There is within the body of every man a soul which, at the death of the body, flies away from it like a bird out of a cage, and enters upon a new life ... either in one of the heavens or one of the hells or on this earth. The only exception is the rare case of a man having in this life acquired a true knowledge of God. According to the pre-Buddhistic theory, the soul of such a man goes along the path of the Gods to God, and, being united with Him, enters upon an immortal life in which his individuality is not extinguished. In the latter theory his soul is directly absorbed into the Great Soul, is lost in it, and has no longer any independent existence. The souls of all other men enter, after the death of the body, upon a new existence in one or other of the many different modes of being. If in heaven or hell, the soul itself becomes a god or demon without entering a body; all superhuman beings, save the great gods, being looked upon as not eternal, but merely temporary creatures. If the soul returns to earth it may or may not enter a new body; and this either of a human being, an animal, a plant, or even a material object. For all these are possessed of souls, and there is no essential difference between these souls and the souls of men—all being alike mere sparks of the Great Spirit, who is

the only real existence." (Rhys Davids, Hibbert Lectures, 1881, p. 83.)

For what I have said about Indian Philosophy, I am particularly indebted to the luminous exposition of primitive Buddhism and its relations to earlier Hindu thought, which is given by Prof. Rhys Davids in his remarkable Hibbert Lectures for 1881, and Buddhism (1890). The only apology I can offer for the freedom with which I have borrowed from him in these notes, is my desire to leave no doubt as to my indebtedness. I have also found Dr. Oldenberg's Buddha (Ed. 2, 1890) very helpful. The origin of the theory of transmigration stated in the above extract is an unsolved problem. That it differs widely from the Egyptian metempsychosis is clear. In fact, since men usually people the other world with phantoms of this, the Egyptian doctrine would seem to presuppose the Indian as a more archaic belief.

Prof. Rhys Davids has fully insisted upon the ethical importance of the transmigration theory. "One of the latest speculations now being put forward among ourselves would seek to explain each man's character, and even his outward condition in life, by the character he inherited from his ancestors, a character gradually formed during a practically endless series of past existences, modified only by the conditions into which he was born, those very conditions being also, in like manner, the last result of a practically endless series of past causes. Gotama's; speculation might be stated in the same words. But it attempted also to explain, in a way different from

that which would be adopted by the exponents of the modern theory, that strange problem which it is also the motive of the wonderful drama of the book of Job to explain—the fact that the actual distribution here of good fortune, or misery, is entirely independent of the moral qualities which men call good or bad. We cannot wonder that a teacher, whose whole system was so essentially an ethical reformation, should have felt it incumbent upon him to seek an explanation of this apparent injustice. And all the more so, since the belief he had inherited, the theory

of the transmigration of souls, had provided a solution perfectly sufficient to any one who could accept that belief." (Hibbert Lectures, p. 93.) I should venture to suggest the substitution of "largely" for "entirely" in the foregoing passage. Whether a ship makes a good or a bad voyage is largely independent of the conduct of the captain, but it is largely affected by that conduct. Though powerless before a hurricane he may weather a bad gale.

Note 5 (P. 61).

The outward condition of the soul is, in each new birth, determined by its actions in a previous birth; but by each action in succession, and not by the balance struck after the evil has been reckoned off against the good. A good man who has once uttered a slander may spend a hundred thousand years as a god, in consequence of his goodness, and when the power of his good actions is exhausted, may be born

as a dumb man on account of his transgression; and a robber who has once done an act of mercy, may come to life in a king's body as the result of his virtue, and then suffer torments for ages in hell or as a ghost without a body, or be re-born many times as a slave or an outcast, in consequence of his evil life.

"There is no escape, according to this theory, from the result of any act; though it is only the consequences of its own acts that each soul has to endure. The force has been set in motion by itself and can never stop; and its effect can never be foretold. If evil, it can never be modified or prevented, for it depends on a cause already completed, that is now for ever beyond the soul's control. There is even no continuing consciousness, no memory of the past that could guide the soul to any knowledge of its fate. The only advantage open to it is to add in this life to the sum of its good actions, that it may bear fruit with the rest. And even this can only happen in some future life under essentially them same conditions as the present one: subject, like the present one, to old age, decay, and death; and affording opportunity, like the present one, for the commission of errors, ignorances, or sins,

which in their turn must inevitably produce their due effect of sickness, disability, or woe. Thus is the soul tossed about from life to life, from billow to billow in the great ocean of transmigration. And there is no escape save for the very few, who, during their birth as men, attain to a right knowledge of the Great Spirit: and thus enter into immortality, or, as the later

philosophers taught, are absorbed into the Divine Essence." (Rhys Davids, Hibbert Lectures, pp. 85, 86.)

The state after death thus imagined by the Hindu philosophers has a certain analogy to the purgatory of the Roman Church; except that escape from it is dependent, not on a divine decree modified, it may be, by sacerdotal or saintly intercession, but by the acts of the individual himself; and that while ultimate emergence into heavenly bliss of the good, or well-prayed for, Catholic is professedly assured, the chances in favour of the attainment of absorption, or of Nirvana, by any individual Hindu are extremely small.

Note 6 (P. 62).

"That part of the then prevalent transmigration theory which could not be proved false seemed to meet a deeply felt necessity, seemed to supply a moral cause which would explain the unequal distribution here of happiness or woe, so utterly inconsistent with the present characters of men." Gautama "still therefore talked of men's previous existence, but by no means in the way that he is generally represented to have done." What he taught was "the transmigration of character." He held that after the death of any being, whether human or not, there survived nothing at all but that being's "Karma," the result, that is, of its mental and bodily actions. Every individual, whether human or divine, was the last inheritor and the last result of the Karma of a long series of past individuals—"a series

so long that its beginning is beyond the reach of calculation, and its end will be coincident with the destruction of the world." (Rhys Davids, Hibbert Lectures, p.

92.)

In the theory of evolution, the tendency of a germ to develop according to a certain specific type, e.g. of the kidney bean seed to grow into a plant having all the characters of Phaseolus vulgaris, is its "Karma." It is the "last inheritor and the last result" of all the conditions that have affected a line of ancestry which goes back for many millions of years to the time when life first appeared on the earth. The moiety B of the substance of the bean plant (see Note 1) is the last link in a once continuous chain extending from the primitive living substance: and the characters of the successive species to which it has given rise are the manifestations of its gradually modified Karma. As Prof. Rhys Davids aptly says, the snowdrop "is a snowdrop and not an oak, and just that kind of snowdrop, because it is the outcome of the Karma of an endless series of past existences." (Hibbert Lectures, p. 114.)

Note 7 (p. 64).

"It is interesting to notice that the very point which is the weakness of the theory—the supposed concentration of the effect of the Karma in one new being—presented itself to the early Buddhists themselves as a difficulty. They avoided it, partly by explaining that it was a particular thirst in the creature dying (a craving, Tanha, which plays other

wise a great part in the Buddhist theory) which actually caused the birth of the new individual who was to inherit the Karma of the former one. But, how this too place, how the craving desire produced this effect, was acknowledged to be a mystery patent only to a Buddha." (Rhys Davids, Hibbert Lectures, P. 95.)

Among the many parallelisms of Stoicism and Buddhism, it is curious to find one for this Tanha, "thirst," or "craving desire" for life. Seneca writes (Epist. lxxvi. 18): "Si enim ullum aliud est bonum quam honestum, sequetur nos aviditas vitae aviditas rerum vitam instruentium: quod est intolerabile infinitum, vagum."

Note 8 (P. 66).

"The distinguishing characteristic of Buddhism was that it started a new line, that it looked upon the deepest questions men have to solve from an entirely different standpoint. It swept away from the field of its vision the whole of the great soul theory which had hitherto so completely filled and dominated the minds of the superstitious and the thoughtful alike. For the first time in the history of the world, it proclaimed a salvation which each man could gain for himself and by himself, in this world, during this life, without any the least reference to God, or to Gods, either great or small. Like the Upanishads, it placed the first importance on knowledge; but it was no longer a knowledge of God, it was a clear perception of the real nature, as they supposed it to be, of men and things. And it added to the necessity of knowledge, the necessity of purity, of courtesy, of uprightness, of peace and of a universal love far reaching, grown great and beyond measure." (Rhys Davids, Hibbert Lectures, p. 29.)

The contemporary Greek philosophy takes an analogous direction. According to Heracleitus, the universe was made neither by Gods nor men; but, from all eternity, has been, and to all eternity, will be, immortal fire, glowing and fading in due measure. (Mullach, Heracliti Fragmenta, 27.) And the part assigned by his successors, the Stoics, to the knowledge and the volition of the "wise man" made their Divinity (for logical thinkers) a subject for compliments, rather than a power to be reckoned with. In Hindu speculation the "Arahat," still more the "Buddha," becomes the superior of Brahma; the stoical "wise man" is, at least, the equal of Zeus.

Berkeley affirms over and over again that no idea can be formed of a soul or spirit—"If any man shall doubt of the truth of what is here delivered, let him but reflect and try if he can form any idea of power or active being; and whether he hath ideas of two principal powers marked by the names of will and understanding distinct from each other, as well as from a third idea of substance or being in

general, with a relative notion of its supporting or being the subject of the aforesaid power, which is signified by the name soul or spirit. This is what some hold but, so far as I can see, the words will, soul, spirit, do not stand for different ideas or, in truth, for any idea at all, but for something which is very different from ideas, and which, being an agent, cannot be like unto or represented by Any idea whatever [though it must be owned at the same time, that we have some notion of soul, spirit, and the operations of the mind, such as willing, loving, hating, inasmuch as we know or understand the meaning of these words". (The Principles of Human Knowledge, lxxvi. See also sections lxxxix., cxxxv., cxlv.)

It is open to discussion, I think, whether it is possible to have "some notion" of that of which we can form no "idea."

Berkeley attaches several predicates to the "perceiving active being mind, spirit, soul or myself" (Parts I. II.) It is said, for example, to be "indivisible, incorporeal, unextended, and incorruptible." The predicate indivisible, though negative in form, has highly positive consequences. For, if "perceiving active being" is strictly indivisible, man's soul must be one with the Divine spirit: which is good Hindu or Stoical doctrine, but hardly orthodox Christian philosophy. If, on the other hand, the "substance" of active perceiving "being" is actually divided into the one Divine and innumerable human entities, how can the predicate "indivisible" be rigorously applicable to it?

Taking the words cited, as they stand, the amount to the denial of the possibility of any knowledge of substance. "Matter" having been resolved into mere affections of "spirit", "spirit" melts away into an admittedly inconceivable and unknowable

hypostasis of thought and power—consequently the existence of anything in the universe beyond a flow of phenomena is a purely hypothetical assumption. Indeed a pyrrhonist might raise the objection that if "esse" is "percipi" spirit itself can have no existence except as a perception, hypostatized into a "self," or as a perception of

some other spirit. In the former case, objective reality vanishes; in the latter, there would seem to be the need of an infinite series of spirits each perceiving the others.

It is curious to observe how very closely the phraseology of Berkeley sometimes approaches that of the Stoics: thus (cxlviii.) "It seems to be a general pretence of the unthinking herd that they cannot see God. . . But, alas, we need only open our eyes to see the Sovereign Lord of all things with a more full and clear view, than we do any of our fellow-creatures . . . we do at all times and in all places perceive manifest tokens of the Divinity: everything we see, hear, feel, or any wise perceive by sense, being a sign or effect of the power of God" . . . cxlix. "It is therefore plain, that nothing can be more evident to any one that is capable of the least reflection, than the existence of God, or a spirit who is intimately present to our minds, producing in them all that variety of ideas or sensations which continually affect us, on whom we have an absolute and entire dependence, in short, in whom we live and move and have our being." cl. "[But you will say hath Nature no share in the production of natural things, and must they all be ascribed to the immediate and sole operation of God? ... if by Nature is

meant some being distinct from God, as well as from the laws of nature and things perceived by sense, I must confess that word is to me an empty sound, without any intelligible meaning annexed to it.] Nature in this acceptation is a vain Chimaera introduced by those heathens, who had not just notions of the omnipresence and infinite perfection of God."

Compare Seneca (De Beneficiis, iv. 7):

"Natura, inquit, haec mihi praestat. Non intelligis te, quum hoc dicis, mutare Nomen Deo? Quid enim est aliud Natura quam Deus, et divina ratio, toti mundo et partibus ejus inserta? Quoties voles tibi licet aliter hunc auctorem rerum nostrarum compellare, et Jovem illum optimum et maximum rite dices, et tonantem, et statorem: qui non, ut historici tradiderunt, ex eo quod post votum susceptum acies

Romanorum fugientum stetit, sed quod stant beneficio ejus omnina, stator, stabilitorque est: hunc eundem et fatum si dixeris, non mentieris, nam quum fatum nihil aliud est, quam series implexa causarum, ille est prima omnium causa, ea qua caeterae pendent." It would appear, therefore, that the good Bishop is somewhat hard upon the "heathen," of whose words his own might be a paraphrase.

There is yet another direction in which Berkeley's philosophy, I will not say agrees with Gautama's, but at any rate helps to make a fundamental dogma of Buddhism intelligible.

"I find I can excite ideas in my mind at pleasure, and vary and shift the scene as often as I think fit. It is no more than willing, and straightway this or that idea arises in my fancy: and by the same power

it is obliterated, and makes way for another. This making and unmaking of ideas doth very properly denominate the mind active. This much is certain and grounded on experience. . ." (Principles, xxviii.)

A good many of us, I fancy, have reason to think that experience tells them very much the contrary; and are painfully familiar with the obsession of the mind by ideas which cannot be obliterated by any effort of the will and steadily refuse to make way for others. But what I desire to point out is that if Gautama was equally confident that he could "make and unmake" ideas—then, since he had resolved self into a group of ideal phantoms—the possibility of abolishing self by volition naturally followed.

Note 9 (P. 68).

According to Buddhism, the relation of one life to the next is merely that borne by the flame of one lamp to the flame of another lamp which is set alight by it. To the "Arahat" or adept "no outward form, no compound thing, no creature, no creator, no existence of any kind, must appear to be other than a temporary collocation of its component parts, fated inevitably to be dissolved."—(Rhys Davids, Hibbert

Lectures, p. 211.)

The self is nothing but a group of phenomena held together by the desire of life; when that desire shall have ceased, "the Karma of that particular chain of lives will cease to influence any longer any distinct individual, and there will be no more birth;

for birth, decay, and death, grief, lamentation, and despair will have come, so far as regards that chain of lives, for ever to an end."

The state of mind of the Arahat in which the desire of life has ceased is Nirvana. Dr. Oldenberg has very acutely and patiently considered the various interpretations which have been attached to "Nirvana" in the work to which I have referred (pp. 285 et seq.). The result of his and other discussions of the question may I think be briefly stated thus:

1. Logical deduction from the predicates attached to the term "Nirvana" strips it of all reality, conceivability, or perceivability, whether by Gods or men. For all practical purposes, therefore, it comes to exactly the same thing as annihilation.

2. But it is not annihilation in the ordinary sense, inasmuch as it could take place in the living Arahat or Buddha.

3. And, since, for the faithful Buddhist, that which was abolished in the Arahat was the possibility of further pain, sorrow, or sin; and that which was attained was perfect peace; his mind directed itself exclusively to this joyful consummation, and personified the negation of all conceivable existence and of all pain into a positive bliss. This was all the more easy, as Gautama refused to give any dogmatic definition of Nirvana. There is something analogous in the way in which people commonly talk of the "happy release" of a man who has been long suffering from mortal disease. According to their own views, it must always be extremely doubtful whether the man will be any happier after the "release"

than before. But they do not choose to look at the matter in this light.

The popular notion that, with practical, if not metaphysical, annihilation in view, Buddhism must needs be a sad and gloomy faith seems to be inconsistent with fact; on the contrary, the prospect of Nirvana fills the true believer, not merely with cheerfulness, but with an ecstatic desire to reach it.

Note 10 (P. 68.)

The influence of the picture of the personal qualities of Gautama, afforded by the legendary anecdotes which rapidly grew into a biography of the Buddha; and by the birth stories, which coalesced with the current folk-lore, and were intelligible to all the world, doubtless played a great part. Further, although Gautama appears not to have meddled with the caste system, he refused to recognize any distinction, save that of perfection in the way of salvation, among his followers; and by such teaching, no less than by the inculcation of love and benevolence to all sentient beings, he practically levelled every social, political, and racial barrier. A third important condition was the organization of the Buddhists into monastic communities for the stricter professors, while the laity were permitted a wide indulgence in practice and were allowed to hope for accommodation in some of the temporary abodes of bliss. With a few hundred thousand years of immediate paradise in sight, the average man could be content to shut his eyes to what might follow.

Note 11 (P. 69).

In ancient times it was the fashion, even among the Greeks themselves, to derive all Greek wisdom from Eastern sources; not long ago it was as generally denied that Greek philosophy had any connection, with Oriental speculation; it seems probable, however, that the truth lies between these extremes.

The Ionian intellectual movement does not stand alone. It is only one of several sporadic indications of the working of some powerful mental ferment over the whole of the area comprised between the Aegean and Northern Hindostan during the

eighth, seventh, and sixth centuries before our era. In these three hundred years, prophetism attained its apogee among the Semites of Palestine; Zoroasterism grew and became the creed of a conquering race, the Iranic Aryans; Buddhism rose and spread with marvellous rapidity among the Aryans of Hindostan; while scientific naturalism took its rise among the Aryans of Ionia. It would be difficult to find another three centuries which have given birth to four events of equal importance. All the principal existing religions of mankind have grown out of the first three: while the fourth is the little spring, now swollen into the great stream of positive science. So far as physical possibilities go, the prophet Jeremiah and the oldest Ionian philosopher might have met and conversed. If they had done so, they would probably have disagreed a good deal; and it is interesting to reflect that their discussions might have

embraced Questions which, at the present day, are still hotly controverted.

The old Ionian philosophy, then, seems to be only one of many results of a stirring of the moral and intellectual life of the Aryan and the Semitic populations of Western Asia. The conditions of this general awakening were doubtless manifold; but there is one which modern research has brought into great prominence. This is the existence of extremely ancient and highly advanced societies in the valleys of the Euphrates and of the Nile.

It is now known that, more than a thousand—perhaps more than two thousand—years before the sixth century B.C., civilization had attained a relatively high pitch among the Babylonians and the Egyptians. Not only had painting, sculpture, architecture, and the industrial arts reached a remarkable development; but in Chaldaea, at any rate, a vast amount of knowledge had been accumulated and methodized, in the departments of grammar, mathematics, astronomy, and natural history. Where such traces of the scientific spirit are visible, naturalistic speculation is rarely far off, though, so far as I know, no remains of an Accacian, or Egyptian,

philosophy, properly so called, have yet been recovered.

Geographically, Chaldaea occupied a central position among the oldest seats of civilization. Commerce, largely aided by the intervention of those colossal pedlars, the Phoenicians, had brought Chaldaea into connection with all of them, for a thousand years before the epoch at present under consideration. And in the ninth, eighth and seventh

centuries, the Assyrian, the depositary of Chaldaean civilization, as the Macedonian and the Roman, at a later date, were the depositories of Greek culture, had added irresistible force to the other agencies for the wide distribution of Chaldaean literature, art, and science.

I confess that I find it difficult to imagine that the Greek immigrant—who stood in somewhat the same relation to the Babylonians and the Egyptians as the later Germanic barbarians to the Romans of the Empire—should not have been immensely influenced by the new life with which they became acquainted. But there is abundant direct evidence of the magnitude of this influence in certain spheres. I suppose it is not doubted that the Greek went to school with the Oriental for his primary instruction in reading, writing, and arithmetic; and that Semitic theology supplied him with some of his mythological lore. Nor does there now seem to be any question about the large indebtedness of Greek art to that of Chaldaea and that of Egypt.

But the manner of that indebtedness is very instructive. The obligation is clear, but its limits are no less definite. Nothing better exemplifies the indomitable originality of the Greeks than the relations of their art to that of the Orientals. Far from being subdued into mere imitators by the technical excellence of their teachers, they lost no time in bettering the instruction they received, using their models as mere stepping stones on the way to those unsurpassed and unsurpassable achievements which are all their own. The shibboleth of Art is

the human figure. The ancient Chaldaeans and Egyptians, like the modern Japanese, did wonders in the representation of birds and quadrupeds; they even attained to something more than respectability in human portraiture. But their utmost efforts never brought them within range of the best Greek embodiments of the grace of womanhood, or of the severer beauty of manhood.

It is worth while to consider the probable effect upon the acute and critical Greek mind of the conflict of ideas, social, political, and theological, which arose out of the conditions of life in the Asiatic colonies. The Ionian polities had passed through the whole gamut of social and political changes, from patriarchal and occasionally oppressive kingship to rowdy and still more burdensome mobship—no doubt with infinitely eloquent and copious argumentation, on both sides, at every stage of their progress towards that arbitrament of force which settles most political questions. The marvellous speculative faculty, latent in the Ionian, had come in contact with Mesopotamian, Egyptian, Phoenician theologies and cosmogonies; with the illuminati of Orphism and the fanatics and dreamers of the Mysteries; possibly with Buddhism and Zoroasterism; possibly even with Judaism. And it has been observed that the mutual contradictions of antagonistic supernaturalisms are apt to play a large part among the generative agencies of naturalism.

Thus, various external influences may have contributed to the rise of philosophy among the Ionian Greeks of the sixth century. But the assimilative

capacity of the Greek mind—its power of Hellenizing whatever it touched—has here worked so effectually, that, so far as I can learn, no indubitable traces of such extraneous contributions are now allowed to exist by the most authoritative historians of Philosophy. Nevertheless, I think it must be admitted that the coincidences between the Heracleito-stoical doctrines and those of the older Hindu philosophy are extremely remarkable. In both, the cosmos pursues an eternal succession of cyclical changes. The great year, answering to the Kalpa, covers an

entire cycle from the origin of the universe as a fluid to its dissolution in fire—"Humor initium, ignis exitus mundi," as Seneca has it. In both systems, there is immanent in the cosmos a source of energy, Brahma, or the Logos, which works according to fixed laws. The individual soul is an efflux of this world-spirit, and returns to it. Perfection is attainable only by individual effort, through ascetic discipline, and is rather a state of painlessness than of happiness; if indeed it can be said to be a state of anything, save the negation of perturbing emotion. The hatchment motto "In Coelo Quies" would serve both Hindu and Stoic; and absolute quiet is not easily distinguishable from annihilation.

Zoroasterism, which, geographically, occupies a position intermediate between Hellenism and Hinduism, agrees with the latter in recognizing the essential evil of the cosmos; but differs from both in its intensely anthropomorphic personification of the two antagonistic principles, to the one of which it ascribes all the good; and, to the other, all the evil.

In fact, it assumes the existence of two worlds, one good and one bad; the latter created by the evil power for the purpose of damaging the former. The existing cosmos is a mere mixture of the two, and the "last judgment" is a root-and-branch extirpation of the work of Ahriman.

Note 12 (p. 69).

There is no snare in which the feet of a modern student of ancient lore are more easily entangled, than that which is spread by the similarity of the language of antiquity to modern modes of expression. I do not presume to interpret the obscurest of Greek philosophers; all I wish is to point out, that his words, in the sense accepted by competent interpreters, fit modern ideas singularly well.

So far as the general theory of evolution goes there is no difficulty. The aphorism about the river; the figure of the child playing on the shore; the kingship and fatherhood of strife, seem decisive. The [Greek phrase osod ano kato mie] expresses,

with singular aptness, the cyclical aspect of the one process of organic evolution in individual plants and animals: yet it may be a question whether the Heracleitean strife included any distinct conception of the struggle for existence. Again, it is tempting to compare the part played by the Heracleitean "fire" with that ascribed by the moderns to heat, or rather to that cause of motion of which heat is one expression; and a little ingenuity might find a foreshadowing of the doctrine of the conservation of energy, in the saying

that all the things are changed into fire and fire into all things, as gold into goods and goods into gold.

Note 13 (p. 71).

Pope's lines in the Essay on Man(Ep. i. 267-8),

All are but parts of one stupendous whole, Whose body Nature is, and God the soul,"

simply paraphrase Seneca's "quem in hoc mundo locum deus obtinet, hunc in homine animus: quod est illic materia, id nobis corpus est."—(Ep. lxv. 24); which again is a Latin version of the old Stoical doctrine, [Greek phrase eis apan tou kosou meros diekei o nous, kataper aph emon e psuche].

So far as the testimony for the universality of what ordinary people call "evil" goes, there is nothing better than the writings of the Stoics themselves. They might serve, as a storehouse for the epigrams of the ultra-pessimists. Heracleitus (circa 500 B.C.) says just as hard things about ordinary humanity as his disciples centuries later; and there really seems no need to seek for the causes of this dark view of life in the circumstances of the time of Alexander's successors or of the early Emperors of Rome. To the man with an ethical ideal, the world, including himself, will always seem full of evil.

Note 14 (P. 73).

I use the well-known phrase, but decline responsibility for the libel upon Epicurus,

whose doctrines

were far less compatible with existence in a stye than those of the Cynics. If it were steadily borne in mind that the conception of the "flesh" as the source of evil, and the great saying "Initium est salutis notitia peccati," are the property of Epicurus, fewer illusions about Epicureanism would pass muster for accepted truth.

Note 15 (P. 75).

The Stoics said that man was a [Greek phrase zoon logikon politikon philallelon], or a rational, a political, and an altruistic or philanthropic animal. In their view, his higher nature tended to develop in these three directions, as a plant tends to grow up into its typical form. Since, without the introduction of any consideration of pleasure or pain, whatever thwarted the realization of its type by the plant might be said to be bad, and whatever helped it good; so virtue, in the Stoical sense, as the conduct which tended to the attainment of the rational, political, and philanthropic ideal, was good in itself, and irrespectively of its emotional concomitants.

Man is an "animal sociale communi bono genitum." The safety of society depends upon practical recognition of the fact. "Salva autem esse societas nisi custodia et amore partium non possit," says Seneca. (De. Ira, ii. 31.)

Note 16 (P. 75).

The importance of the physical doctrine of the Stoics lies in its clear recognition of the universality

of the law of causation, with its corollary, the order of nature: the exact form of that order is an altogether secondary consideration.

Many ingenious persons now appear to consider that the incompatibility of pantheism, of materialism, and of any doubt about the immortality of the soul, with religion and morality, is to be held as an axiomatic truth. I confess that I have a certain difficulty in accepting this dogma. For the Stoics were notoriously materialists and pantheists of the most extreme character; and while no strict Stoic

believed in the eternal duration of the individual soul, some even denied its persistence after death. Yet it is equally certain that of all gentile philosophies, Stoicism exhibits the highest ethical development, is animated by the most religious spirit, and has exerted the profoundest influence upon the moral and religious development not merely of the best men among the Romans, but among the moderns down to our own day.

Seneca was claimed as a Christian and placed among the saints by the fathers of the early Christian Church; and the genuineness of a correspondence between him and the apostle Paul has been hotly maintained in our own time, by orthodox writers. That the letters, as we possess them, are worthless forgeries is obvious; and writers as wide apart as Baur and Lightfoot agree that the whole story is devoid of foundation.

The dissertation of the late Bishop of Durham (Epistle to the Philippians) is particularly worthy of study, apart from this question, on account of

evidence which it supplies of the numerous similarities of thought between Seneca and the writer of the Pauline epistles. When it is remembered that the writer of the Acts puts a quotation from Aratus, or Cleanthes, into the mouth of the apostle; and that Tarsus was a great seat of philosophical and especially stoical learning (Chrysippus himself was a native of the adjacent town of Soli), there is no difficulty in understanding the origin of these resemblances. See, on this subject, Sir Alexander Grant's dissertation in his edition of The Ethics of Aristotle (where there is an interesting reference to the stoical character of Bishop Butler's ethics), the concluding pages of Dr. Weygoldt's instructive little work Die Philosophie der Stoa, and Aubertin's Seneque et Saint Paul.

It is surprising that a writer of Dr. Lightfoot's stamp should speak of Stoicism as a philosophy of "despair." Surely, rather, it was a philosophy of men who, having cast off all illusions, and the childishness of despair among them, were minded to endure

in patience whatever conditions the cosmic process might create, so long as those conditions were compatible with the progress towards virtue, which alone, for them, conferred a worthy object on existence. There is no note of despair in the stoical declaration that the perfected "wise man" is the equal of Zeus in everything but the duration of his existence. And, in my judgment, there is as little pride about it, often as it serves for the text of discourses on stoical arrogance. Grant the stoical postulate that there is no good except virtue; grant that

the perfected wise man is altogether virtuous, in consequence of being guided in all things by the reason, which is an effluence of Zeus, and there seems no escape from the stoical conclusion.

Note 17 (p. 76).

Our "Apathy" carries such a different set of connotations from its Greek original that I have ventured on using the latter as a technical term.

Note 18 (P. 77).

Many of the stoical philosophers recommended their disciples to take an active share in public affairs; and in the Roman world, for several centuries, the best public men were strongly inclined to Stoicism. Nevertheless, the logical tendency of Stoicism seems to me to be fulfilled only in such men as Diogenes and Epictetus.

Note 19 (P. 80).

"Criticisms on the Origin of Species," 1864. Collected Essays, vol. ii. p. 91.{1894.]

Note 20 (P. 81).

Of course, strictly speaking, social life, and the ethical process in virtue of which it advances towards perfection, Are part and parcel of the general process of evolution, just as the gregarious habit of in

numerable plants and animals, which has been of immense advantage to them, is so. A hive of bees is an organic polity, a society in which the part played by each

member is determined by organic necessities. Queens, workers, and drones are, so to speak, castes, divided from one another by marked physical barriers. Among birds and mammals, societies are formed, of which the bond in many cases seems to be purely psychological; that is to say, it appears to depend upon the liking of the individuals for one another's company. The tendency of individuals to over self-assertion is kept down by fighting. Even in these rudimentary forms of society, love and fear come into play, and enforce a greater or less renunciation of self-will. To this extent the general cosmic process begins to be checked by a rudimentary ethical process, which is, strictly speaking, part of the former, just as the "governor" in a steam-engine is part of the mechanism of the engine.

Note 21 (p. 82).

See "Government: Anarchy or Regimentation," Collected Essays, vol. i. pp. 413-418. It is this form of political philosophy to which I conceive the epithet of "reasoned savagery" to be strictly applicable.{1894.]

Note 22 (p. 83).

"L'homme n'est qu'un roseau, le plus faible de la nature, mais c'est un roseau pensant. Il ne faut

pas que l'univers entier s'arme pour l'ecraser. Une vapour, une goutte d'eau, suffit pour le tuer. Mais quand l'univers l'ecraserait, l'homme serait encore plus noble que ce qui le tue, parce qu'il sait qu'il muert; et l'avantage que l'univers a sur lui, l'univers n'en sait rien."—Pensees de Pascal.

Note 23 (p. 85).

The use of the word "Nature" here may be criticised. Yet the manifestation of the natural tendencies of men is so profoundly modified by training that it is hardly too strong. Consider the suppression of the sexual instinct between near relations.

Note 24 (p. 86).

A great proportion of poetry is addressed by the young to the young; only the great masters of the art are capable of divining, or think it worth while to enter into, the feelings of retrospective age. The two great poets whom we have so lately lost, Tennyson and Browning, have done this, each in his own inimitable way; the one in the Ulysses, from which I have borrowed; the other in that wonderful fragment "Childe Roland to the dark Tower came."

(Note: Section III belowcame from a different source than the other sections and thus does not have page numbers. Section III of the volume, "Science and Theology", is not Huxley's text and is not by Huxley. It reprints instead an entirely different essay, one by Asa Gray on Darwin, published in the Atlantic in 1860 as specified in a note before the text here; what looks like a subheading, "NATURAL SELECTION NOT INCONSISTENT WITH NATURAL THEOLOGY", is the title given to Gray's essay in some reprints.)

III. SCIENCE AND MORALS (1886)

NATURAL SELECTION NOT INCONSISTENT WITH NATURAL THEOLOGY

(Atlantic Monthly for July, August, and October, 1860, reprinted in 1861)

I

Novelties are enticing to most people; to us they are simply annoying. We cling to a long-accepted theory, just as we cling to an old suit of clothes. A new theory, like a new pair of breeches (the Atlantic still affects the older type of nether garment), is sure to have hard-fitting places; or, even when no particular fault can be found with the article, it oppresses with a sense of general discomfort. New notions and new styles worry us, till we get well used to them, which is only by slow degrees.

Wherefore, in Galileos time, we might have helped to proscribe, or to burn—had he been stubborn enough to warrant cremation—even the great pioneer of inductive research; although, when we had fairly recovered our composure, and bad leisurely excogitated the matter, we might have come to conclude that the new doctrine was better than the old one, after all, at least for those who had nothing to unlearn.

Such being our habitual state of mind, it may well be believed that the perusal of the new book "On the Origin of Species by Means of Natural Selection" left an uncomfortable impression, in spite of its plausible and winning ways. We were not wholly unprepared for it, as many of our contemporaries seem to have been. The scientific reading in which we indulge as a relaxation from severer studies had raised dim forebodings. Investigations about the succession of species in time, and their actual geographical distribution over the earths surface, were leading up from all sides and in various ways to the question of their origin. Now and then we encountered a sentence, like Prof. Owens "axiom of the continuous operation of the ordained becoming of living things," which haunted us like an apparition. For, dim as our conception must needs be as to what such oracular and grandiloquent phrases might really mean, we felt confident that they presaged no good to old beliefs. Foreseeing, yet deprecating, the coming time of trouble, we still hoped that, with some repairs and makeshifts, the old views might last out our days. Apres nous le deluge. Still, not to lag behind the rest of the world, we read the book in which the new theory is promulgated. We took it up, like our neighbors, and, as was natural, in a somewhat captious frame of mind.

Well, we found no cause of quarrel with the first chapter. Here the author takes us directly to the barn-yard and the kitchen-garden. Like an honorable rural member of our General Court, who sat silent until, near the close of a long session, a bill requiring all swine at large to wear pokes was introduced, when he claimed the privilege of addressing the house, on the proper ground that he had been "brought up among the pigs, and knew all about them"—so we were brought up among cows and

cabbages; and the lowing of cattle, the cackle of hens, and the cooing of pigeons, were sounds native and pleasant to our ears. So "Variation under Domestication" dealt with familiar subjects in a natural way, and gently introduced "Variation under Nature," which seemed likely enough. Then follows "Struggle for Existence"—a principle which we experimentally know to be true and cogent—bringing the comfortable assurance, that man, even upon Leviathan Hobbess theory of society, is no worse than the rest of creation, since all Nature is at war, one species with another, and the nearer kindred the more internecine—bringing in thousandfold confirmation and extension of the Malthusian doctrine that population tends far to outrun means of subsistence throughout the animal and vegetable world, and has to be kept down by sharp preventive checks; so that not more than one of a hundred or a thousand of the individuals whose existence is so wonderfully and so sedulously provided for ever comes to anything, under ordinary circumstances; so the lucky and the strong must prevail, and the weaker and ill-favored must perish; and then follows, as naturally as one sheep follows another, the chapter on "Natural Selection," Darwins cheval de bataille, which is very much the Napoleonic doctrine that Providence favors the strongest battalions—that, since many more individuals are born than can possibly survive, those individuals and those variations which possess any advantage, however slight, over the rest, are in the long-run sure to survive, to propagate, and to occupy the limited field, to the exclusion or destruction of the weaker brethren. All this we pondered, and could not much object to. In fact, we began to contract a liking for a system which at the outset illustrates the advantages of good breeding, and which makes the most "of every creatures best."

Could we "let by-gones be by-gones," and, beginning now, go on improving and diversifying for the future by natural selection, could we even take up the theory at the introduction of the actually existing species, we should be well content; and so, perhaps, would most naturalists be. It is by no means difficult to believe that varieties are incipient or possible species, when we see what trouble naturalists,

especially botanists, have to distinguish between them—one regarding as a true species what another regards as a variety; when the progress of knowledge continually increases, rather than diminishes, the number of doubtful instances; and when there is less agreement than ever among naturalists as to what is the basis in Nature upon which our idea of species reposes, or how the word is to be defined. Indeed, when we consider the endless disputes of naturalists and ethnologists over the human races, as to whether they belong to one species or to more, and, if to more, whether to three, or five, or fifty, we can hardly help fancying that both may be right—or rather, that the uni-humanitarians would have been right many thousand years ago, and the multi-humanitarians will be several thousand years later; while at present the safe thing to say is, that probably there is some truth on both sides.

"Natural selection," Darwin remarks, "leads to divergence of character; for the more living beings can be supported on the same area, the more they diverge in structure, habits, and constitution" (a principle which, by-the-way, is paralleled and illustrated by the diversification of human labor); and also leads to much extinction of intermediate or unimproved forms. Now, though this divergence may "steadily tend to increase," yet this is evidently a slow process in Nature, and liable to much counteraction wherever man does not interpose, and so not likely to work much harm for the future. And if natural selection, with artificial to help it, will produce better animals and better men than the present, and fit them better to the conditions of existence, why, let it work, say we, to the top of its bent There is still room enough for improvement. Only let us hope that it always works for good: if not, the divergent lines on Darwin's lithographic diagram of "Transmutation made Easy," ominously show what small deviations from the straight path may come to in the end.

The prospect of the future, accordingly, is on the whole pleasant and encouraging. It is only the backward glance, the gaze up the long vista of the past, that reveals anything alarming. Here the lines converge as they recede into the geological ages,

and point to conclusions which, upon the theory, are inevitable, but hardly welcome. The very first step backward makes the negro and the Hottentot our blood-relations—not that reason or Scripture objects to that, though pride may. The next suggests a closer association of our ancestors of the olden time with "our poor relations" of the quadrumanous family than we like to acknowledge. Fortunately, however—even if we must account for him scientifically —man with his two feet stands upon a foundation of his own. Intermediate links between the Bimana and the Quadrumana are lacking altogether; so that, put the genealogy of the brutes upon what footing you will, the four-handed races will not serve for our forerunners—at least, not until some monkey, live or fossil, is producible with great-toes, instead of thumbs, upon his nether extremities; or until some lucky geologist turns up the bones of his ancestor and prototype in France or England, who was so busy "napping the chuckie-stanes" and chipping out flint knives and arrow-heads in the time of the drift, very many ages ago—before the British Channel existed, says Lyell [III-1}—and until these men of the olden time are shown to have worn their great-toes in the divergent and thumblike fashion. That would be evidence indeed: but, until some testimony of the sort is produced, we must needs believe in the separate and special creation of man, however it may have been with the lower animals and with plants.

No doubt, the full development and symmetry of Darwin's hypothesis strongly suggest the evolution of the human no less than the lower animal races out of some simple primordial animal—that all are equally "lineal descendants of some few beings which lived long before the first bed of the Silurian system was deposited." But, as the author speaks disrespectfully of spontaneous generation, and accepts a supernatural beginning of life on earth, in some form or forms of being which included potentially all that have since existed and are yet to be, he is thereby not warranted to extend his inferences beyond the evidence or the fair probability. There seems as great likelihood that one special origination should be followed by another

upon fitting occasion (such as the introduction of man), as that one form should be transmuted into another upon fitting occasion, as, for instance, in the succession of species which differ from each other only in some details. To compare small things with great in a homely illustration: man alters from time to time his instruments or machines, as new circumstances or conditions may require and his wit suggest. Minor alterations and improvements he adds to the machine he possesses; he adapts a new rig or a new rudder to an old boat: this answers to Variation. "Like begets like," being the great rule in Nature, if boats could engender, the variations would doubtless be propagated, like those of domestic cattle. In course of time the old ones would be worn out or wrecked; the best sorts would be chosen for each particular use, and further improved upon; and so the primordial boat be developed into the scow, the skiff, the sloop, and other species of water-craft—the very diversification, as well as the successive improvements, entailing the disappearance of intermediate forms, less adapted to any one particular purpose; wherefore these go slowly out of use, and become extinct species: this is Natural Selection. Now, let a great and important advance be made, like that of steam navigation: here, though the engine might be added to the old vessel, yet the wiser and therefore the actual way is to make a new vessel on a modified plan: this may answer to Specific Creation. Anyhow, the one does not necessarily exclude the other. Variation and natural selection may play their part, and so may specific creation also. Why not?

This leads us to ask for the reasons which call for this new theory of transmutation. The beginning of things must needs lie in obscurity, beyond the bounds of proof, though within those of conjecture or of analogical inference. Why not hold fast to the customary view, that all species were directly, instead of indirectly, created after their respective kinds, as we now behold them—and that in a manner which, passing our comprehension, we intuitively refer to the supernatural? Why this continual striving after "the unattained and dim?" why these anxious endeavors, especially of late years, by naturalists and philosophers of various schools and different

tendencies, to penetrate what one of them calls "that mystery of mysteries," the origin of species?

To this, in general, sufficient answer may be found in the activity of the human intellect, "the delirious yet divine desire to know," stimulated as it has been by its own success in unveiling the laws and processes of inorganic Nature; in the fact that the principal triumphs of our age in physical science have consisted in tracing connections where none were known before, in reducing heterogeneous phenomena to a common cause or origin, in a manner quite analogous to that of the reduction of supposed independently originated species to a common ultimate origin—thus, and in various other ways, largely and legitimately extending the domain of secondary causes. Surely the scientific mind of an age which contemplates the solar system as evolved from a common revolving fluid mass—which, through experimental research, has come to regard light, heat, electricity, magnetism, chemical affinity, and mechanical power as varieties or derivative and convertible forms of one force, instead of independent species—which has brought the so-called elementary kinds of matter, such as the metals, into kindred groups, and pertinently raised the question, whether the members of each group may not be mere varieties of one species—and which speculates steadily in the direction of the ultimate unity of matter, of a sort of prototype or simple element which may be to the ordinary species of matter what the Protozoa or what the component cells of an organism are to the higher sorts of animals and plants—the mind of such an age cannot be expected to let the old belief about species pass unquestioned. It will raise the question, how the diverse sorts of plants and animals came to be as they are and where they are and will allow that the whole inquiry transcends its powers only when all endeavors have failed Granting the origin to be super natural or miraculous even, will not arrest the inquiry All real origination the philosophers will say, is supernatural, their very question is, whether we have yet gone back to the origin and can affirm that the present forms of plants and animals are the primordial, the

miraculously created ones. And, even if they admit that, they will still inquire into the order of the phenomena, into the form of the miracle You might as well expect the child to grow up content with what it is told about the advent of its infant brother Indeed, to learn that the new comer is the gift of God, far from lulling inquiry, only stimulates speculation as to how the precious gift was bestowed That questioning child is father to the man—is philosopher in short-clothes.

Since, then questions about the origin of species will be raised, and have been raised—and since the theorizings, however different in particulars, all proceed upon the notion that one species of plant or animal is somehow derived from another, that the different sorts which now flourish are lineal (or unlineal) descendants of other and earlier sorts—it now concerns us to ask, What are the grounds in Nature, the admitted facts, which suggest hypotheses of derivation in some :shape or other? Reasons there must be, and plausible ones, for the persistent recurrence of theories upon this genetic basis. A study of Darwins book, and a general glance at the present state of the natural sciences, enable us to gather the following as among the most suggestive and influential. We can only enumerate them here, without much indication of their particular bearing. There is—

1. The general fact of variability, and the general tendency of the variety to propagate its like—the patent facts that all species vary more or less; that domesticated plants and animals, being in conditions favorable to the production and preservation of varieties, are apt to vary widely; and that, by interbreeding, any variety may be fixed into a race, that is, into a variety which comes true from seed. Many such races, it is allowed, differ from each other in structure and appearance as widely as do many admitted species; and it is practically very difficult, even impossible, to draw a clear line between races and species. Witness the human races, for instance. Wild species also vary, perhaps about as widely as those of domestication, though in different ways. Some of them apparently vary little, others moderately, others immoderately, to the great bewilderment of systematic botanists

and zoologists, and increasing disagreement as to whether various forms shall be held to be original species or strong varieties. Moreover, the degree to which the descendants of the same stock, varying in different directions, may at length diverge, is unknown. All we know is, that varieties are themselves variable, and that very diverse forms have been educed from one stock.

2. Species of the same genus are not distinguished from each other by equal amounts of difference. There is diversity in this respect analogous to that of the varieties of a polymorphous species, some of them slight, others extreme. And in large genera the unequal resemblance shows itself in the clustering of the species around several types or central species, like satellites around their respective planets. Obviously suggestive this of the hypothesis that they were satellites, not thrown off by revolution, like the moons of Jupiter, Saturn, and our own solitary moon, but gradually and peacefully detached by divergent variation. That such closely-related species may be only varieties of higher grade, earlier origin, or more favored evolution, is not a very violent supposition. Anyhow, it was a supposition sure to be made.

3. The actual geographical distribution of species upon the earths surface tends to suggest the same notion. For, as a general thing, all or most of the species of a peculiar genus or other type are grouped in the same country, or occupy continuous, proximate, or accessible areas. So well does this rule hold, so general is the implication that kindred species are or were associated geographically, that most trustworthy naturalists, quite free from hypotheses of transmutation, are constantly inferring former geographical continuity between parts of the world now widely disjoined, in order to account thereby for certain generic similarities among their inhabitants; just as philologists infer former connection of races, and a parent language, to account for generic similarities among existing languages. Yet no scientific explanation has been offered to account for the geographical association of kindred species, except the hypothesis of a common origin.

4. Here the fact of the antiquity of creation, and in particular of the present kinds of the earths inhabitants, or of a large part of them, comes in to rebut the objection that there has not been time enough for any marked diversification of living things through divergent variation—not time enough for varieties to have diverged into what we call species.

So long as the existing species of plants and animals were thought to have originated a few thousand years ago, and without predecessors, there was no room for a theory of derivation of one sort from another, nor time enough even to account for the establishment of the races which are generally believed to have diverged from a common stock. Not so much that five or six thousand years was a short allowance for this; but because some of our familiar domesticated varieties of grain, of fowls, and of other animals, were pictured and mummified by the old Egyptians more than half that number of years ago, if not earlier. Indeed, perhaps the strongest argument for the original plurality of human species was drawn from the identification of some of the present races of men upon these early historical monuments and records.

But this very extension of the current chronology, if we may rely upon the archaeologists, removes the difficulty by opening up a longer vista. So does the discovery in Europe of remains and implements of prehistoric races of men, to whom the use of metals was unknown—men of the stone age, as the Scandinavian archaeologists designate them. And now, "axes and knives of flint, evidently wrought by human skill, are found in beds of the drift at Amiens (also in other places, both in France and England), associated with the bones of extinct species of animals." These implements, indeed, were noticed twenty years ago; at a place in Suffolk they have been exhumed from time to time for more than a century; but the full confirmation, the recognition of the age of the deposit in which the implements occur, their abundance, and the appreciation of their bearings upon most interesting questions, belong to the present time. To complete the connection of these primitive people with the fossil ages, the French geologists, we are told, have now "found

these axes in Picardy associated with remains of Elephas primigenius, Rhinoceros tichorhinus, Equus fossilis, and an extinct species of Bos."[III-2} In plain language, these workers in flint lived in the time of the mammoth, of a rhinoceros now extinct, and along with horses and cattle unlike any now existing—specifically different, as naturalists say, from those with which man is now associated. Their connection with existing human races may perhaps be traced through the intervening people of the stone age, who were succeeded by the people of the bronze age, and these by workers in iron.[III-3} Now, various evidence carries back the existence of many of the present lower species of animals, and probably of a larger number of plants, to the same drift period. All agree that this was very many thousand years ago. Agassiz tells us that the same species of polyps which are now building coral walls around the present peninsula of Florida actually made that peninsula, and have been building there for many thousand centuries.

5. The overlapping of existing and extinct species, and the seemingly gradual transition of the life of the drift period into that of the present, may be turned to the same account. Mammoths, mastodons, and Irish elks, now extinct, must have lived down to human, if not almost to historic times. Perhaps the last dodo did not long outlive his huge New Zealand kindred. The aurochs, once the companion of mammoths, still survives, but owes his present and precarious existence to mans care. Now, nothing that we know of forbids the hypothesis that some new species have been independently and supernaturally created within the period which other species have survived. Some may even believe that man was created in the days of the mammoth, became extinct, and was recreated at a later date. But why not say the same of the aurochs, contemporary both of the old man and of the new? Still it is more natural, if not inevitable, to infer that, if the aurochs of that olden time were the ancestors of the aurochs of the Lithuanian forests, so likewise were the men of that age the ancestors of the present human races. Then, whoever concludes that these primitive makers of rude flint axes and knives were the ancestors of the better

workmen of the succeeding stone age, and these again of the succeeding artificers in brass and iron, will also be likely to suppose that the Equus and Bos of that time, different though they be, were the remote progenitors of our own horses and cattle. In all candor we must at least concede that such considerations suggest a genetic descent from the drift period down to the present, and allow time enough—if time is of any account— for variation and natural selection to work out some appreciable results in the way of divergence into races, or even into so-called species. Whatever might have been thought, when geological time was supposed to be separated from the present era by a clear line, it is now certain that a gradual replacement of old forms by new ones is strongly suggestive of some mode of origination which may still be operative. When species, like individuals, were found to die out one by one, and apparently to come in one by one, a theory for what Owen sonorously calls "the continuous operation of the ordained becoming of living things" could not be far off.

That all such theories should take the form of a derivation of the new from the old seems to be inevitable, perhaps from our inability to conceive of any other line of secondary causes in this connection. Owen himself is apparently in travail with some transmutation theory of his own conceiving, which may yet see the light, although Darwins came first to the birth. Different as the two theories will probably be, they cannot fail to exhibit that fundamental resemblance in this respect which betokens a community of origin, a common foundation on the general facts and the obvious suggestions of modern science. Indeed—to turn the point of a pungent simile directed against Darwin—the difference between the Darwinian and the Owenian hypotheses may, after all, be only that between homoeopathic and heroic doses of the same drug.

If theories of derivation could only stop here, content with explaining the diversification and succession of species between the teritiary period and the present time, through natural agencies or secondary causes still in operation, we fancy they would not be generally or violently objected to by the savants of the present day. But

it is hard, if not impossible, to find a stopping-place. Some of the facts or accepted conclusions already referred to, and several others, of a more general character, which must be taken into the account, impel the theory onward with accumulated force. Vires (not to say virus) acquirit eundo. The theory hitches on wonderfully well to Lyells uniformitarian theory in geology—that the thing that has been is the thing that is and shall be—that the natural operations now going on will account for all geological changes in a quiet and easy way, only give them time enough, so connecting the present and the proximate with the farthest past by almost imperceptible gradations—a view which finds large and increasing, if not general, acceptance in physical geology, and of which Darwins theory is the natural complement.

So the Darwinian theory, once getting a foothold, marches; boldly on, follows the supposed near ancestors of our present species farther and yet farther back into the dim past, and ends with an analogical inference which "makes the whole world kin." As we said at the beginning, this upshot discomposes us. Several features of the theory have an uncanny look. They may prove to be innocent: but their first aspect is suspicious, and high authorities pronounce the whole thing to be positively mischievous. In this dilemma we are going to take advice. Following the bent of our prejudices, and hoping to fortify these by new and strong arguments, we are going now to read the principal reviews which undertake to demolish the theory—with what result our readers shall be duly informed.

II

"I can entertain no doubt, after the most deliberate study and dispassionate judgment of which I am capable, that the view which most naturalists entertain, and which I formerly entertained, namely, that each species has been independently created, is erroneous. I am fully convinced that species are not immutable; but that those

belonging to what are called the same genera are lineal descendants of some other and generally extinct species, in the same manner as the acknowledged varieties of any one species are the descendants of that species. Furthermore, I am convinced that Natural Selection has been the main, but not exclusive, means of modification."

This is the kernel of the new theory, the Darwinian creed, as recited at the close of the introduction to the remarkable book under consideration. The questions, "What will he do with it?" and "How far will he carry it?" the author answers at the close of the volume:

"I cannot doubt that the theory of descent with modification embraces all the members of the same class." Furthermore, "I believe that all animals have descended from at most only four or five progenitors, and plants from an equal or lesser number."

Seeing that analogy as strongly suggests a further step in the same direction, while he protests that "analogy may be a deceitful guide," yet he follows its inexorable leading to the inference that—

"Probably all the organic beings which have ever lived on this ear have descended from some one primordial form, into which life was first breathed."[III-4}

In the first extract we have the thin end of the wedge driven a little way; in the last, the wedge driven home.

We have already sketched some of the reasons suggestive of such a theory of derivation of species, reasons which gave it plausibility, and even no small probability, as applied to our actual world and to changes occurring since the latest tertiary period. We are well pleased at this moment to find that the conclusions we were arriving at in this respect are sustained by the very high authority and impartial judgment of Pictet, the Swiss paleontologist. In his review of Darwins book[III-5} — the fairest and most admirable opposing one that has appeared—he freely accepts that ensemble of natural operations which Darwin impersonates under the now

familiar name of Natural Selection, allows that the exposition throughout the first chapters seems "a la fois prudent et fort," and is disposed to accept the whole argument in its foundations, that is, so far as it relates to what is now going on, or has taken place in the present geological period—which period he carries back through the diluvial epoch to the borders of the tertiary.[III-6} Pictet accordingly admits that the theory will very well account for the origination by divergence of nearly-related species, whether within the present period or in remoter geological times; a very natural view for him to take, since he appears to have reached and published, several years ago, the pregnant conclusion that there most probably was some material connection between the closely-related species of two successive faunas, and that the numerous close species, whose limits are so difficult to determine, were not all created distinct and independent. But while thus accepting, or ready to accept, the basis of Darwins theory, and all its legitimate direct inferences, he rejects the ultimate conclusions, brings some weighty arguments to bear against them, and is evidently convinced that he can draw a clear line between the sound inferences, which he favors, and the unsound or unwarranted theoretical deductions, which he rejects. We hope he can.

This raises the question, Why does Darwin press his theory to these extreme conclusions? Why do all hypotheses of derivation converge so inevitably to one ultimate point? Having already considered some of the reasons which suggest or support the theory at its outset—which may carry it as far as such sound and experienced naturalists as Pictet allow that it may be true—perhaps as far as Darwin himself unfolds it in the introductory proposition cited at the beginning of this article—we may now inquire after the motives which impel the theorist so much farther. Here proofs, in the proper sense of the word, are not to be had. We are beyond the region of demonstration, and have only probabilities to consider. What are these probabilities? What work will this hypothesis do to establish a claim to be adopted in its completeness? Why should a theory which may plausibly enough

account for the diversification of the species of each special type or genus be expanded into a general system for the origination or successive diversification of all species, and all special types or forms, from four or five remote primordial forms, or perhaps from one? We accept the theory of gravitation because it explains all the facts we know, and bears all the tests that we can put it to. We incline to accept the nebular hypothesis, for similar reasons; not because it is proved—thus far it is incapable of proof—but because it is a natural theoretical deduction from accepted physical laws, is thoroughly congruous with the facts, and because its assumption serves to connect and harmonize these into one probable and consistent whole. Can the derivative hypothesis be maintained and carried out into a system on similar grounds? If so, however unproved, it would appear to be a tenable hypothesis, which is all that its author ought now to claim. Such hypotheses as, from the conditions of the case, can neither be proved nor disproved by direct evidence or experiment, are to be tested only indirectly, and therefore imperfectly, by trying their power to harmonize the known facts, and to account for what is otherwise unaccountable. So the question comes to this: What will an hypothesis of the derivation of species explain which the opposing view leaves unexplained?

Questions these which ought to be entertained before we take up the arguments which have been advanced against this theory. We can barely glance at some of the considerations which Darwin adduces, or will be sure to adduce in the future and fuller exposition which is promised. To display them in such wise as to indoctrinate the unscientific reader would require a volume. Merely to refer to them in the most general terms would suffice for those familiar with scientific matters, but would scarcely enlighten those who are not. Wherefore let these trust the impartial Pictet, who freely admits that, "in the absence of sufficient direct proofs to justify the possibility of his hypothesis, Mr. Darwin relies upon indirect proofs, the bearing of which is real and incontestable;" who concedes that "his theory accords very well with the great facts of comparative anatomy and zoology—comes in admirably to

explain unity of composition of organisms, also to explain rudimentary and representative organs, and the natural series of genera and species—equally corresponds with many paleontological data—agrees well with the specific resemblances which exist between two successive faunas, with the parallelism which is sometimes observed between the series of paleontological succession and of embryonal development," etc.; and finally, although he does not accept the theory in these results, he allows that "it appears to offer the best means of explaining the manner in which organized beings were produced in epochs anterior to our own."

What more than this could be said for such an hypothesis? Here, probably, is its charm, and its strong hold upon the speculative mind. Unproven though it be, and cumbered prima facie with cumulative improbabilities as it proceeds, yet it singularly accords with great classes of facts otherwise insulated and enigmatic, and explains many things which are thus far utterly inexplicable upon any other scientific assumption.

We have said that Darwins hypothesis is the natural complement to Lyells uniformitarian theory in physical geology. It is for the organic world what that is for the inorganic; and the accepters of the latter stand in a position from which to regard the former in the most favorable light. Wherefore the rumor that the cautious Lyell himself has adopted the Darwinian hypothesis need not surprise us. The two views are made for each other, and, like the two counterpart pictures for the stereoscope, when brought together, combine into one apparently solid whole.

If we allow, with Pictet, that Darwins theory will very well serve for all that concerns the present epoch of the worlds history—an epoch in which this renowned paleontologist includes the diluvial or quaternary period—then Darwins first and foremost need in his onward course is a practicable road from this into and through the tertiary period, the intervening region between the comparatively near and the far remote past. Here Lyells doctrine paves the way, by showing that in the physical

geology there is no general or absolute break between the two, probably no greater between the latest tertiary and the quaternary period than between the latter and the present time. So far, the Lyellian view is, we suppose, generally concurred in. It is largely admitted that numerous tertiary species have continued down into the quaternary, and many of them to the present time. A goodly percentage of the earlier and nearly half of the later tertiary mollusca, according to Des Hayes, Lye!!, and, if we mistake not, Bronn, still live. This identification, however, is now questioned by a naturalist of the very highest authority. But, in its bearings on the new theory, the point here turns not upon absolute identity so much as upon close resemblance. For those who, with Agassiz, doubt the specific identity in any of these cases, and those who say, with Pictet, that "the later tertiary deposits contain in general the debris of species very nearly related to those which still exist, belonging to the same genera, but specifically different," may also agree with Pictet, that the nearly-related species of successive faunas must or may have had "a material connection." But the only material connection that we have an idea of in such a case is a genealogical one. And the supposition of a genealogical connection is surely not unnatural in such cases—is demonstrably the natural one as respects all those tertiary species which experienced naturalists have pronounced to be identical with existing ones, but which others now deem distinct For to identify the two is the same thing as to conclude the one to be the ancestor of the other No doubt there are differences between the tertiary and the present individuals, differences equally noticed by both classes of naturalists, but differently estimated By the one these are deemed quite compatible, by the other incompatible, with community of origin But who can tell us what amount of difference is compatible with community of origin? This is the very question at issue, and one to be settled by observation alone Who would have thought that the peach and the nectarine came from one stock? But, this being proved is it now very improbable that both were derived from the almond, or from some common amygdaline progenitor? Who would have thought that the cabbage,

cauliflower, broccoli kale, and kohlrabi are derivatives of one species, and rape or colza, turnip, and probably ruta-baga, of another species? And who that is convinced of this can long undoubtingly hold the original distinctness of turnips from cabbages as an article of faith? On scientific grounds may not a primordial cabbage or rape be assumed as the ancestor of all the cabbage races, on much the same ground that we assume a common ancestry for the diversified human races? If all Our breeds of cattle came from one stock why not this stock from the auroch, which has had all the time between the diluvial and the historic periods in which to set off a variation perhaps no greater than the difference between some sorts of domestic cattle?

That considerable differences are often discernible between tertiary individuals and their supposed descendants of the present day affords no argument against Darwins theory, as has been rashly thought, but is decidedly in its favor. If the identification were so perfect that no more differences were observable between the tertiary and the recent shells than between various individuals of either, then Darwins opponents, who argue the immutability of species from the ibises and cats preserved by the ancient Egyptians being just like those of the present day, could triumphantly add a few hundred thousand years more to the length of the experiment and to the force of their argument.

As the facts stand, it appears that, while some tertiary forms are essentially undistinguishable from existing ones, others are the same with a difference, which is judged not to be specific or aboriginal; and yet others show somewhat greater differences, such as are scientifically expressed by calling them marked varieties, or else doubtful species; while others, differing a little more, are confidently termed distinct, but nearly-related species. Now, is not all this a question of degree, of mere gradation of difference? And is it at all likely that these several gradations came to be established in two totally different ways—some of them (though naturalists cant agree which) through natural variation, or other secondary cause, and some by original creation, without secondary cause? We have seen that the judicious Pictet

answers such questions as Darwin would have him do, in affirming that, in all probability, the nearly-related species of two successive faunas were materially connected, and that contemporaneous species, similarly resembling each other, were not all created so, but have become so. This is equivalent to saying that species (using the term as all naturalists do, and must continue to employ the word) have only a relative, not an absolute fixity; that differences fully equivalent to what are held to be specific may arise in the course of time, so that one species may at length be naturally replaced by another species a good deal like it, or may be diversified into two, three, or more species, or forms as different as species. This concedes all that Darwin has a right to ask, all that he can directly infer from evidence. We must add that it affords a locus standi, more or less tenable, for inferring more.

Here another geological consideration comes in to help on this inference. The species of the later tertiary period for the most part not only resembled those of our days—many of them so closely as to suggest an absolute continuity—but also occupied in general the same regions that their relatives occupy now. The same may be said, though less specially, of the earlier tertiary and of the later secondary; but there is less and less localization of forms as we recede, yet some localization even in palaeozoic times. While in the secondary period one is struck with the similarity of forms and the identity of many of the species which flourished apparently at the same time in all or in the most widely-separated parts of the world, in the tertiary epoch, on the contrary, along with the increasing specialization of climates and their approximation to the present state, we find abundant evidence of increasing localization of orders, genera and species, and this localization strikingly accords with the present geographical distribution of the same groups of species Where the imputed forefathers lived their relatives and supposed descendants now flourish All the actual classes of the animal and vegetable kingdoms were represented in the tertiary faunas and floras and in nearly the same proportions and the same diversities as at present The faunas of what is now Europe, Asia America and Australia,

differed from each other much as they now differ: in fact—according to Adolphe Brongniart, whose statements we here condense[III-7}—the inhabitants of these different regions appear for the most part to have acquired, before the close of the tertiary period, the characters which essentially distinguish their existing faunas. The Eastern Continent had then, as now, its great pachyderms, elephants, rhinoceros, hippopotamus; South America, its armadillos, sloths, and anteaters; Australia, a crowd of marsupials; and the very strange birds of New Zealand had predecessors of similar strangeness.

Everywhere the same geographical distribution as now, with a difference in the particular area, as respects the northern portion of the continents, answering to a warmer climate then than ours, such as allowed species of hippopotamus, rhinoceros, and elephant, to range even to the regions now inhabited by the reindeer and the musk-ox, and with the serious disturbing intervention of the glacial period within a comparatively recent time. Let it be noted also that those tertiary species which have continued with little change down to our days are the marine animals of the lower grades, especially mollusca. Their low organization, moderate sensibility, and the simple conditions of an existence in a medium like the ocean, not subject to great variation and incapable of sudden change, may well account for their continuance; while, on the other hand, the more intense, however gradual, climatic vicissitudes on land, which have driven all tropical and subtropical forms out of the higher latitudes and assigned to them their actual limits, would be almost sure to extinguish such huge and unwieldy animals as mastodons, mammoths, and the like, whose power of enduring altered circumstances must have been small.

This general replacement of the tertiary species of a country by others so much like them is a noteworthy fact. The hypothesis of the independent creation of all species, irrespective of their antecedents, leaves this fact just as mysterious as is creation itself; that of derivation undertakes to account for it. Whether it satisfactorily does so or not, it must be allowed that the facts well accord with that hypothesis. The same

may be said of another conclusion, namely, that the geological succession of animals and plants appears to correspond in a general way with their relative standing or rank in a natural system of classification. It seems clear that, though no one of the grand types of the animal kingdom can be traced back farther than the rest, yet the lower classes long preceded the higher; that there has been on the whole a steady progression within each class and order; and that the highest plants and animals have appeared only in relatively modern times. It is only, however, in a broad sense that this generalization is now thought to hold good. It encounters many apparent exceptions, and sundry real ones. So far as the rule holds, all is as it should be upon an hypothesis of derivation.

The rule has its exceptions. But, curiously enough, the most striking class of exceptions, if such they be, seems to us even more favorable to the doctrine of derivation than is the general rule of a pure and simple ascending gradation. We refer to what Agassiz calls prophetic and synthetic types; for which the former name may suffice, as the difference between the two is evanescent.

"It has been noticed," writes our great zoologist, "that certain types, which are frequently prominent among the representatives of past ages, combine in their structure peculiarities which at later periods are only observed separately in different, distinct types. Sauroid fishes before reptiles, Pterodactyles before birds, Ichthyosauri before dolphins, etc. There are entire families, of nearly every class of animals, which in the state of their perfect development exemplify such prophetic relations.

The sauroid fishes of the past geological ages are an example of this kind These fishes which preceded the appearance of reptiles present a combination of ichthyic and reptilian characters not to be found in the true members of this class, which form its bulk at present. The Pterodactyles, which preceded the class of birds, and the Ichthyosauri, which preceded the Cetacea, are other examples of such prophetic

types."—(Agassiz, "Contributions, Essay on Classification," p. 117.)

Now, these reptile-like fishes, of which gar-pikes are the living representatives, though of earlier appearance, are admittedly of higher rank than common fishes. They dominated until reptiles appeared, when they mostly gave place to (or, as the derivationists will insist, were resolved by divergent variation and natural selection into) common fishes, destitute of reptilian characters, and saurian reptiles—the intermediate grades, which, according to a familiar piscine saying, are "neither fish, flesh, nor good red-herring," being eliminated and extinguished by natural consequence of the struggle for existence which Darwin so aptly portrays. And so, perhaps, of the other prophetic types. Here type and antitype correspond. If these are true prophecies, we need not wonder that some who read them in Agassizs book will read their fulfillment in Darwins.

Note also, in this connection, that along with a wonderful persistence of type, with change of species, genera, orders, etc., from formation to formation, no species and no higher group which has once unequivocally died out ever afterward reappears. Why is this, but that the link of generation has been sundered? Why, on the hypothesis of independent originations, were not failing species recreated, either identically or with a difference, in regions eminently adapted to their well-being? To take a striking case. That no part of the world now offers more suitable conditions for wild horses and cattle than the pampas and other plains of South America, is shown by the facility with which they have there run wild and enormously multiplied, since introduced from the Old World not long ago. There was no wild American stock. Yet in the times of the mastodon and megatherium, at the dawn of the present period, wild-horses—certainly very much like the existing horse—roamed over those plains in abundance. On the principle of original and direct created adaptation of species to climate and other conditions, why were they not reproduced, when, after the colder intervening era, those regions became again eminently adapted to such animals? Why, but because, by their complete extinction

in South America, the line of descent was there utterly broken? Upon the ordinary hypothesis, there is no scientific explanation possible of this series of facts, and of many others like them. Upon the new hypothesis, "the succession of the same types of structure within the same areas during the later geological periods ceases to be mysterious, and is simply explained by inheritance." Their cessation is failure of issue.

Along with these considerations the fact (alluded to on page 98) should be remembered that, as a general thing, related species of the present age are geographically associated. The larger part of the plants, and still more of the animals, of each separate country are peculiar to it; and, as most species now flourish over the graves of their by-gone relatives of former ages, so they now dwell among or accessibly near their kindred species.

Here also comes in that general "parallelism between the order of succession of animals and plants in geological times, and the gradation among their living representatives" from low to highly organized, from simple and general to complex and specialized forms; also "the parallelism between the order of succession of animals in geological times and the changes their living representatives undergo during their embryological growth," as if the world were one prolonged gestation. Modern science has much insisted on this parallelism, and to a certain extent is allowed to have made it out. All these things, which conspire to prove that the ancient and the recent forms of life "are somehow intimately connected together in one grand system," equally conspire to suggest that the connection is one similar or analogous to generation. Surely no naturalist can be blamed for entering somewhat confidently upon a field of speculative inquiry which here opens so invitingly; nor need former premature endeavors and failures utterly dishearten him.

All these things, it may naturally be said, go to explain the order, not the mode, of the incoming of species. But they all do tend to bring out the generalization

expressed by Mr. Wallace in the formula that "every species has come into existence coincident both in time and space with preexisting closely-allied species." Not, however, that this is proved even of existing species as a matter of general fact. It is obviously impossible to prove anything of the kind. But we must concede that the known facts strongly suggest such an inference. And—since species are only congeries of individuals, since every individual came into existence in consequence of preexisting individuals of the same sort, so leading up to the individuals with which the species began, and since the only material sequence we know of among plants and animals is that from parent to progeny—the presumption becomes exceedingly strong that the connection of the incoming with the preexisting species is a genealogical one.

Here, however, all depends upon the probability that Mr. Wallaces inference is really true. Certainly it is not yet generally accepted; but a strong current is setting toward its acceptance.

So long as universal cataclysms were in vogue, and all life upon the earth was thought to have been suddenly destroyed and renewed many times in succession, such a view could not be thought of. So the equivalent view maintained by Agassiz, and formerly, we believe, by DOrbigny, that irrespectively of general and sudden catastrophes, or any known adequate physical cause, there has been a total depopulation at the close of each geological period or formation, say forty or fifty times or more, followed by as many independent great acts of creation, at which alone have species been originated, and at each of which a vegetable and an animal kingdom were produced entire and complete, full-fledged, as flourishing, as wide-spread, and populous, as varied and mutually adapted from the beginning as ever afterward—such a view, of course, supersedes all material connection between successive species, and removes even the association and geographical range of species entirely out of the domain of physical causes and of natural science. This is the extreme opposite of Wallaces and Darwin s view, and is quite as hypothetical.

The nearly universal opinion, if we rightly gather it, manifestly is, that the replacement of the species of successive formations was not complete and simultaneous, but partial and successive; and that along the course of each epoch some species probably were introduced, and some, doubtless, became extinct. If all since the tertiary belongs to our present epoch, this is certainly true of it: if to two or more epochs, then the hypothesis of a total change is not true of them.

Geology makes huge demands upon time; and we regret to find that it has exhausted ours—that what we meant for the briefest and most general sketch of some geological considerations in favor of Darwins hypothesis has so extended as to leave no room for considering "the great facts of comparative anatomy and zoology" with which Darwins theory "very well accords," nor for indicating how "it admirably serves for explaining the unity of composition of all organisms, the existence of representative and rudimentary organs, and the natural series which genera and species compose." Suffice it to say that these are the real strongholds of the new system on its theoretical side; that it goes far toward explaining both the physiological and the structural gradations and relations between the two kingdoms, and the arrangement of all their forms in groups subordinate to groups, all within a few great types; that it reads the riddle of abortive organs and of morphological conformity, of which no other theory has ever offered a scientific explanation, and supplies a ground for harmonizing the two fundamental ideas which naturalists and philosophers conceive to have ruled the organic world, though they could not reconcile them; namely, Adaptation to Purpose and Conditions of Existence, and Unity of Type. To reconcile these two undeniable principles is the capital problem in the philosophy of natural history; and the hypothesis which consistently does so thereby secures a great advantage.

We all know that the arm and hand of a monkey, the foreleg and foot of a dog and of a horse, the wing of a bat, and the fin of a porpoise, are fundamentally identical; that the long neck of the giraffe has the same and no more bones than the short one of the

elephant; that the eggs of Surinam frogs hatch into tadpoles with as good tails for swimming as any of their kindred, although as tadpoles they never enter the water; that the Guinea-pig is furnished with incisor teeth which it never uses, as it sheds them before birth; that embryos of mammals and birds have branchial slits and arteries running in loops, in imitation or reminiscence of the arrangement which is permanent in fishes; and that thousands of animals and plants have rudimentary organs which, at least in numerous cases, are wholly useless to their possessors, etc., etc. Upon a derivative theory this morphological conformity is explained by community of descent; and it has not been explained in any other way.

Naturalists are constantly speaking of "related species," of the "affinity" of a genus or other group, and of "family resemblance"—vaguely conscious that these terms of kinship are something more than mere metaphors, but unaware of the grounds of their aptness. Mr. Darwin assures them that they have been talking derivative doctrine all their lives—as M. Jourdain talked prose—without knowing it.

If it is difficult and in many cases practically impossible to fix the limits of species, it is still more so to fix those of genera; and those of tribes and families are still less susceptible of exact natural circumscription. Intermediate forms occur, connecting one group with another in a manner sadly perplexing to systematists, except to those who have ceased to expect absolute limitations in Nature. All this blending could hardly fail to suggest a former material connection among allied forms, such as that which the hypothesis of derivation demands.

Here it would not be amiss to consider the general principle of gradation throughout organic Nature—a principle which answers in a general way to the Law of Continuity in the inorganic world, or rather is so analogous to it that both may fairly be expressed by the Leibnitzian axiom, Natura non agit saltatim. As an axiom or philosophical principle, used to test modal laws or hypotheses, this in strictness belongs only to physics. In the investigation of Nature at large, at least in the organic

world, nobody would undertake to apply this principle as a test of the validity of any theory or supposed law. But naturalists of enlarged views will not fail to infer the principle from the phenomena they investigate—to perceive that the rule holds, under due qualifications and altered forms, throughout the realm of Nature; although we do not suppose that Nature in the organic world makes no distinct steps, but only short and serial steps—not infinitely fine gradations, but no long leaps, or few of them.

To glance at a few illustrations out of many that present themselves. It would be thought that the distinction between the two organic kingdoms was broad and absolute. Plants and animals belong to two very different categories, fulfill opposite offices and, as to the mass of them are so unlike that the difficulty of the ordinary observer would be to find points of comparison Without entering into details which would fill an article, we may safely say that the difficulty with the naturalist is all the other way—that all these broad differences vanish one by one as we approach the lower confines of the two kingdoms, and that no absolute distinction whatever is now known between them. It is quite possible that the same organism may be both vegetable and animal, or may be first the one and then the other. If some organisms may be said to be at first vegetables and then animals, others, like the spores and other reproductive bodies of many of the lower Algae, may equally claim to have first a characteristically animal, and then an unequivocally vegetable existence. Nor is the gradation restricted to these simple organisms. It appears in general functions, as in that of reproduction, which is reducible to the same formula in both kingdoms, while it exhibits close approximations in the lower forms; also in a common or similar ground of sensibility in the lowest forms of both, a common faculty of effecting movements tending to a determinate end, traces of which pervade the vegetable kingdom—while, on the other hand, this indefinable principle, this vegetable

"Animula vagula, blandula, Hospes comesque corporis,"

graduates into the higher sensitiveness of the lower class of animals. Nor need we hesitate to recognize the fine gradations from simple sensitiveness and volition to the higher instinctive and to the other psychical manifestations of the higher brute animals. The gradation is undoubted, however we may explain it.

Again, propagation is of one mode in the higher animals, of two in all plants; but vegetative propagation, by budding or offshoots, extends through the lower grades of animals. In both kingdoms there may be separation of the offshoots, or indifference in this respect, or continued and organic union with the parent stock; and this either with essential independence of the offshoots, or with a subordination of these to a common whole; or finally with such subordination and amalgamation, along with specialization of function, that the same parts, which in other cases can be regarded only as progeny, in these become only members of an individual.

This leads to the question of individuality, a subject quite too large and too recondite for present discussion. The conclusion of the whole matter, however, is, that individuality—that very ground of being as distinguished from thing—is not attained in Nature at one leap. If anywhere truly exemplified in plants, it is only in the lowest and simplest, where the being is a structural unit, a single cell, member-less and organless, though organic—the same thing as those cells of which all the more complex plants are built up, and with which every plant and (structurally) every animal began its development. In the ascending gradation of the vegetable kingdom individuality is, so to say, striven after, but never attained; in the lower animals it is striven after with greater though incomplete success; it is realized only in animals of so high a rank that vegetative multiplication or offshoots are out of the question, where all parts are strictly members and nothing else, and all subordinated to a common nervous centre—is fully realized only in a conscious person.

So, also, the broad distinction between reproduction by seeds or ova and propagation

by buds, though perfect in some of the lowest forms of life, becomes evanescent in others; and even the most absolute law we know in the physiology of genuine reproduction—that of sexual cooperation—has its exceptions in both kingdoms in parthenogenesis, to which in the vegetable kingdom a most curious and intimate series of gradations leads. In plants, likewise, a long and finely graduated series of transitions leads from bisexual to unisexual blossoms; and so in various other respects. Everywhere we may perceive that Nature secures her ends, and makes her distinctions on the whole manifest and real but everywhere without abrupt breaks We need not wonder therefore that gradations between species and varieties should occur; the more so, since genera, tribes, and other groups into which the naturalist collocates species, are far from being always absolutely limited in Nature, though they are necessarily represented to be so in systems. From the necessity of the case, the classifications of the naturalist abruptly define where Nature more or less blends. Our systems are nothing, if not definite. They express differences, and some of the coarser gradations. But this evinces not their perfection, but their imperfection. Even the best of them are to the system of Nature what consecutive patches of the seven colors are to the rainbow.

Now the principle of gradation throughout organic Nature may, of course, be interpreted upon other assumptions than those of Darwins hypothesis—certainly upon quite other than those of a materialistic philosophy, with which we ourselves have no sympathy. Still we conceive it not only possible, but probable, that this gradation, as it has its natural ground, may yet have its scientific explanation. In any case, there is no need to deny that the general facts correspond well with an hypothesis like Darwins, which is built upon fine gradations.

We have contemplated quite long enough the general presumptions in favor of an hypothesis of the derivation of species. We cannot forget, however, while for the moment we overlook, the formidable difficulties which all hypotheses of this class have to encounter, and the serious implications which they seem to involve. We feel,

moreover, that Darwins particular hypothesis is exposed to some special objections. It requires no small strength of nerve steadily to conceive, not only of the diversification, but of the formation of the organs of an animal through cumulative variation and natural selection. Think of such an organ as the eye, that most perfect of optical instruments, as so produced in the lower animals and perfected in the higher! A friend of ours, who accepts the new doctrine, confesses that for a long while a cold chill came over him whenever he thought of the eye. He has at length got over that stage of the complaint, and is now in the fever of belief, perchance to be succeeded by the sweating stage, during which sundry peccant humors may be eliminated from the system. For ourselves, we dread the chill, and have some misgivings about the consequences of the reaction. We find ourselves in the "singular position" acknowledged by Pictet—that is, confronted with a theory which, although it can really explain much, seems inadequate to the heavy task it so boldly assumes, but which, nevertheless, appears better fitted than any other that has been broached to explain, if it be possible to explain, somewhat of the manner in which organized beings may have arisen and succeeded each other. In this dilemma we might take advantage of Mr. Darwins candid admission, that he by no means expects to convince old and experienced people, whose minds are stocked with a multitude of facts all regarded during a long course of years from the old point of view. This is nearly our case. So, owning no call to a larger faith than is expected of us, but not prepared to pronounce the whole hypothesis untenable, under such construction as we should put upon it, we naturally sought to attain a settled conviction through a perusal of several proffered refutations of the theory. At least, this course seemed to offer the readiest way of bringing to a head the various objections to which the theory is exposed. On several accounts some of these opposed reviews especially invite examination. We propose, accordingly, to conclude our task with an article upon "Darwin and his Reviewers."

III

The origin of species, like all origination, like the institution of any other natural state or order, is beyond our immediate ken. We see or may learn how things go on; we can only frame hypotheses as to how they began.

Two hypotheses divide the scientific world, very unequally, upon the origin of the existing diversity of the plants and animals which surround us. One assumes that the actual kinds are primordial; the other, that they are derivative. One, that all kinds originated supernaturally and directly as such, and have continued unchanged in the order of Nature; the other, that the present kinds appeared in some sort of genealogical connection with other and earlier kinds, that they became what they now are in the course of time and in the order of Nature.

Or, bringing in the word species, which is well defined as "the perennial succession of individuals," commonly of very like individuals—as a close corporation of individuals perpetuated by generation, instead of election—and reducing the question to mathematical simplicity of statement: species are lines of individuals coming down from the past and running on to the future; lines receding, therefore, from our view in either direction. Within our limited observation they appear to be parallel lines, as a general thing neither approaching to nor diverging from each other.

The first hypothesis assumes that they were parallel from the unknown beginning and will be to the unknown end. The second hypothesis assumes that the apparent parallelism is not real and complete, at least aboriginally, but approximate or temporary; that we should find the lines convergent in the past, if we could trace them far enough; that some of them, if produced back, would fall into certain fragments of lines, which have left traces in the past, lying not exactly in the same direction, and these farther back into others to which they are equally unparallel. It will also claim that the present lines, whether on the whole really or only

approximately parallel, sometimes fork or send off branches on one side or the other, producing new lines (varieties), which run for a while, and for aught we know indefinitely when not interfered with, near and approximately parallel to the parent line. This claim it can establish; and it may also show that these close subsidiary lines may branch or vary again, and that those branches or varieties which are best adapted to the existing conditions may be continued, while others stop or die out. And so we may have the basis of a real theory of the diversification of species and here indeed, there is a real, though a narrow, established ground to build upon But as systems of organic Nature, both doctrines are equally hypotheses, are suppositions of what there is no proof of from experience, assumed in order to account for the observed phenomena, and supported by such indirect evidence as can be had.

Even when the upholders of the former and more popular system mix up revelation with scientific discussion—which we decline to do—they by no means thereby render their view other than hypothetical. Agreeing that plants and animals were produced by Omnipotent fiat does not exclude the idea of natural order and what we call secondary causes. The record of the fiat—"Let the earth bring forth grass, the herb yielding seed," etc., "and it was so;" "let the earth bring forth the living creature after his kind, cattle and creeping thing and beast of the earth after his kind, and it was so"—seems even to imply them. Agreeing that they were formed of "the dust of the ground," and of thin air, only leads to the conclusion that the pristine individuals were corporeally constituted like existing individuals, produced through natural agencies. To agree that they were created "after their kinds" determines nothing as to what were the original kinds, nor in what mode, during what time, and in what connections it pleased the Almighty to introduce the first individuals of each sort upon the earth. Scientifically considered, the two opposing doctrines are equally hypothetical.

The two views very unequally divide the scientific world; so that believers in "the divine right of majorities" need not hesitate which side to take, at least for the

present. Up to a time quite within the memory of a generation still on the stage, two hypotheses about the nature of light very unequally divided the scientific world. But the small minority has already prevailed: the emission theory has gone out; the undulatory or wave theory, after some fluctuation, has reached high tide, and is now the pervading, the fully-established system. There was an intervening time during which most physicists held their opinions in suspense.

The adoption of the undulatory theory of light called for the extension of the same theory to heat, and this promptly suggested the hypothesis of a correlation, material connection, and transmutability of heat, light, electricity, magnetism, etc.; which hypothesis the physicists held in absolute suspense until very lately, but are now generally adopting. If not already established as a system, it promises soon to become so. At least, it is generally received as a tenable and probably true hypothesis.

Parallel to this, however less cogent the reasons, Darwin and others, having shown it likely that some varieties of plants or animals have diverged in time into cognate species, or into forms as different as species, are led to infer that all species of a genus may have thus diverged from a common stock, and thence to suppose a higher community of origin in ages still farther back, and so on. Following the safe example of the physicists, and acknowledging the fact of the diversification of a once homogeneous species into varieties, we may receive the theory of the evolution of these into species, even while for the present we hold the hypothesis of a further evolution in cool suspense or in grave suspicion. In respect to very many questions a wise mans mind rests long in a state neither of belief nor unbelief. But your intellectually short-sighted people are apt to be preternaturally clear-sighted, and to find their way very plain to positive conclusions upon one side or the other of every mooted question.

In fact, most people, and some philosophers, refuse to hold questions in abeyance,

however incompetent they may be to decide them. And, curiously enough, the more difficult, recondite, and perplexing, the questions or hypotheses are—such, for instance, as those about organic Nature—the more impatient they are of suspense. Sometimes, and evidently in the present case, this impatience grows out of a fear that a new hypothesis may endanger cherished and most important beliefs. Impatience under such circumstances is not unnatural, though perhaps needless, and, if so, unwise.

To us the present revival of the derivative hypothesis, in a more winning shape than it ever before had, was not unexpected. We wonder that any thoughtful observer of the course of investigation and of speculation in science should not have foreseen it, and have learned at length to take its inevitable coming patiently; the more so, as in Darwins treatise it comes in a purely scientific form, addressed only to scientific men. The notoriety and wide popular perusal of this treatise appear to have astonished the author even more than the book itself has astonished the reading world Coming as the new presentation does from a naturalist of acknowledged character and ability and marked by a conscientiousness and candor which have not always been reciprocated we have thought it simply right to set forth the doctrine as fairly and as favorably as we could There are plenty to decry it and the whole theory is widely exposed to attack For the arguments on the other side we may look to the numerous adverse publications which Darwin s volume has already called out and especially to those reviews which propose directly to refute it. Taking various lines and reflecting very diverse modes of thought, these hostile critics may be expected to concentrate and enforce the principal objections which can be brought to bear against the derivative hypothesis in general, and Darwins new exposition of it in particular.

Upon the opposing side of the question we have read with attention—1. An article in the North American Review for April last; 2. One in the Christian Examiner, Boston, for May; 3. M. Pictets article in the Bibliotheque Universelle, which we

have already made considerable use of, which seems throughout most able and correct, and which in tone and fairness is admirably in contrast with—4. The article in the Edinburgh Review for May, attributed—although against a large amount of internal presumptive evidence—to the most distinguished British comparative anatomist; 5. An article in the North British Review for May; 6. Prof. Agassiz has afforded an early opportunity to peruse the criticisms he makes in the forthcoming third volume of his great work, by a publication of them in advance in the American Journal of Science for July.

In our survey of the lively discussion which has been raised, it matters little how our own particular opinions may incline. But we may confess to an impression, thus far, that the doctrine of the permanent and complete immutability of species has not been established, and may fairly be doubted. We believe that species vary, and that "Natural Selection" works; but we suspect that its operation, like every analogous natural operation, may be limited by something else. Just as every species by its natural rate of reproduction would soon completely fill any country it could live in, but does not, being checked by some other species or some other condition—so it may be surmised that variation and natural selection have their struggle and consequent check, or are limited by something inherent in the constitution of organic beings.

We are disposed to rank the derivative hypothesis in its fullness with the nebular hypothesis, and to regard both as allowable, as not unlikely to prove tenable in spite of some strong objections, but as not therefore demonstrably true. Those, if any there be, who regard the derivative hypothesis as satisfactorily proved, must have loose notions as to what proof is. Those who imagine it can be easily refuted and cast aside, must, we think, have imperfect or very prejudiced conceptions of the facts concerned and of the questions at issue.

We are not disposed nor prepared to take sides for or against the new hypothesis,

and so, perhaps, occupy a good position from which to watch the discussion and criticise those objections which are seemingly inconclusive. On surveying the arguments urged by those who have undertaken to demolish the theory, we have been most impressed with a sense of their great inequality. Some strike us as excellent and perhaps unanswerable; some, as incongruous with other views of the same writers; others, when carried out, as incompatible with general experience or general beliefs, and therefore as proving too much; still others, as proving nothing at all; so that, on the whole, the effect is rather confusing and disappointing. We certainly expected a stronger adverse case than any which the thoroughgoing opposers of Darwin appear to have made out. Wherefore, if it be found that the new hypothesis has grown upon our favor as we proceeded, this must be attributed not so much to the force of the arguments of the book itself as to the want of force of several of those by which it has been assailed. Darwins arguments we might resist or adjourn; but some of the refutations of it give us more concern than the book itself did.

These remarks apply mainly to the philosophical and theological objections which have been elaborately urged, almost exclusively by the American reviewers. The North British reviewer, indeed, roundly denounces the book as atheistical, but evidently deems the case too clear for argument. The Edinburgh reviewer, on the contrary, scouts all such objections—as well he may, since he records his belief in "a continuous creative operation," a constantly operating secondary creational law," through which species are successively produced; and he emits faint, but not indistinct, glimmerings of a transmutation theory of his own;[III-8} so that he is equally exposed to all the philosophical objections advanced by Agassiz, and to most of those urged by the other American critics, against Darwin himself.

Proposing now to criticise the critics, so far as to see what their most general and comprehensive objections amount to, we must needs begin with the American reviewers, and with their arguments adduced to prove that a derivative hypothesis

ought not to be true, or is not possible, philosophical, or theistic.

It must not be forgotten that on former occasions very confident judgments have been pronounced by very competent persons, which have not been finally ratified. Of the two great minds of the seventeenth century, Newton and Leibnitz, both profoundly religious as well as philosophical, one produced the theory of gravitation, the other objected to that theory that it was subversive of natural religion. The nebular hypothesis—a natural consequence of the theory of gravitation and of the subsequent progress of physical and astronomical discovery—has been denounced as atheistical even down to our own day. But it is now largely adopted by the most theistical natural philosophers as a tenable and perhaps sufficient hypothesis, and where not accepted is no longer objected to, so far as we know, on philosophical or religious grounds.

The gist of the philosophical objections urged by the two Boston reviewers against an hypothesis of the derivation of species—or at least against Darwins particular hypothesis— is, that it is incompatible with the idea of any manifestation of design in the universe, that it denies final causes. A serious objection this, and one that demands very serious attention.

The proposition, that things and events in Nature were not designed to be so, if logically carried out, is doubtless tantamount to atheism. Yet most people believe that some were designed and others were not, although they fall into a hopeless maze whenever they undertake to define their position. So we should not like to stigmatize as atheistically disposed a person who regards certain things and events as being what they are through designed laws (whatever that expression means), but as not themselves specially ordained, or who, in another connection, believes in general, but not in particular Providence. We could sadly puzzle him with questions; but in return he might equally puzzle us. Then, to deny that anything was specially designed to be what it is, is one proposition; while to deny that the Designer

supernaturally or immediately made it so, is another: though the reviewers appear not to recognize the distinction.

Also, "scornfully to repudiate" or to "sneer at the idea of any manifestation of design in the material universe,"[III-9} is one thing; while to consider, and perhaps to exaggerate, the difficulties which attend the practical application of the doctrine of final causes to certain instances, is quite another thing: yet the Boston reviewers, we regret to say, have not been duly regardful of the difference. Whatever be thought of Darwins doctrine, we are surprised that he should be charged with scorning or sneering at the opinions of others, upon such a subject. Perhaps Darwins view is incompatible with final causes—we will consider that question presently— but as to the Examiners charge, that he "sneers at the idea of any manifestation of design in the material universe," though we are confident that no misrepresentation was intended, we are equally confident that it is not at all warranted by the two passages cited in support of it. Here are the passages:

"If green woodpeckers alone had existed, or we did not know that there were many black and pied kinds, I dare say that we should have thought that the green color was a beautiful adaptation to hide this tree-frequenting bird from its enemies."

"If our reason leads us to admire with enthusiasm a multitude of inimitable contrivances in Nature, this same reason tells us, though we may easily err on both sides, that some contrivances are less perfect. Can we consider the sting of the wasp or of the bee as perfect, which, when used against many attacking animals, cannot be withdrawn, owing to the backward serratures, and so inevitably causes the death of the insect by tearing out its viscera?"

If the sneer here escapes ordinary vision in the detached extracts (one of them wanting the end of the sentence), it is, if possible, more imperceptible when read with the context. Moreover, this perusal inclines us to think that the Examiner has misapprehended the particular argument or object, as well as the spirit, of the author

in these passages. The whole reads more naturally as a caution against the inconsiderate use of final causes in science, and an illustration of some of the manifold errors and absurdities which their hasty assumption is apt to involve—considerations probably equivalent to those which induced Lord Bacon to liken final causes to "vestal virgins." So, if any one, it is here Bacon that "sitteth in the seat of the scornful." As to Darwin, in the section from which the extracts were made, he is considering a subsidiary question, and trying to obviate a particular difficulty, but, we suppose, is wholly unconscious of denying "any manifestation of design in the material universe." He concludes the first sentence:

—"and consequently that it was a character of importance, and might have been acquired through natural selection; as it is, I have no doubt that the color is due to some quite distinct cause, probably to sexual selection."

After an illustration from the vegetable creation, Darwin adds:

"The naked skin on the head of a vulture is generally looked at as a direct adaptation for wallowing in putridity; and so it may be, or it may possibly be due to the direct action of putrid matter; but we should be very cautious in drawing any such inference, when we see that the skin on the head of the clean-feeding male turkey is likewise naked. The sutures in the skulls of young mammals have been advanced as a beautiful adaptation for aiding parturition, and no doubt they facilitate or may be indispensable for this act; but as sutures occur in the skulls of young birds and reptiles, which have only to escape from a broken egg, we may infer that this structure has arisen from the laws of growth, and has been taken advantage of in the parturition of the higher animals."

All this, simply taken, is beyond cavil, unless the attempt to explain scientifically how any designed result is accomplished savors of impropriety.

In the other place, Darwin is contemplating the patent fact that "perfection here below" is relative, not absolute—and illustrating this by the circumstance that

European animals, and especially plants, are now proving to be better adapted for New Zealand than many of the indigenous ones—that "the correction for the aberration of light is said, on high authority, not to be quite perfect even in that most perfect organ, the eye." And then follows the second extract of the reviewer. But what is the position of the reviewer upon his own interpretation of these passages? If he insists that green woodpeckers were specifically created so in order that they might be less liable to capture, must he not equally hold that the black and pied ones were specifically made of these colors in order that they might be more liable to be caught? And would an explanation of the mode in which those woodpeckers came to be green, however complete, convince him that the color was undesigned?

As to the other illustration, is the reviewer so complete an optimist as to insist that the arrangement and the weapon are wholly perfect (quoad the insect) the normal use of which often causes the animal fatally to injure or to disembowel itself? Either way it seems to us that the argument here, as well as the insect, performs hari-kari. The Examiner adds:

"We should in like manner object to the word favorable, as implying that some species are placed by the Creator under unfavorable circumstances, at least under such as might be advantageously modified."

But are not many individuals and some races of men placed by the Creator "under unfavorable circumstances, at least under such as might be advantageously modified?" Surely these reviewers must be living in an ideal world, surrounded by "the faultless monsters which our world neer saw," in some elysium where imperfection and distress were never heard of! Such arguments resemble some which we often hear against the Bible, holding that book responsible as if it originated certain facts on the shady side of human nature or the apparently darker lines of Providential dealing, though the facts are facts of common observation and have to be confronted upon any theory.

The North American reviewer also has a world of his own—just such a one as an idealizing philosopher would be apt to devise—that is, full of sharp and absolute distinctions: such, for instance, as the "absolute invariableness of instinct;" an absolute want of intelligence in any brute animal; and a complete monopoly of instinct by the brute animals, so that this "instinct is a great matter" for them only, since it sharply and perfectly distinguishes this portion of organic Nature from the vegetable kingdom on the one hand and from man on the other: most convenient views for argumentative purposes, but we suppose not borne out in fact.

In their scientific objections the two reviewers take somewhat different lines; but their philosophical and theological arguments strikingly coincide. They agree in emphatically asserting that Darwins hypothesis of the origination of species through variation and natural selection "repudiates the whole doctrine of final causes," and "all indication of design or purpose in the organic world . . . is neither more nor less than a formal denial of any agency beyond that of a blind chance in the developing or perfecting of the organs or instincts of created beings. . . . It is in vain that the apologists of this hypothesis might say that it merely attributes a different mode and time to the Divine agency—that all the qualities subsequently appearing in their descendants must have been implanted, and have remained latent in the original pair." Such a view, the Examiner declares, "is nowhere stated in this book, and would be, we are sure, disclaimed by the author."

We should like to be informed of the grounds of this sureness. The marked rejection of spontaneous generation—the statement of a belief that all animals have descended from four or five progenitors, and plants from an equal or lesser number, or, perhaps, if constrained to it by analogy, "from some one primordial form into which life was first breathed"—coupled with the expression, "To my mind it accords better with what we know of the laws impressed on matter by the Creator, that the production and extinction of the past and present inhabitants of the world should have been due to secondary causes," than "that each species has been independently

created"—these and similar expressions lead us to suppose that the author probably does accept the kind of view which the Examiner is sure he would disclaim. At least, we charitably see nothing in his scientific theory to hinder his adoption of Lord Bacons "Confession of Faith" in this regard— "That, notwithstanding God hath rested and ceased from creating, yet, nevertheless, he doth accomplish and fulfill his divine will in all things, great and small, singular and general, as fully and exactly by providence as he could by miracle and new creation, though his working be not immediate and direct, but by compass; not violating Nature, which is his own law upon the creature."

However that may be, it is undeniable that Mr. Darwin has purposely been silent upon the philosophical and theological applications of his theory. This reticence, under the circumstances, argues design, and raises inquiry as to the final cause or reason why. Here, as in higher instances, confident as we are that there is a final cause, we must not be overconfident that we can infer the particular or true one. Perhaps the author is more familiar with natural-historical than with philosophical inquiries, and, not having decided which particular theory about efficient cause is best founded, he meanwhile argues the scientific questions concerned—all that relates to secondary causes—upon purely scientific grounds, as he must do in any case. Perhaps, confident, as he evidently is, that his view will finally be adopted, he may enjoy a sort of satisfaction in hearing it denounced as sheer atheism by the inconsiderate, and afterward, when it takes its place with the nebular hypothesis and the like, see this judgment reversed, as we suppose it would be in such event.

Whatever Mr. Darwins philosophy may be, or whether he has any, is a matter of no consequence at all, compared with the important questions, whether a theory to account for the origination and diversification of animal and vegetable forms through the operation of secondary causes does or does not exclude design; and whether the establishment by adequate evidence of Darwin s particular theory of diversification through variation and natural selection would essentially alter the

present scientific and philosophical grounds for theistic views of Nature. The unqualified affirmative judgment rendered by the two Boston reviewers, evidently able and practised reasoners, "must give us pause." We hesitate to advance our conclusions in opposition to theirs. But, after full and serious consideration, we are constrained to say that, in our opinion, the adoption of a derivative hypothesis, and of Darwins particular hypothesis, if we understand it, would leave the doctrines of final causes, utility, and special design, just where they were before. We do not pretend that the subject is not environed with difficulties. Every view is so environed; and every shifting of the view is likely, if it removes some difficulties, to bring others into prominence. But we cannot perceive that Darwins theory brings in any new kind of scientific difficulty, that is, any with which philosophical naturalists were not already familiar.

Since natural science deals only with secondary or natural causes, the scientific terms of a theory of derivation of species—no less than of a theory of dynamics—must needs be the same to the theist as to the atheist. The difference appears only when the inquiry is carried up to the question of primary cause—a question which belongs to philosophy. Wherefore, Darwin s reticence about efficient cause does not disturb us. He considers only the scientific questions. As already stated, we think that a theistic view of Nature is implied in his book, and we must charitably refrain from suggesting the contrary until the contrary is logically deduced from his premises. If, however, he anywhere maintains that the natural causes through which species are diversified operate without an ordaining and directing intelligence, and that the orderly arrangements and admirable adaptations we see all around us are fortuitous or blind, undesigned results—that the eye, though it came to see, was not designed for seeing, nor the hand for handling—then, we suppose, he is justly chargeable with denying, and very needlessly denying, all design in organic Nature; otherwise, we suppose not. Why, if Darwins well-known passage about the eye[III-10} equivocal though some of the language be—does not

imply ordaining and directing intelligence, then he refutes his own theory as effectually as any of his opponents are likely to do. He asks:

"May we not believe that [under variation proceeding long enough, generation multiplying the better variations times enough, and natural selection securing the improvements] a living optical instrument might be thus formed as superior to one of glass as the works of the Creator are to those of man?"

This must mean one of two things: either that the living instrument was made and perfected under (which is the same thing as by) an intelligent First Cause, or that it was not. If it was, then theism is asserted; and as to the mode of operation, how do we know, and why must we believe, that, fitting precedent forms being in existence, a living instrument (so different from a lifeless manufacture) would be originated and perfected in any other way, or that this is not the fitting way? If it means that it was not, if he so misuses words that by the Creator he intends an unintelligent power, undirected force, or necessity, then he has put his case so as to invite disbelief in it. For then blind forces have produced not only manifest adaptions of means to specific ends—which is absurd enough—but better adjusted and more perfect instruments or machines than intellect (that is, human intellect) can contrive and human skill execute—which no sane person will believe.

On the other hand, if Darwin even admits—we will not say adopts—the theistic view, he may save himself much needless trouble in the endeavor to account for the absence of every sort of intermediate form. Those in the line between one species and another supposed to be derived from it he may be bound to provide; but as to "an infinite number of other varieties not intermediate, gross, rude, and purposeless, the unmeaning creations of an unconscious cause," born only to perish, which a relentless reviewer has imposed upon his theory—rightly enough upon the atheistic alternative—the theistic view rids him at once of this "scum of creation." For, as species do not now vary at all times and places and in all directions, nor produce

crude, vague, imperfect, and useless forms, there is no reason for supposing that they ever did. Good-for-nothing monstrosities, failures of purpose rather than purposeless, indeed, sometimes occur; but these are just as anomalous and unlikely upon Darwins theory as upon any other. For his particular theory is based, and even over-strictly insists, upon the most universal of physiological laws, namely, that successive generations shall differ only slightly, if at all, from their parents; and this effectively excludes crude and impotent forms. Wherefore, if we believe that the species were designed, and that natural propagation was designed, how can we say that the actual varieties of the species were not equally designed? Have we not similar grounds for inferring design in the supposed varieties of species, that we have in the case of the supposed species of a genus? When a

naturalist comes to regard as three closely related species what he before took to be so many varieties of one species how has he thereby strengthened our conviction that the three forms are designed to have the differences which they actually exhibit? Wherefore so long as gradatory, orderly, and adapted forms in Nature argue design, and at least while the physical cause of variation is utterly unknown and mysterious, we should advise Mr. Darwin to assume in the philosophy of his hypothesis that variation has been led along certain beneficial lines. Streams flowing over a sloping plain by gravitation (here the counterpart of natural selection) may have worn their actual channels as they flowed; yet their particular courses may have been assigned; and where we see them forming definite and useful lines of irrigation, after a manner unaccountable on the laws of gravitation and dynamics, we should believe that the distribution was designed.

To insist, therefore, that the new hypothesis of the derivative origin of the actual species is incompatible with final causes and design, is to take a position which we must consider philosophically untenable. We must also regard it as highly unwise and dangerous, in the present state and present prospects of physical and physiological science. We should expect the philosophical atheist or skeptic to take

this ground; also, until better informed, the unlearned and unphilosophical believer; but we should think that the thoughtful theistic philosopher would take the other side. Not to do so seems to concede that only supernatural events can be shown to be designed, which no theist can admit—seems also to misconceive the scope and meaning of all ordinary arguments for design in Nature. This misconception is shared both by the reviewers and the reviewed. At least, Mr. Darwin uses expressions which imply that the natural forms which surround us, because they have a history or natural sequence, could have been only generally, but not particularly designed—a view at once superficial and contradictory; whereas his true line should be, that his hypothesis concerns the order and not the cause, the how and not the why of the phenomena, and so leaves the question of design just where it was before.

To illustrate this from the theists point of view: Transfer the question for a moment from the origination of species to the origination of individuals, which occurs, as we say, naturally. Because natural, that is, "stated, fixed, or settled," is it any the less designed on that account? We acknowledge that God is our maker—not merely the originator of the race, but our maker as individuals—and none the less so because it pleased him to make us in the way of ordinary generation. If any of us were born unlike our parents and grandparents, in a slight degree, or in whatever degree, would the case be altered in this regard?

The whole argument in natural theology proceeds upon the ground that the inference for a final cause of the structure of the hand and of the valves in the veins is just as valid now, in individuals produced through natural generation, as it would have been in the case of the first man, supernaturally created. Why not, then, just as good even on the supposition of the descent of men from chimpanzees and gorillas, since those animals possess these same contrivances? Or, to take a more supposable case: If the argument from structure to design is convincing when drawn from a particular animal, say a Newfoundland dog, and is not weakened by the knowledge that this

dog came from similar parents, would it be at all weakened if, in tracing his genealogy, it were ascertained that he was a remote descendant of the mastiff or some other breed, or that both these and other breeds came (as is suspected) from some wolf? If not, how is the argument for design in the structure of our particular dog affected by the supposition that his wolfish progenitor came from a post-tertiary wolf, perhaps less unlike an existing one than the dog in question is to some other of the numerous existing races of dogs, and that this post-tertiary came from an equally or more different tertiary wolf? And if the argument from structure to design is not invalidated by our present knowledge that our

individual dog was developed from a single organic cell, how is it invalidated by the supposition of an analogous natural descent, through a long line of connected forms, from such a cell, or from some simple animal, existing ages before there were any dogs?

Again, suppose we have two well-known and apparently most decidedly different animals or plants, A and D, both presenting, in their structure and in their adaptations to the conditions of existence, as valid and clear evidence of design as any animal or plant ever presented: suppose we have now discovered two intermediate species, B and C, which make up a series with equable differences from A to D. Is the proof of design or final cause in A and D, whatever it amounted to, at all weakened by the discovery of the intermediate forms? Rather does not the proof extend to the intermediate species, and go to show that all four were equally designed? Suppose, now, the number of intermediate forms to be much increased, and therefore the gradations to be closer yet—as close as those between the various sorts of dogs, or races of men, or of horned cattle: would the evidence of design, as shown in the structure of any of the members of the series, be any weaker than it was in the case of A and D? Whoever contends that it would be, should likewise maintain that the origination of individuals by generation is incompatible with design, or an impossibility in Nature. We might all have confidently thought the

latter, antecedently to experience of the fact of reproduction. Let our experience teach us wisdom.

These illustrations make it clear that the evidence of design from structure and adaptation is furnished complete by the individual animal or plant itself, and that our knowledge or our ignorance of the history of its formation or mode of production adds nothing to it and takes nothing away. We infer design from certain arrangements and results; and we have no other way of ascertaining it. Testimony, unless infallible, cannot prove it, and is out of the question here. Testimony is not the appropriate proof of design: adaptation to purpose is. Some arrangements in Nature appear to be contrivances, but may leave us in doubt. Many others, of which the eye and the hand are notable examples, compel belief with a force not appreciably short of demonstration. Clearly to settle that such as these must have been designed goes far toward proving that other organs and other seemingly less explicit adaptations in Nature must also have been designed, and clinches our belief, from manifold considerations, that all Nature is a preconcerted arrangement, a manifested design. A strange contradiction would it be to insist that the shape and markings of certain rude pieces of flint, lately found in drift-deposits, prove design, but that nicer and thousand-fold more complex adaptations to use in animals and vegetables do not a fortiori argue design.

We could not affirm that the arguments for design in Nature are conclusive to all minds. But we may insist, upon grounds already intimated, that, whatever they were good for before Darwins book appeared, they are good for now. To our minds the argument from design always appeared conclusive of the being and continued operation of an intelligent First Cause, the Ordainer of Nature; and we do not see that the grounds of such belief would be disturbed or shifted by the adoption of Darwins hypothesis. We are not blind to the philosophical difficulties which the thoroughgoing implication of design in Nature has to encounter, nor is it our vocation to obviate them It suffices us to know that they are not new nor peculiar

difficulties—that, as Darwin s theory and our reasonings upon it did not raise these perturbing spirits, they are not bound to lay them. Meanwhile, that the doctrine of design encounters the very same difficulties in the material that it does in the moral world is Just what ought to be expected.

So the issue between the skeptic and the theist is only the old one, long ago argued out—namely, whether organic Nature is a result of design or of chance. Variation and natural selection open no third alternative; they concern only the question how the results, whether fortuitous or designed, may have been brought about. Organic Nature abounds with unmistakable and irresistible indications of design, and, being a connected and consistent system, this evidence carries the implication of design throughout the whole. On the other hand, chance carries no probabilities with it, can never be developed into a consistent system, but, when applied to the explanation of orderly or beneficial results, heaps up improbabilities at every step beyond all computation. To us, a fortuitous Cosmos is simply inconceivable. The alternative is a designed Cosmos.

It is very easy to assume that, because events in Nature are in one sense accidental, and the operative forces which bring them to pass are themselves blind and unintelligent (physically considered, all forces are), therefore they are undirected, or that he who describes these events as the results of such forces thereby assumes that they are undirected. This is the assumption of the Boston reviewers, and of Mr. Agassiz, who insists that the only alternative to the doctrine, that all organized beings were supernaturally created just as they are, is, that they have arisen spontaneously through the omnipotence of matter.[III-11}

As to all this, nothing is easier than to bring out in the conclusion what you introduce in the premises. If you import atheism into your conception of variation and natural selection, you can readily exhibit it in the result. If you do not put it in, perhaps there need be none to come out. While the mechanician is considering a

steamboat or locomotive-engine as a material organism, and contemplating the fuel, water, and steam, the source of the mechanical forces, and how they operate, he may not have occasion to mention the engineer. But, the orderly and special results accomplished, the why the movements are in this or that particular direction, etc., is inexplicable without him. If Mr. Darwin believes that the events which he supposes to have occurred and the results we behold were undirected and undesigned, or if the physicist believes that the natural forces to which he refers phenomena are uncaused and undirected, no argument is needed to show that such belief is atheism. But the admission of the phenomena and of these natural processes and forces does not necessitate any such belief, nor even render it one whit less improbable than before.

Surely, too, the accidental element may play its part in Nature without negativing design in the theists view. He believes that the earths surface has been very gradually prepared for man and the existing animal races, that vegetable matter has through a long series of generations imparted fertility to the soil in order that it may support its present occupants, that even beds of coal have been stored up for mans benefit Yet what is more accidental, and more simply the consequence of physical agencies than the accumulation of vegetable matter in a peat bog and its transformation into coal? No scientific person at this day doubts that our solar system is a progressive development, whether in his conception he begins with molten masses, or aeriform or nebulous masses, or with a fluid revolving mass of vast extent, from which the specific existing worlds have been developed one by one What theist doubts that the actual results of the development in the inorganic worlds are not merely compatible with design but are in the truest sense designed re suits? Not Mr. Agassiz, certainly, who adopts a remarkable illustration of design directly founded on the nebular hypothesis drawing from the position and times of the revolution of the world, so originated direct evidence that the physical world has been ordained in conformity with laws which obtain also among living beings But the reader of the interesting exposition[III-12} will notice that the designed result

has been brought to pass through what, speaking after the manner of men, might be called a chapter of accidents.

A natural corollary of this demonstration would seem to be, that a material connection between a series of created things—such as the development of one of them from another, or of all from a common stock—is highly compatible with their intellectual connection, namely, with their being designed and directed by one mind. Yet upon some ground which is not explained, and which we are unable to conjecture, Mr. Agassiz concludes to the contrary in the organic kingdoms, and insists that, because the members of such a series have an intellectual connection, "they cannot be the result of a material differentiation of the objects themselves,"[III-13} that is, they cannot have had a genealogical connection. But is there not as much intellectual connection between the successive generations of any species as there is between the several species of a genus, or the several genera of an order? As the intellectual connection here is realized through the material connection, why may it not be so in the case of species and genera? On all sides, therefore, the implication seems to be quite the other way.

Returning to the accidental element, it is evident that the strongest point against the compatibility of Darwins hypothesis with design in Nature is made when natural selection is referred to as picking out those variations which are improvements from a vast number which are not improvements, but perhaps the contrary, and therefore useless or purposeless, and born to perish. But even here the difficulty is not peculiar; for Nature abounds with analogous instances. Some of our race are useless, or worse, as regards the improvement of mankind; yet the race may be designed to improve, and may be actually improving. Or, to avoid the complication with free agency—the whole animate life of a country depends absolutely upon the vegetation, the vegetation upon the rain. The moisture is furnished by the ocean, is raised by the suns heat from the oceans surface, and is wafted inland by the winds. But what multitudes of raindrops fall back into the ocean—are as much without a

final cause as the incipient varieties which come to nothing! Does it therefore follow that the rains which are bestowed upon the soil with such rule and average regularity were not designed to support vegetable and animal life? Consider, likewise, the vast proportion of seeds and pollen, of ova and young—a thousand or more to one—which come to nothing, and are therefore purposeless in the same sense, and only in the same sense, as are Darwins unimproved and unused slight variations. The world is full of such cases; and these must answer the argument—for we cannot, except by thus showing that it proves too much.

Finally, it is worth noticing that, though natural selection is scientifically explicable, variation is not. Thus far the cause of variation, or the reason why the offspring is sometimes unlike the parents, is just as mysterious as the reason why it is generally like the parents. It is now as inexplicable as any other origination; and, if ever explained, the explanation will only carry up the sequence of secondary causes one step farther, and bring us in face of a somewhat different problem, but which will have the same element of mystery that the problem of variation has now. Circumstances may preserve or may destroy the variations man may use or direct them but selection whether artificial or natural no more originates them than man originates the power which turns a wheel when he dams a stream and lets the water fall upon it The origination of this power is a question about efficient cause. The tendency of science in respect to this obviously is not toward the omnipotence of matter, as some suppose, but to ward the omnipotence of spirit.

So the real question we come to is as to the way in which we are to conceive intelligent and efficient cause to be exerted, and upon what exerted. Are we bound to suppose efficient cause in all cases exerted upon nothing to evoke something into existence—and this thousands of times repeated, when a slight change in the details would make all the difference between successive species? Why may not the new species, or some of them, be designed diversifications of the old?

There are, perhaps, only three views of efficient cause which may claim to be both philosophical and theistic:

1. The view of its exertion at the beginning of time, endowing matter and created things with forces which do the work and produce the phenomena.

2. This same view, with the theory of insulated interpositions, or occasional direct action, engrafted upon it—the view that events and operations in general go on in virtue simply of forces communicated at the first, but that now and then, and only now and then, the Deity puts his hand directly to the work.

3. The theory of the immediate, orderly, and constant, however infinitely diversified, action of the intelligent efficient Cause.

It must be allowed that, while the third is preeminently the Christian view, all three are philosophically compatible with design in Nature. The second is probably the popular conception. Perhaps most thoughtful people oscillate from the middle view toward the first or the third—adopting the first on some occasions, the third on others. Those philosophers who like and expect to settle all mooted questions will take one or the other extreme. The Examiner inclines toward, the North American reviewer fully adopts, the third view, to the logical extent of maintaining that "the origin of an individual, as well as the origin of a species or a genus, can be explained only by the direct action of an intelligent creative cause." To silence his critics, this is the line for Mr. Darwin to take; for it at once and completely relieves his scientific theory from every theological objection which his reviewers have urged against it.

At present we suspect that our author prefers the first conception, though he might contend that his hypothesis is compatible with either of the three. That it is also compatible with an atheistic or pantheistic conception of the universe, is an objection which, being shared by all physical, and some ethical or moral science, cannot specially be urged against Darwins system. As he rejects spontaneous generation, and admits of intervention at the beginning of organic life, and probably

in more than one instance, he is not wholly excluded from adopting the middle view, although the interventions he would allow are few and far back. Yet one interposition admits the principle as well as more. Interposition presupposes particular necessity or reason for it, and raises the question, when and how often it may have been necessary. It might be the natural supposition, if we had only one set of species to account for, or if the successive inhabitants of the earth had no other connections or resemblances than those which adaptation to similar conditions, which final causes in the narrower sense, might explain. But if this explanation of organic Nature requires one to "believe that, at innumerable periods in the earths history, certain elemental atoms have been commanded suddenly to flash into living tissues," and this when the results are seen to be strictly connected and systematic, we cannot wonder that such interventions should at length be considered, not as interpositions or interferences, but rather—to use the reviewers own language—as "exertions so frequent and beneficent that we come to regard them as the ordinary action of Him who laid the foundation of the earth, and without whom not a sparrow falleth to the ground."[III-14} What does the difference between Mr. Darwin and his reviewer now amount to? If we say that according to one view the origination of species is natural, according to the other miraculous, Mr. Darwin agrees that "what is natural as much requires and presupposes an intelligent mind to render it so— that is, to effect it continually or at stated times—as what is supernatural does to effect it for once."[III-15} He merely inquires into the form of the miracle, may remind us that all recorded miracles (except the primal creation of matter) were transformations or actions in and upon natural things, and will ask how many times and how frequently may the origination of successive species be repeated before the supernatural merges in the natural.

In short, Darwin maintains that the origination of a species, no less than that of an individual, is natural; the reviewer, that the natural origination of an individual, no less than the origination of a species, requires and presupposes Divine power. A

fortiori, then, the origination of a variety requires and presupposes Divine power. And so between the scientific hypothesis of the one and the philosophical conception of the other no contrariety remains. And so, concludes the North American reviewer, "a proper view of the nature of causation places the vital doctrine of the being and the providence of a God on ground that can never be shaken."[III-16} A worthy conclusion, and a sufficient answer to the denunciations and arguments of the rest of the article, so far as philosophy and natural theology are concerned. If a writer must needs use his own favorite dogma as a weapon with which to give coup de grace to a pernicious theory, he should be careful to seize his edge-tool by the handle, and not by the blade.

We can barely glance at a subsidiary philosophical objection of the North American reviewer, which the Examiner also raises, though less explicitly. Like all geologists, Mr. Darwin draws upon time in the most unlimited manner. He is not peculiar in this regard. Mr. Agassiz tells us that the conviction is "now universal, among well-informed naturalists, that this globe has been in existence for innumerable ages, and that the length of time elapsed since it first became inhabited cannot be counted in years;" Pictet, that the imagination refuses to calculate the immense number of years and of ages during which the faunas of thirty or more epochs have succeeded one another, and developed their long succession of generations. Now, the reviewer declares that such indefinite succession of ages is "virtually infinite," "lacks no characteristic of eternity except its name," at least, that "the difference between such a conception and that of the strictly infinite, if any, is not appreciable." But infinity belongs to metaphysics. Therefore, he concludes, Darwin supports his theory, not by scientific but by metaphysical evidence; his theory is "essentially and completely metaphysical in character, resting altogether upon that idea of the infinite which the human mind can neither put aside nor comprehend."[III-17} And so a theory which will be generally regarded as much too physical is transferred by a single syllogism to metaphysics.

Well, physical geology must go with it: for, even on the soberest view, it demands an indefinitely long time antecedent to the introduction of organic life upon our earth. A fortiori is physical astronomy a branch of metaphysics, demanding, as it does, still larger "instalments of infinity," as the reviewer calls them, both as to time and number. Moreover, far the greater part of physical inquiries now relate to molecular actions, which, a distinguished natural philosopher informs us, "we have to regard as the results of an infinite number of in finitely small material particles, acting on each other at infinitely small distances"—a triad of infinities—and so physics becomes the most metaphysical of sciences. Verily, if this style of reasoning is to prevail—

"Thinking is but an idle waste of thought, And naught is everything, and everything is naught."

The leading objection of Mr. Agassiz is likewise of a philosophical character. It is, that species exist only "as categories of thought"—that, having no material existence, they can have had no material variation, and no material community of origin. Here the predication is of species in the subjective sense, the inference in the objective sense. Reduced to plain terms, the argument seems to be: Species are ideas; therefore the objects from which the idea is derived cannot vary or blend, and cannot have had a genealogical connection.

The common view of species is, that, although they are generalizations, yet they have a direct objective ground in Nature, which genera, orders, etc., have not. According to the succinct definition of Jussieu—and that of Linnaeus is identical in meaning—a species is the perennial succession of similar individuals in continued generations. The species is the chain of which the individuals are the links. The sum of the genealogically-connected similar individuals constitutes the species, which thus has an actuality and ground of distinction not shared by genera and other groups which were not supposed to be genealogically connected. How a derivative

hypothesis would modify this view, in assigning to species only a temporary fixity, is obvious. Yet, if naturalists adopt that hypothesis, they will still retain Jussieus definition, which leaves untouched the question as to how and when the "perennial successions" were established. The practical question will only be, How much difference between two sets of individuals entitles them to rank under distinct species? and that is the practical question now, on whatever theory. The theoretical question is—as stated at the beginning of this article—whether these specific lines were always as distinct as now.

Mr. Agassiz has "lost no opportunity of urging the idea that, while species have no material existence, they yet exist as categories of thought in the same way [and only in the same way] as genera, families, orders, classes," etc. He

"has taken the ground that all the natural divisions in the animal kingdom are primarily distinct, founded upon different categories of characters, and that all exist in the same way, that is, as categories of thought, embodied in individual living forms. I have attempted to show that branches in the animal kingdom are founded upon different plans of structure, and for that very reason have embraced from the beginning representatives between which there could be no community of origin; that classes are founded upon different modes of execution of these plans, and therefore they also embrace representatives which could have no community of origin; that orders represent the different degrees of complication in the mode of execution of each class, and therefore embrace representatives which could not have a community of origin any more than the members of different classes or branches; that families are founded upon different patterns of form, and embrace, representatives equally independent in their origin; that genera are founded upon ultimate peculiarities of structure, embracing representatives which, from the very nature of their peculiarities, could have no community of origin; and that, finally, species are based upon relations—and proportions that exclude, as much as all the preceding distinctions, the idea of a common descent.

"As the community of characters among the beings belonging to these different categories arises from the intellectual connection which shows them to be categories of thought, they cannot be the result of a gradual

material differentiation of the objects themselves. The argument on which these views are founded may be summed up in the following few words: Species, genera, families, etc., exist as thoughts, individuals as facts."[III-18}

An ingenious dilemma caps the argument:

"It seems to me that there is much confusion of ideas in the general statement of the variability of species so often repeated lately. If species do not exist at all, as the supporters of the transmutation theory maintain, how can they vary? And if individuals alone exist, how can the differences which may be observed among them prove the variability of species?"

Now, we imagine that Mr. Darwin need not be dangerously gored by either horn of this curious dilemma. Although we ourselves cherish old-fashioned prejudices in favor of the probable permanence, and therefore of a more stable objective ground of species, yet we agree—and Mr. Darwin will agree fully with Mr. Agassiz—that species, and he will add varieties, "exist as categories of thought," that is, as cognizable distinctions—which is all that we can make of the phrase here, whatever it may mean in the Aristotelian metaphysics. Admitting that species are only categories of thought, and not facts or things, how does this prevent the individuals, which are material things, from having varied in the course of time, so as to exemplify the present almost innumerable categories of thought, or embodiments of Divine thought in material forms, or—viewed on the human side—in forms marked with such orderly and graduated resemblances and differences as to suggest to our minds the idea of species, genera, orders, etc., and to our reason the inference of a Divine Original? We have no clear idea how Mr. Agassiz intends to answer this question, in saying that branches are founded upon different plans of structure,

classes upon different mode of execution of these plans, orders on different degrees of complication in the mode of execution, families upon different patterns of form, genera upon ultimate peculiarities of structure, and species upon relations and proportions. That is, we do not perceive how these several "categories of thought" exclude the possibility or the probability that the individuals which manifest or suggest the thoughts had an ultimate community of origin.

Moreover, Mr. Darwin might insinuate that the particular philosophy of classification upon which this whole argument reposes is as purely hypothetical and as little accepted as is his own doctrine. If both are pure hypotheses, it is hardly fair or satisfactory to extinguish the one by the other. If there is no real contradiction between them, nothing is gained by the attempt.

As to the dilemma propounded, suppose we try it upon that category of thought which we call chair. This is a genus, comprising a common chair (Sella vulgaris), arm or easy chair (S. cathedra), the rocking-chair (S. oscillans)—widely distributed in the United States—and some others, each of which has sported, as the gardeners say, into many varieties. But now, as the genus and the species have no material existence, how can they vary? If only individual chairs exist, how can the differences which may be observed among them prove the variability of the species? To which we reply by asking, Which does the question refer to, the category of thought, or the individual embodiment? If the former, then we would remark that our categories of thought vary from time to time in the readiest manner. And, although the Divine thoughts are eternal, yet they are manifested to us in time and succession, and by their manifestation only can we know them, how imperfectly! Allowing that what has no material existence can have had no material connection or variation, we should yet infer that what has intellectual existence and connection might have intellectual variation; and, turning to the individuals, which represent the species, we do not see how all this shows that they may not vary. Observation shows us that they do. Wherefore, taught by fact that successive individuals do vary, we

safely infer that the idea must have varied, and that this variation of the individual representatives proves the variability of the species, whether objectively or subjectively regarded.

Each species or sort of chair, as we have said, has its varieties, and one species shades off by gradations into another. And—note it well—these numerous and successively slight variations and gradations, far from suggesting an accidental origin to chairs and to their forms, are very proofs of design.

Again, edifice is a generic category of thought. Egyptian, Grecian, Byzantine, and Gothic buildings are well-marked species, of which each individual building of the sort is a material embodiment. Now, the question is, whether these categories or ideas may not have been evolved, one from another in succession, or from some primal, less specialized, edificial category. What better evidence for such hypothesis could we have than the variations and grades which connect these species with each other? We might extend the parallel, and get some good illustrations of natural selection from the history of architecture, and the origin of the different styles under different climates and conditions. Two considerations may qualify or limit the comparison. One, that houses do not propagate, so as to produce continuing lines of each sort and variety; but this is of small moment on Agassizs view, he holding that genealogical connection is not of the essence of a species at all. The other, that the formation and development of the ideas upon which human works proceed are gradual; or, as the same great naturalist well states it, "while human thought is consecutive, Divine thought is simultaneous." But we have no right to affirm this of Divine action.

We must close here. We meant to review some of the more general scientific objections which we thought not altogether tenable. But, after all, we are not so anxious just now to know whether the new theory is well founded on facts, as whether it would be harmless if it were. Besides, we feel quite unable to answer

some of these objections, and it is pleasanter to take up those which one thinks he can.

Among the unanswerable, perhaps the weightiest of the objections, is that of the absence, in geological deposits, of vestiges of the intermediate forms which the theory requires to have existed. Here all that Mr. Darwin can do is to insist upon the extreme imperfection of the geological record and the uncertainty of negative evidence. But, withal, he allows the force of the objection almost as much as his opponents urge it—so much so, indeed, that two of his English critics turn the concession unfairly upon him, and charge him with actually basing his hypothesis upon these and similar difficulties—as if he held it because of the difficulties, and not in spite of them; a handsome return for his candor!

As to this imperfection of the geological record, perhaps we should get a fair and intelligible illustration of it by imagining the existing animals and plants of New England, with all their remains and products since the arrival of the Mayflower, to be annihilated; and that, in the coming time, the geologists of a new colony, dropped by the New Zealand fleet on its way to explore the ruins of London, undertake, after fifty years of examination, to reconstruct in a catalogue the flora and fauna of our day, that is, from the close of the glacial period to the present time. With all the advantages of a surface exploration, what a beggarly account it would be! How many of the land animals and plants which are enumerated in the Massachusetts official reports would it be likely to contain?

Another unanswerable question asked by the Boston reviewers is, Why, when structure and instinct or habit vary— as they must have varied, on Darwins hypothesis—they vary together and harmoniously, instead of vaguely? We cannot tell, because we cannot tell why either varies at all. Yet, as they both do vary in successive generations—as is seen under domestication—and are correlated, we can only adduce the fact. Darwin may be precluded from our answer, but we may say

that they vary together because designed to do so. A reviewer says that the chance of their varying together is inconceivably small; yet, if they do not, the variant individuals must all perish. Then it is well that it is not left to chance. To refer to a parallel case: before we were born, nourishment and the equivalent to respiration took place in a certain way. But the moment we were ushered into this breathing world, our actions promptly conformed, both as to respiration and nourishment, to the before unused structure and to the new surroundings.

"Now," says the Examiner, "suppose, for instance, the gills of an aquatic animal converted into lungs, while instinct still compelled a continuance under water, would not drowning ensue?" No doubt. But—simply contemplating the facts, instead of theorizing—we notice that young frogs do not keep their heads under water after ceasing to be tadpoles. The instinct promptly changes with the structure, without supernatural interposition—just as Darwin would have it, if the development of a variety or incipient species, though rare, were as natural as a metamorphosis.

"Or if a quadruped, not yet furnished with wings, were suddenly inspired with the instinct of a bird, and precipitated itself from a cliff, would not the descent be hazardously rapid?" Doubtless the animal would be no better supported than the objection. But Darwin makes very little indeed of voluntary efforts as a cause of change, and even poor Lamarck need not be caricatured. He never supposed that an elephant would take such a notion into his wise head, or that a squirrel would begin with other than short and easy leaps; yet might not the length of the leap be increased by practice?

The North American reviewers position, that the higher brute animals have comparatively little instinct and no intelligence, is a heavy blow and great discouragement to dogs, horses, elephants, and monkeys. Thus stripped of their all, and left to shift for themselves as they may in this hard world, their pursuit and

seeming attainment of knowledge under such peculiar difficulties are interesting to contemplate. However, we are not so sure as is the critic that instinct regularly increases downward and decreases upward in the scale of being. Now that the case of the bee is reduced to moderate proportions,[III-19} we know of nothing in instinct surpassing that of an animal so high as a bird, the talegal, the male of which plumes himself upon making a hot-bed in which to batch his partners eggs—which he tends and regulates the beat of about as carefully and skillfully as the unplumed biped does an eccaleobion.[III-20}

As to the real intelligence of the higher brutes, it has been ably defended by a far more competent observer, Mr. Agassiz, to whose conclusions we yield a general assent, although we cannot quite place the best of dogs "in that respect upon a level with a considerable proportion of poor humanity," nor indulge the hope, or indeed the desire, of a renewed acquaintance with the whole animal kingdom in a future life.

The assertion that acquired habitudes or instincts, and acquired structures, are not heritable, any breeder or good observer can refute. That "the human mind has become what it is out of a developed instinct," is a statement which Mr. Darwin nowhere makes, and, we presume, would not accept. That he would have us believe that individual animals acquire their instincts gradually,[III-21} is a statement which must have been penned in inadvertence both of the very definition of instinct, and of everything we know of in Mr. Darwins book.

It has been attempted to destroy the very foundation of Darwins hypothesis by denying that there are any wild varieties, to speak of, for natural selection to operate upon. We cannot gravely sit down to prove that wild varieties abound. We should think it just as necessary to prove that snow falls in winter. That variation among plants cannot be largely due to hybridism, and that their variation in Nature is not essentially different from much that occurs in domestication, and, in the long-run,

probably hardly less in amount, we could show if our space permitted.

As to the sterility of hybrids, that can no longer be insisted upon as absolutely true, nor be practically used as a test between species and varieties, unless we allow that hares and rabbits are of one species. That such sterility, whether total or partial, subserves a purpose in keeping species apart, and was so designed, we do not doubt. But the critics fail to perceive that this sterility proves nothing whatever against the derivative origin of the actual species; for it may as well have been intended to keep separate those forms which have reached a certain amount of divergence, as those which were always thus distinct.

The argument for the permanence of species, drawn from the identity with those now living of cats, birds, and other animals preserved in Egyptian catacombs, was good enough as used by Cuvier against St.-Hilaire, that is, against the supposition that time brings about a gradual alteration of whole species; but it goes for little against Darwin, unless it be proved that species never vary, or that the perpetuation of a variety necessitates the extinction of the parent breed. For Darwin clearly maintains—what the facts warrant—that the mass of a species remains fixed so long as it exists at all, though it may set off a variety now and then. The variety may finally supersede the parent form, or it may coexist with it; yet it does not in the least hinder the unvaried stock from continuing true to the breed, unless it crosses with it. The common law of inheritance may be expected to keep both the original and the variety mainly true as long as they last, and none the less so because they have given rise to occasional varieties. The tailless Manx cats, like the curtailed fox in the fable, have not induced the normal breeds to dispense with their tails, nor have the Dorkings (apparently known to Pliny) affected the permanence of the common sort of fowl.

As to the objection that the lower forms of life ought, on Darwins theory, to have been long ago improved out of existence, and replaced by higher forms, the

objectors forget what a vacuum that would leave below, and what a vast field there is to which a simple organization is best adapted, and where an advance would be no improvement, but the contrary. To accumulate the greatest amount of being upon a given space, and to provide as much enjoyment of life as can be under the conditions, is what Nature seems to aim at; and this is effected by diversification.

Finally, we advise nobody to accept Darwins or any other derivative theory as true. The time has not come for that, and perhaps never will. We also advise against a similar credulity on the other side, in a blind faith that species—that the manifold sorts and forms of existing animals and vegetables—"have no secondary cause." The contrary is already not unlikely, and we suppose will hereafter become more and more probable. But we are confident that, if a derivative hypothesis ever is established, it will be so on a solid theistic ground.

Meanwhile an inevitable and legitimate hypothesis is on trial—an hypothesis thus far not untenable—a trial just now very useful to science, and, we conclude, not harmful to religion, unless injudicious assailants temporarily make it so.

One good effect is already manifest; its enabling the advocates of the hypothesis of a multiplicity of human species to perceive the double insecurity of their ground. When the races of men are admitted to be of one species, the corollary, that they are of one origin, may be expected to follow. Those who allow them to be of one species must admit an actual diversification into strongly-marked and persistent varieties, and so admit the basis of fact upon which the Darwinian hypothesis is built; while those, on the other hand, who recognize several or numerous human species, will hardly be able to maintain that such species were primordial and supernatural in the ordinary sense of the word.

The English mind is prone to positivism and kindred forms of materialistic philosophy, and we must expect the derivative theory to be taken up in that interest. We have no predilection for that school, but the contrary. If we had, we might have

looked complacently upon a line of criticism which would indirectly, but effectively, play into the hands of positivists and materialistic atheists generally. The wiser and stronger ground to take is, that the derivative hypothesis leaves the argument for design, and therefore for a designer, as valid as it ever was; that to do any work by an instrument must require, and therefore presuppose, the exertion rather of more than of less power than to do it directly; that whoever would be a consistent theist should believe that Design in the natural world is coextensive with Providence, and hold as firmly to the one as he does to the other, in spite of the wholly similar and apparently insuperable difficulties which the mind encounters whenever it endeavors to develop the idea into a system, either in the material and organic, or in the moral world. It is enough, in the way of obviating objections, to show that the philosophical difficulties of the one are the same, and only the same, as of the other.

IV. CAPITAL—THE MOTHER OF LABOUR

AN ECONOMICAL PROBLEM DISCUSSED FROM A PHYSIOLOGICAL POINT OF VIEW {1890.]

THE first act of a new-born child is to draw a deep breath. In fact, it will never draw a deeper, inasmuch as the passages and chambers of the lungs, once distended with air, do not empty themselves again; it is only a fraction of their contents which passes in and out with the flow and the ebb of the respiratory tide. Mechanically, this act of drawing breath, or inspiration, is of the same nature as that by which the handles of a bellows are separated, in order to fill the bellows with air; and, in like manner, it involves that expenditure of energy which we call exertion, or work, or labour. It is, therefore, no mere metaphor to say that man is destined to a life of toil: the work of respiration which began with his first breath ends only with his last; nor does one born in the purple get off with a lighter task than the child who first sees light under a hedge.

How is it that the new-born infant is enabled to perform this first instalment of the sentence of life-long labour which no man may escape? Whatever else a child may be, in respect of this particular question, it is a complicated piece of mechanism, built up out of materials supplied by its mother; and in the course of such building-up, provided with a set of motors—the muscles. Each of these muscles contains a stock of substance capable of yielding energy under certain conditions, one of which is a change of state in the nerve fibres connected with it. The powder in a loaded gun is such another stock of substance capable of yielding energy in consequence of a change of state in the mechanism of the lock, which intervenes between the finger of the man who pulls the trigger and the cartridge. If that change is brought about, the potential energy of the powder passes suddenly into actual energy, and does the work of propelling the bullet. The powder, therefore, may be appropriately called work-stuff, not only because it is stuff which is easily made to yield work in the physical sense, but because a good deal of work in the economical sense has contributed to its production. Labour was necessary to collect, transport, and purify the raw sulphur and saltpetre; to cut wood and convert it into powdered charcoal; to mix these ingredients in the right proportions; to give the mixture the proper grain, and so on. The powder

once formed part of the stock, or capital, of a powder-maker: and it is not only certain natural bodies which are collected and stored in the gunpowder, but the labour bestowed on the operations mentioned may be figuratively said to be incorporated in it.

In principle, the work-stuff stored in the muscles of the new-born child is comparable to that stored in the gun-barrel. The infant is launched into altogether new surroundings; and these operate through the mechanism of the nervous machinery, with the result that the potential energy of some of the work-stuff in the muscles which bring about inspiration is suddenly converted into actual energy; and this, operating through the mechanism of the respiratory apparatus, gives rise to an

act of inspiration. As the bullet is propelled by the "going off" of the powder, as it might be said that the ribs are raised and the midriff depressed by the "going off" of certain portions of muscular work-stuff. This work-stuff is part of a stock or capital of that commodity stored up in the child's organism before birth, at the expense of the mother; and the mother has made good her expenditure by drawing upon the capital of food-stuffs which furnished her daily maintenance.

Under these circumstances, it does not appear to me to be open to doubt that the primary act of outward labour in the series which necessarily accompany

the life of man is dependent upon the pre-existence of a stock of material which is not only of use to him, but which is disposed in such a manner as to be utilisable with facility. And I further imagine that the propriety of the application of the term 'capital' to this stock of useful substance cannot be justly called in question; inasmuch as it is easy to prove that the essential constituents of the work-stuff accumulated in the child's muscles have merely been transferred from the store of food-stuffs, which everybody admits to be capital, by means of the maternal organism to that of the child, in which they are again deposited to await use. Every subsequent act of labour, in like manner, involves an equivalent consumption of the child's store of work-stuff—its vital capital; and one of the main objects of the process of breathing is to get rid of some of the effects of that consumption. It follows, then, that, even if no other than the respiratory work were going on in the organism, the capital of work-stuff, which the child brought with it into the world, must sooner or later be used up, and the movements of breathing must come to an end; just as the see-saw of the piston of a steam-engine stops when the coal in the fireplace has burnt away.

Milk, however, is a stock of materials which essentially consists of savings from the food-stuffs supplied to the mother. And these savings are

in such a physical and chemical condition that the organism of the child can easily

convert them into work-stuff. That is to say, by borrowing directly from the vital capital of the mother, indirectly from the store in the natural bodies accessible to her, it can make good the loss of its own. The operation of borrowing, however, involves further work; that is, the labour of sucking, which is a mechanical operation of much the same nature as breathing. The child thus pays for the capital it borrows in labour; but as the value in work-stuff of the milk obtained is very far greater than the value of that labour, estimated by the consumption of work-stuff it involves, the operation yields a large profit to the infant. The overplus of food-stuff suffices to increase the child's capital of work-stuff; and to supply not only the materials for the enlargement of the "buildings and machinery" which is expressed by the child's growth, but also the energy required to put all these materials together, and to carry them to their proper places. Thus, throughout the years of infancy, and so long thereafter as the youth or man is not thrown upon his own resources, he lives by consuming the vital capital provided by others. To use a terminology which is more common than appropriate, whatever work he performs (and he does a good deal, if only in mere locomotion) is unproductive.

Let us now suppose the child come to man's estate in the condition of a wandering savage, dependent for his food upon what he can pick up or catch, after the fashion of the Australian aborigines. It is plain that the place of mother, as the supplier of vital capital, is now taken by the fruits, seeds, and roots of plants and by various kinds of animals. It is they alone which contain stocks of those substances which can be converted within the man's organism into work-stuff; and of the other matters, except air and water, required to supply the constant consumption of his capital and to keep his organic machinery going. In no way does the savage contribute to the production of these substances. Whatever labour he bestows upon such vegetable and animal bodies, on the contrary, is devoted to their destruction; and it is a mere matter of accident whether a little labour yields him a great deal—as in the case, for example, of a stranded whale; or whether much labour yields next to nothing—as in

times of long-continued drought. The savage, like the child, borrows the capital he needs, and, at any rate, intentionally, does nothing towards repayment; it would plainly be an improper use of the word "produce" to say that his labour in hunting for the roots, or the fruits, or the eggs, or the grubs and snakes, which he finds and eats, "produces" or contributes to "produce" them. The same thing is true of more advanced tribes, who

are still merely hunters, such as the Esquimaux. They may expend more labour and skill; but it is spent in destruction.

When we pass from these to men who lead a purely pastoral life, like the South American Gauchos, or some Asiatic nomads, there is an important change. Let us suppose the owner of a flock of sheep to live on the milk, cheese, and flesh which they yield. It is obvious that the flock stands to him in the economic relation of the mother to the child, inasmuch as it supplies him with food-stuffs competent to make good the daily and hourly losses of his capital of workstuff. If we imagine our sheep-owner to have access to extensive pastures and to be troubled neither by predacious animals nor by rival shepherds, the performance of his pastoral functions will hardly involve the expenditure of any more labour than is needful to provide him with the exercise required to maintain health. And this is true, even if we take into account the trouble originally devoted to the domestication of the sheep. It surely would be a most singular pretension for the shepherd to talk of the flock as the "produce" of his labour in any but a very limited sense. In truth, his labour would have been a mere accessory of production of very little consequence. Under the circumstances supposed, a ram and some ewes, left to themselves for a few years, would probably generate as large a flock;

and the superadded labour of the shepherd would have little more effect upon their production than upon that of the blackberries on the bushes about the pastures. For the most part the increment would be thoroughly unearned; and, if it is a rule of

absolute political ethics that owners have no claim upon "betterment" brought about independently of their own labour, then the shepherd would have no claim to at least nine-tenths of the increase of the flock.

But if the shepherd has no real claim to the title of "producer," who has? Are the rams and ewes the true "producers"? Certainly their title is better if, borrowing from the old terminology of chemistry, they only claim to be regarded as the "proximate principles" of production. And yet, if strict justice is to be dispensed, even they are to be regarded rather as collectors and distributors than as "producers." For all that they really do is to collect, slightly modify, and render easily accessible, the vital capital which already exists in the green herbs on which they feed, but in such a form as to be practically out of the reach of man.

Thus, from an economic point of view, the sheep are more comparable to confectioners than to producers. The usefulness of biscuit lies in the raw flour of which it is made; but raw flour does not answer as an article of human diet, and biscuit does. So the usefulness of mutton lies mainly in certain chemical compounds which it

contains: the sheep gets them out of grass; we cannot live on grass, but we can on mutton.

Now, herbaceous and all other green plants stand alone among terrestrial natural bodies, in so far as, under the influence of light, they possess the power to build up, out of the carbonic acid gas in the atmosphere, water and certain nitrogenous and mineral salts, those substances which in the animal organism are utilised as work-stuff. They are the chief and, for practical purposes, the sole producers of that vital capital which we have seen to be the necessary antecedent of every act of labour. Every green plant is a laboratory in which, so long as the sun shines upon it, materials furnished by the mineral world, gases, water, saline compounds, are worked up into those foodstuffs without which animal life cannot be carried on. And

since, up to the present time, synthetic chemistry has not advanced so far as to achieve this feat, the green plant may be said to be the only living worker whose labour directly results in the production of that vital capital which is the necessary antecedent of human labour.* Nor is this statement a paradox involving perpetual motion, because the energy by which the plant does its work is supplied by the sun—the primordial capitalist so far as we are concerned. But

it cannot be too strongly impressed upon the mind that sunshine, air, water, the best soil that is to be found on the surface of the earth, might co-exist; yet without plants, there is no known agency competent to generate the so-called "protein compounds," by which alone animal life can be permanently supported. And not only are plants thus essential; but, in respect of particular kinds of animals, they must be plants of a particular nature. If there were no terrestrial green plants but, say, cypresses and mosses, pastoral and agricultural life would be alike impossible; indeed, it is difficult to imagine the possibility of the existence of any large animal, as the labour required to get at a sufficiency of the store of food-stuffs, contained in such plants as these, could hardly extract from them an equivalent for the waste involved in that expenditure of work.

* It remains to be seen whether the plants which have no chlorophyll, and flourish in darkness, such as the Fungi, can live upon purely mineral food.

We are compact of dust and air; from that we set out, and to that complexion must we come at last. The plant either directly, or by some animal intermediary, lends us the capital which enables us to carry on the business of life, as we flit through the upper world, from the one term of our journey to the other. Popularly, no doubt, it is permissible to speak of the soil as a "producer," just as we may talk of the daily movement of the sun. But, as I have elsewhere remarked, propositions which are to bear any deductive strain that may be put upon them must run the risk of

seeming pedantic, rather than that of being inaccurate. And the statement that land,

in the sense of cultivable soil, is a producer, or even one of the essentials of economic production, is anything but accurate. The process of water-culture, in which a plant is not "planted" in any soil, but is merely supported in water containing in solution the mineral ingredients essential to that plant, is now thoroughly understood; and, if it were worth while, a crop yielding abundant food-stuffs could be raised on an acre of fresh water, no less than on an acre of dry land. In the Arctic regions, again, land has nothing to do with "production" in the social economy of the Esquimaux, who live on seals and other marine animals; and might, like Proteus, shepherd the flocks of Poseidon if they had a mind for pastoral life. But the seals and the bears are dependent on other inhabitants of the sea, until, somewhere in the series, we come to the minute green plants which float in the ocean, and are the real "producers" by which the whole of its vast animal population is supported.* Thus, when we find set forth as an "absolute"

truth the statement that the essential factors in economic production are land, capital and labour—when this is offered as an axiom whence all sorts of other important truths may be deduced—it is needful to remember that the assertion is true only with a qualification. Undoubtedly "vital capital" is essential; for, as we have seen, no human work can be done unless it exists, not even that internal work of the body which is necessary to passive life. But, with respect to labour (that is, human labour) I hope to have left no doubt on the reader's mind that, in regard to production, the importance of human labour may be so small as to be almost a vanishing quantity. Moreover, it is certain that there is no approximation to a fixed ratio between the expenditure of labour and the production of that vital capital which is the foundation of all wealth. For, suppose that we introduce into our suppositious pastoral paradise beasts of prey and rival shepherds, the amount of labour thrown upon the sheep-owner may increase almost indefinitely, and its importance as a condition of production may be enormously augmented, while the quantity of produce remains stationary. Compare for a moment the unimportance of the shepherd's labour, under

the circumstances first defined, with its indispensability in countries in which the water for the sheep has to be drawn from deep

wells, or in which the flock has to be defended from wolves or from human depredators. As to land, it has been shown that, except as affording mere room and standing ground, the importance of land, great as it may be, is secondary. The one thing needful for economic production is the green plant, as the sole producer of vital capital from natural inorganic bodies. Men might exist without labour (in the ordinary sense) and without land; without plants they must inevitably perish.

* In some remarkable passages of the Botany of Sir James Ross's Antarctic voyage, which took place half a century ago, Sir Joseph Hooker demonstrated the dependence of the animal life of the sea upon the minute, indeed microscopic, plants which float in it: a marvellous example of what may be done by water-culture. One might indulge in dreams of cultivating and improving diatoms, until the domesticated bore the same relation to the wild forms, as cauliflowers to the primitive Brassica oleracea, without passing beyond the limits of fair scientific speculation.

That which is true of the purely pastoral condition is a fortiori true of the purely agricultural* condition, in which the existence of the cultivator is directly dependent on the production of vital capital by the plants which he cultivates. Here, again, the condition precedent of the work of each year is vital capital. Suppose that a man lives exclusively upon the plants which he cultivates. It is obvious that he must have food-stuffs to live upon, while he prepares the soil for sowing and throughout the period which elapses between this and harvest. These food-stuffs must be yielded by the stock remaining over from former crops. The result is the same as before—the pre-existence of vital capital is the necessary antecedent of labour. Moreover, the amount of labour which contributes, as an accessory condition, to the production

of the crop varies as widely in the case of plant-raising as in that of cattle-raising.

With favourable soil, climate and other conditions, it may be very small, with unfavourable, very great, for the same revenue or yield of food-stuffs.

* It is a pity that we have no word that signifies plant-culture exclusively. But for the present purpose I may restrict agriculture to that sense.

Thus, I do not think it is possible to dispute the following proposition: the existence of any man, or of any number of men, whether organised into a polity or not, depends on the production of foodstuffs (that is, vital capital) readily accessible to man, either directly or indirectly, by plants. But it follows that the number of men who can exist, say for one year, on any given area of land, taken by itself, depends upon the quantity of food-stuffs produced by such plants growing on the area in one year. If a is that quantity, and b the minimum of food-stuffs required for each man, A/B=N, the maximum number of men who can exist on the area. Now the amount of production (a) is limited by the extent of area occupied; by the quantity of sunshine which falls upon the area; by the range and distribution of temperature; by the force of the winds; by the supply of water; by the composition and the physical characters of the soil; by animal and vegetable competitors and destroyers. The labour of man neither does, nor can, produce vital capital; all that it can do is to modify, favourably or unfavourably, the conditions of its production. The most important of these—

namely, sunshine, range of daily and nightly temperature, wind—are practically out of men's reach.* On the other hand, the supply of water, the physical and chemical qualities of the soil, and the influences of competitors and destroyers, can often, though by no means always, be largely affected by labour and skill. And there is no harm in calling the effect of such labour "production," if it is clearly understood that "production" in this sense is a very different thing from the "production" of food-stuffs by a plant.

* I do not forget electric lighting, greenhouses and hothouses, and the various modes of affording shelter against violent winds: but in regard to production of food-stuffs

on the large scale they may be neglected. Even if synthetic chemistry should effect the construction of proteids, the Laboratory will hardly enter into competition with the Farm within any time which the present generation need trouble itself about.

We have been dealing hitherto with suppositions the materials of which are furnished by everyday experience, not with mere a priori assumptions. Our hypothetical solitary shepherd with his flock, or the solitary farmer with his grain field, are mere bits of such experience, cut out, as it were, for easy study. Still borrowing from daily experience, let us suppose that either sheep-owner or farmer, for any reason that may be imagined, desires the help of one or more other men; and that, in exchange for their labour, he offers so many sheep, or quarts of milk, or pounds of

cheese, or so many measures of grain, for a year's service. I fail to discover any a priori "rights of labour" in virtue of which these men may insist on being employed, if they are not wanted. But, on the other hand, I think it is clear that there is only one condition upon which the persons to whom the offer of these "wages" is made can accept it; and that is that the things offered in exchange for a year's work shall contain at least as much vital capital as a man uses up in doing the year's work. For no rational man could knowingly and willingly accept conditions which necessarily involve starvation. Therefore there is an irreducible minimum of wages; it is such an amount of vital capital as suffices to replace the inevitable consumption of the person hired. Now, surely, it is beyond a doubt that these wages, whether at or above the irreducible minimum, are paid out of the capital disposable after the wants of the owner of the flock or of the crop of grain are satisfied; and, from what has been said already, it follows that there is a limit to the number of men, whether hired, or brought in any other way, who can be maintained by the sheep owner or landowner out of his own resources. Since no amount of labour can produce an ounce of foodstuff beyond the maximum producible by a limited number of plants, under the most favourable circumstances in regard to those conditions which are not affected

by labour, it follows

that, if the number of men to be fed increases indefinitely, a time must come when some will have to starve. That is the essence of the so-called Malthusian doctrine; and it is a truth which, to my mind, is as plain as the general proposition that a quantity which constantly increases will, some time or other, exceed any greater quantity the amount of which is fixed.

The foregoing considerations leave no doubt about the fundamental condition of the existence of any polity, or organised society of men, either in a purely pastoral or purely agricultural state, or in any mixture of both states. It must possess a store of vital capital to start with, and the means of repairing the consumption of that capital which takes place as a consequence of the work of the members of the society. And, if the polity occupies a completely isolated area of the earth's surface, the numerical strength of that polity can never exceed the quotient of the maximum quantity of food-stuffs producible by the green plants on that area, in each year, divided by the quantity necessary for the maintenance of each person during the year. But, there is a third mode of existence possible to a polity; it may, conceivably, be neither purely pastoral nor purely agricultural, but purely manufacturing. Let us suppose three islands, like Gran Canaria, Teneriffe and Lanzerote, in the Canaries, to be quite cut off from the rest of the world. Let Gran Canaria be

inhabited by grain-raisers, Teneriffe by cattle-breeders; while the population of Lanzerote (which we may suppose to be utterly barren) consists of carpenters, woollen manufacturers, and shoemakers. Then the facts of daily experience teach us that the people of Lanzerote could never have existed unless they came to the island provided with a stock of food-stuffs; and that they could not continue to exist, unless that stock, as it was consumed, was made up by contributions from the vital capital of either Gran Canaria, or Teneriffe, or both. Moreover, the carpenters of Lanzerote could do nothing, unless they were provided with wood from the other islands; nor

could the wool spinners and weavers or the shoemakers work without wool and skins from the same sources. The wood and the wool and the skins are, in fact, the capital without which their work as manufacturers in their respective trades is impossible—so that the vital and other capital supplied by Gran Canaria and Teneriffe is most indubitably the necessary antecedent of the industrial labour of Lanzerote. It is perfectly true that by the time the wood, the wool, and the skins reached Lanzerote a good deal of labour in cutting, shearing, skinning, transport, and so on, would have been spent upon them. But this does not alter the fact that the only "production" which is essential to the existence of the population of Teneriffe and Gran Canaria is that effected by the

green plants in both islands; and that all the labour spent upon the raw produce useful in manufacture, directly or indirectly yielded by them—by the inhabitants of these islands and by those of Lanzerote into the bargain—will not provide one solitary Lanzerotian with a dinner, unless the Teneriffians and Canariotes happen to want his goods and to be willing to give some of their vital capital in exchange for them.

Under the circumstances defined, if Teneriffe and Gran Canaria disappeared, or if their inhabitants ceased to care for carpentry, clothing, or shoes, the people of Lanzerote must starve. But if they wish to buy, then the Lanzerotians, by "cultivating" the buyers, indirectly favour the cultivation of the produce of those buyers.

Thus, if the question is asked whether the labour employed in manufacture in Lanzerote is "productive" or "unproductive" there can be only one reply. If anybody will exchange vital capital, or that which can be exchanged for vital capital, for Lanzerote goods, it is productive; if not, it is unproductive.

In the case of the manufacturer, the dependence of labour upon capital is still more intimate than in that of the herdsman or agriculturist. When the latter are once

started they can go on, without troubling themselves about the existence of any other people. But the manufacturer depends on pre-existing capital, not only at the

beginning, but at the end of his operations. However great the expenditure of his labour and of his skill, the result, for the purpose of maintaining his existence, is just the same as if he had done nothing, unless there is a customer able and willing to exchange food-stuffs for that which his labour and skill have achieved.

There is another point concerning which it is very necessary to have clear ideas. Suppose a carpenter in Lanzerote to be engaged in making chests of drawers. Let us suppose that a, the timber, and b, the grain and meat needful for the man's sustenance until he can finish a chest of drawers, have to be paid for by that chest. Then the capital with which he starts is represented by a + b. He could not start at all unless he had it; day by day, he must destroy more or less of the substance and of the general adaptability of a in order to work it up into the special forms needed to constitute the chest of drawers; and, day by day, he must use up at least so much of b as will replace his loss of vital capital by the work of that day. Suppose it takes the carpenter and his workmen ten days to saw up the timber, to plane the boards, and to give them the shape and size proper for the various parts of the chest of drawers. And suppose that he then offers his heap of boards to the advancer of a + b as an equivalent for the wood + ten days' supply of vital capital? The latter will surely say: "No.

I did not ask for a heap of boards. I asked for a chest of drawers. Up to this time, so far as I am concerned, you have done nothing and are as much in my debt as ever." And if the carpenter maintained that he had "virtually" created two-thirds of a chest of drawers, inasmuch as it would take only five days more to put together the pieces of wood, and that the heap of boards ought to be accepted as the equivalent of two-thirds of his debt, I am afraid the creditor would regard him as little better than an impudent swindler. It obviously makes no sort of difference whether the

Canariote or Teneriffian buyer advanced the wood and the food-stuffs, on which the carpenter had to maintain himself; or whether the carpenter had a stock of both, the consumption of which must be recouped by the exchange of a chest of drawers for a fresh supply. In the latter case, it is even less doubtful that, if the carpenter offered his boards to the man who wanted a chest of drawers, the latter would laugh in his face. And if he took the chest of drawers for himself, then so much of his vital capital would be sunk in it past recovery. Again, the payment of goods in a lump, for the chest of drawers, comes to the same thing as the payment of daily wages for the fifteen days that the carpenter was occupied in making it. If, at the end of each day, the carpenter chose to say to himself "I have 'virtually' created, by my day's labour, a fifteenth of what I shall get for the chest

of drawers—therefore my wages are the produce of my day's labour"—there is no great harm in such metaphorical speech, so long as the poor man does not delude himself into the supposition that it represents the exact truth. "Virtually" is apt to cover more intellectual sins than "charity" does moral delicts. After what has been said, it surely must be plain enough that each day's work has involved the consumption of the carpenter's vital capital, and the fashioning of his timber, at the expense of more or less consumption of those forms of capital. Whether the a + b to be exchanged for the chest has been advanced as a loan, or is paid daily or weekly as wages, or, at some later time, as the price of a finished commodity—the essential element of the transaction, and the only essential element, is, that it must, at least, effect the replacement of the vital capital consumed. Neither boards nor chest of drawers are eatable; and, so far from the carpenter having produced the essential part of his wages by each day's labour, he has merely wasted that labour, unless somebody who happens to want a chest of drawers offers to exchange vital capital, or something that can procure it, equivalent to the amount consumed during the process of manufacture.*

* See the discussion of this subject further on.

That it should be necessary, at this time of day, to set forth such elementary truths as these may

well seem strange; but no one who consults that interesting museum of political delusions, "Progress and Poverty," some of the treasures of which I have already brought to light, will doubt the fact, if he bestows proper attention upon the first book of that widely-read work. At page 15 it is thus written:

"The proposition I shall endeavour to prove is: that wages, instead of being drawn from capital, are, in reality, drawn from the product of the labour for which they are paid."

Again at page 18:—

"In every case in which labour is exchanged for commodities, production really precedes enjoyment . . . wages are the earnings—that is to say, the makings—of labour—not the advances of capital."

And the proposition which the author endeavours to disprove is the hitherto generally accepted doctrine

..."that labour is maintained and paid out of existing capital, before the product which constitutes the ultimate object is secured" (p. 16).

The doctrine respecting the relation of capital and wages, which is thus opposed in "Progress and Poverty," is that illustrated in the foregoing pages; the truth of which, I conceive, must be plain to any one who has apprehended the very simple arguments by which I have endeavoured to

demonstrate it. One conclusion or the other must be hopelessly wrong; and, even at the cost of going once more over some of the ground traversed in this essay and that on "Natural and Political Rights,"* I propose to show that the error lies with "Progress and Poverty"; in which work, so far as political science is concerned, the poverty is, to my eye, much more apparent than the progress.

* Collected Essays, vol. i. pp. 359-382.

To begin at the beginning. The author propounds a definition of wealth: "Nothing which nature supplies to man without his labour is wealth" (p. 28). Wealth consists of "natural substances or products which have been adapted by human labour to human use or gratification, their value depending upon the amount of labour which, upon the average, would be required to produce things of like kind" (p. 27). The following examples of wealth are given:—

. . . "Buildings, cattle, tools, machinery, agricultural and mineral products, manufactured goods, ships, waggons, furniture, and the like" (p. 27).

I take it that native metals, coal and brick clay, are "mineral products"; and I quite believe that they are properly termed "wealth." But when a seam of coal crops out at the surface, and lumps of coal are to be had for the picking up; or when native copper lies about in nuggets, or

when brick clay forms a superficial stratum, it appears to me that these things are supplied to, nay almost thrust upon, man without his labour. According to the definition, therefore, they are not "wealth." According to the enumeration, however, they are "wealth": a tolerably fair specimen of a contradiction in terms. Or does "Progress and Poverty" really suggest that a coal seam which crops out at the surface is not wealth; but that if somebody breaks off a piece and carries it away, the bestowal of this amount of labour upon that particular lump makes it wealth; while the rest remains "not wealth"? The notion that the value of a thing bears any necessary relation to the amount of labour (average or otherwise) bestowed upon it, is a fallacy which needs no further refutation than it has already received. The average amount of labour bestowed upon warming-pans confers no value upon them in the eyes of a Gold-Coast negro; nor would an Esquimaux give a slice of blubber for the most elaborate of ice-machines.

So much for the doctrine of "Progress and Poverty" touching the nature of wealth.

Let us now consider its teachings respecting capital as wealth or a part of wealth. Adam Smith's definition "that part of a man's stock which he expects to yield him a revenue is called his capital" is quoted with approval (p. 32); elsewhere capital is said to be that part of wealth "which

is devoted to the aid of production" (p. 28); and yet again it is said to be

. . . "wealth in course of exchange,* understanding exchange to include, not merely the passing from hand to hand, but also such transmutations as occur when the reproductive or transforming forces of nature are utilised for the increase of wealth" (p. 32). * The italics are the author's.

But if too much pondering over the possible senses and scope of these definitions should weary the reader, he will be relieved by the following acknowledgment:—

. . . "Nor is the definition of capital I have suggested of any importance" (p. 33).

The author informs us, in fact, that he is "not writing a text-book," thereby intimating his opinion that it is less important to be clear and accurate when you are trying to bring about a political revolution than when a merely academic interest attaches to the subject treated. But he is not busy about anything so serious as a textbook: no, he "is only attempting to discover the laws which control a great social problem"—a mode of expression which indicates perhaps the high-water mark of intellectual muddlement. I have heard, in my time, of "laws" which control other "laws"; but this is the first occasion on which "laws" which "control a problem" have come under my notice. Even the disquisitions "of

those flabby writers who have burdened the press and darkened counsel by numerous volumes which are dubbed political economy" (p. 28) could hardly furnish their critics with a finer specimen of that which a hero of the "Dunciad," by the one flash of genius recorded of him, called "clotted nonsense."

Doubtless it is a sign of grace that the author of these definitions should attach no importance to any of them; but since, unfortunately, his whole argument turns upon

the tacit assumption that they are important, I may not pass them over so lightly. The third I give up. Why anything should be capital when it is "in course of exchange," and not be capital under other circumstances, passes my understanding. We are told that "that part of a farmer's crop held for sale or for seed, or to feed his help, in part payment of wages, would be accounted capital; that held for the care of his family would not be" (p. 31). But I fail to discover any ground of reason or authority for the doctrine that it is only when a crop is about to be sold or sown, or given as wages, that it may be called capital. On the contrary, whether we consider custom or reason, so much of it as is stored away in ricks and barns during harvest, and remains there to be used in any of these ways months or years afterwards, is customarily and rightly termed capital. Surely, the meaning of the clumsy phrase that capital is "wealth in the

course of exchange" must be that it is "wealth capable of being exchanged" against labour or anything else. That, in fact, is the equivalent of the second definition, that capital is "that part of wealth which is devoted to the aid of production." Obviously, if you possess that for which men will give labour, you can aid production by means of that labour. And, again, it agrees with the first definition (borrowed from Adam Smith) that capital is "that part of a man's stock which he expects to yield him a revenue." For a revenue is both etymologically and in sense a "return." A man gives his labour in sowing grain, or in tending cattle, because he expects a "return"—a "revenue"—in the shape of the increase of the grain or of the herd; and also, in the latter case, in the shape of their labour and manure which "aid the production" of such increase. The grain and cattle of which he is possessed immediately after harvest is his capital; and his revenue for the twelvemonth, until the next harvest, is the surplus of grain and cattle over and above the amount with which he started. This is disposable for any purpose for which he may desire to use it, leaving him just as well off as he was at the beginning of the year. Whether the man keeps the surplus grain for sowing more land, and the surplus cattle for occupying more

pasture; whether he exchanges them for other commodities, such as the use of the land (as rent); or labour (as

wages); or whether he feeds himself and his family, in no way alters their nature as revenue, or affects the fact that this revenue is merely disposable capital.

That (even apart from etymology) cattle are typical examples of capital cannot be denied ("Progress and Poverty," p. 25); and if we seek for that particular quality of cattle which makes them "capital," neither has the author of "Progress and Poverty" supplied, nor is any one else very likely to supply, a better account of the matter than Adam Smith has done. Cattle are "capital" because they are "stock which yields revenue." That is to say, they afford to their owner a supply of that which he desires to possess. And, in this particular case, the "revenue" is not only desirable, but of supreme importance, inasmuch as it is capable of maintaining human life. The herd yields a revenue of food-stuffs as milk and meat; a revenue of skins; a revenue of manure; a revenue of labour; a revenue of exchangeable commodities in the shape of these things, as well as in that of live cattle. In each and all of these capacities cattle are capital; and, conversely, things which possess any or all of these capacities are capital.

Therefore what we find at page 25 of "Progress and Poverty" must be regarded as a welcome lapse into clearness of apprehension:—

"A fertile field, a rich vein of ore, a falling stream which supplies power, may give the possessor advantages

equivalent to the possession of capital; but to class such things as capital would be to put an end to the distinction between land and capital."

Just so. But the fatal truth is that these things are capital; and that there really is no fundamental distinction between land and capital. Is it denied that a fertile field, a rich vein of ore, or a falling stream, may form part of a man's stock, and that, if they do, they are capable of yielding revenue? Will not somebody pay a share of the

produce in kind, or in money, for the privilege of cultivating the first royalties for that of working the second; and a like equivalent for that of erecting a mill on the third? In what sense, then, are these things less "capital" than the buildings and tools which on page 27 of "Progress and Poverty" are admitted to be capital? Is it not plain that if these things confer "advantages equivalent to the possession of capital," and if the "advantage" of capital is nothing but the yielding of revenue, then the denial that they are capital is merely a roundabout way of self-contradiction?

All this confused talk about capital, however, is lucidity itself compared with the exposition of the remarkable thesis, "Wages not drawn from capital, but produced by labour," which occupies the third chapter of "Progress and Poverty."

"If, for instance, I devote my labour to gathering birds' eggs or picking wild berries, the eggs or berries I thus

get are my wages. Surely no one will contend that, in such a case, wages are drawn from capital. There is no capital in the case" (p. 34).

Nevertheless, those who have followed what has been said in the first part of this essay surely neither will, nor can, have any hesitation about substantially adopting the challenged contention, though they may possibly have qualms as to the propriety of the use of the term "wages."* They will have no difficulty in apprehending the fact that birds' eggs and berries are stores of foodstuffs, or vital capital; that the man who devotes his labour to getting them does so at the expense of his personal vital capital; and that, if the eggs and the berries are "wages" for his work, they are so because they enable him to restore to his organism the vital capital which he has consumed in doing the work of collection. So that there is really a great deal of "capital in the case."

* Not merely on the grounds stated below, but on the strength of Mr. George's own definition. Does the gatherer of eggs, or berries, produce them by his labour? If so, what do the hens and the bushes do?

Our author proceeds:—

"An absolutely naked man, thrown on an island where no human being has before trod, may gather birds' eggs or pick berries" (p. 34).

No doubt. But those who have followed my argument thus far will be aware that a man's vital capital does not reside in his clothes; and, therefore,

they will probably fail, as completely as I do, to discover the relevancy of the statement.

Again:—

. . . Or, if I take a piece of leather and work it up into a pair of shoes, the shoes are my wages—the reward of my exertion. Surely they are not drawn from capital—either my capital or anybody else's capital—but are brought into existence by the labour of which they became the wages; and, in obtaining this pair of shoes as the wages of my labour, capital is not even momentarily lessened one iota. For if we call in the idea of capital, my capital at the beginning consists of the piece of leather, the thread, &c. (p. 34).

It takes away one's breath to have such a concatenation of fallacies administered in the space of half a paragraph. It does not seem to have occurred to our economical reformer to imagine whence his "capital at the beginning," the "leather, thread, &c." came. I venture to suppose that leather to have been originally cattle-skin; and since calves and oxen are not flayed alive, the existence of the leather implies the lessening of that form of capital by a very considerable iota. It is, therefore, as sure as anything can be that, in the long run, the shoes are drawn from that which is capital par excellence; to wit, cattle. It is further beyond doubt that the operation of tanning must involve loss of capital in the shape of bark, to say nothing of other losses; and that the use of the awls and knives of the shoemaker involves loss of capital in the shape of the store of

iron; further, the shoemaker has been enabled to do his work not only by the vital

capital expended during the time occupied in making the pair of shoes, but by that expended from the time of his birth, up to the time that he earned wages that would keep him alive.

"Progress and Poverty" continues:—

. . . As my labour goes on, value is steadily added until, when my labour results in the finished shoes, I have my capital plus the difference in value between the material and the shoes. In obtaining this additional value—my wages—how is capital, at any time, drawn upon? (p, 34).

In return we may inquire, how can any one propound such a question? Capital is drawn upon all the time. Not only when the shoes are commenced, but while they are being made, and until they are either used by the shoemaker himself or are purchased by somebody else; that is, exchanged for a portion of another man's capital. In fact (supposing that the shoemaker does not want shoes himself), it is the existence of vital capital in the possession of another person and the willingness of that person to part with more or less of it in exchange for the shoes—it is these two conditions, alone, which prevent the shoemaker from having consumed his capital unproductively, just as much as if he had spent his time in chopping up the leather into minute fragments.

Thus, the examination of the very case selected

by the advocate of the doctrine that labour bestowed upon manufacture, without any intervention of capital, can produce wages, proves to be a delusion of the first magnitude; even though it be supported by the dictum of Adam Smith which is quoted in its favour (p. 34)—

. . . "The produce of labour constitutes the natural recompense or wages of labour. In that original state of things which precedes both the appropriation of land and the accumulation of stock, the whole produce of labour belongs to the labourer. He has neither landlord nor master to share with him" ("Wealth of Nations," ch. viii).

But the whole of this passage exhibits the influence of the French Physiocrats by whom Adam Smith was inspired, at their worst; that is to say, when they most completely forsook the ground of experience for a priori speculation. The confident reference to "that original state of things" is quite in the manner of the Essai sur l'Inegalie. Now, the state of men before the "appropriation of land" and the "accumulation of stock" must surely have been that of purely savage hunters. As, by the supposition, nobody would have possessed land, certainly no man could have had a landlord; and, if there was no accumulation of stock in a transferable form, as surely there could be no master, in the sense of hirer. But hirer and hire (that is, wages) are correlative terms, like mother and child. As "child" implies "mother," so does "hire" or "wages" imply a

"hirer" or "wage-giver." Therefore, when a man in "the original state of things" gathered fruit or killed game for his own sustenance, the fruit or the game could be called his "wages" only in a figurative sense; as one sees if the term "hire," which has a more limited connotation, is substituted for "wage." If not, it must be assumed that the savage hired himself to get his own dinner; whereby we are led to the tolerably absurd conclusion that, as in the "state of nature" he was his own employer, the "master" and the labourer, in that model age, appropriated the produce in equal shares! And if this should be not enough, it has already been seen that, in the hunting state, man is not even an accessory of production of vital capital; he merely consumes what nature produces.

According to the author of "Progress and Poverty" political economists have been deluded by a "fallacy which has entangled some of the most acute minds in a web of their own spinning."

"It is in the use of the term capital in two senses. In the primary proposition that capital is necessary to the exertion of productive labour, the term "capital" is understood as including all food, clothing, shelter, &c.; whereas in the deductions

finally drawn from it, the term is used in its common and legitimate meaning of wealth devoted, not to the immediate gratification of desire, but to the procurement of more wealth—of wealth in the hands of employers as distinguished from labourers" (p. 40).

I am by no means concerned to defend the political economists who are thus charged with blundering; but I shall be surprised to learn that any have carried the art of self-entanglement to the degree of perfection exhibited by this passage. Who has ever imagined that wealth which, in the hands of an employer, is capital, ceases to be capital if it is in the hands of a labourer? Suppose a workman to be paid thirty shillings on Saturday evening for six days' labour, that thirty shillings comes out of the employer's capital, and receives the name of "wages" simply because it is exchanged for labour. In the workman's pocket, as he goes home, it is a part of his capital, in exactly the same sense as, half an hour before, it was part of the employer's capital; he is a capitalist just as much as if he were a Rothschild. Suppose him to be a single man, whose cooking and household matters are attended to by the people of the house in which he has a room; then the rent which he pays them out of this capital is, in part, wages for their labour, and he is, so far, an employer. If he saves one shilling out of his thirty, he has, to that extent, added to his capital when the next Saturday comes round. And if he puts his saved shillings week by week into the Savings Bank, the difference between him and the most bloated of bankers is simply one of degree.

At page 42, we are confidently told that

"labourers by receiving wages" cannot lessen "even temporarily" the "capital of the employer," while at page 44 it is admitted that in certain cases the capitalist "pays out capital in wages." One would think that the "paying out" of capital is hardly possible without at least a "temporary" diminution of the capital from which payment is made. But "Progress and Poverty" changes all that by a little verbal

legerdemain:—

. . . "For where wages are paid before the object of the labour is obtained, or is finished—as in agriculture, where ploughing and sowing must precede by several months the harvesting of the crop; as in the erection of buildings, the construction of ships, railroads, canals, &c.—it is clear that the owners of the capital paid in wages cannot expect an immediate return, but, as the phrase is, must "outlay it" or "lie out of it" for a time which sometimes amounts to many years. And hence, if first principles are not kept in mind, it is easy to jump to the conclusion that wages are advanced by capital" (p. 44).

Those who have paid attention to the argument of former parts of this paper may not be able to understand how, if sound "first principles are kept in mind," any other conclusion can be reached, whether by jumping, or by any other mode of logical progression. But the first principle which our author "keeps in mind" possesses just that amount of ambiguity which enables him to play hocus-pocus with it. It is this; that "the creation of value does not depend upon the finishing of the product" (p. 44).

There is no doubt that, under certain limitations, this proposition is correct. It is not true that "labour always adds to capital by its exertion before it takes from capital its wages" (p. 44), but it is true that it may, and often does, produce that effect.

To take one of the examples given, the construction of a ship. The shaping of the timbers undoubtedly gives them a value (for a shipbuilder) which they did not possess before. When they are put together to constitute the framework of the ship, there is a still further addition of value (for a shipbuilder); and when the outside planking is added, there is another addition (for a shipbuilder). Suppose everything else about the hull is finished, except the one little item of caulking the seams, there is no doubt that it has still more value for a shipbuilder. But for whom else has it any value, except perhaps for a fire-wood merchant? What price will any one who wants

a ship—that is to say, something that will carry a cargo from one port to another—give for the unfinished vessel which would take water in at every seam and go down in half an hour, if she were launched? Suppose the shipbuilder's capital to fail before the vessel is caulked, and that he cannot find another shipbuilder who cares to buy and finish it, what sort of proportion does the value created by the labour, for which he has paid out of his capital, stand to that of his advances?

Surely no one will give him one-tenth of the capital disbursed in wages, perhaps not so much even as the prime cost of the raw materials. Therefore, though the assertion that "the creation of value does not depend on the finishing of the product" may be strictly true under certain circumstances, it need not be and is not always true. And, if it is meant to imply or suggest that the creation of value in a manufactured article does not depend upon the finishing of that article, a more serious error could hardly be propounded.

Is there not a prodigious difference in the value of an uncaulked and in that of a finished ship; between the value of a house in which only the tiles of the roof are wanting and a finished house; between that of a clock which only lacks the escapement and a finished clock?

As ships, house, and clock, the unfinished articles have no value whatever—that is to say, no person who wanted to purchase one of these things, for immediate use, would give a farthing for either. The only value they can have, apart from that of the materials they contain, is that which they possess for some one who can finish them, or for some one who can make use of parts of them for the construction of other things. A man might buy an unfinished house for the sake of the bricks; or he might buy an incomplete clock to use the works for some other piece of machinery.

Thus, though every stage of the labour

bestowed on raw material, for the purpose of giving rise to a certain product, confers some additional value on that material in the estimation of those who are engaged in

manufacturing that product, the ratio of that accumulated value, at any stage of the process, to the value of the finished product is extremely inconstant, and often small; while, to other persons, the value of the unfinished product may be nothing, or even a minus quantity. A house-timber merchant, for example, might consider that wood which had been worked into the ribs of a ship was spoiled—that is, had less value than it had as a log.

According to "Progress and Poverty," there was, really, no advance of capital while the great St. Gothard tunnel was cut. Suppose that, as the Swiss and the Italian halves of the tunnel approached to within half a kilometre, that half-kilometre had turned out to be composed of practically impenetrable rock—would anybody have given a centime for the unfinished tunnel? And if not, how comes it that "the creation of value does not depend on the finishing of the product"?

I think it may be not too much to say that, of all the political delusions which are current in this queer world, the very stupidest are those which assume that labour and capital are necessarily antagonistic; that all capital is produced by labour and therefore, by natural right, is the property of

the labourer; that the possessor of capital is a robber who preys on the workman and appropriates to himself that which he has had no share in producing.

On the contrary, capital and labour are, necessarily, close allies; capital is never a product of human labour alone; it exists apart from human labour; it is the necessary antecedent of labour; and it furnishes the materials on which labour is employed. The only indispensable form of capital—vital capital—cannot be produced by human labour. All that man can do is to favour its formation by the real producers. There is no intrinsic relation between the amount of labour bestowed on an article and its value in exchange. The claim of labour to the total result of operations which are rendered possible only by capital is simply an a priori iniquity.

V. SOCIAL DISEASES AND WORSE REMEDIES

LETTERS TO THE "TIMES" ON MR. BOOTH'S SCHEME.

WITH A PREFACE AND INTRODUCTORY ESSAY.

(1891)

PREFACE

The letters which are here collected together were published in the "Times" in the course of the months of December, 1890, and January, 1891.

The circumstances which led me to write the first letter are sufficiently set forth in its opening sentences; and the materials on which I based my criticisms of Mr. Booth's scheme, in this and in the second letter, were wholly derived from Mr. Booth's book. I had some reason to know, however, that when anybody allows his sense of duty so far to prevail over his sense of the blessedness of peace as to write a letter to the "Times," on any subject of public interest, his reflections, before he has done with the business, will be very like

those of Johnny Gilpin, "who little thought, when he set out, of running such a rig." Such undoubtedly are mine when I contemplate these twelve documents, and call to mind the distinct addition to the revenue of the Post Office which must have accrued from the mass of letters and pamphlets which have been delivered at my door; to say nothing of the unexpected light upon my character, motives, and doctrines, which has been thrown by some of the "Times'" correspondents, and by no end of comments elsewhere.

If self-knowledge is the highest aim of man, I ought by this time to have little to learn. And yet, if I am awake, some of my teachers—unable, perhaps, to control the

divine fire of the poetic imagination which is so closely akin to, if not a part of, the mythopoeic faculty—have surely dreamed dreams. So far as my humbler and essentially prosaic faculties of observation and comparison go, plain facts are against them. But, as I may be mistaken, I have thought it well to prefix to the letters (by way of "Prolegomena") an essay which appeared in the "Nineteenth Century" for January, 1888, in which the principles that, to my mind, lie at the bottom of the "social question" are stated. So far as Individualism and Regimental Socialism are concerned, this paper simply emphasizes and expands the opinions expressed in an address to the members of the Midland Institute, delivered seventeen years earlier,

and still more fully developed in several essays published in the "Nineteenth Century" in 1889, which I hope, before long, to republish.*

* See Collected Essays, vol. i. p. 290 to end; and this volume, p. 147.

The fundamental proposition which runs through the writings, which thus extend over twenty years, is, that the common a priori doctrines and methods of reasoning about political and social questions are essentially vicious; and that argumentation on this basis leads, with equal logical force, to two contradictory and extremely mischievous systems, the one that of Anarchaic Individualism, the other that of despotic or Regimental Socialism. Whether I am right or wrong, I am at least consistent in opposing both to the best of my ability. Mr. Booth's system appears to me, and, as I have shown, is regarded by Socialists themselves, to be mere autocratic Socialism, masked by its theological exterior. That the "fantastic" religious skin will wear away, and the Socialistic reality it covers will show its real nature, is the expressed hope of one candid Socialist, and may be fairly conceived to be the unexpressed belief of the despotic leader of the new Trades Union, who has shown his zeal, if not his discretion, in championing Mr. Booth's projects. [See Letter VIII.]

Yet another word to commentators upon my letters. There are some who rather chuckle, and

some who sneer, at what they seem to consider the dexterity of an "old controversial hand," exhibited by the contrast which I have drawn between the methods of conversion depicted in the New Testament and those pursued by fanatics of the Salvationist type, whether they be such as are now exploited by Mr. Booth, or such as those who, from the time of the Anabaptists, to go no further back, have worked upon similar lines.

Whether such observations were intended to be flattering or sarcastic, I must respectfully decline to accept the compliment, or to apply the sarcasm to myself. I object to obliquity of procedure and ambiguity of speech in all shapes. And I confess that I find it difficult to understand the state of mind which leads any one to suppose, that deep respect for single-minded devotion to high aims is incompatible with the unhesitating conviction that those aims include the propagation of doctrines which are devoid of foundation—perhaps even mischievous.

The most degrading feature of the narrower forms of Christianity (of which that professed by Mr. Booth is a notable example) is their insistence that the noblest virtues, if displayed by those who reject their pitiable formulae, are, as their pet phrase goes, "splendid sins." But there is, perhaps, one step lower; and that is that men, who profess freedom of thought, should fail to see and

appreciate that large soul of goodness which often animates even the fanatical adherents of such tenets. I am sorry for any man who can read the epistles to the Galatians and the Corinthians without yielding a large meed of admiration to the fervent humanity of Paul of Tarsus; who can study the lives of Francis of Assisi, or of Catherine of Siena, without wishing that, for the furtherance of his own ideals, he might be even as they; or who can contemplate unmoved the steadfast veracity and true heroism which loom through the fogs of mystical utterance in George Fox. In all these great men and women there lay the root of the matter; a burning desire to amend the condition of their fellow-men, and to put aside all other things for that

end. If, in spite of all the dogmatic helps or hindrances in which they were entangled, these people are not to be held in high honour, who are?

I have never expressed a doubt—for I have none—that, when Mr. Booth left the Methodist connection, and started that organisation of the Salvation Army upon which, comparatively recently, such ambitious schemes of social reform have been grafted, he may have deserved some share of such honour. I do not say that, so far as his personal desires and intentions go, he may not still deserve it. But the correlate of despotic authority is unlimited responsibility. If Mr. Booth is to take

credit for any good that the Army system has effected, he must be prepared to bear blame for its inherent evils. As it seems to me, that has happened to him which sooner or later happens to all despots: he has become the slave of his own creation—the prosperity and glory of the soul-saving machine have become the end, instead of a means, of soul-saving; and to maintain these at the proper pitch, the "General" is led to do things which the Mr. Booth of twenty years ago would probably have scorned.

And those who desire, as I most emphatically desire, to be just to Mr. Booth, however badly they may think of the working of the organization he has founded, will bear in mind that some astute backers of his probably care little enough for Salvationist religion; and, perhaps, are not very keen about many of Mr. Booth's projects. I have referred to the rubbing of the hands of the Socialists over Mr. Booth's success;* but, unless I err greatly, there are politicians of a certain school to whom it affords still greater satisfaction. Consider what electioneering agents the captains of the Salvation Army, scattered through all our towns, and directed from a political "bureau" in London, would make! Think how political adversaries could be harassed by our local attorney—"tribune of the people," I mean; and how a troublesome man, on the other side, could be "hunted

down" upon any convenient charge, whether true or false, brought by our

Vigilance-familiar!**

* See Letter VIII. ** See Letter II.

I entirely acquit Mr. Booth of any complicity in far-reaching schemes of this kind; but I did not write idly when, in my first letter, I gave no vague warning of what might grow out of the organised force, drilled in the habit of unhesitating obedience, which he has created.

INTRODUCTORY ESSAY.

THE STRUGGLE FOR EXISTENCE IN HUMAN SOCIETY.

(1888).

The vast and varied procession of events, which we call Nature, affords a sublime spectacle and an inexhaustible wealth of attractive problems to the speculative observer. If we confine our attention to that aspect which engages the attention of the intellect, nature appears a beautiful and harmonious whole, the incarnation of a faultless logical process, from certain premises in the past to an inevitable conclusion in the future. But if it be regarded from a less elevated, though more human, point of view; if our moral sympathies are allowed to influence our judgment, and we permit ourselves to criticise our great mother as we criticise one another; then our verdict, at least so far as sentient nature is concerned, can hardly be so favourable.

In sober truth, to those who have made a study of the phenomena of life as they exhibited by the higher forms of the animal world,

the optimistic dogma, that this is the best of all possible worlds, will seem little better than a libel upon possibility. It is really only another instance to be added to the many extant, of the audacity of a priori speculators who, having created God in

their own image, find no difficulty in assuming that the Almighty must have been actuated by the same motives as themselves. They are quite sure that, had any other course been practicable, He would no more have made infinite suffering a necessary ingredient of His handiwork than a respectable philosopher would have done the like.

But even the modified optimism of the time-honoured thesis of physico-theology, that the sentient world is, on the whole, regulated by principles of benevolence, does but ill stand the test of impartial confrontation with the facts of the case. No doubt it is quite true that sentient nature affords hosts of examples of subtle contrivances directed towards the production of pleasure or the avoidance of pain; and it may be proper to say that these are evidences of benevolence. But if so, why is it not equally proper to say of the equally numerous arrangements, the no less necessary result of which is the production of pain, that they are evidences of malevolence?

If a vast amount of that which, in a piece of human workmanship, we should call skill, is

visible in those parts of the organization of a deer to which it owes its ability to escape from beasts of prey, there is at least equal skill displayed in that bodily mechanism of the wolf which enables him to track, and sooner or later to bring down, the deer. Viewed under the dry light of science, deer and wolf are alike admirable; and, if both were non-sentient automata, there would be nothing to qualify our admiration of the action of the one on the other. But the fact that the deer suffers, while the wolf inflicts suffering, engages our moral sympathies. We should call men like the deer innocent and good, men such as the wolf malignant and bad; we should call those who defended the deer and aided him to escape brave and compassionate, and those who helped the wolf in his bloody work base and cruel. Surely, if we transfer these judgments to nature outside the world of man at all, we must do so impartially. In that case, the goodness of the right hand which helps the

deer, and the wickedness of the left hand which eggs on the wolf, will neutralize one another: and the course of nature will appear to be neither moral nor immoral, but non-moral.

This conclusion is thrust upon us by analogous facts in every part of the sentient world; yet, inasmuch as it not only jars upon prevalent prejudices, but arouses the natural dislike to that which is painful, much ingenuity has been exercised in devising an escape from it.

From the theological side, we are told that

this is a state of probation, and that the seeming injustices and immoralities of nature will be compensated by and by. But how this compensation is to be effected, in the case of the great majority of sentient things, is not clear. I apprehend that no one is seriously prepared to maintain that the ghosts of all the myriads of generations of herbivorous animals which lived during the millions of years of the earth's duration, before the appearance of man, and which have all that time been tormented and devoured by carnivores, are to be compensated by a perennial existence in clover; while the ghosts of carnivores are to go to some kennel where there is neither a pan of water nor a bone with any meat on it. Besides, from the point of view of morality, the last stage of things would be worse than the first. For the carnivores, however brutal and sanguinary, have only done that which, if there is any evidence of contrivance in the world, they were expressly constructed to do. Moreover, carnivores and herbivores alike have been subject to all the miseries incidental to old age, disease, and over-multiplication, and both might well put in a claim for "compensation" on this score.

On the evolutionist side, on the other hand, we are told to take comfort from the reflection that the terrible struggle for existence tends to final good, and that the suffering of the ancestor is paid for by the increased perfection of the progeny. There would be something in this argument if, in

Chinese fashion, the present generation could pay its debts to its ancestors; otherwise it is not clear what compensation the Eohippus gets for his sorrows in the fact that, some millions of years afterwards, one of his descendants wins the Derby. And, again, it is an error to imagine that evolution signifies a constant tendency to increased perfection. That process undoubtedly involves a constant remodelling of the organism in adaptation to new conditions; but it depends on the nature of those conditions whether the direction of the modifications effected shall be upward or downward. Retrogressive is as practicable as progressive metamorphosis. If what the physical philosophers tell us, that our globe has been in a state of fusion, and, like the sun, is gradually cooling down, is true; then the time must come when evolution will mean adaptation to an universal winter, and all forms of life will die out, except such low and simple organisms as the Diatom of the arctic and antarctic ice and the Protococcus of the red snow. If our globe is proceeding from a condition in which it was too hot to support any but the lowest living thing to a condition in which it will be too cold to permit of the existence of any others, the course of life upon its surface must describe a trajectory like that of a ball fired from a mortar; and the sinking half of that course is as much a part of the general process of evolution as the rising.

From the point of view of the moralist the

animal world is on about the same level as a gladiator's show. The creatures are fairly well treated, and set to fight—whereby the strongest, the swiftest, and the cunningest live to fight another day. The spectator has no need to turn his thumbs down, as no quarter is given. He must admit that the skill and training displayed are wonderful. But he must shut his eyes if he would not see that more or less enduring suffering is the meed of both vanquished and victor. And since the great game is going on in every corner of the world, thousands of times a minute; since, were our ears sharp enough, we need not descend to the gates of hell to hear—

. . . sospiri, pianti, ed alti guai. Voci alte e floche, e suon di man con elle

—it seems to follow that, if the world is governed by benevolence, it must be a different sort of benevolence from that of John Howard.

But the old Babylonians wisely symbolized Nature by their great goddess Istar, who combined the attributes of Aphrodite with those of Ares. Her terrible aspect is not to be ignored or covered up with shams; but it is not the only one. If the optimism of Leibnitz is a foolish though pleasant dream, the pessimism of Schopenhauer is a nightmare, the more foolish because of its hideousness. Error which is not pleasant is surely the worst form of wrong.

This may not be the best of all possible worlds, but to say that it is the worst is mere petulant nonsense. A worn-out voluptuary may find nothing good under the sun, or a vain and inexperienced youth, who cannot get the moon he cries for, may vent his irritation in pessimistic moanings; but there can be no doubt in the mind of any reasonable person that mankind could, would, and in fact do, get on fairly well with vastly less happiness and far more misery than find their way into the lives of nine people out of ten. If each and all of us had been visited by an attack of neuralgia, or of extreme mental depression, for one hour in every twenty-four—a supposition which many tolerably vigorous people know, to their cost, is not extravagant—the burden of life would have been immensely increased without much practical hindrance to its general course. Men with any manhood in them find life quite worth living under worse conditions than these.

There is another sufficiently obvious fact, which renders the hypothesis that the course of sentient nature is dictated by malevolence quite untenable. A vast multitude of pleasures, and these among the purest and the best, are superfluities, bits of good which are to all appearances unnecessary as inducements to live, and are, so to speak, thrown into the bargain of life. To those who experience them, few delights can be more entrancing than such as are afforded by natural

beauty, or by the arts, and especially by music; but they are products of, rather than factors in, evolution, and it is probable that they are known, in any considerable degree, to but a very small proportion of mankind.

The conclusion of the whole matter seems to be that, if Ormuzd has not had his way in this world, neither has Ahriman. Pessimism is as little consonant with the facts of sentient existence as optimism. If we desire to represent the course of nature in terms of human thought, and assume that it was intended to be that which it is, we must say that its governing principle is intellectual and not moral; that it is a materialized logical process, accompanied by pleasures and pains, the incidence of which, in the majority of cases, has not the slightest reference to moral desert. That the rain falls alike upon the just and the unjust, and that those upon whom the Tower of Siloam fell were no worse than their neighbours, seem to be Oriental modes of expressing the same conclusion.

In the strict sense of the word "nature," it denotes the sum of the phenomenal world, of that which has been, and is, and will be; and society, like art, is therefore a part of nature. But it is convenient to distinguish those parts of nature in which man plays the part of immediate cause, as some thing apart; and, therefore, society, like art,

is usefully to be considered as distinct from nature. It is the more desirable, and even necessary, to make this distinction, since society differs from nature in having a definite moral object; whence it comes about that the course shaped by the ethical man—the member of society or citizen—necessarily runs counter to that which the non-ethical man—the primitive savage, or man as a mere member of the animal kingdom—tends to adopt. The latter fights out the struggle for existence to the bitter end, like any other animal; the former devotes his best energies to the object of setting limits to the struggle.*

In the cycle of phenomena presented by the life of man, the animal, no more moral end is discernible than in that presented by the lives of the wolf and of the deer.

However imperfect the relics of prehistoric men may be, the evidence which they afford clearly tends to the conclusion that, for thousands and thousands of years, before the origin of the oldest known civilizations, men were savages of a very low type. They strove with their enemies and their competitors; they preyed upon things weaker or less cunning than themselves; they were born, multiplied without stint, and died, for thousands of generations alongside the mammoth, the urus, the lion, and the hyaena, whose lives were spent in the same way;

and they were no more to be praised or blamed on moral grounds, than their less erect and more hairy compatriots.

* [The reader will observe that this is the argument of the Romanes Lecture, in brief.—1894.]

As among these, so among primitive men, the weakest and stupidest went to the wall, while the toughest and shrewdest, those who were best fitted to cope with their circumstances, but not the best in any other sense, survived. Life was a continual free fight, and beyond the limited and temporary relations of the family, the Hobbesian war of each against all was the normal state of existence. The human species, like others, plashed and floundered amid the general stream of evolution, keeping its head above water as it best might, and thinking neither of whence nor whither.

The history of civilization—that is, of society—on the other hand, is the record of the attempts which the human race has made to escape from this position. The first men who substituted the state of mutual peace for that of mutual war, whatever the motive which impelled them to take that step, created society. But, in establishing peace, they obviously put a limit upon the struggle for existence. Between the members of that society, at any rate, it was not to be pursued a outrance. And of all the successive shapes which society has taken, that most nearly approaches perfection in which the war of individual against individual is most strictly limited.

The primitive savage, tutored by Istar, appropriated whatever took his fancy, and killed whomsoever opposed him, if he could. On the contrary, the ideal of the ethical man is to limit his freedom of action to a sphere in which he does not interfere with the freedom of others; he seeks the common weal as much as his own; and, indeed, as an essential part of his own welfare. Peace is both end and means with him; and he founds his life on a more or less complete self-restraint, which is the negation of the unlimited struggle for existence. He tries to escape from his place in the animal kingdom, founded on the free development of the principle of non-moral evolution, and to establish a kingdom of Man, governed upon the principle of moral evolution. For society not only has a moral end, but in its perfection, social life, is embodied morality.

But the effort of ethical man to work towards a moral end by no means abolished, perhaps has hardly modified, the deep-seated organic impulses which impel the natural man to follow his non-moral course. One of the most essential conditions, if not the chief cause, of the struggle for existence, is the tendency to multiply without limit, which man shares with all living things. It is notable that "increase and multiply" is a commandment traditionally much older than the ten; and that it is, perhaps, the only one which has been spontaneously and ex animo obeyed by

the great majority of the human race. But, in civilized society, the inevitable result of such obedience is the re-establishment, in all its intensity, of that struggle for existence—the war of each against all—the mitigation or abolition of which was the chief end of social organization.

It is conceivable that, at some perios in the history of the fabled Atlantis, the production of food should have been exactly sufficient to meet the wants of the population, that the makers of the commodities of the artificer should have amounted to just the number supportable by the surplus food of the agriculturists. And, as there is no harm in adding another monstrous supposition to the foregoing,

let it be imagined that every man, woman, and child was perfectly virtuous, and aimed at the good of all as the highest personal good. In that happy land, the natural man would have been finally put down by the ethical man. There would have been no competition, but the industry of each would have been serviceable to all; nobody being vain and nobody avaricious, there would have been no rivalries; the struggle for existence would have been abolished, and the millennium would have finally set in. But it is obvious that this state of things could have been permanent only with a stationary population. Add ten fresh mouths; and as, by the supposition, there was only exactly enough before, somebody must go on short rations. The

Atlantis society might have been a heaven upon earth, the whole nation might have consisted of just men, needing no repentance, and yet somebody must starve. Reckless Istar, non-moral Nature, would have riven the ethical fabric. I was once talking with a very eminent physician* about the vis medicatrix naturae. "Stuff!" said he; "nine times out of ten nature does not want to cure the man: she wants to put him in his coffin." And Istar-Nature appears to have equally little sympathy with the ends of society. "Stuff! she wants nothing but a fair field and free play for her darling the strongest."

* The late Sir W. Gull

Our Atlantis may be an impossible figment, but the antagonistic tendencies which the fable adumbrates have existed in every society which was ever established, and, to all appearance, must strive for the victory in all that will be. Historians point to the greed and ambition of rulers, to the reckless turbulence of the ruled, to the debasing effects of wealth and luxury, and to the devastating wars which have formed a great part of the occupation of mankind, as the causes of the decay of states and the foundering of old civilizations, and thereby point their story with a moral. No doubt immoral motives of all sorts have figured largely among the minor causes of these events. But beneath all this

superficial turmoil lay the deep-seated impulse given by unlimited multiplication. In the swarms of colonies thrown out by Phoenicia and by old Greece; in the ver sacrum of the Latin races; in the floods of Gauls and of Teutons which burst over the frontiers of the old civilization of Europe; in the swaying to and fro of the vast Mongolian hordes in late times, the population problem comes to the front in a very visible shape. Nor is it less plainly manifest in the everlasting agrarian questions of ancient Rome than in the Arreoi societies of the Polynesian Islands.

In the ancient world, and in a large part of that in which we live, the practice of infanticide was, or is, a regular and legal custom; famine, pestilence, and war were and are normal factors in the struggle for existence, and they have served, in a gross and brutal fashion, to mitigate the intensity of the effects of its chief cause.

But, in the more advanced civilizations, the progress of private and public morality has steadily tended to remove all these checks. We declare infanticide murder, and punish it as such; we decree, not quite so successfully, that no one shall die of hunger; we regard death from preventible causes of other kinds as a sort of constructive murder, and eliminate pestilence to the best of our ability; we declaim against the curse

of war, and the wickedness of the military spirit, and we are never weary of dilating on the blessedness of peace and the innocent beneficence of Industry. In their moments of expansion, even statesmen and men of business go thus far. The finer spirits look to an ideal civitas Dei; a state when, every man having reached the point of absolute self-negation, and having nothing but moral perfection to strive after, peace will truly reign, not merely among nations, but among men, and the struggle for existence will be at an end.

Whether human nature is competent, under any circumstances, to reach, or even seriously advance towards, this ideal condition, is a question which need not be discussed. It will be admitted that mankind has not yet reached this stage by a very

long way, and my business is with the present. And that which I wish to point out is that, so long as the natural man increases and multiplies without restraint, so long will peace and industry not only permit, but they will necessitate, a struggle for existence as sharp as any that ever went on under the regime of war. If Istar is to reign on the one hand, she will demand her human sacrifices on the other.

Let us look at home. For seventy years peace and industry have had their way among us with less interruption and under more favourable conditions than in any other country on the face of the earth. The wealth of Croesus was nothing to

that which we have accumulated, and our prosperity has filled the world with envy. But Nemesis did not forget Croesus: has she forgotten us?

I think not. There are now 36,000,000 of people in our islands, and every year considerably more than 300,000 are added to our numbers.* That is to say, about every hundred seconds, or so, a new claimant to a share in the common stock or maintenance presents him or herself among us. At the present time, the produce of the soil does not suffice to feed half its population. The other moiety has to be supplied with food which must be bought from the people of food-producing countries. That is to say, we have to offer them the things which they want in exchange for the things we want. And the things they want and which we can produce better than they can are mainly manufactures—industrial products.

* These numbers are only approximately accurate. In 1881, our population amounted to 35,241,482, exceeding the number in 1871 by 3,396,103. The average annual increase in the decennial. 1871—1881 is therefore 339,610. The number of minutes in a calendar year is 525,600.

The insolent reproach of the first Napoleon had a very solid foundation. We not only are, but, under penalty of starvation, we are bound to be, a nation of shopkeepers. But other nations also lie under the same necessity of keeping shop, and some of them deal in the same goods as ourselves. Our customers naturally seek to get the

most and

the best in exchange for their produce. If our goods are inferior to those of our competitors, there is no ground, compatible with the sanity of the buyers, which can be alleged, why they should not prefer the latter. And, if that result should ever take place on a large and general scale, five or six millions of us would soon have nothing to eat. We know what the cotton famine was; and we can therefore form some notion of what a dearth of customers would be.

Judged by an ethical standard, nothing can be less satisfactory than the position in which we find ourselves. In a real, though incomplete, degree we have attained the condition of peace which is the main object of social organization; and, for argument's sake, it may be assumed that we desire nothing but that which is in itself innocent and praiseworthy—namely, the enjoyment of the fruits of honest industry. And lo! in spite of ourselves, we are in reality engaged in an internecine struggle for existence with our presumably no less peaceful and well-meaning neighbours. We seek peace and we do not ensue it. The moral nature in us asks for no more than is compatible with the general good; the non-moral nature proclaims and acts upon that fine old Scottish family motto, "Thou shalt starve ere I want." Let us be under no illusions, then. So long as unlimited multiplication goes on, no social organization which has ever been devised, or is likely to

be devised, no fiddle-faddling with the distribution of wealth, will deliver society from the tendency to be destroyed by the reproduction within itself, in its intensest form, of that struggle for existence the limitation of which is the object of society. And however shocking to the moral sense this eternal competition of man against man and of nation against nation may be; however revolting may be the accumulation of misery at the negative pole of society, in contrast with that of monstrous wealth at the positive pole;* this state of things must abide, and grow continually worse, so long as Istar holds her way unchecked. It is the true riddle of

the Sphinx; and every nation which does not solve it will sooner or later be devoured by the monster itself has generated.

The practical and pressing question for us, just now, seems to me to be how to gain time. "Time brings counsel," as the Teutonic proverb has it; and wiser folk among our posterity may see their way out of that which at present looks like an impasse.

It would be folly to entertain any ill-feeling towards those neighbours and rivals who, like ourselves, are slaves of Istar; but, if somebody is to be starved, the modern world has no Oracle of Delphi to which the nations can appeal for an

indication of the victim. It is open to us to try our fortune; and, if we avoid impending fate, there will be a certain ground for believing that we are the right people to escape. Securus judicat orbis.

* [It is hard to say whether the increase of the unemployed poor, or that of the unemployed rich, is the greater social evil. — 1894}

To this end, it is well to look into the necessary condition of our salvation by works. They are two, one plain to all the world and hardly needing insistence; the other seemingly not so plain, since too often it has been theoretically and practically left out of sight. The obvious condition is that our produce shall be better than that of others. There is only one reason why our goods should be preferred to those of our rivals—our customers must find them better at the price. That means that we must use more knowledge, skill, and industry in producing them, without a proportionate increase in the cost of production; and, as the price of labour constitutes a large element in that cost, the rate of wages must be restricted within certain limits. It is perfectly true that cheap production and cheap labour are by no means synonymous; but it is also true that wages cannot increase beyond a certain proportion without destroying cheapness. Cheapness, then, with, as part and parcel of cheapness, a moderate price of labour, is essential to our success as competitors in the markets of the world.

The second condition is really quite as plainly indispensable as the first, if one thinks seriously

about the matter. It is social stability. Society is stable, when the wants of its members obtain as much satisfaction as, life being what it is, common sense and experience show may be reasonably expected. Mankind, in general, care very little for forms of government or ideal considerations of any sort; and nothing really stirs the great multitude to break with custom and incur the manifest perils of revolt except the belief that misery in this world, or damnation in the next, or both, are threatened by the continuance of the state of things in which they have been brought up. But when they do attain that conviction, society becomes as unstable as a package of dynamite, and a very small matter will produce the explosion which sends it back to the chaos of savagery.

It needs no argument to prove that when the price of labour sinks below a certain point, the worker infallibly falls into that condition which the French emphatically call la misere—a word for which I do not think there is any exact English equivalent. It is a condition in which the food, warmth, and clothing which are necessary for the mere maintenance of the functions of the body in their normal state cannot be obtained; in which men, women, and children are forced to crowd into dens wherein decency is abolished and the most ordinary conditions of healthful existence are impossible of attainment; in which the

pleasures within reach are reduced to bestiality and drunkenness; in which the pains accumulate at compound interest, in the shape of starvation, disease, stunted development, and moral degradation; in which the prospect of even steady and honest industry is a life of unsuccessful battling with hunger, rounded by a pauper's grave.

That a certain proportion of the members of every great aggregation of mankind should constantly tend to establish and populate such a Slough of Despond as this is

inevitable, so long as some people are by nature idle and vicious, while others are disabled by sickness or accident, or thrown upon the world by the death of their bread-winners. So long as that proportion is restricted within tolerable limits, it can be dealt with; and, so far as it arises only from such causes, its existence may and must be patiently borne. But, when the organization of society, instead of mitigating this tendency, tends to continue and intensify it; when a given social order plainly makes for evil and not for good, men naturally enough begin to think it high time to try a fresh experiment. The animal man, finding that the ethical man has landed him in such a slough, resumes his ancient sovereignty, and preaches anarchy; which is, substantially, a proposal to reduce the social cosmos to chaos, and begin the brute struggle for existence once again.

Any one who is acquainted with the state of

the population of all great industrial centres, whether in this or other countries, is aware that, amidst a large and increasing body of that population, la misere reigns supreme. I have no pretensions to the character of a philanthropist, and I have a special horror of all sorts of sentimental rhetoric; I am merely trying to deal with facts, to some extent within my own knowledge, and further evidenced by abundant testimony, as a naturalist; and I take it to be a mere plain truth that, throughout industrial Europe, there is not a single large manufacturing city which is free from a vast mass of people whose condition is exactly that described; and from a still greater mass who, living just on the edge of the social swamp, are liable to be precipitated into it by any lack of demand for their produce. And, with every addition to the population, the multitude already sunk in the pit and the number of the host sliding towards it continually increase.

Argumentation can hardly be needful to make it clear that no society in which the elements of decomposition are thus swiftly and surely accumulating can hope to win in the race of industries.

Intelligence, knowledge, and skill are undoubtedly conditions of success; but of what avail are they likely to be unless they are backed up by honesty, energy, goodwill, and all the physical and moral faculties that go to the making of manhood, and unless they are stimulated by hope of such

reward as men may fairly look to? And what dweller in the slough of want, dwarfed in body and soul, demoralized, hopeless, can reasonably be expected to possess these qualities?

Any full and permanent development of the productive powers of an industrial population, then, must be compatible with and, indeed, based upon a social organization which will secure a fair amount of physical and moral welfare to that population; which will make for good and not for evil. Natural science and religious enthusiasm rarely go hand in hand, but on this matter their concord is complete; and the least sympathetic of naturalists can but admire the insight and the devotion of such social reformers as the late Lord Shaftesbury, whose recently published "Life and Letters" gives a vivid picture of the condition of the working classes fifty years ago, and of the pit which our industry, ignoring these plain truths, was then digging under its own feet.

There is, perhaps, no more hopeful sign of progress among us, in the last half-century, than the steadily increasing devotion which has been and is directed to measures for promoting physical and moral welfare among the poorer classes. Sanitary reformers, like most other reformers whom I have had the advantage of knowing, seem to need a good dose of fanaticism, as a sort of moral coca, to keep them up to the mark, and, doubtless, they have made many mistakes; but that the

endeavour to improve the condition under our industrial population live, to amend the drainage of densely peopled streets, to provide baths, washhouses, and gymnasia, to facilitate habits of thrift, to furnish some provision for instruction and amusement in public libraries and the like, is not only desirable from a philanthropic

point of view, but an essential condition of safe industrial development, appears to me to be indisputable. It is by such means alone, so far as I can see, that we can hope to check the constant gravitation of industrial society towards la misere, until the general progress of intelligence and morality leads men to grapple with the sources of that tendency. If it is said that the carrying out of such arrangements as those indicated must enhance the cost of production, and thus handicap the producer in the race of competition, I venture, in the first place, to doubt the fact; but if it be so, it results that industrial society has to face a dilemma, either alternative of which threatens destruction.

On the one hand, a population the labour of which is sufficiently remunerated may be physically and morally healthy and socially stable, but may fail in industrial competition by reason of the dearness of its produce. On the other hand, a population the labour of which is insufficiently remunerated must become physically and morally unhealthy, and socially unstable; and though it

may succeed for a while in industrial competition, by reason of the cheapness of its produce, it must in the end fall, through hideous misery and degradation, to utter ruin.

Well, if these are the only possible alternatives, let us for ourselves and our children choose the former, and, if need be, starve like men. But I do not believe that the stable society made up of healthy, vigorous, instructed, and self-ruling people would ever incur serious risk of that fate. They are not likely to be troubled with many competitors of the same character, just yet; and they may be safely trusted to find ways of holding their own.

Assuming that the physical and moral well-being and the stable social order, which are the indispensable conditions of permanent industrial development, are secured, there remains for consideration the means of attaining that knowledge and skill without which, even then, the battle of competition cannot be successfully fought.

Let us consider how we stand. A vast system of elementary education has now been in operation among us for sixteen years, and has reached all but a very small fraction of the population. I do not think that there is any room for doubt that, on the whole, it has worked well, and that its indirect no less than its direct benefits have been immense. But, as might be expected, it exhibits the defects of all our educational systems—fashioned

as they were to meet the wants of a bygone condition of society. There is a widespread and, I think, well-justified complaint that it has too much to do with books and too little to do with things. I am as little disposed as any one can well be to narrow early education and to make the primary school a mere annexe of the shop. And it is not so much in the interests of industry, as in that of breadth of culture, that I echo the common complaint against the bookish and theoretical character of our primary instruction.

If there were no such things as industrial pursuits, a system of education which does nothing for the faculties of observation, which trains neither the eye nor the hand, and is compatible with utter ignorance of the commonest natural truths, might still be reasonably regarded as strangely imperfect. And when we consider that the instruction and training which are lacking are exactly; those which are of most importance for the great mass of our population, the fault becomes almost a crime, the more that there is no practical difficulty in making good these defects. There really is no reason why drawing should not be universally taught, and it is an admirable training for both eye and hand. Artists are born, not made; but everybody may be taught to draw elevations, plans, and sections; and pots and pans are as good, indeed better, models for

this purpose than the Apollo Belvedere. The plant is not expensive; and there is this excellent quality about drawing of the kind indicated, that it can be tested almost as easily and severely as arithmetic. Such drawings are either right or wrong, and if

they are wrong the pupil can be made to see that they are wrong. From the industrial point of view, drawing has the further merit that there is hardly any trade in which the power of drawing is not of daily and hourly utility. In the next place, no good reason, except the want of capable teachers, can be assigned why elementary notions of science should not be an element in general instruction. In this case, again, no expensive or elaborate apparatus is necessary. The commonest thing—a candle, a boy's squirt, a piece of chalk—in the hands of a teacher who knows his business, may be made the starting-point whence children may be led into the regions of science as far as their capacity permits, with efficient exercise of their observational and reasoning faculties on the road. If object lessons often prove trivial failures, it is not the fault of object lessons, but that of the teacher, who has not found out how much the power of teaching a little depends on knowing a great deal, and that thoroughly; and that he has not made that discovery is not the fault of the teachers, but of the detestable system of training them which is widely prevalent.*

* Training in the use of simple tools is no doubt desirable, on all grounds. From the point of view of "culture," the man whose "fingers are all thumbs" is but a stunted creature. But the practical difficulties in the way of introducing handiwork of this kind into elementary schools appear to me to be considerable.

As I have said, I do not regard the proposal to add these to the present subjects of universal instruction as made merely in the interests of industry. Elementary science and drawing are just as needful at Eton (where I am happy to say both are now parts of the regular course) as in the lowest primary school. But their importance in the education of the artisan is enhanced, not merely by the fact that the knowledge and skill thus gained—little as they may amount to—will still be of practical utility to him; but, further, because they constitute an introduction to that special training which is commonly called "technical education."

I conceive that our wants in this last direction may be grouped under three heads: (1)

Instruction in the principles of those branches of science and of art which are peculiarly applicable to industrial pursuits, which may be called preliminary scientific education. (2) Instruction in the special branches of such applied science and art, as technical education proper. (3) Instruction of teachers in both these branches. (4) Capacity-catching machinery.

A great deal has already been done in each of these directions, but much remains to be done. If elementary education is amended in the way

that has been suggested, I think that the school boards will have quite as much on their hands as they are capable of doing well. The influences under which the members of these bodies are elected do not tend to secure fitness for dealing with scientific or technical education; and it is the less necessary to burden them with an uncongenial task as there are other organizations, not only much better fitted to do the work, but already actually doing it.

In the matter of preliminary scientific education, the chief of these is the Science and Art Department, which has done more during the last quarter of a century for the teaching of elementary science among the masses of the people than any organization which exists either in this or in any other country. It has become veritably a people's university, so far as physical science is concerned. At the foundation of our old universities they were freely open to the poorest, but the poorest must come to them. In the last quarter of a century, the Science and Art Department, by means of its classes spread all over the country and open to all, has conveyed instruction to the poorest. The University Extension movement shows that our older learned corporations have discovered the propriety of following suit.

Technical education, in the strict sense, has become a necessity for two reasons. The old apprenticeship system has broken down, partly by

reason of the changed conditions of industrial life, and partly because trades have ceased to be "crafts," the traditional secrets whereof the master handed down to his

apprentices. Invention is constantly changing the face of our industries, so that "use and wont," "rule of thumb," and the like, are gradually losing their importance, while that knowledge of principles which alone can deal successfully with changed conditions is becoming more and more valuable. Socially, the "master" of four or five apprentices is disappearing in favour of the "employer" of forty, or four hundred, or four thousand, "hands," and the odds and ends of technical knowledge, formerly picked up in a shop, are not, and cannot be, supplied in the factory. The instruction formerly given by the master must therefore be more than replaced by the systematic teaching of the technical school.

Institutions of this kind on varying scales of magnitude and completeness, from the splendid edifice set up by the City and Guilds Institute to the smallest local technical school, to say nothing of classes, such as those in technology instituted by the Society of Arts (subsequently taken over by the City Guilds), have been established in various parts of the country, and the movement in favour of their increase and multiplication is rapidly growing in breadth and intensity. But there is much difference of opinion as to the best

way in which the technical instruction, so generally desired, should be given. Two courses appear to be practicable: the one is the establishment of special technical schools with a systematic and lengthened course of instruction demanding the employment of the whole time of the pupils. The other is the setting afoot of technical classes, especially evening classes, comprising a short series of lessons on some special topic, which may be attended by persons already earning wages in some branch of trade or commerce.

There is no doubt that technical schools, on the plan indicated under the first head, are extremely costly; and, so far as the teaching of artisans is concerned, it is very commonly objected to them that, as the learners do not work under trade conditions, they are apt to fall into amateurish habits, which prove of more hindrance than

service in the actual business of life. When such schools are attached to factories under the direction of an employer who desires to train up a supply of intelligent workmen, of course this objection does not apply; nor can the usefulness of such schools for the training of future employers and for the higher grade of the employed be doubtful; but they are clearly out of the reach of the great mass of the people, who have to earn their bread as soon as possible. We must therefore look to the classes, and especially to evening classes, as the great instrument for the technical education of the artisan. The utility of such classes has now been placed beyond all doubt; the only question which remains is to find the ways and means of extending them.

We are here, as in all other questions of social organization, met by two diametrically opposed views. On the one hand, the methods pursued in foreign countries are held up as our example. The State is exhorted to take the matter in hand and establish a great system of technical education. On the other hand, many economists of the individualist school exhaust the resources of language in condemning and repudiating, not merely the interference of the general government in such matters, but the application of a farthing of the funds raised by local taxation to these purposes. I entertain a strong conviction that, in this country, at any rate, the State had much better leave purely technical and trade instruction alone. But, although my personal leanings are decidedly towards the individualists, I have arrived at that conclusion on merely practical grounds. In fact, my individualism is rather of a sentimental sort, and I sometimes think I should be stronger in the faith if it were less vehemently advocated.* I am unable to see that civil society is anything but a corporation established for a moral object only—namely, the good of its members—and therefore that it may take such measures as seem fitting for the attainment of that which the general voice decides to be the general good. That the suffrage of the majority is by no

means a scientific test of social good and evil is unfortunately too true; but, in practice, it is the only test we can apply, and the refusal to abide by it means anarchy. The purest despotism that ever existed is as much based upon that will of the majority (which is usually submission to the will of a small minority) as the freest republic. Law is the expression of the opinion of the majority; and it is law, and not mere opinion, because the many are strong enough to enforce it.

* In what follows I am only repeating and emphasizing opinions which I expressed seventeen years ago, in an Address to the members of the Midland Institute (republished in Critiques and Addresses in 1873, and in Vol. I. of these Essays). I have seen no reason to modify them, notwithstanding high authority on the other side.

I am as strongly convinced as the most pronounced individualist can be, that it is desirable that every man should be free to act in every way which does not limit the corresponding freedom of his fellow-man. But I fail to connect that great induction of political science with the practical corollary which is frequently drawn from it: that the State—that is, the people in their corporate capacity—has no business to meddle with anything but the administration of justice and external defence. It appears to me that the

amount of freedom which incorporate society may fitly leave to its members is not a fixed quantity, to be determined a priori by deduction from the fiction called "natural rights"; but that it must be determined by, and vary with, circumstances. I conceive it to be demonstrable that the higher and the more complex the organization of the social body, the more closely is the life of each member bound up with that of the whole; and the larger becomes the category of acts which cease to be merely self-regarding, and which interfere with the freedom of others more or less seriously.

If a squatter, living ten miles away from any neighbour, chooses to burn his house down to get rid of vermin, there may be no necessity (in the absence of insurance

offices) that the law should interfere with his freedom of action; his act can hurt nobody but himself. But, if the dweller in a street chooses to do the same thing, the State very properly makes such a proceeding a crime, and punishes it as such. He does meddle with his neighbour's freedom, and that seriously. So it might, perhaps, be a tenable doctrine, that it would be needless, and even tyrannous, to make education compulsory in a sparse agricultural population, living in abundance on the produce of its own soil; but, in a densely populated manufacturing country, struggling for existence with competitors, every ignorant person tends to

become a burden upon, and, so far, an infringer of the liberty of, his fellows, and an obstacle to their success. Under such circumstances an education rate is, in fact, a war tax, levied for purposes of defence.

That State action always has been more or less misdirected, and always will be so, is, I believe, perfectly true. But I am not aware that it is more true of the action of men in their corporate capacity than it is of the doings of individuals. The wisest and most dispassionate man in existence, merely wishing to go from one stile in a field to the opposite, will not walk quite straight—he is always going a little wrong, and always correcting himself; and I can only congratulate the individualist who is able to say that his general course of life has been of a less undulatory character. To abolish State action, because its direction is never more than approximately correct, appears to me to be much the same thing as abolishing the man at the wheel altogether, because, do what he will, the ship yaws more or less. "Why should I be robbed of my property to pay for teaching another man's children?" is an individualist question, which is not unfrequently put as if it settled the whole business. Perhaps it does, but I find difficulties in seeing why it should. The parish in which I live makes me pay my share for the paving and lighting of a great many streets that I never pass through;

and I might plead that I am robbed to smooth the way and lighten the darkness of

other people. But I am afraid the parochial authorities would not let me off on this plea; and I must confess I do not see why they should.

I cannot speak of my own knowledge, but I have every reason to believe that I came into this world a small reddish person, certainly without a gold spoon in my mouth, and in fact with no discernible abstract or concrete "rights" or property of any description. If a foot was not set upon me, at once, as a squalling nuisance, it was either the natural affection of those about me, which I certainly had done nothing to deserve, or the fear of the law which, ages before my birth, was painfully built up by the society into which I intruded, that prevented that catastrophe. If I was nourished, cared for, taught, saved from the vagabondage of a wastrel, I certainly am not aware that I did anything to deserve those advantages. And, if I possess anything now, it strikes me that, though I may have fairly earned my day's wages for my day's work, and may justly call them my property—yet, without that organization of society, created out of the toil and blood of long generations before my time, I should probably have had nothing but a flint axe and an indifferent hut to call my own; and even those would be mine only so long as no stronger savage came my way.

So that if society, having, quite gratuitously,

done all these things for me, asks me in turn to do something towards its preservation—even if that something is to contribute to the teaching of other men's children—I really in spite of all my individualist leanings, feel rather ashamed to say no. And if I were not ashamed, I cannot say that I think that society would be dealing unjustly with me in converting the moral obligation into a legal one. There is a manifest unfairness in letting all the burden be borne by the willing horse.

It does not appear to me, then, that there is any valid objection to taxation for purposes of education; but, in the case of technical schools and classes, I think it is practically expedient that such a taxation should be local. Our industrial population accumulates in particular towns and districts; these districts are those which

immediately profit by technical education; and it is only in them that we can find the men practically engaged in industries, among whom some may reasonably be expected to be competent judges of that which is wanted, and of the best means of meeting the want.

In my belief, all methods of technical training are at present tentative, and, to be successful, each must be adapted to the special peculiarities of its locality. This is a case in which we want twenty years, not of "strong government," but of cheerful and hopeful blundering; and we may be

thankful if we get things straight in that time.

The principle of the Bill introduced, but dropped, by the Government last session, appears to me to be wise, and some of the objections to it I think are due to a misunderstanding. The bill proposed in substance to allow localities to tax themselves for purposes of technical education—on the condition that any scheme for such purpose should be submitted to the Science and Art Department, and declared by that department to be in accordance with the intention of the Legislature.

A cry was raised that the Bill proposed to throw technical education into the hands of the Science and Art Department. But, in reality, no power of initiation, nor even of meddling with details, was given to that Department—the sole function of which was to decide whether any plan proposed did or did not come within the limits of "technical education." The necessity for such control, somewhere, is obvious. No legislature, certainly not ours, is likely to grant the power of self-taxation without setting limits to that power in some way; and it would neither have been practicable to devise a legal definition of technical education, nor commendable to leave the question to the Auditor-General, to be fought out in the law-courts. The only alternative was to leave the decision to an appropriate State authority. If it is

asked what is the need of such control if the people of the localities are the best judges, the obvious reply is that there are localities and localities, and that while

Manchester, or Liverpool, or Birmingham, or Glasgow might, perhaps, be safely left to do as they thought fit, smaller towns, in which there is less certainty of full discussion by competent people of different ways of thinking, might easily fall a prey to crocheteers.

Supposing our intermediate science teaching and our technical schools and classes are established, there is yet a third need to be supplied, and that is the want of good teachers. And it is necessary not only to get them, but to keep them when you have got them.

It is impossible to insist too strongly upon the fact that the efficient teachers of science and of technology are not to be made by the processes in vogue at ordinary training colleges. The memory loaded with mere bookwork is not the thing wanted—is, in fact, rather worse than useless—in the teacher of scientific subjects. It is absolutely essential that his mind should be full of knowledge and not of mere learning, and that what he knows should have been learned in the laboratory rather than in the library. There are happily already, both in London and in the provinces, various places in which such training is to be had, and the main thing at present is to make it in the first place accessible, and in the next

indispensable, to those who undertake the business of teaching. But when the well-trained men are supplied, it must be recollected that the profession of teacher is not a very lucrative or otherwise tempting one, and that it may be advisable to offer special inducements to good men to remain in it. These, however, are questions of detail into which it is unnecessary to enter further.

Last, but not least, comes the question of providing the machinery for enabling those who are by nature specially qualified to undertake the higher branches of industrial work, to reach the position in which they may render that service to the community. If all our educational expenditure did nothing but pick one man of scientific or inventive genius, each year, from amidst the hewers of wood and drawers of water,

and give him the chance of making the best of his inborn faculties, it would be a very good investment. If there is one such child among the hundreds of thousands of our annual increase, it would be worth any money to drag him either from the slough of misery, or from the hotbed of wealth, and teach him to devote himself to the service of his people. Here, again, we have made a beginning with our scholarships and the like, and need only follow in the tracks already worn.

The programme of industrial development briefly set forth in the preceding pages is not what Kant calls a "Hirngespinnst," a cobweb

spun in the brain of a Utopian philosopher. More or less of it has taken bodily shape in many parts of the country, and there are towns of no great size or wealth in the manufacturing districts (Keighley, for example) in which almost the whole of it has, for some time, been carried out, so far as the means at the disposal of the energetic and public-spirited men who have taken the matter in hand permitted. The thing can be done; I have endeavoured to show good grounds for the belief that it must be done, and that speedily, if we wish to hold our own in the war of industry. I doubt not that it will be done, whenever its absolute necessity becomes as apparent to all those who are absorbed in the actual business of industrial life as it is to some of the lookers on.

Perhaps it is necessary for me to add that technical education is not here proposed as a panacea for social diseases, but simply as a medicament which will help the patient to pass through an imminent crisis.

An ophthalmic surgeon may recommend an operation for cataract in a man who is going blind, without being supposed to undertake that it will cure him of gout. And I may pursue the metaphor so far as to remark, that the surgeon is justified in pointing out that a diet of pork-chops and burgundy will probably kill his patient, though he may be quite able to suggest a mode of living

which will free him from his constitutional disorder.

Mr. Booth asks me, Why do you not propose some plan of your own? Really, that is no answer to my argument that his treatment will make the patient very much worse. [Note added in Social Diseases and Worse Remedies, January, 1891.]

LETTERS TO THE "Times" ON THE "DARKEST ENGLAND SCHEME." I.

The "Times," December 1st, 1890

SIR: A short time ago a generous and philanthropic friend wrote to me, placing at my disposal a large sum of money for the furtherance of the vast scheme which the "General" of the Salvation Army has propounded, if I thought it worthy of support. The responsibility of advising my benevolent correspondent has weighed heavily upon me, but I felt that it would be cowardly, as well as ungracious, to refuse to accept it. I have therefore studied Mr. Booth's book with some care, for the purpose of separating the essential from the accessory features of his project, and I have based my judgment—I am sorry to say an unfavourable one—upon the data thus obtained. Before communicating my conclusions to my friend, however, I am desirous to know what there may be to be said in arrest of that judgment;

and the matter is of such vast public importance that I trust you will aid me by publishing this letter, notwithstanding its length.

There are one or two points upon which I imagine all thinking men have arrived at the same convictions as those from which Mr. Booth starts. It is certain that there is an immense amount of remediable misery among us, that, in addition to the poverty, disease, and degradation which are the consequences of causes beyond human control, there is a vast, probably a very much larger, quantity of misery which is the result of individual ignorance, or misconduct, and of faulty social arrangements. Further, I think it is not to be doubted that, unless this remediable misery is effectually dealt with, the hordes of vice and pauperism will destroy modern civilization as effectually as uncivilized tribes of another kind destroyed the great social organization which preceded ours. Moreover, I think all will agree that no

reforms and improvements will go to the root of the evil unless they attack it in its ultimate source—namely, the motives of the individual man. Honest, industrious, and self-restraining men will make a very bad social organization prosper; while vicious, idle, and reckless citizens will bring to ruin the best that ever was, or ever will be, invented.

The leading propositions which are peculiar to Mr. Booth I take to be these:—

(1) That the only adequate means to such reformation of the individual man is the adoption of that form of somewhat corybantic Christianity of which the soldiers of the Salvation Army are the militant missionaries. This implies the belief that the excitement of the religious emotions (largely by processes described by their employers as "rousing" and "convivial") is a desirable and trustworthy method of permanently amending the conduct of mankind.

I demur to these propositions. I am of opinion that the testimony of history, no less than the cool observation of that which lies within the personal experience of many of us, is wholly adverse to it. (2) That the appropriate instrument for the propagation and maintenance of this peculiar sacramental enthusiasm is the Salvation Army—a body of devotees, drilled and disciplined as a military organization, and provided with a numerous hierarchy of officers, every one of whom is pledged to blind and unhesitating obedience to the "General," who frankly tells us that the first condition of the service is "implicit, unquestioning obedience." "A telegram from me will send any of them to the uttermost parts of the earth"; every one "has taken service on the express condition that he or she will obey, without questioning, or gainsaying, the orders from headquarters" ("Darkest England," p. 243).

This proposition seems to me to be indisputable. History confirms it. Francis of Assisi and Ignatius Loyola made their great experiments on the same principle. Nothing is more certain than that a body of religious enthusiasts (perhaps we may even say fanatics) pledged to blind obedience to their chief, is one of the most

efficient instruments for effecting any purpose that the wit of man has yet succeeded in devising. And I can but admire the insight into human nature which has led Mr. Booth to leave his unquestioning and unhesitating instruments unbound by vows. A volunteer slave is worth ten sworn bondsmen.

(3) That the success of the Salvation Army, with its present force of 9416 officers "wholly engaged in the work," its capital of three quarters of a million, its income of the same amount, its 1375 corps at home, and 1499 in the colonies and foreign countries (Appendix, pp. 3 and 4), is a proof that Divine assistance has been vouchsafed to its efforts.

Here I am not able to agree with the sanguine Commander-in-chief of the new model, whose labours in creating it have probably interfered with his acquisition of information respecting the fate of previous enterprises of like kind.

It does not appear to me that his success is in any degree more remarkable than that of Francis of Assisi or that of Ignatius Loyola, than that

of George Fox, or even than that of the Mormons, in our own time. When I observe the discrepancies of the doctrinal foundations from which each of these great movements set out, I find it difficult to suppose that supernatural aid has been given to all of them; still more, that Mr. Booth's smaller measure of success is evidence that it has been granted to him.

But what became of the Franciscan experiment?* If there was one rule rather than another on which the founder laid stress, it was that his army of friars should be absolute mendicants, keeping themselves sternly apart from all worldly entanglements. Yet, even before the death of Francis, in 1226, a strong party, headed by Elias of Cortona, the deputy of his own appointment, began to hanker after these very things; and, within thirty years of that time, the Franciscans had become one of the most powerful, wealthy, and worldly corporations in Christendom, with their fingers in every sink of political and social corruption, if so be profit for the order

could be fished out of it; their principal interest being to fight their rivals, the Dominicans, and to persecute such of their own brethren as were honest enough to try to carry out their founder's plainest injunctions. We also know what has become of Loyola's experiment. For two centuries the Jesuits have been the hope of the enemies of the Papacy; whenever it becomes too prosperous, they are sure to bring about a catastrophe by their corrupt use of the political and social influence which their organization and their wealth secure.

* See note pp. 245-247}

With these examples of that which may happen to institutions founded by noble men, with high aims, in the hands of successors of a different stamp, armed with despotic authority, before me, common prudence surely requires that, before advising the handing over of a large sum of money to the general of a new order of mendicants, I should ask what guarantee there is that, thirty years hence, the "General" who then autocratically controls the action, say, of 100,000 officers pledged to blind obedience, distributed through the whole length and breadth of the poorer classes, and each with his finger on the trigger of a mine charged with discontent and religious fanaticism; with the absolute control, say, of eight or ten millions sterling of capital and as many of income; with barracks in every town, with estates scattered over the country, and with settlements in the colonies—will exercise his enormous powers, not merely honestly, but wisely? What shadow of security is there that the person who wields this uncontrolled authority over many thousands of men shall use it solely for those philanthropic and religious objects which, I do not doubt, are alone in the mind of Mr. Booth? Who is to say that the Salvation Army, in the year

1920, shall not be a replica of what the Franciscan order had become in the year 1260?

The personal character and the intentions of the founders of such organizations as

we are considering count for very little in the formation of a forecast of their future; and if they did, it is no disrespect to Mr. Booth to say that he is not the peer of Francis of Assisi. But if Francis's judgment of men was so imperfect as to permit him to appoint an ambitious intriguer of the stamp of Brother Elias his deputy, we have no right to be sanguine about the perspicacity of Mr. Booth in a like matter.

Adding to all these considerations the fact that Mr. Llewelyn Davies, the warmth of whose philanthropy is beyond question, and in whose competency and fairness I, for one, place implicit reliance, flatly denies the boasted success of the Salvation Army in its professed mission, I have arrived at the conclusion that, as at present advised, I cannot be the instrument of carrying out my friend's proposal.

Mr. Booth has pithily characterized certain benevolent schemes as doing sixpennyworth of good and a shilling's worth of harm. I grieve to say that, in my opinion, the definition exactly fits his own project. Few social evils are of greater magnitude than uninstructed and unchastened religious fanaticism; no personal habit more surely degrades the conscience and the intellect than

blind and unhesitating obedience to unlimited authority. Undoubtedly, harlotry and intemperance are sore evils, and starvation is hard to bear, or even to know of; but the prostitution of the mind, the soddening of the conscience, the dwarfing of manhood are worse calamities. It is a greater evil to have the intellect of a nation put down by organized fanaticism; to see its political and industrial affairs at the mercy of a despot whose chief thought is to make that fanaticism prevail; to watch the degradation of men, who should feel themselves individually responsible for their own and their country's fates, to mere brute instruments, ready to the hand of a master for any use to which he may put them.

But that is the end to which, in my opinion, all such organizations as that to which kindly people, who do not look to the consequences of their acts, are now giving their thousands, inevitably tend. Unless clear proof that I am wrong is furnished,

another thousand shall not be added by my instrumentality.

I am, Sir, your obedient servant, T. H. Huxley.

NOTE.

An authoritative contemporary historian, Matthew Paris, writes thus of the Minorite, or Franciscan, Friars in England in 1235, just nine years after the death of Francis of Assisi:—

"At this time some of the Minorite brethren, as well as some of the Order of Preachers, unmindful of their profession and the restrictions of their order, impudently entered the territories of some noble monasteries, under pretense of fulfilling their duties of preaching, as if intending to depart after preaching the next day. Under pretence of sickness, or on some other pretext, however, they remained, and, constructing an altar of wood, they placed on it a consecrated stone altar, which they had brought with them, and clandestinely and in a low voice performed mass, and even received the confessions of many of the parishioners, to the prejudice of the priests. And if by chance they were not satisfied with this, they broke forth in insults and threats, reviling every other order except their own, and asserting that all the rest were doomed to damnation, and that they would not spare the soles of their feet till they had exhausted the wealth of their opposers, however great it might be. The religious men, therefore, gave way to them in many points, yielding to avoid scandal, and offending those in power. For they were the councillors and messengers of the nobles, and even secretaries of the Pope, and therefore obtained much

secular favour. Some, however, finding themselves opposed by the Court of Rome, were restrained by obvious reasons, and went away in confusion; for the Supreme Pontiff, with a scowling look, said to them, 'What means this, my brethren? To what lengths are you going? Have you not professed voluntary poverty, and that you would traverse towns and castles and distant places, as the case required, barefooted and unostentatiously, in order to preach the word of God in all humility? And do you

now presume to usurp these estates to yourselves against the will of the lords of these fees? Your religion appears to be in a great measure dying away, and your doctrines to be confuted."

Under date of 1243, Matthew writes:—

"For three or four hundred years or more the monastic order did not hasten to destruction so quickly as their order [Minorites and Preachers] of whom now the brothers, twenty-four years having scarcely elapsed, had first built in England dwellings which rivalled regal palaces in height. These are they who daily expose to view their inestimable treasures, in enlarging their sumptuous edifices, and erecting lofty walls, thereby impudently transgressing the limits of their original poverty and violating the basis of their religion, according to the prophecy of German Hildegarde. When noblemen and rich men are at the point of death, whom they know to be possessed of great riches, they, in their love of gain, diligently urge them, to the injury and loss of the ordinary pastors, and extort confessions and hidden wills, lauding themselves and their own order only,

and placing themselves before all others. So no faithful man now believes he can be saved, except he is directed by the counsels of the Preachers and Minorites."—Matthew Paris's English History. Translated by the Rev. J. A. Giles, 1889, Vol. I.

II

The "Times," December 9th, 1890

Sir,—The purpose of my previous letter about Mr. Booth's scheme was to arouse the contributors to the military chest of the Salvation Army to a clear sense of what they are doing. I thought it desirable that they should be distinctly aware that they are setting up and endowing a sect, in many ways analogous to the "Ranters" and "Revivalists" of undesirable notoriety in former times; but with this immensely important difference, that it possesses a strong, far-reaching, centralized

organization, the disposal of the physical, moral, and financial strength of which rests with an irresponsible chief, who, according to his own account, is assured of the blind obedience of nearly 10,000 subordinates. I wish them to ask themselves, Ought prudent men and good citizens to aid in the establishment of an organization which, under sundry, by no means improbable, contingencies, may easily become a worse and more

dangerous nuisance than the mendicant friars of the middle ages? If this is an academic question, I really do not know what questions deserve to be called practical. As you divined, I purposely omitted any consideration of the details of the Salvationist scheme, and of the principles which animate those who work it, because I desired that the public appreciation of the evils, necessarily inherent in all such plans of despotic social and religious regimentation should not be obscured by the raising of points of less comparative, however great absolute, importance.

But it is now time to undertake a more particular criticism of "Darkest England." At the outset of my examination of that work, I was startled to find that Mr. Booth had put forward his scheme with an almost incredibly imperfect knowledge of what had been done and is doing in the same direction. A simple reader might well imagine that the author of "Darkest England" posed as the Columbus, or at any rate the Cortez, of that region. "Go to Mudie's," he tells us, and you will be surprised to see how few books there are upon the social problem. That may or may not be correct; but if Mr. Booth had gone to a certain reading-room not far from Mudie's, I undertake to say that the well-informed and obliging staff of the national library in Bloomsbury would have provided him with more books on this topic, in almost all European languages, than he would

read in three months. Has socialism no literature? And what is socialism but an incarnation of the social question? Moreover, I am persuaded that even "Mudie's" resources could have furnished Mr. Booth with the "Life of Lord Shaftesbury" and

Carlyle's works. Mr. Booth seems to have undertaken to instruct the world without having heard of "Past and Present" or of "Latter-Day Pamphlets"; though, somewhat late in the day, a judicious friend calls his attention to them. To those of my contemporaries on whom, as on myself, Carlyle's writings on this topic made an ineffaceable impression forty years ago, who know that, for all that time, hundreds of able and devoted men, both clerical and lay, have worked heart and soul for the permanent amendment of the condition of the poor, Mr. Booth's "Go to Mudie's" affords an apt measure of the depth of his preliminary studies. However, I am bound to admit that these earlier labourers in the field laboured in such a different fashion, that the originality of the plan started by Mr. Booth remains largely unaffected. For them no drums have beat, no trombones brayed; no sanctified buffoonery, after the model of the oration of the Friar in Wallenstein's camp dear to the readers of Schiller, has tickled the ears of the groundlings on their behalf. Sadly behind the great age of rowdy self-advertisement in which their lot has fallen, they seem not to have advanced one whit

beyond John the Baptist and the Apostles, 1800 years ago, in their notions of the way in which the metanoia, the change of mind of the ill-doer, is to be brought about. Yet the new model was there, ready for the imitation of those ancient savers of souls. The ranting and roaring mystagogues of some of the most venerable of Greek and Syrian cults also had their processions and banners, their fifes and cymbals and holy chants, their hierarchy of officers to whom the art of making collections was not wholly unknown; and who, as freely as their modern imitators, promised an Elysian future to contributory converts. The success of these antique Salvation armies was enormous. Simon Magus was quite as notorious a personage, and probably had as strong a following as Mr. Booth. Yet the Apostles, with their old-fashioned ways, would not accept such a success as a satisfactory sign of the Divine sanction, nor depart from their own methods of leading the way to the higher life.

I deem it unessential to verify Mr. Booth's statistics. The exact strength of the population of the realm of misery, be it one, two, or three millions, has nothing to do with the efficacy of any means proposed for the highly desirable end of reducing it to a minimum. The sole question for consideration at present is whether the scheme, keeping specially in view the spirit in which it is to be worked, is likely to do more good than harm.

Mr. Booth tells us, with commendable frankness, that "it is primarily and mainly for the sake of saving the soul that I seek the salvation of the body" (p. 45), which language, being interpreted, means that the propagation of the special Salvationist creed comes first, and the promotion of the physical, intellectual, and purely moral welfare of mankind second in his estimation. Men are to be made sober and industrious, mainly, that, as washed, shorn, and docile sheep, they may be driven into the narrow theological fold which Mr. Booth patronizes. If they refuse to enter, for all their moral cleanliness, they will have to take their place among the goats as sinners, only less dirty than the rest.

I have been in the habit of thinking (and I believe the opinion is largely shared by reasonable men) that self-respect and thrift are the rungs of the ladder by which men may most surely climb out of the slough of despond of want; and I have regarded them as perhaps the most eminent of the practical virtues. That is not Mr. Booth's opinion. For him they are mere varnished sins—nothing better than "Pride re-baptised" (p. 46). Shutting his eyes to the necessary consequences of the struggle for life, the existence of which he accepts as fully as any Darwinian,* Mr. Booth tells men, whose evil case is one of those consequences, that envy is a corner-stone of our

competitive system. With thrift and self-respect denounced as sin, with the suffering of starving men referred to the sins of the capitalist, the gospel according to Mr. Booth may save souls, but it will hardly save society.

* See p. 100

In estimating the social and political influence which the Salvation Army is likely to exert, it is important to reflect that the officers (pledged to blind obedience to their "General") are not to confine themselves to the functions of mere deacons and catechists (though, under a "General" like Cyril, Alexandria knew to her cost what even they could effect); they are to be "tribunes of the people," who are to act as their gratuitous legal advisers; and, when law is not sufficiently effective, the whole force of the army is to obtain what the said tribunes may conceive to be justice, by the practice of ruthless intimidation. Society, says Mr. Booth, needs "mothering"; and he sets forth, with much complacency, a variety of "cases," by which we may estimate the sort of "mothering" to be expected at his parental hands. Those who study the materials thus set before them will, I think, be driven to the conclusion that the "mother" has already proved herself a most unscrupulous meddler, even if she has not fallen within reach of the arm of the law.

Consider this "case." A, asserting herself to have been seduced twice, "applied to our people. We hunted up the man, followed him to the country,

threatened him with public exposure, and forced from him the payment to his victim of [Pounds] 60 down, an allowance of [Pounds] 1 a week, and an insurance policy on his life for [Pounds] 450 in her favour" (p. 222) .

Jedburgh justice this. We "constitute ourselves prosecutor, judge, jury, sheriff's officer, all in one;" we "practice intimidation as deftly as if we were a branch of another League; and, under threat of exposure," we "extort a tolerably heavy hush-money in payment of our silence. "

Well, really, my poor moral sense is unable to distinguish these remarkable proceedings of the new popular tribunate from what, in French, is called chantage and, in plain English, blackmailing. And when we consider that anybody, for any reason of jealousy, or personal spite, or party hatred, might be thus "hunted,"

"followed," "threatened," and financially squeezed or ruined, without a particle of legal investigation, at the will of a man whom the familiar charged with the inquisitorial business dare not hesitate to obey, surely it is not unreasonable to ask how far does the Salvation Army, in its "tribune of the people" aspect, differ from a Sicilian Mafia? I am no apologist of men guilty of the acts charged against the person who yet, I think, might be as fairly called a "victim," in this case, as his partner in wrong-doing. It is possible that, in so peculiar a case, Solomon himself might have been puzzled

to apportion the relative moral delinquency of the parties. However that may be, the man was morally and legally bound to support his child, and any one would have been justified in helping the woman to her legal rights, and the man to the legal consequences (in which exposure is included) of his fault.

The action of the "General" of the Salvation Army in extorting the heavy fine he chose to impose as the price of his silence, however excellent his motives, appears to me to be as immoral as, I hope, it is illegal.

So much for the Salvation Army as a teacher of questionable ethics and of eccentric economics, as the legal adviser who recommends and practices the extraction of money by intimidation, as the fairy godmother who proposes to "mother" society, in a fashion which is not to my taste, however much it may commend itself to some of Mr. Booth's supporters.

I am, Sir, your obedient servant, T. H. Huxley.

III The "Times," December 11th, 1890

Sir,—When I first addressed you on the subject of the projected operations of the Salvation Army, all that I knew about that body was derived from the study of Mr. Booth's book, from common repute, and from occasional attention to the sayings and doings of his noisy squadrons, with which my walks about London, in past years, have made me familiar. I was quite unaware of the existence of evidence respecting

the present administration of the Salvation forces, which would have enabled me to act upon the sagacious maxim of the American humourist, "Don't prophesy unless you know." The letter you were good enough to publish has brought upon me a swarm of letters and pamphlets. Some favour me with abuse; some thoughtful correspondents warmly agree with me, and then proceed to point out how much worthier certain schemes of their own are of my friend's support; some send valuable encouragement, for which I offer my hearty thanks, and ask them to excuse any more special acknowledgment. But that which I find most to the purpose, just now, is the revelation made by some of the documents which have reached me, of a fact of which I was wholly ignorant—namely, that

persons who have faithfully and zealously served in the Salvation Army, who express unchanged attachment to its original principles and practice, and who have been in close official relations with the "General" have publicly declared that the process of degradation of the organization into a mere engine of fanatical intolerance and personal ambition, which I declared was inevitable, has already set in and is making rapid progress.

It is out of the question, Sir, that I should occupy the columns of the "Times" with a detailed exposition and criticism of these pieces justificatives of my forecast. I say criticism, because the assertions of persons who have quitted any society must, in fairness, be taken with the caution that is required in the case of all ex parte statements of hostile witnesses. But it is, at any rate, a notable fact that there are parts of my first letter, indicating the inherent and necessary evil consequences of any such organization, which might serve for abstracts of portions of this evidence, long since printed and published under the public responsibility of the witnesses.

Let us ask the attention of your readers, in the first place, to "An ex-Captain's Experience of the Salvation Army," by J. J. R. Redstone, the genuineness of which is guaranteed by the preface (dated April 5th, 1888) which the Rev. Dr. Cunningham

Geikie has supplied. Mr. Redstone's story is well worth reading on its own account.

Told in simple, direct language such as John Bunyan might have used, it permits no doubt of the single-minded sincerity of the man, who gave up everything to become an officer of the Salvation Army, but, exhibiting a sad want of that capacity for unhesitating and blind obedience on which Mr. Booth lays so much stress, was thrown aside, penniless—no, I am wrong, with 2s. 4d. for his last week's salary—to shift, with his equally devoted wife, as he best might. I wish I could induce intending contributors to Mr. Booth's army chest to read Mr. Redstone's story. I would particularly ask them to contrast the pure simplicity of his plain tale with the artificial pietism and slobbering unction of the letters which Mr. Ballington Booth addresses to his "dear boy" (a married man apparently older than himself), so long as the said "dear boy" is facing brickbats and starvation, as per order.

I confess that my opinion of the chiefs of the Salvation Army has been so distinctly modified by the perusal of this pamphlet that I am glad to be relieved from the necessity of expressing it. It will be much better that I should cite a few sentences from the preface written by Dr. Cunningham Geikie, who expresses warm admiration for the early and uncorrupted work of the Salvation Army, and cannot possibly be accused of prejudice against it on religious grounds:— (1) "The Salvation Army is emphatically a

family concern. Mr. Booth, senior, is General; one son is chief of the staff, and the remaining sons and daughters engross the other chief positions. It is Booth all over; indeed, like the sun in your eyes, you can see nothing else wherever you turn. And, as Dr. Geikie shrewdly remarks, 'to be the head of a widely spread sect carries with it many advantages—not all exclusively spiritual.'"

(2) "Whoever becomes a Salvation officer is henceforth a slave, helplessly exposed to the caprice of his superiors."

"Mr. Redstone bore an excellent character both before he entered the army and when

he left it. To join it, though a married man, he gave up a situation which he had held for five years, and he served Mr. Booth two years, working hard in most difficult posts. His one fault, Major Lawley tells us, was, that he was 'too straight'—that is, too honest, truthful, and manly—or, in other words, too real a Christian. Yet without trial, without formulated charges, on the strength of secret complaints which were never, apparently, tested, he was dismissed with less courtesy than most people would show a beggar—with 2s. 4d. for his last week's salary. If there be any mistake in this matter, I shall be glad to learn it." (3) Dr. Geikie confirms, on the ground of information given confidentially by other officers,

Mr. Redstone's assertion that they are watched and reported by spies from headquarters.

(4) Mr. Booth refuses to guarantee his officers any fixed amount of salary. While he and his family of high officials live in comfort, if not in luxury, the pledged slaves whose devotion is the foundation of any true success the Army has met with often have "hardly food enough to sustain life. One good fellow frankly told me that when he had nothing he just went and begged."

At this point, it is proper that I should interpose an apology for having hastily spoken of such men as Francis of Assisi, even for purposes of warning, in connection with Mr. Booth. Whatever may be thought of the wisdom of the plans of the founders of the great monastic orders of the middle ages, they took their full share of suffering and privation, and never shirked in their own persons the sacrifices they imposed on their followers.

I have already expressed the opinion, that whatever the ostensible purpose of the scheme under discussion, one of its consequences will be the setting up and endowment of a new Ranter-Socialist sect. I may now add that another effect will be—indeed, has been—to set up and endow the Booth dynasty with unlimited control of the physical, moral, and financial resources of the sect. Mr. Booth is

already a printer and publisher, who, it is plainly declared, utilizes the officers of the Army as agents for advertising and selling his publications; and some of them are so strongly impressed with the belief that active pushing of Mr. Booth's business is the best road to their master's favour, that when the public obstinately refuse to purchase his papers they buy them themselves and send the proceeds to headquarters. Mr. Booth is also a retail trader on a large scale, and the Dean of Wells has, most seasonably, drawn attention to the very notable banking project which he is trying to float. Any one who follows Dean Plumptre's clear exposition of the principles of this financial operation can have little doubt that, whether they are, or are not, adequate to the attainment of the first and second of Mr. Booth's ostensible objects, they may be trusted to effect a wide extension of any kingdom in which worldly possessions are of no value. We are, in fact, in sight of a financial catastrophe like that of Law a century ago. Only it is the poor who will suffer.

I have already occupied too much of your space, and yet I have drawn upon only one of the sources of information about the inner working of the Salvation Army at my disposition. Far graver charges than any here dealt with are publicly brought in the others.

I am, Sir, your obedient servant, T. H. Huxley.

P.S.— I have just read Mr. Buchanan's letter in the Times of to-day. Mr. Buchanan is, I believe, an imaginative writer. I am not acquainted with his works, but nothing in the way of fiction he has yet achieved can well surpass his account of my opinions and of the purport of my writings.

IV

The "Times" December 20th, 1890

Sir,—In discussing Mr. Booth's projects I have hitherto left in the background a distinction which must be kept well in sight by those who wish to form a fair judgment of the influence, for good or evil, of the Salvation Army. Salvationism, the

work of "saving souls" by revivalist methods, is one thing; Boothism, the utilization of the workers for the furtherance of Mr. Booth's peculiar projects, is another. Mr. Booth has captured, and harnessed with sharp bits and effectual blinkers, a multitude of ultra-Evangelical missionaries of the revivalist school who were wandering at large. It is this skilfully, if somewhat mercilessly, driven team which has dragged the "General's" coach-load of projects into their present position.

Looking, then, at the host of Salvationists proper, from the "captains" downwards (to whom, in my judgment, the family hierarchy stands in the relation of the Old Man of the Sea to Sinbad), as an independent entity, I desire to say that the evidence before me, whether hostile or friendly to the General and his schemes, is distinctly favourable to them. It exhibits them as, in the main, poor, uninstructed, not unfrequently fanatical, enthusiasts, the purity of whose lives, the sincerity of whose belief, and the cheerfulness of whose endurance of privation and rough usage, in what they consider a just cause, command sincere respect. For my part, though I conceive the corybantic method of soul-saving to be full of dangers, and though the theological speculations of these good people are to me wholly unacceptable, yet I believe that the evils which must follow in the track of such errors, as of all other errors, will be largely outweighed by the moral and social improvement of the people whom they convert. I would no more raise my voice against them (so long as they abstain from annoying their neighbours) than I would quarrel with a man, vigorously sweeping out a stye, on account of the shape of his broom, or because he made a great noise over his work. I have always had a strong faith in the principle of the injunction, "Thou shalt not muzzle the ox that treadeth out the corn." If a kingdom is worth a Mass, as a great

ruler said, surely the reign of clean living, industry, and thrift is worth any quantity of tambourines and eccentric doctrinal hypotheses. All that I have hitherto said, and propose further to say, is directed against Mr. Booth's extremely clever, audacious, and hitherto successful attempt to utilize the credit won by all this honest devotion

and self-sacrifice for the purposes of his socialistic autocracy.

I now propose to bring forward a little more evidence as to how things really stand where Mr. Booth's system has had a fair trial. I obtain it, mainly, from a curious pamphlet, the title of which runs: "The New Papacy. Behind the Scenes in the Salvation Army," by an ex-Staff Officer. "Make not my Father's house a house of merchandise" (John ii. 16). 1889. Published at Toronto, by A. Britnell. On the cover it is stated that "This is the book which was burned by the authorities of the Salvation Army." I remind the reader, once more, that the statements which I shall cite must be regarded as ex parte; all I can vouch for is that, on grounds of internal evidence and from other concurrent testimony respecting the ways of the Booth hierarchy, I feel justified in using them.

This is the picture the writer draws of the army in the early days of its invasion of the Dominion of Canada:—

"Then, it will be remembered, it professed to be the humble handmaid of the existing churches; its professed object was the evangelization of the masses. It repudiated the idea of building up a separate religious body, and it denounced the practice of gathering together wealth and the accumulation of property. Men and women other than its own converts gathered around it and threw themselves heart and soul into the work, for the simple reason that it offered, as they supposed, a more extended and widely open field for evangelical effort. Ministers everywhere were invited and welcomed to its platforms, majors and colonels were few and far between, and the supremacy and power of the General were things unknown . . . Care was taken to avoid anything like proselytism; its converts were never coerced into joining its ranks... In a word, the organization occupied the position of an auxiliary mission and recruiting agency for the various religious bodies.... The meetings were crowded, people professed conversion by the score, the public liberally supplied the means to carry on the work in their respective communities; therefore every corps was wholly

self-supporting, its officers were properly, if not luxuriously, cared for, the local expenditure was amply provided, and, under the supervision of the secretary, a local member, and the officer in charge, the funds were disbursed in the towns where they were collected, and the

spirit of satisfaction and confidence was mutual all around" (pp. 4, 5).

Such was the army as the green tree. Now for the dry:—

"Those who have been daily conversant with the army's machinery are well aware how entirely and radically the whole system has changed, and how, from a band of devoted and disinterested workers, united in the bonds of zeal and charity for the good of their fellows, it has developed into a colossal and aggressive agency for the building up of a system and a sect, bound by rules and regulations altogether subversive of religious liberty and antagonistic to every (other?) branch of Christian endeavour, and bound hand and foot to the will of one supreme head and ruler.... As the work has spread through the country, and as the area of its endeavours has enlarged, each leading position has been filled, one after the other, by individuals strangers to the country, totally ignorant of the sentiments and idiosyncrasies of the Canadian people, trained in one school under the teachings and dominance of a member of the Booth family, and out of whom every idea has been crushed, except that of unquestioning obedience to the General, and the absolute necessity of going forward to his bidding without hesitation or question" (p. 6).

"What is the result of all this? In the first place, whilst material prosperity has undoubtedly been attained, spirituality has been quenched, and, as an evangelical agency, the army has become almost a dead letter... In seventy-five per cent of its stations its officers suffer need and privation, chiefly on account of the heavy taxation that is placed upon them to maintain an imposing headquarters and a large ornamental staff. The whole financial arrangements are carried on by a system of inflation and a hand-to-mouth extravagance and blindness as to future contingencies.

Nearly all of its original workers and members have disappeared" (p. 7). "In reference to the religious bodies at large the army has become entirely antagonistic. Soldiers are forbidden by its rules to attend other places of worship without the permission of their officers... Officers or soldiers who may conscientiously leave the service or the ranks are looked upon and often denounced publicly as backsliders... Means of the most despicable description have been resorted to in order to starve them back to the service" (p. 8). "In its inner workings the army system is identical with Jesuitism... That 'the end justifies the means,' if not openly taught, is as tacitly agreed as in that celebrated order" (p. 9).

Surely a bitter, overcharged, anonymous libel, is the reflection which will occur to many who read

these passages, especially the last. Well, I turn to other evidence which, at any rate, is not anonymous. It is contained in a pamphlet entitled "General Booth, the Family, and the Salvation Army, showing its Rise, Progress, and Moral and Spiritual Decline," by S. H. Hodges, LL.B., late Major in the Army, and formerly private secretary to General Booth (Manchester, 1890). I recommend potential contributors to Mr. Booth's wealth to study this little work also. I have learned a great deal from it. Among other interesting novelties, it tells me that Mr. Booth has discovered "the necessity of a third step or blessing, in the work of Salvation. He said to me one day, 'Hodges, you have only two barrels to your gun; I have three'" (p. 31). And if Mr. Hodges's description of this third barrel is correct—"giving up your conscience" and, "for God and the army, stooping to do things which even honourable worldly men would not consent to do" (p. 32)—it is surely calculated to bring down a good many things, the first principles of morality among them.

Mr. Hodges gives some remarkable examples of the army practice with the "General's" new rifle. But I must refer the curious to his instructive pamphlet. The position I am about to take up is a serious one; and I prefer to fortify it by the help of

evidence which, though some of it may be anonymous, cannot be sneered away. And I shall

be believed, when I say that nothing but a sense of the great social danger of the spread of Boothism could induce me to revive a scandal, even though it is barely entitled to the benefit of the Statute of Limitations.

On the 7th of July, 1883, you, Sir, did the public a great service by writing a leading article on the notorious "Eagle" case, from which I take the following extract:—

"Mr. Justice Kay refused the application, but he was induced to refuse it by means which, as Mr. Justice Stephen justly remarked, were highly discreditable to Mr. Booth. Mr. Booth filed an affidavit which appears totally to have misled Mr. Justice Kay, as it would have misled any one who regarded it as a frank and honest statement by a professed teacher of religion."

When I addressed my first letter to you I had never so much as heard of the "Eagle" scandal. But I am thankful that my perception of the inevitable tendency of all religious autocracies towards evil was clear enough to bring about a provisional condemnation of Mr. Booth's schemes in my mind. Supposing that I had decided the other way, with what sort of feeling should I have faced my friend, when I had to confess that the money had passed into the absolute control of a person about the character of whose administration this

concurrence of damnatory evidence was already extant?

I have nothing to say about Mr. Booth personally, for I know nothing. On that subject, as on several others, I profess myself an agnostic. But, if he is, as he may be, a saint actuated by the purest of motives, he is not the first saint who, as you have said, has shown himself "in the ardour of prosecuting a well-meant object" to be capable of overlooking "the plain maxims of every-day morality." If I were a Salvationist soldier, I should cry with Othello, "Cassio, I love thee; but never more be officer of mine."

I am, Sir, your obedient servant, T. H. Huxley.

V

The "Times," December 24th, 1890—

Sir,—If I have any strong points, finance is certainly not one of them. But the financial, or rather fiscal, operations of the General of the Salvation Army, as they are set forth and exemplified in "The New Papacy," possess that grand simplicity which is the mark of genius;

and even I can comprehend them—or, to be more modest, I can portray them in such a manner that every lineament, however harsh, and every shade, however dark, can be verified by published evidence.

Suppose there is a thriving, expanding colonial town, and that, scattered among its artisans and labourers, there is a sprinkling of Methodists, or other such ultra-evangelical good people, doing their best, in a quiet way, to "save souls." Clearly, this is an outpost which it is desirable to capture. "We," therefore, take measures to get up a Salvation "boom" of the ordinary pattern. Enthusiasm is roused. A score or two of soldiers are enlisted into the ranks of the Salvation Army. "We" select the man who promises to serve our purposes best, make a "captain" of him, and put him in command of the "corps." He is very pleased and grateful; and indeed he ought to be. All he has done is that he has given up his trade; that he has promised to work at least nine hours a day in our service (none of your eight-hour nonsense for us) as collector, bookseller, general agent, and anything else we may order him to be. "We," on the other hand, guarantee him nothing whatever; to do so might weaken his faith and substitute worldly for spiritual ties between us. Knowing that, if he exerts himself in a right spirit, his labours will surely be blessed, we content ourselves with telling him that if, after all

expenses are paid and our demands are satisfied each week, 25s. remains, he may take it. And, if nothing remains, he may take that, and stay his stomach with what

the faithful may give him. With a certain grim playfulness, we add that the value of these contributions will be reckoned as so much salary. So long as our "captain" is successful, therefore, a beneficent spring of cash trickles unseen into our treasury; when it begins to dry up we say, "God bless you, dear boy," turn him adrift (with or without 2s. 4d. in his pocket), and put some other willing horse in the shafts.

The "General," I believe, proposes, among other things, to do away with "sweating." May he not as well set a good example by beginning at home? My little sketch, however, looks so like a monstrous caricature that, after all, I must produce the original from the pages of my Canadian authority. He says that a "captain" "has to pay 10 per cent. of all collections and donations to the divisional fund for the support of his divisional officer, who has also the privilege of arranging for such special meetings as he shall think fit, the proceeds of which he takes away for the general needs of the division. Headquarters, too, has the right to hold such special meetings at the corps and send around such special attractions as its wisdom sees fit, and to take away the proceeds for the purposes it decides upon.

He has to pay the rent of his building, either to headquarters or a private individual; he has to send the whole collection of the afternoon meeting of the first Sunday in the month to the 'Extension Fund' at headquarters; he has to pay for the heating, lighting, and cleaning of his hall, together with such necessary repairs as may be needed; he has to provide the food, lodging, and clothing of his cadet, if he has one; headquarters taxes him with so many copies of the army papers each week, for which he has to pay, sold or unsold; and when he has done this, he may take $6 (or $5, being a woman), or such proportion of it as may be left, with which to clothe and feed himself and to pay the rent and provide for the heating and lighting of his quarters. If he has a lieutenant he has to pay him $6 per week, or such proportion of it as he himself gets, and share the house expenses with him. Now, it will be easily understood that at least 60 per cent. of the stations in Canada the officer gets no money at all, and he has to beg specially amongst his people for his house-rent and

food. There are few places in the Dominion in which the soldiers do not find their officers in all the food they need; but it must be remembered that the value of the food so received has to be accounted for at headquarters and entered upon the books of the corps as cash received, the amount being deducted from any moneys that the officer is able to take from the

week's collections. So that, no matter how much may be specially given, the officer cannot receive more than the value of $6 per week. The officer cannot collect any arrears of salary, as each week has to pay its own expenses; and if there is any surplus cash after all demands are met it must be sent to the 'war chest' at headquarters."—"The New Papacy" (pp. 35, 36).

Evidently, Sir, "headquarters" has taken to heart the injunction about casting your bread upon the waters. It casts the crumb of a day or two's work of an emissary, and gets back any quantity of loaves of cash, so long as "captains" present themselves to be used up and replaced by new victims. What can be said of these devoted poor fellows except, O sancta simplicitas!

But it would be a great mistake to suppose that the money-gathering efficacy of Mr. Booth's fiscal agencies is exhausted by the foregoing enumeration of their regular operations. Consider the following edifying history of the "Rescue Home" in Toronto:—

"It is a fine building in the heart of the city; the lot cost $7,000, and a building was put up at a cost of $7,000 more, and there is a mortgage on it amounting to half the cost of the whole. The land to-day would probably fetch double its original price, and every year enhances its value....In the first five months of its

existence this institution received from the public an income of $1,812 70c.; out of this $600 was paid to headquarters for rent, $590 52c. was spent upon the building in various ways, and the balance of $622 18c. paid the salaries of the staff and supported the inmates" (pp. 24, 25).

Said I not truly that Mr. Booth's fisc bears the stamp of genius? Who else could have got the public to buy him a "corner lot," put a building upon it, pay all its working expenses: and then, not content with paying him a heavy rent for the use of the handsome present they had made him, they say not a word against his mortgaging it to half its value? And, so far as any one knows, there is nothing to stop headquarters from selling the whole estate tomorrow, and using the money as the "General" may direct.

Once more listen to the author of "The New Papacy," who affirms that "out of the funds given by the Dominion for the evangelization of the people by means of the Salvation Army, one sixth had been spent in the extension of the Kingdom of God, and the other five sixths had been invested in valuable property, all handed over to Mr. Booth and his heirs and assigns, as we have already stated" (p. 26).

And this brings me to the last point upon which I wish to touch. The answer to all inquiries as to what has become of the enormous

personal and real estate which has been given over to Mr. Booth is that it is held "in trust." The supporters of Mr. Booth may feel justified in taking that statement "on trust." I do not. Anyhow, the more completely satisfactory this "trust" is, the less can any man who asks the public to put blind faith in his integrity and his wisdom object to acquaint them exactly with its provisions. Is the trust drawn up in favour of the Salvation Army? But what is the legal status of the Salvation Army? Have the soldiers any claim? Certainly not. Have the officers any legal interest in the "trust"? Surely not. The "General" has taken good care to insist on their renouncing all claims as a condition of their appointment. Thus, to all appearance, the army, as a legal person, is identical with Mr. Booth. And, in that case, any "trust" ostensibly for the benefit of the army is—what shall we say that is at once accurate and polite?

I conclude with these plain questions—Will Mr. Booth take counsel's opinion as to whether there is anything in such legal arrangements as he has at present made

which prevents him from disposing of the wealth he has accumulated at his own will and pleasure? Will anybody be in a position to set either the civil or the criminal law in motion against him or his successors if he or they choose to spend every farthing in ways very different from those contemplated by the donors?

I may add that a careful study of the terms of a "Declaration of Trust by William Booth in favour of the Christian Mission," made in 1878, has not enabled persons of much greater competence than myself to answer these questions satisfactorily.*

I am, Sir, your obedient servant, T. H. Huxley. * See Preface to this volume, pp. ix-xiii.

On December 24th a letter appeared in the "Times" signed "J. S. Trotter," in which the following passages appear:—

"It seems a pity to put a damper on the spirits of those who agree with Professor Huxley in his denunciation of General Booth and all his works. May I give a few particulars as to the 'book' which was published in Canada? I had the pleasure of an interview with the author of a book written in Canada. The book was printed at Toronto, and two copies only struck off by the printers; one of these copies was stolen from the printer, and the quotation sent to you by Professor Huxley was inserted in the book, and is consequently a forgery. The book was published without the consent and against the will of the author.

"So the quotation is not only 'a bitter, overcharged anonymous libel,' as Professor Huxley intimates, but a forgery as well. As to Mr. Hodges, it seems to me to be simply trifling with your readers to bring him in as an authority. He was turned out of the army, out of kindness taken on again, and again dismissed. If this had happened to one of your staff, would his opinion of the 'Times' as a newspaper be taken for gospel?"

But in the "Times" of December 29th Mr. J. S. Trotter writes:—

"I find I was mistaken in saying, in my letter of Wednesday, to the 'Times' that Mr.

Hodges was dismissed from the service of General Booth, and regret any inconvenience the statement may have caused to Mr. Hodges."

And on December 30th the "Times" published a letter from Mr. Hodges in which he says that Mr. Trotter's statements as they regard himself "are the very reverse of truth.—I was never turned out of the Salvation Army. Nor, so far as I was made acquainted with General Booth's motives, was I taken on again out of kindness. In order to rejoin the Salvation Army, I resigned the position of manager in a mill where I was in

receipt of a salary of [Pounds] 250 per annum, with house-rent and one third of the profits. Instead of this Mr. Booth allowed me [Pounds] 2 per week and house-rent."

VI

The "Times," December 26th, 1890

Sir,—I am much obliged to Mr. J. S. Trotter for the letter which you published this morning. It furnishes evidence, which I much desired to possess on the following points:— 1. The author of "The New Papacy" is a responsible, trustworthy person; otherwise Mr. Trotter would not speak of having had "the pleasure of an interview" with him. 2. After this responsible person had taken the trouble to write a pamphlet of sixty-four closely printed pages, some influence was brought to bear upon him, the effect of which was that he refused his consent to its publication. Mr. Trotter's excellent information will surely enable him to tell us what influence that was. 3. How does Mr. Trotter know that any passage I have quoted is an interpolation? Does he possess that other copy of the "two" which alone, as he affirms, were printed?

4. If so, he will be able to say which of the passages I have cited is genuine and which is not; and whether the tenor of the whole uninterpolated copy differs in any important respect from that of the copy I have quoted.

It will be interesting to hear what Mr. J. S. Trotter has to say upon these points. But the really important thing which he has done is that he has testified, of his own

knowledge, that the anonymous author of "The New Papacy" is no mere irresponsible libeller, but a person of whom even an ardent Salvationist has to speak with respect.

I am, Sir, your obedient servant, T. H. Huxley.

[I may add that the unfortunate Mr. Trotter did me the further service of eliciting the letter from Mr. Hodges referred to on p. 277—which sufficiently establishes that gentleman's credit, and leads me to attach full weight to his evidence about the third barrel.]

January, 1891.

VII

The "Times," December 27th, 1890

SIR,—In making use of the only evidence of the actual working of Mr. Booth's autocratic government accessible to me, I was fully aware of the slippery nature of the ground upon which I was treading. For, as I pointed out in my first letter, "no personal habit more surely degrades the conscience and the intellect than blind and unhesitating obedience to unlimited authority." Now we have it, on Mr. Booth's own showing that every officer of his has undertaken to "obey without questioning or gainsaying the orders from headquarters." And the possible relations of such orders to honour and veracity are demonstrated not only by the judicial deliverance on Mr. Booth's affidavit in the "Eagle" case, which I have already cited; not only by Mr. Bramwell Booth's admission before Mr. Justice Lopes that he had stated what was "not quite correct" because he had "promised Mr. Stead not to divulge" the facts of the case (the "Times," November 4th, 1885); but by the following passage in Mr. Hodges's account of the reasons of his withdrawal from the Salvation Army:—

"The general and Chief did not and could

not deny doing these things; the only question was this, Was it right to practise this deception? These points of difference were fully discussed between myself and the

Chief of the Staff on my withdrawal, especially the Leamington incident, which was the one that finally drove me to decision. I had come to the conclusion, from the first, that they had acted as they supposed with a single eye to the good of God's cause, and had persuaded myself that the things were, as against the devil, right to be done, that as in battle one party captured and turned the enemy's own guns upon them, so, as they were fighting against the devil, it would be fair to use against him his weapons. And I wrote to this effect to the "General" (p. 63)."

Now, I do not wish to say anything needlessly harsh, but I ask any prudent man these questions. Could I, under these circumstances, trust any uncorroborated statement emanating from headquarters, or made by the General's order? Had I any reason to doubt the truth of Mr. Hodges's naive confession of the corrupting influence of Mr. Booth's system? And did it not behove me to pick my way carefully through the mass of statements before me, many of them due to people whose moral sense might, by possibility, have been as much blunted by the army discipline in the use of the weapons of the devil as Mr. Hodges affirms that his was?

Therefore, in my third letter, I commenced my illustrations of the practical working of Boothism with the evidence of Mr. Redstone, fortified and supplemented by that of a non-Salvationist, Dr. Cunningham Geikie. That testimony has not been challenged, and, until it is, I shall assume that it cannot be. In my fourth letter, I cited a definite statement by Mr. Hodges in evidence of the Jesuitical principles of headquarters. What sort of answer is it to tell us that Mr. Hodges was dismissed the army? A child might expect that some such red herring would be drawn across the trail; and, in anticipation of the stale trick, I added the strong prima facie evidence of the trustworthiness of my witness, in this particular, which is afforded by the "Eagle" case. It was not until I wrote my fourth letter to you, Sir—until the exploitation of the "captains" and the Jesuitry of headquarters could be proved up to the hilt—that I ventured to have recourse to "The New Papacy." So far as the

pamphlet itself goes, this is an anonymous work; and, for sufficient reasons, I did not choose to go beyond what was to be found between its covers. To any one accustomed to deal with the facts of evolution, the Boothism of "The New Papacy" was merely the natural and necessary development of the Boothism of Mr. Redstone's case and of the

"Eagle" case. Therefore, I felt fully justified in using it, at the same time carefully warning my readers that it must be taken with due caution.

Mr. Trotter's useful letter admits that such a book was written by a person with whom he had the "pleasure of an interview," and that a version of it (interpolated, according to his assertion) was published against the will of the author. Hence I am justified in believing that there is a foundation of truth in certain statements, some of which have long been in my possession, but which for lack of Mr. Trotter's valuable corroboration I have refrained from using. The time is come when I can set forth some of the heads of this information, with the request that Mr. Trotter, who knows all about the business, will be so good as to point out any error that there may be in them. I am bound to suppose that his sole object, like mine, is the elucidation of the truth, and to assume his willingness to help me therein to the best of his ability. 1. "The author of 'The New Papacy' is a Mr. Sumner, a person of perfect respectability, and greatly esteemed in Toronto, who held a high position in the Army. When he left, a large public meeting, presided over by a popular Methodist minister, passed a vote of sympathy with him."

Is this true or false?

2. "On Saturday last, about noon, Mr. Sumner, the author of the book, and Mr. Fred Perry, the Salvation Army printer, accompanied by a lawyer, went down to Messrs. Imrie and Graham's establishment, and asked for all the manuscript, stereotype plates, &c., of the book. Mr. Sumner explained that the book had been sold to the Army, and, on a cheque for the amount due being given, the printing material was

delivered up."

Did these paragraphs appear in the "Toronto Telegram" of April 24th, 1889, or did they not? Are the statements they contain true or false?

3. "Public interest in the fate or probable outcome of that mysterious book called 'The New Papacy; or, Behind the Scenes in the Salvation Army,' continues unabated, though the line of proceedings by the publisher and his solicitor, Mr. Smoke, of Watson, Thorne, Smoke, and Masten, has not been altered since yesterday. The book, no doubt, will be issued in some form. So far as known, only one complete copy remains, and the whereabouts of this is a secret which will be profoundly kept. It is safe to say that if the Commissioner kept on guessing until the next anniversary, he would not strike the secluded

location of the one volume among five thousand which escaped, when he and his assistant, Mr. Fred Perry, believed they had cast every vestige of the forbidden work into the fiery furnace. On Tuesday last, when the discovery was made that a copy of 'The New Papacy' was in existence, Publisher Britnell, of Yonge Street, was at once the suspected holder, and in a short time his book-store was the resort of army agents sent to reconnoitre" ("Toronto News," April 28th, 1889).

Is this a forgery, or is it not? Is it in substance true or false?

When Mr. Trotter has answered these inquiries categorically, we may proceed to discuss the question of interpolations in Mr. Sumner's book.

I am, Sir, your obedient servant, T. H. Huxley.

[On the 26th of December a letter, signed J. T. Cunningham, late Fellow of University College, Oxford, called forth the following commentary.]

VIII

The "Times," December 29th, 1890—

Sir,—If Mr. Cunningham doubts the efficacy of the struggle for existence, as a

factor in social conditions, he should find fault with Mr. Booth and not with me.

"I am labouring under no delusion as to the possibility of inaugurating the millennium by my social specific. In the struggle of life the weakest will go to the wall, and there are so many weak. The fittest in tooth and claw will survive. All that we can do is to soften the lot of the unfit, and make their suffering less horrible than it is at present" ("In Darkest England," p. 44).

That is what Mr. Cunningham would have found if he had read Mr. Booth's book with attention. And, if he will bestow equal pains on my second letter, he will discover that he has interpolated the word "wilfully" in his statement of my "argument," which runs thus: "Shutting his eyes to the necessary consequences of the struggle for life, the existence of which he admits as fully as any Darwinian, Mr. Booth tells men whose evil case is one of those consequences that envy is a corner-stone of our competitive system." Mr.

Cunningham's physiological studies will have informed him that the process of "shutting the eyes," in the literal sense of the words, is not always wilful; and I propose to illustrate, by the crucial instance his own letter furnishes, that the "shutting of the eyes" of the mind to the obvious consequences of accepted propositions may also be involuntary. At least, I hope so. 1. "Sooner or later," says Mr. Cunningham, "the population problem will block the way once more." What does this mean, except that multiplication, excessive in relation to the contemporaneous means of support, will create a severe competition for those means? And this seems to me to be a pretty accurate "reflection of the conceptions of Malthus" and the other poor benighted folks of a past generation at whom Mr. Cunningham sneers. 2. By way of leaving no doubt upon this subject, Mr. Cunningham further tells us, "The struggle for existence is always going on, of course; let us thank Darwin for making us realize it." It is pleasant to meet with a little gratitude to Darwin among the epigoni who are squabbling over the heritage he

conquered for them, but Mr. Cunningham's personal expression of that feeling is hasty. For it is obvious that he has not "realized" the significance of Darwin's teaching—indeed, I fail to discover in Mr. Cunningham's letter any sign that he has even "realized" what

he would be at. If the "struggle for existence is always going on"; and if, as I suppose will be granted, industrial competition is one phase of that struggle, I fail to see how my conclusion that it is sheer wickedness to tell ignorant men that "envy" is a corner-stone of competition can be disputed.

Mr. Cunningham has followed the lead of that polished and instructed person, Mr. Ben Tillett, in rebuking me for (as the associates say) attacking Mr. Booth's personal character. Of course, when I was writing, I did not doubt that this very handy, though not too clean, weapon would be used by one or other of Mr. Booth's supporters. And my action was finally decided by the following considerations: I happen to be a member of one of the largest life insurance societies. There is a vacancy in the directory at present, for which half a dozen gentlemen are candidates. Now, I said to myself, supposing that one of these gentlemen (whose pardon I humbly beg for starting the hypothesis), say Mr. A., in his administrative capacity and as a man of business, has been the subject of such observations as a Judge on the Bench bestowed upon Mr. Booth, is he a person for whom I can properly vote? And, if I find, when I go to the meeting of the policy-holders, that most of them know nothing of this and other evidences of what, by the mildest judgment, must be termed Mr. A.'s unfitness for administrative

responsibilities, am I to let them remain in their ignorance? I leave the answer and its application to men of sense and integrity.

The mention of Mr. Cunningham's ally reminds me that I have omitted to thank Mr. Tillett for his very useful and instructive letter; and I hasten to repair a neglect which I assure Mr. Tillett was more apparent than real. Mr. Tillett's letter is dated

December 20th. On the 21st the following pregnant (however unconscious) commentary upon it appeared in "Reynolds's Newspaper":-

"I have always maintained that the Salvation Army is one of the mightiest Socialistic agencies in the country; and now Professor Huxley comes in to confirm that view. How could it be otherwise? The fantastic religious side of Salvationism will disappear in the course of time, and what will be left? A large number of men and women who have been organized, disciplined, and taught to look for something better than their present condition, and who have become public speakers and not afraid of ridicule. There you have the raw materials for a Socialist army."

Mr. Ben Tillett evidently knows Latin enough to construe proximus ardet.

I trust that the public will not allow themselves to be led away by the false issues which are

dangled before them. A man really may love his fellow-men; cherish any form of Christianity he pleases; and hold not only that Darwinism is "tottering to its fall," but, if he pleases, the equally sane belief that it never existed; and yet may feel it his duty to oppose, to the best of his capacity, despotic Socialism in all its forms, and, more particularly, in its Boothian disguise.

I am, Sir, your obedient servant, T.H. Huxley.

[Persons who have not had the advantage of a classical education might fairly complain of my use of the word epigoni. To say truth, I had been reading Droysen's "Geschichte des Hellenismus," and the familiar historical title slipped out unawares. In replying to me, however, the late "Fellow of University College," Oxford, declares he had to look the word out in a Lexicon. I commend the fact to the notice of the combatants over the desirability of retaining the present compulsory modicum of Greek in our Universities.]

IX.

The "Times," December 30th, 1890

Sir,—I am much obliged to Messrs. Ranger, Burton, and Matthews for their prompt answer to my questions. I presume it applies to all money collected by the agency of the Salvation Army, though not specifically given for the purposes of the "Christian Mission" named in the deed of 1878; to all sums raised by mortgage upon houses and land so given; and, further, to funds subscribed for Mr. Booth's various projects, which have no apparent reference to the objects of the "Christian Mission" as defined in the deed. Otherwise, to use a phrase which has become classical, "it does not assist us much." But I must leave these points to persons learned in the law.

And, indeed, with many thanks to you, Sir, for the amount of valuable space which you have allowed me to occupy, I now propose to leave the whole subject. My sole purpose in embarking upon an enterprise which was extremely distasteful to me was to prevent the skilful "General," or rather "Generals," who devised the plan of campaign from sweeping all before them with a rush. I found the pass already held by such stout defenders as Mr. Loch and the Dean

of Wells, and, with your powerful help, we have given time for the reinforcements, sure to be sent by the abundant, though somewhat slowly acting, common sense of our countrymen, to come up.

I can no longer be useful, and I return to more congenial occupations.

I am, Sir, your obedient servant, T. H. Huxley.

The following letter appeared in the "Times" of January 2nd, 1891:—

"Dear Mr. Tillett,—I have not had patience to read Professor Huxley's letters. The existence of hunger, nakedness, misery, 'death from insufficient food,' even of starvation, is certain, and no agency as yet reaches it. How can any man hinder or discourage the giving of food or help? Why is the house called a workhouse? Because it is for those who cannot work? No, because it was the house to give work or bread. The very name is an argument. I am very sure what Our Lord and His Apostles would do if they were in London. Let us be thankful even to have a will to

do the same.

"Yours faithfully, Henry E. Card. Manning."

X.

The "Times," January 3rd, 1891

SIR,—In my old favourite, "The Arabian Nights," the motive of the whole series of delightful narratives is that the sultan, who refuses to attend to reason, can be got to listen to a story. May I try whether Cardinal Manning is to be reached in the same way? When I was attending the meeting of the British Association in Belfast nearly forty years ago, I had promised to breakfast with the eminent scholar Dr. Hincks. Having been up very late the previous night, I was behind time; so, hailing an outside car, I said to the driver as I jumped on, "Now drive fast, I am in a hurry." Whereupon he whipped up his horse and set off at a hand-gallop. Nearly jerked off my seat, I shouted, "My good friend, do you know where I want to go?" "No, yer honner," said the driver, "but, any way, I am driving fast." I have never forgotten this object-lesson in the dangers of ill-regulated enthusiasm. We are all invited to jump on to the Salvation Army car, which Mr. Booth is undoubtedly driving very fast. Some of us have a firm conviction, not only that he is taking a very different direction from that in which we wish to go, but that, before long, car and driver will come to grief. Are we to accept

the invitation, even at the bidding of the eminent person who appears to think himself entitled to pledge the credit of "Our Lord and His Apostles" in favour of Boothism?

I am, Sir, your obedient servant, T. H. Huxley.

XI.

The "Times," January 13th, 1891

SIR,—A letter from Mr. Booth-Clibborn, dated January 3rd, appeared in the

"Times" of yesterday. This elaborate document occupies three columns of small print—space enough, assuredly, for an effectual reply to the seven letters of mine to which the writer refers, if any such were forthcoming. Mr. Booth-Clibborn signs himself "Commissioner of the Salvation Army for France and Switzerland," but he says that he accepts my "challenge" without the knowledge of his chiefs. Considering the self-damaging character of his letter, it was, perhaps, hardly necessary to make that statement.

Mr. "Commissioner" Booth-Clibborn speaks of my "challenge." I presume that he refers to my request for information about the authorship and fate of "The New Papacy," in the letter

published in the "Times" on December 27th, 1890. The "Commissioner" deals with this matter in paragraph No. 4 of his letter; and I observe, with no little satisfaction, that he does not venture to controvert any one of the statements of my witnesses. He tacitly admits that the author of "The New Papacy" was a person "greatly esteemed in Toronto," and that he held "a high position in the army"; further, that the Canadian "Commissioner" thought it worth while to pay the printer's bill, in order that the copies already printed off might be destroyed and the pamphlet effectually suppressed. Thus the essential facts of the case are admitted and established beyond question.

How does Mr. Booth-Clibborn try to explain them away?

"Mr. Sumner, who wrote the little book in a hot fit, soon regretted it (as any man would do whose conscience showed him in a calmer moment when his 'respectability' returned with his repentance, that he had grossly misrepresented), and just before it appeared offered to order its suppression if the army would pay the costs already incurred, and which he was unable to bear."

"The New Papacy" fills sixty closely printed duodecimo pages. It is carefully written, and for the most part in studiously moderate language; moreover, it contains

many precise details and

figures, the ascertainment of which must have taken much time and trouble. Yet, forsooth, it was written in "a hot fit."

I sincerely hope, for the sake of his own credit, that Mr. "Commissioner" Booth-Clibborn does not know as much about this melancholy business as I do. My hands are unfortunately tied, and I am not at liberty to use all the information in my possession. I must content myself with quoting the following passage from the preface to "The New Papacy":—

"It has not been without considerable thought and a good deal of urging that the following pages have been given to the public. But though we would have shrunk from a labour so distasteful, and have gladly avoided a notoriety anything but pleasant to the feelings, or conducive to our material welfare, we have felt that in the interests of the benevolent public, in the interests of religion, in the interests of a band of devoted men and women whose personal ends are being defeated, and the fruit of whose labour is being destroyed, and, above all, in the interests of that future which lies before the Salvation Army itself, if purged and purified in its executive and returned to its original position in the ranks of Canadian Christian effort, it is no more than our duty to throw such light as we are able upon its true inwardness, and with that object and for the

furtherance of those ends we offer our pages to the public view."

The preface is dated April 1889. According to the statement in the "Toronto Telegram" which Mr. "Commissioner" Booth-Clibborn does not dare to dispute, his Canadian fellow-"Commissioner" bought and destroyed the whole edition of "The New Papacy" about the end of the third week in April. It is clear that the writer of the paragraph quoted from the preface was well out of a "hot fit," if he had ever been in one, while he had not entered on the stage of repentance within three weeks of that time. Mr. "Commissioner" Booth-Clibborn's scandalous insinuations that Mr.

Sumner was bribed by "a few sovereigns," and that he was "bought off," in the face of his own admission that Mr. Sumner "offered to order its suppression if the army would pay the costs already incurred, and which he was unable to bear" is a crucial example of that Jesuitry with which the officials of the army have been so frequently charged.

Mr. "Commissioner" Booth-Clibborn says that when "London headquarters heard of the affair, it disapproved of the action of the Commissioner." That circumstance indicates that headquarters is not wholly devoid of intelligence; but it has nothing to do with the value of Mr. Sumner's evidence, which is all I am concerned about. Very likely London headquarters will disapprove of its French

"Commissioner's" present action. But what then? The upshot of all this is that Mr. Booth-Clibborn has made as great a blunder as simple Mr. Trotter did. The pair of Balaams greatly desired to curse, but have been compelled to bless. They have, between them, completely justified my reliance on Mr. Sumner as a perfectly trustworthy witness; and neither of them has dared to challenge the accuracy of one solitary statement made by that worthy gentleman, whose full story I hope some day or other to see set before the public. Then the true causes of his action will be made known.

Paragraph 2 of the "Commissioner's" letter says many things, but not much about Mr. Hodges. The columns of the "Times" recently showed that Mr. Hodges was able to compel an apology from Mr. Trotter. I leave it to him to deal with the "Commissioner."

As to the "Eagle" case, treated of in paragraph No. 3, a gentleman well versed in the law, who was in court during the hearing of the appeal, has assured me that the argument was purely technical; that the facts were very slightly gone into; and that, so far as he knows, no dissenting comment was made on the strictures of the Judge before whom the case first came. Moreover, in the judgment of the Master of the

Rolls, fully recorded in the "Times" of February 14th, 1884, the following passages occur:—

"The case had been heard by a learned Judge, who had exercised his discretion upon it, and the Court would not interfere with his discretion unless they could see that he was wrong. The learned Judge had taken a strong view of the conduct of the defendant, but nevertheless had said that he would have given relief if he could have seen how far protection and compensation could be given. And if this Court differed from him in that view, and could give relief without forfeiture, they would be acting on his own principle in doing so. Certain suggestions had been made with that view, and the Court had to consider the case under all the circumstances.... He himself (the Master of the Rolls) considered that it was probable the defendant, with his principles, had intended to destroy the property as a public-house, and that it was not right thus to take property under a covenant to keep it up as a public-house, intending to destroy it as such. He did not, however, think this was enough to deprive him of all relief. The defendant could only expect severe terms."

Yet, Sir, Mr. "Commissioner" Booth-Clibborn, this high official of the Salvation Army, has the audacity to tell the public that if I had made inquiries I should have found that "in the Court of Appeal the Judge reversed the decision of his predecessor as regards seven eighths of the property, and the General was declared to have acted all along with straight forwardness and good faith."

But the nature of Mr. "Commissioner" Booth-Clibborn's conceptions of straightforwardness and good faith is so marvellously illustrated by the portions of his letter with which I have dealt that I doubt not his statements are quite up to the level of the "Army" Regulations and Instructions in regard to those cardinal virtues. As I pointed out must be the case, the slave is subdued to that he works in.

For myself, I must confess that the process of wading through Mr. "Commissioner's" verbose and clumsy pleadings has given me a "hot fit," which, I undertake to say,

will be followed by not so much as a passing shiver of repentance. And it is under the influence of the genial warmth diffused through the frame, on one of those rare occasions when one may be "angry and sin not," that I infringe my resolution to trouble you with no more letters. On reflection, I am convinced that it is undesirable that the public should be misled, for even a few days, by misrepresentations so serious.

I am copiously abused for speaking of the Jesuitical methods of the superior officials of the Salvation Army. But the following facts have not been, and, I believe, cannot be, denied:— 1. Mr. Booth's conduct in the "Eagle" case has been censured by two of the Judges.

2. Mr. Bramwell Booth admitted before Mr. Justice Lopes that he had made an untrue statement because of a promise he had made to Mr. Stead.*

* This statement has been disputed, but not yet publicly. (See p. 305.)

And I have just proved that Mr. "Commissioner" Booth-Clibborn asserts the exact contrary of that which your report of the judgment of the Master of the Rolls tells us that distinguished judge said.

Under these circumstances, I think that my politeness in applying no harder adjective than "Jesuitical" to these proceedings is not properly appreciated.

I am, Sir, your obedient servant, T. H. Huxley.

XII.

The "Times," January 22nd, 1891

SIR,—I think that your readers will be interested in the accompanying opinion, written in consultation with an eminent Chancery Queen's Counsel, with which I have been favoured. It will be observed that this important legal deliverance

justifies much stronger language than any which I have applied to the only security (?) for the proper administration of the funds in Mr. Booth's hands which appears to

be in existence.

I am, Sir, your obedient servant, T. H. Huxley. 1, Dr. Johnson's Buildings, Temple, E.C., January 14, 1891.

MR. BOOTH'S DECLARATION OF TRUST DEED, 1878.

"I am of opinion, subject to the question whether there may be any provision in the Charitable Trusts Acts which can be made available for enforcing some scheme for the appropriation of the property, and with regard to the real and leasehold properties whether the conveyances and leases are not altogether void, as frauds on the Mortmain Acts, that nothing can be done to control or to interfere with Booth in the disposition or application of the properties or moneys purported to be affected by the deed.

"As to the properties vested in Booth himself, it appears to me that such are placed absolutely under his power and control both as to the disposal and application thereof, and that there are no trusts for any specific purposes declared which

could be enforced, and that there are no defined persons nor classes of persons who can claim to be entitled to the benefits of them, or at whose instance they could be enforced by any legal process.

"As to the properties (if any) vested in trustees appointed by Booth, it appears to me that the only person who has a locus standi to enforce these trusts is Booth himself, and that he would have absolute power over the trusts and the property, and might deal with the property as he pleased, and that, as in the former case, nothing could be done in the way of enforcing any trusts against him.

"As to the moneys contributed or raised by mortgage for the general purposes of the mission, it appears to me that Booth may expend them as he pleases, without being subject to any legal control, and that he cannot even be compelled to publish any balance-sheets.

"Whether there are any provisions in the Charitable Trusts Acts which could be made available for enforcing some scheme for the application of the property or funds is a question to which I should require to give a closer consideration should it become necessary to go into it; but at present, after perusing these Acts, and especially 16 and 17 Vict. c. 137 and 18 and 19 Vict. c. 124, I cannot see how they could be made applicable to the trusts as declared in this deed.

"As to the Mortmain Acts, the matter is clearly charitable, and unless in the conveyances and leases to Booth, or to the trustees (if any) named by him, all the provisions of the Acts have been complied with, and the deeds have been enrolled under the Acts, they would be void. It is probable, however, that every conveyance and lease has been taken without disclosing any charitable trust, for the purpose of preventing it from being void on the face of it. It is to be noted that the deed is a mere deed poll by Booth himself, without any other party to it, who, as a contracting party, would have a right to enforce it.

"Whether there are any objects of the trust I cannot say. If there is, as the recital indicates, a society of enrolled members called 'The Christian Mission,' those members would be objects of the trust, but then, it appears to me, Booth has entire control and determination of the application. And, as to the trusts enuring for the benefit of the 'Salvation Army,' I am not aware what is the constitution of the 'Salvation Army,' but there is no reference whatever to any such body in the deed. I have understood the army as being merely the missionaries, and not the society of worshippers.

"If there is no Christian Mission Society of enrolled members, then there are no objects of the trust. The trusts are purely religious, and trading is entirely beyond its purposes. Booth can

'give away' the property, simply because there is no one who has any right to prevent his doing so.

"Ernest Hatton."

It is probably my want of legal knowledge which prevents me from appreciating the value of the professed corrections of Mr. Hatton's opinion contained in the letters of Messrs. Ranger, Burton, and Matthews, "Times," January 28th and 29th, 1891.

The note on page 301 refers to a correspondence, incomplete at the time fixed for the publication of my pamphlet, the nature of which is sufficiently indicated by the subjoined extracts from Mr. Stead's letter in the "Times" of January 20th, and from my reply in the "Times" of January 24th. Referring to the paragraphs numbered 1, 2, at the end of my letter XI., Mr. Stead says:—

"On reading this, I at once wrote to Professor Huxley, stating that, as he had mentioned my name, I was justified in intervening to explain that, so far as the second count in his indictment went—for the Eagle dispute is no concern of mine—he had been misled by an error in the reports of the case which appeared in the daily papers

of November 4, 1885. I have his reply to-day, saying that I had better write to you direct. May I ask you, then, seeing that my name has been brought into the affair, to state that, as I was in the dock when Mr. Bramwell Booth was in the witness-box, I am in a position to give the most unqualified denial to the statement as to the alleged admission on his part of falsehood? Nothing was heard in Court of any such admission. Neither the prosecuting counsel nor the Judge who tried the case ever referred to it, although it would obviously have had a direct bearing on the credit of the witness; and the jury, by acquitting Mr. Bramwell Booth, showed that they believed him to be a witness of truth. But fortunately the facts can be verified beyond all gainsaying by a reference to the official shorthand-writer's report of the evidence. During the hearing of the case for the prosecution, Inspector Borner was interrupted by the Judge, who said:—

"'I want to ask you a question. During the whole of that conversation, did Booth in

any way suggest that that child had been sold?' Borner replied:—

"'Not at that interview, my Lord.'

"It was to this that Mr. Bramwell Booth referred when, after examination, cross-examination,

and re-examination, during which no suggestion had been made that he had ever made the untrue statement now alleged against him, he asked and received leave from the Judge to make the following explanation, which I quote from the official report:—

"'Will you allow me to explain a matter mentioned yesterday in reference to a question asked by your Lordship some days ago with respect to one matter connected with my conduct? Your Lordship asked, I think it was Inspector Borner, whether I had said to him at either of our interviews that the child was sold by her parents, and he replied "No." That is quite correct; I did not say so to him, and what I wish to say now is that I had been specially requested by Mr. Stead, and had given him a promise, that I would not under any circumstances divulge the fact of that sale to any person which would ma ke it at all probable that any trouble would be brought upon the persons who had taken part in this investigation.' (Central Criminal Court Reports, Vol. CII., part 612, pp. 1,035-6.)

"In the daily papers of the following day this statement was misreported as follows:—

"'I wish to explain, in regard to your Lordship's condemnation of my having said "No" to

Inspector Borner when he asked me whether the child had been sold by her parents—the reason why I stated what was not correct was that I had promised Mr. Stead not to divulge the fact of the sale to any person which would make it probable that any trouble should be brought on persons taking part in this proceeding.'

"Hence the mistake into which Professor Huxley has unwittingly fallen.

"I may add that, so far from the statement never having been challenged for five years, it was denounced as 'a remarkably striking lie' in the 'War Cry' of November 14th, and again the same official organ of the Salvation Army of November 18th specifically adduced this misreport as an instance of 'the most disgraceful way' in which the reports of the trial were garbled by some of the papers. What, then, becomes of one of the two main pillars of Professor Huxley's argument?"

In my reply, I point out that, on the 10th of January, Mr. Stead addressed to me a letter, which commences thus: "I see in the 'Times' of this morning that you are about to republish your letters on Booth's book."

I replied to this letter on the 12th of January:—

"Dear Mr. Stead,—I charge Mr. Bramwell Booth with nothing. I simply quote the 'Times' report, the accuracy of which, so far as I know, has never been challenged by Mr. Booth. I say I quote the 'Times' and not Mr. Hodges,* because I took some pains about the verification of Mr. Hodges's citation.

* This is a slip of the pen. Mr. Hodges had nothing to do with the citation of which I made use.

"I should have thought it rather appertained to Mr. Bramwell Booth to contradict a statement which refers, not to what you heard, but to what he said. However, I am the last person to wish to give circulation to a story which may not be quite correct; and I will take care, if you have no objection (your letter is marked 'private'), to make public as much of your letter as relates to the point to which you have called my attention.

"I am, yours very faithfully, T. H. Huxley."

To this Mr. Stead answered, under date of January 13th, 1891:—

"Dear Professor Huxley,—I thank you for your letter of the 12th inst. I am quite sure you would not wish to do any injustice in this matter. But, instead of publishing any extract from my letter, might I ask you to read the passage as it

appears in the verbatim report of the trial which was printed day by day, and used by counsel on both sides, and by the Judge during the case? I had hoped to have got you a copy to-day, but find that I was too late. I shall have it first thing to-morrow morning. You will find that it is quite clear, and conclusively disposes of the alleged admission of untruthfulness. Again thanking you for your courtesy,

"I am, yours faithfully, W. T. Stead."

Thus it appears that the letter which Mr. Stead wrote to me on the 13th of January does not contain one word of that which he ways it contains, in the statement which appears in the "Times" to-day. Moreover, the letter of mine to which Mr. Stead refers in his first communication to me is not the letter which appeared on the 13th, as he states, but that which you published on December 27th, 1890. Therefore, it is not true that Mr. Stead wrote "at once." On the contrary, he allowed nearly a fortnight to elapse before he addressed me on the 10th of January 1891. Furthermore, Mr. Stead suppresses the fact that, since the 13th of January, he has had in his possession my offer to publish his version of the story; and he leads the reader to suppose that my only answer was that he "had better write to

you direct. All the while, Mr. Stead knows perfectly well that I was withheld from making public use of his letter of the 10th by nothing but my scruples about using a document which was marked "private"; and that he did not give me leave to quote his letter of the 10th of January until after he had written that which appeared yesterday.

And I add:—

As to the subject-matter of Mr. Stead's letter, the point which he wishes to prove appears to be this—that Mr. Bramwell Booth did not make a false statement, but that he withheld from the officers of justice, pursuing a most serious criminal inquiry, a fact of grave importance, which lay within his own knowledge. And this because he had promised Mr. Stead to keep the fact secret. In short, Mr. Bramwell Booth did

not say what was wrong; but he did what was wrong.

I will take care to give every weight to the correction. Most people, I think, will consider that one of the "main pillars of my argument," as Mr. Stead is pleased to call them, has become very much strengthened.

LEGAL OPINIONS RESPECTING "GENERAL" BOOTH'S ACTS.

In referring to the course of action adopted by "General" Booth and Mr. Bramwell Booth in respect of their legal obligations to other persons, or to the criminal and civil law, I have been as careful as I was bound to be, to put any difficulties suggested by mere lay commonsense in an interrogative or merely doubtful form; and to confine myself, for any positive expressions, to citations from published declarations of the judges before whom the acts of "General" Booth came; from reports of the Law Courts; and from the deliberate opinions of legal experts. I have now some further remarks to make on these topics. I. The observations at p. 305 express, with due reserve, the impression which the counsel's opinions, quoted by "General" Booth's solicitors, made on my mind. They were written and sent to the printer before I saw the letter from a "Barrister NOT Practising on the Common Law Side," and those from Messrs. Clarke and Calkin and Mr. George Kebbell, which appeared in the "Times" of February 3rd and 4th.

These letters fully bear out the conclusion which I had formed, but which it would have

been presumptuous on my part to express, that the opinions cited by "General" Booth's solicitors were like the famous broken tea-cups "wisely ranged for show"; and that, as Messrs. Clarke and Calkin say, they "do not at all meet the main points on which Mr. Hatton advised." I do not think that any one who reads attentively the able letter of "A Barrister NOT Practicing on the Common Law Side" will arrive at any other conclusion; or who will not share the very natural desire of Mr. Kebbell to be provided with clear and intelligible answers to the following inquiries:— (1)

Does the trust deed by its operation empower any one legally to call upon Mr. Booth to account for the application of the funds? (2) In the event of the funds not being properly accounted for, is any one, and, if so, who, in a position to institute civil or criminal proceedings against any one, and whom, in respect of such refusal or neglect to account? (3) In the event of the proceedings, civil or criminal, failing to obtain restitution of misapplied funds, is or are any other person or persons liable to make good the loss?

On December 24th, 1890, a letter of mine appeared in the "Times" (No. V. above) in which I put questions of the same import, and asked Mr. Booth if he would not be so good as to take counsel's opinion on the "trusts" of which so

much has been heard and so little seen, not as they stood in 1878, or in 1888, but as they stand now? Six weeks have elapsed, and I wait for a reply.

It is true that Dr. Greenwood has been authorized by Mr. Booth to publish what he calls a "Rough outline of the intended Trust Deed" ("General Booth and His Critics," p. 120), but unfortunately we are especially told that it "does not profess to be an absolutely accurate analysis." Under these circumstances I am afraid that neither lawyers nor laymen of moderate intelligence will pay much attention to the assertion, that "it gives a fair idea of the general effect of the draft," even although "the words in quotation marks are taken from it verbatim."

These words, which I give in italics, (1) define the purposes of the scheme to be "for the social and moral regeneration and improvement of persons needy, destitute, degraded, or criminal, in some manner indicated, implied, or suggested in the book called 'In Darkest England.'" Whence I apprehend that, if the whole funds collected are applied to "mothering society" by the help of speculative attorney "tribunes of the people," the purposes of the trust will be unassailably fulfilled. (2) The name is to be "Darkest England Scheme," (3) the General of the Salvation Army is to be "Director of the Scheme." Truly valuable information all this! But taking it for what

it is worth, the

public must not be misled into supposing that it has the least bearing upon the questions to which neither I, nor anybody else, has yet been able to obtain an intelligible answer, and that is, where are the vast funds which have been obtained, in one way or another, during the last dozen years in the name of the Salvation Army? Where is the presumably amended Trust Deed of 1888? I ask once more: Will Mr. Booth submit to competent and impartial legal scrutiny the arrangements by which he and his successors are prevented from dealing with the funds of the so-called "army chest" exactly as he or they may please?

II. With respect to the "Eagle" case, I am advised that Dr. Greenwood, whose good faith I do not question, has been misled into misrepresenting it in the appendix to his pamphlet. And certainly, the evidence of authoritative records which I have had the opportunity of perusing, appears to my non-legal mind to be utterly at variance with the statement to which Dr. Greenwood stands committed. I may observe, further, that the excuse alleged on behalf of Mr. Booth, that he signed the affidavit set before him by his solicitors without duly considering its contents, is one which I should not like to have put forward were the case my own. It may be, and often is, necessary for a person to sign an affidavit without

being able fully to appreciate the technical language in which it is couched. But his solicitor will always instruct him as to the effect of these terms. And, in this particular case where the whole matter turns on Mr. Booth's personal intentions, it was his plainest duty to inquire, very seriously, whether the legal phraseology employed would convey neither more nor less than such intentions to those who would act on the affidavit, before he put his name to it.

III. With respect to Mr. Bramwell Booth's case, I refer the reader to p. 311.

IV. As to Mr. Booth-Clibborn's misrepresentations, see above, pp. 298, 299.

This much for the legal questions which have been raised by various persons since

the first edition of the pamphlet was published.

DR. GREENWOOD'S "GENERAL BOOTH AND HIS CRITICS"

So far as I am concerned, there is little or nothing in this brochure beyond a reproduction of the vituperative stuff which has been going the round of those newspapers which favour "General" Booth for some weeks. Those who do not want to see the real worth of it all will not read

the preceding pages; and those who do will need no help from me.

I fear, however, that in justice to other people I must put one of Dr. Greenwood's paragraphs in the pillory. He says that I have "built up, on the flimsy foundation of stories told by three or four deserters from the Army" (p. 114), a sweeping indictment against General Booth. This is the sort of thing to which I am well accustomed at the hands of anonymous newspaper writers. But in view of the following easily verifiable statements, I do not think that an educated and, I have no doubt, highly respectable gentleman like Dr. Greenwood can, in cold blood, contemplate that assertion with satisfaction.

The persons here alluded to as "three or four deserters from the army" are:— (1) Mr. Redstone, for whose character Dr. Cunningham Geikie is guarantee, and whom it has been left to Dr. Greenwood to attempt to besmirch. (2) Mr. Sumner, who is a gentleman quite as worthy of respect as Dr. Greenwood, and whose published evidence not one of the champions of the Salvation Army has yet ventured to impugn. (3) Mr. Hodges, similarly libelled by that unhappy meddler Mr. Trotter, who was compelled to the prompt confession of his error (see p. 277). (4) Notwithstanding this evidence of Mr. Trotter's claims to attention, Dr. Greenwood quotes a

statement of his as evidence that a statement quoted by me from Mr. Sumner's work is a "forgery." But Dr. Greenwood unfortunately forgets to mention that on the 27th

of December 1890 (Letter No. VII. above) Mr. Trotter was publicly required to produce proof of his assertion; and that he has not thought fit to produce that proof.

If I were disposed to use to Dr. Greenwood language of the sort he so freely employs to me, I think that he could not complain of a handsome scolding. For what is the real state of the case? Simply this—that having come to the conclusion, from the perusal of "In Darkest England," that "General" Booth's colossal scheme (as apart from the local action of Salvationists) was bad in principle and must produce certain evil consequences, and having warned the public to that effect, I quite unexpectedly found my hands full of evidence that the exact evils predicted had, in fact, already shown themselves on a great scale; and, carefully warning the public to criticize this evidence, I produced a small part of it. When Dr. Greenwood talks about my want of "regard to the opinion of the nine thousand odd who still remain among the faithful" (p. 114), he commits an imprudence. He would obviously be surprised to learn the extent of the support, encouragement, and information which I have received from active and sincere members of the Salvation Army

—but of which I can make no use, because of the terroristic discipline and systematic espionage which my correspondents tell me is enforced by its chief. Some of these days, when nobody can be damaged by their use, a curious light may be thrown upon the inner workings of the organization which we are bidden to regard as a happy family, by these documents.

(blank page)

THE SALVATION ARMY ARTICLES OF WAR,

To be signed by all who wish to be entered on the roll as soldiers.

Having received with all my heart the Salvation offered to me by the tender mercy of Jehovah, I do here and now publicly acknowledge God to be my Father and King,

Jesus Christ to be my Saviour, and the Holy Spirit to be my Guide, Comforter, and Strength; and that I will, by His help, love, serve, worship, and obey this glorious God through all time and through all eternity.

Believing solemnly that The Salvation Army has been raised up by God, and is sustained and directed by Him, I do here declare my full determination, by God's help, to be a true soldier of the Army till I die.

I am thoroughly convinced of the truth of the Army's teaching. I believe that repentance towards God, faith in our Lord Jesus Christ, and conversion by the Holy Spirit, are necessary to Salvation, and that all men may be saved. I believe that we are saved by grace, through faith in our Lord Jesus Christ, and he that believeth hath the witness of it in himself. I have got it. Thank God! I believe that the Scriptures were given by inspiration of God, and that they teach that not only does continuance in the favour of God depend upon continued faith in, and obedience to, Christ,

but that it is possible for those who have been truly converted to fall away and be eternally lost. I believe that it is the privilege of all God's people to be "wholly sanctified," and that "their whole spirit and soul and body" may "be preserved blameless unto the coming of our Lord Jesus Christ." That is to say, I believe that after conversion there remain in the heart of the believer inclinations to evil, or roots of bitterness, which, unless overpowered by Divine grace, produce actual sin; but these evil tendencies can be entirely taken away by the Spirit of God, and the whole heart thus cleansed from anything contrary to the will of God, or entirely sanctified, will then produce the fruit of the Spirit only. And I believe that persons thus entirely sanctified may, by the power of God, be kept unblamable and unreprovable before Him. I believe in the immortality of the soul; in the resurrection of the body; in the general judgment at the end of the world; in the eternal happiness of the righteous; and in the everlasting punishment of the wicked.

THEREFORE, I do here, and now, and for ever, renounce the world with all its

sinful pleasures, companionship treasures, and objects, and declare my full determination boldly to show myself a Soldier of Jesus Christ in all places and companies, no matter what I may have to suffer, do, or lose, by so doing. I do here and now declare that I will abstain from the use of all intoxicating liquors, and also from the habitual use of opium, laudanum, morphia, and all other baneful drugs, except when in illness such drugs shall be ordered for me by a doctor. I do here and now declare that I will abstain from

the use of all low or profane language; from the taking of the name of God in vain; and from all impurity, or from taking part in any unclean conversation or the reading of any obscene book or paper at any time, in any company, or in any place. I do here declare that I will not allow myself in any falsehood, deceit, misrepresentation, or dishonesty; neither will I practise any fraudulent conduct, either in my business, my home, or in any other relation in which I may stand to my fellow men, but that I will deal truthfully, fairly, honourably, and kindly with all those who may employ me or whom I may myself employ. I do here declare that I will never treat any woman, child, or other person, whose life, comfort, or happiness may be placed within my power, in an oppressive, cruel, or cowardly manner, but that I will protect such from evil and danger so far as I can, and promote, to the utmost of my ability, their present welfare and eternal salvation. I do here declare that I will spend all the time, strength, money, and influence I can in supporting and carrying on this War, and that I will endeavour to lead my family, friends, neighbours, and all others whom I can influence, to do the same, believing that the sure and only way to remedy all the evils in the world is by bringing men to submit themselves to the government of the Lord Jesus Christ. I do here declare that I will always obey the lawful orders of my Officers, and that I will carry out to the utmost of my power all the Orders and Regulations of The Army; and further, that I will be an example of faithfulness to its principles, advance to the utmost of my ability its operations, and never allow, where I can prevent it, any injury to its interests or hindrance to its success.

And I do here and now call upon all present to witness that I enter into this undertaking and sign these Articles of War of my own free will, feeling that the love of Christ who died to save me requires from me this devotion of my life to His service for the Salvation of the whole world, and therefore wish now to be enrolled as a Soldier of the Salvation Army.

_____

_____CORPS_____ 18___

_____ _____

Corps _____ Division _____ 18____

(SINGLE) FORM OF APPLICATION FOR AN APPOINTMENT AS AN OFFICER IN THE SALVATION ARMY

Name

_____

_

Address

_____

1. What was your AGE last birthday? _____ What is the date of your birthday? _____

2. What is your height? _____

3. Are you free from bodily defect or disease? ____

4. What serious illnesses have you had, and when? _____

_____

_____

5. Have you ever had fits of any kind? _____ If so how long, and what kind? _____

6. Do you consider your health good, and that you are strong enough for the work of an officer? _____ If not, or if you are doubtful, write a letter and explain the matter.

7. Is your doctor's certificate a full and correct statement so far as you know? _____

8. Are you, or have you ever been, married? _____

9. When and where CONVERTED? _____

10. What other Religious Societies have you belonged to? _____ _____ _____

11. Were you ever a Junior Soldier? _____ If so, how long? _____

12. How long have you been enrolled as a SOLDIER? _____ and signed Articles of War? _____

13. If you hold any office in your Corps, say what and how long held? ____ _____ _____

14. Do you intend to live and die in the ranks of the Salvation Army? ____

- - - - - - - - - - - - - - - -

15. Have you ever been an open BACKSLIDER? _____ If so, how long? _____

16. Why? _____

Date of your Restoration? _____

17. Are you in DEBT? _____ If so, how much? _____

18. How long owing? _____

_____

_____

19. Did you ever use Intoxicating Drink? _____ If so, how long is it since you entirely gave up its use? _____

20. Did you ever use Tobacco or Snuff? _____ If so, how long is it since you gave up using either? _____

_____

21. What UNIFORM do you wear? _____

22. How long have you worn it? _____

23. Do you agree to dress in accordance with the direction of Headquarters? _____

24. Can you provide your own uniform and "List of Necessaries" before entering the Service? _____

_____

25. Are you in a Situation? _____ If so, how long? _____

26. Nature of duties, and salary _____

27. Name and address of employer? _____

28. If out, date of leaving last situation? _____ How long there? _____

29. Why did you leave?

_____

_____

_____

30. Name and address of last employer? _____

_____

_____

31. Can you start the SINGING? _____

32. Can you play any musical instrument? _____ If so, what? _____

33. Is this form filled up by you? _____ Can you read well at first sight? _____

34. Can you write SHORTHAND? _____ If so, what speed and system? _____

35. Can you speak any language other than English? _____ If so, what? _____

36. Have you had any experience and success in the JUNIOR SOLDIERS' WAR?

37. If so, what? _____

_____

_____

38. Are you willing to sell the "WAR CRY" on Sundays? _____

39. Do you engage not to publish any books, songs, or music except for the benefit of the Salvation Army, and then only with the consent of Headquarters? _____

40. Do you promise not to engage in any trade, profession, or other money- making

occupation, except for the benefit of the Salvation Army, and then only with the consent of Headquarters? _____

41. Would you be willing to go ABROAD if required? _____

42. Do you promise to do your utmost to help forward the Junior Soldiers' work if accepted? _____

43. Do you pledge yourself to spend not less than nine hours every day in the active service of the Army, of which not less than three hours of each week day shall be spent in VISITATION? _____

44. Do you pledge yourself to fill up and send to Headquarters forms as to how your day is spent? _____

_____

45. Have you read, and do you believe, the DOCTRINES printed on the other side? _____

46. Have you read the "Orders and Regulations for Field Officers" of the Army? _____

If you have not got a copy of "Orders and Regulations," get one from Candidates' Department at once. The price to Candidates is 2s. 6d.

47. Do you pledge yourself to study and carry out and to endeavour to train others to carry out all Orders and Regulations of the Army? _____

48. Have you read the Order on page 3 of this Form as to PRESENTS and TESTIMONIALS, and do you engage to carry it out? _____

49. Do you pledge yourself never to receive any sum in the form of pay beyond the amount of allowances granted under the scale which follows? _____

ALLOWANCES— From the day of arrival at his station, each officer is entitled to draw the following allowances, provided the amount remains in hand after meeting

all local expenses, namely:

— For Single Men: Lieutenants, 16s. weekly, and Captains, 18s.

— for Single Women: Lieutenants, 12s. weekly, and Captains, 15s. weekly.

— Married Men, 27s. per week, and ls. per week for each child under 14 years of age; in all cases without house-rent.

50. Do you perfectly understand that no salary or allowance is guaranteed to you, and that you will have no claim against the Salvation Army, or against any one connected therewith, on account of salary or allowances not received by you? _____

_____-

51. Have you ever APPLIED BEFORE? ___ If so, when? _____

52. With what result? _____

53. If you have ever been in the service of the Salvation Army in any position, say what? _____

54. Why did you leave? _____

55. Are you willing to come into TRAINING that we may see whether you have the necessary goodness and ability for an Officer in the Salvation Army, and should we conclude that you have not the necessary qualifications, do you pledge yourself to return home and work in your Corps without creating any dissatisfaction? _____

56. Will you pay your own travelling expenses if we decide to receive you in Training?

_____

57. How much can you pay for your maintenance while in Training? _____
_____
_____

58. Can you deposit [Pound] 1 so that we can provide you with a suit of Uniform when you are Commissioned?
_____

59. What is the shortest NOTICE you require should we want you? _____

60. Are your PARENTS willing that you should become an Officer? _____

61. Does any one depend upon you for support? _____ If so, who? _____
_____
_____

62. To what extent?
_____

63. Give your parents', or nearest living relatives', full address _____
_____
_____
_____-

64. Are you COURTING? _____ If so, give name and address of the person:
_____
_____

65. How long have you been engaged? _____ What is the person's age?
_____

66. What is the date of Birthday? _____ How long enrolled as a SOLDIER? _____

67. What Uniform does the person wear? _____ How long worn?

_____

68. What does the person do in the Corps? _____

69. Has the person applied for the work? _____

70. If not, when does the person intend doing so? _____

71. Do the parents agree to the person coming into Training? _____

_____-

72. Do you understand that you may not be allowed to marry until three years after your appointment as an Officer, and do you engage to abide by this? _____

73. If you are not courting, do you pledge yourself to abstain from anything of the kind during Training and for at least twelve months after your appointment as a Commissioned Field Officer? _____

74. Do you pledge yourself not to carry on courtship with any one at the station to which you are at the time appointed? _____

75. Do you pledge yourself never to commence, or allow to commence, or break off anything of the sort, without first informing your Divisional Officer, or Headquarters, of your intention to do so? _____

76. Do you pledge yourself never to marry any one marriage with whom would take you out of the Army altogether? _____

77. Have you read, and do you agree to carry out, the following Regulations as to Courtship and Marriage? _____

(a) "Officers must inform their Divisional Officer or Headquarters of their desire to enter into or break off any engagement, and no Officer is permitted to enter into or break off an engagement without the consent of his or her D.O.

(b) "Officers will not be allowed to carry on any courtship in the Town in which they are appointed; nor until twelve months after the date of their Commission.

(c) "Headquarters cannot consent to the engagement of Male Lieutenants, until their Divisional Officer is prepared to recommend them for command of a Station as Captain.

(d) "Before Headquarters can consent to the marriage of any Officer, the Divisional Officer must be prepared to give him three stations as a married man.

(e) "No Officer accepted will be allowed to marry until he or she has been at least three years in the field, except in cases of long-standing engagements before application for the work.

(f) "No Male Officer will, under any circumstances, be allowed to marry before he is twenty-two years of age, unless required by Headquarters for special service.

(g) "Headquarters will not agree to the Marriage of any Male Officer (except under extraordinary circumstances) until twelve months after consenting to his engagement.

(h) "Consent will not be given to the engagement of any male Officer unless the young woman is likely to make a suitable wife for an Officer, and (if not already an Officer) is prepared to come into Training at once.

(i) "Consent will be given to engagements between Female Officers and Soldiers, on condition that the latter are suitable for Officers, and are willing to come into Training if called upon.

(j) "Consent will never be given to any engagement or marriage which would take an Officer out of the Army.

(k) "Every Officer must sign before marriage the Articles of Marriage, contained in the Orders and Regulations for Field Officers."

——————————————— PRESENTS AND TESTIMONIALS.

1. Officers are expected to refuse utterly, and to prevent, if possible, even the proposal of any present or testimonial to them.

2. Of course, an Officer who is receiving no salary, or only part salary, may accept food or other gifts, such as are needed to meet his wants; but it is dishonourable for any one who is receiving their salary to accept gifts of food also.

THE DOCTRINES OF THE SALVATION ARMY.

The principal Doctrines taught in the Army are as follows: —

1. We believe that the Scriptures of the Old and New Testament were given by inspiration of God, and that they only constitute the Divine rule of Christian faith and practice.

2. We believe there is only one God, who is infinitely perfect, the Creator, Preserver, and Governor of all things.

3. We believe that there are three persons in the Godhead—the Father, the Son, and the Holy Ghost, undivided in essence, coequal in power and glory, and the only proper object of religious worship.

4. We believe that, in the person of Jesus Christ, the Divine and human natures are united, so that He is truly and properly God, and truly and properly man.

5. We believe that our first parents were created in a state of innocency, but by their disobedience they lost their purity and happiness; and that, in consequence of their fall, all men have become sinners, totally depraved, and as such are justly exposed to the wrath of God.

6. We believe that the Lord Jesus Christ has, by His suffering and death, made an atonement for the whole world, so that whosoever will may be saved.

7. We believe that repentance towards God, faith in our Lord Jesus Christ, and regeneration by the Holy Spirit, are necessary to Salvation.

8. We believe that we are justified by grace, through faith in our Lord Jesus Christ, and that he that believeth hath the witness in himself.

9. We believe the Scriptures teach that not only does continuance in the favour of

God depend upon continued faith in, and obedience to, Christ, but that it is possible for those who have been truly converted to fall away and be eternally lost.

10. We believe that it is the privilege of all believers to be "wholly sanctified," and that "the whole spirit and soul and body" may "be preserved blameless unto the coming of our Lord Jesus Christ." That is to say, we believe that after conversion there remain in the heart of the believer inclinations to evil, or roots of bitterness, which, unless overpowered by Divine grace, produce actual sin; but that these evil tendencies can be entirely taken away by the Spirit of God, and the whole heart, thus cleansed from everything contrary to the will of God, or entirely sanctified, will then produce the fruit of the Spirit only. And we believe that persons thus entirely sanctified may, by the power of God, be kept unblamable and unreprovable before Him.

11. We believe in the immortality of the soul; in the resurrection of the body; in the general judgment at the end of the world; in the eternal happiness of the righteous; and in the everlasting punishment of the wicked.

————————————————- DECLARATION.

I HEREBY DECLARE that I will never, on any consideration, do anything calculated to injure The Salvation Army, and especially, that I will never, without first having obtained the consent of The General, take any part in any religious services or in carrying on services held in opposition to the Army.

I PLEDGE MYSELF to make true records, daily, on the forms supplied to me, of what I do, and to confess, as far as I am concerned, and to report, as far as I may see in others, any neglect or variation from the orders or directions of The General.

I FULLY UNDERSTAND that he does not undertake to employ or to retain in the service of The Army any one who does not appear to him to be fitted for the work, or faithful and successful in it, and I solemnly pledge myself quietly to leave any Army Station to which I may be sent, without making any attempt to disturb or

annoy The Army in any way, should The General desire me to do so. And I hereby discharge The Army and The General from all liability, and pledge myself to make no claim on account of any situation, property, or interest I may give up in order to secure an engagement in The Army.

I understand that The General will not be responsible in any way for any loss I may suffer in consequence of being dismissed from Training; as I am aware that the Cadets are received into Training for the very purpose of testing their suitability for the work of Salvation Army Officers.

I hereby declare that the foregoing answers appear to me to fully express the truth as to the questions put to me, and that I know of no other facts which would prevent my engagement by The General, if they were known to him.

Candidate to sign here.....

——————————————— NOTICE TO CANDIDATES.

1. All Candidates are expected to fill up and sign this form themselves, if they can write at all.

2. You are expected to have obtained and read "Orders and Regulations for Field Officers" before you make this application.

3. Making this application does NOT imply that we can receive you as an officer, and you are, therefore, NOT to leave your home, or give notice to leave your situation, until you hear again from us.

4. If you are appointed as an Officer, or received into Training and it is afterwards discovered that any of the questions in this form have not been truthfully answered, you will be instantly dismissed.

5. If you do not understand any question in this form, or if you do not agree to any of the requirements stated upon it, return it to Headquarters, and say so in a straightforward manner.

6. Make the question for this appointment a matter of earnest prayer, as it is the most important step you have taken since your conversion.

We must have your Photo. Please enclose it with your forms, and address them to "Candidate Department," 101, Queen Victoria Street, London, E.C.

*** END OF THE PROJECT GUTENBERG EBOOK EVOLUTION AND ETHICS, AND OTHER ESSAYS ***

Updated editions will replace the previous one—the old editions will be renamed.

Creating the works from print editions not protected by U.S. copyright law means that no one owns a United States copyright in these works, so the Foundation (and you!) can copy and distribute it in the United States without permission and without paying copyright royalties. Special rules, set forth in the General Terms of Use part of this license, apply to copying and distributing Project Gutenberg™ electronic works to protect the PROJECT GUTENBERG™ concept and trademark. Project Gutenberg is a registered trademark, and may not be used if you charge for an eBook, except by following the terms of the trademark license, including paying royalties for use of the Project Gutenberg trademark. If you do not charge anything for copies of this eBook, complying with the trademark license is very easy. You may use this eBook for nearly any purpose such as creation of derivative works, reports, performances and research. Project Gutenberg eBooks may be modified and printed and given away—you may do practically ANYTHING in the United States with eBooks not protected by U.S. copyright law. Redistribution is subject to the trademark license, especially commercial redistribution.

START: FULL LICENSE

THE FULL PROJECT GUTENBERG™ LICENSE

PLEASE READ THIS BEFORE YOU DISTRIBUTE OR USE THIS WORK

To protect the Project Gutenberg™ mission of promoting the free distribution of electronic works, by using or distributing this work (or any other work associated in any way with the phrase “Project Gutenberg”), you agree to comply with all the terms of the Full Project Gutenberg License available with this file or online at www.gutenberg.org/license.

Section 1. General Terms of Use and Redistributing Project Gutenberg electronic works

1.A. By reading or using any part of this Project Gutenberg electronic work, you indicate that you have read, understand, agree to and accept all the terms of this license and intellectual property (trademark/copyright) agreement. If you do not agree to abide by all the terms of this agreement, you must cease using and return or destroy all copies of Project Gutenberg electronic works in your possession. If you paid a fee for obtaining a copy of or access to a Project Gutenberg electronic work and you do not agree to be bound by the terms of this agreement, you may obtain a refund from the person or entity to whom you paid the fee as set forth in paragraph 1.E.8.

1.B. “Project Gutenberg” is a registered trademark. It may only be used on or associated in any way with an electronic work by people who agree to be bound by the terms of this agreement. There are a few things that you can do with most Project Gutenberg electronic works even without complying with the full terms of this agreement. See paragraph 1.C below. There are a lot of things you can do with Project Gutenberg electronic works if you follow the terms of this agreement and help preserve free future access to Project Gutenberg electronic works. See paragraph 1.E below.

1.C. The Project Gutenberg Literary Archive Foundation (“the Foundation” or PGLAF), owns a compilation copyright in the collection of Project Gutenberg electronic works. Nearly all the individual works in the collection are in the public

domain in the United States. If an individual work is unprotected by copyright law in the United States and you are located in the United States, we do not claim a right to prevent you from copying, distributing, performing, displaying or creating derivative works based on the work as long as all references to Project Gutenberg are removed. Of course, we hope that you will support the Project Gutenberg mission of promoting free access to electronic works by freely sharing Project Gutenberg works in compliance with the terms of this agreement for keeping the Project Gutenberg name associated with the work. You can easily comply with the terms of this agreement by keeping this work in the same format with its attached full Project Gutenberg License when you share it without charge with others.

1.D. The copyright laws of the place where you are located also govern what you can do with this work. Copyright laws in most countries are in a constant state of change. If you are outside the United States, check the laws of your country in addition to the terms of this agreement before downloading, copying, displaying, performing, distributing or creating derivative works based on this work or any other Project Gutenberg work. The Foundation makes no representations concerning the copyright status of any work in any country other than the United States.

1.E. Unless you have removed all references to Project Gutenberg:

1.E.1. The following sentence, with active links to, or other immediate access to, the full Project Gutenberg License must appear prominently whenever any copy of a Project Gutenberg work (any work on which the phrase “Project Gutenberg” appears, or with which the phrase “Project Gutenberg” is associated) is accessed, displayed, performed, viewed, copied or distributed:

This eBook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg™ License included with this eBook or online at www.gutenberg.org. If you are not located in

the United States, you will have to check the laws of the country where you are located before using this eBook.

1.E.2. If an individual Project Gutenberg electronic work is derived from texts not protected by U.S. copyright law (does not contain a notice indicating that it is posted with permission of the copyright holder), the work can be copied and distributed to anyone in the United States without paying any fees or charges. If you are redistributing or providing access to a work with the phrase “Project Gutenberg” associated with or appearing on the work, you must comply either with the requirements of paragraphs 1.E.1 through 1.E.7 or obtain permission for the use of the work and the Project Gutenberg trademark as set forth in paragraphs 1.E.8 or 1.E.9.

1.E.3. If an individual Project Gutenberg electronic work is posted with the permission of the copyright holder, your use and distribution must comply with both paragraphs 1.E.1 through 1.E.7 and any additional terms imposed by the copyright holder. Additional terms will be linked to the Project Gutenberg License for all works posted with the permission of the copyright holder found at the beginning of this work.

1.E.4. Do not unlink or detach or remove the full Project Gutenberg License terms from this work, or any files containing a part of this work or any other work associated with Project Gutenberg.

1.E.5. Do not copy, display, perform, distribute or redistribute this electronic work, or any part of this electronic work, without prominently displaying the sentence set forth in paragraph 1.E.1 with active links or immediate access to the full terms of the Project Gutenberg License.

1.E.6. You may convert to and distribute this work in any binary, compressed, marked up, nonproprietary or proprietary form, including any word processing or hypertext form. However, if you provide access to or distribute copies of a Project

Gutenberg work in a format other than “Plain Vanilla ASCII” or other format used in the official version posted on the official Project Gutenberg website (www.gutenberg.org), you must, at no additional cost, fee or expense to the user, provide a copy, a means of exporting a copy, or a means of obtaining a copy upon request, of the work in its original “Plain Vanilla ASCII” or other form. Any alternate format must include the full Project Gutenberg License as specified in paragraph 1.E.1.

1.E.7. Do not charge a fee for access to, viewing, displaying, performing, copying or distributing any Project Gutenberg works unless you comply with paragraph 1.E.8 or 1.E.9.

1.E.8. You may charge a reasonable fee for copies of or providing access to or distributing Project Gutenberg electronic works provided that:

• You pay a royalty fee of 20% of the gross profits you derive from the use of Project Gutenberg works calculated using the method you already use to calculate your applicable taxes. The fee is owed to the owner of the Project Gutenberg trademark, but he has agreed to donate royalties under this paragraph to the Project Gutenberg Literary Archive Foundation. Royalty payments must be paid within 60 days following each date on which you prepare (or are legally required to prepare) your periodic tax returns. Royalty payments should be clearly marked as such and sent to the Project Gutenberg Literary Archive Foundation at the address specified in Section 4, “Information about donations to the Project Gutenberg Literary Archive Foundation.” • You provide a full refund of any money paid by a user who notifies you in writing (or by e-mail) within 30 days of receipt that s/he does not agree to the terms of the full Project Gutenberg™ License. You must require such a user to return or destroy all copies of the works possessed in a physical medium and discontinue all use of and all access to other copies of Project Gutenberg™ works. • You provide, in accordance with paragraph 1.F.3, a full refund of any money paid

for a work or a replacement copy, if a defect in the electronic work is discovered and reported to you within 90 days of receipt of the work. • You comply with all other terms of this agreement for free distribution of Project Gutenberg™ works.

1.E.9. If you wish to charge a fee or distribute a Project Gutenberg™ electronic work or group of works on different terms than are set forth in this agreement, you must obtain permission in writing from the Project Gutenberg Literary Archive Foundation, the manager of the Project Gutenberg™ trademark. Contact the Foundation as set forth in Section 3 below.

1.F.

1.F.1. Project Gutenberg volunteers and employees expend considerable effort to identify, do copyright research on, transcribe and proofread works not protected by U.S. copyright law in creating the Project Gutenberg™ collection. Despite these efforts, Project Gutenberg™ electronic works, and the medium on which they may be stored, may contain “Defects,” such as, but not limited to, incomplete, inaccurate or corrupt data, transcription errors, a copyright or other intellectual property infringement, a defective or damaged disk or other medium, a computer virus, or computer codes that damage or cannot be read by your equipment.

1.F.2. LIMITED WARRANTY, DISCLAIMER OF DAMAGES - Except for the “Right of Replacement or Refund” described in paragraph 1.F.3, the Project Gutenberg Literary Archive Foundation, the owner of the Project Gutenberg™ trademark, and any other party distributing a Project Gutenberg™ electronic work under this agreement, disclaim all liability to you for damages, costs and expenses, including legal fees. YOU AGREE THAT YOU HAVE NO REMEDIES FOR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTY OR BREACH OF CONTRACT EXCEPT THOSE PROVIDED IN PARAGRAPH 1.F.3. YOU AGREE THAT THE FOUNDATION, THE TRADEMARK OWNER, AND ANY DISTRIBUTOR UNDER THIS AGREEMENT WILL NOT BE LIABLE TO YOU

FOR ACTUAL, DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE OR INCIDENTAL DAMAGES EVEN IF YOU GIVE NOTICE OF THE POSSIBILITY OF SUCH DAMAGE.

1.F.3. LIMITED RIGHT OF REPLACEMENT OR REFUND - If you discover a defect in this electronic work within 90 days of receiving it, you can receive a refund of the money (if any) you paid for it by sending a written explanation to the person you received the work from. If you received the work on a physical medium, you must return the medium with your written explanation. The person or entity that provided you with the defective work may elect to provide a replacement copy in lieu of a refund. If you received the work electronically, the person or entity providing it to you may choose to give you a second opportunity to receive the work electronically in lieu of a refund. If the second copy is also defective, you may demand a refund in writing without further opportunities to fix the problem.

1.F.4. Except for the limited right of replacement or refund set forth in paragraph 1.F.3, this work is provided to you ‘AS-IS’, WITH NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.

1.F.5. Some states do not allow disclaimers of certain implied warranties or the exclusion or limitation of certain types of damages. If any disclaimer or limitation set forth in this agreement violates the law of the state applicable to this agreement, the agreement shall be interpreted to make the maximum disclaimer or limitation permitted by the applicable state law. The invalidity or unenforceability of any provision of this agreement shall not void the remaining provisions.

1.F.6. INDEMNITY - You agree to indemnify and hold the Foundation, the trademark owner, any agent or employee of the Foundation, anyone providing copies of Project Gutenberg™ electronic works in accordance with this agreement, and any volunteers associated with the production, promotion and distribution of

Project Gutenberg™ electronic works, harmless from all liability, costs and expenses, including legal fees, that arise directly or indirectly from any of the following which you do or cause to occur: (a) distribution of this or any Project Gutenberg work, (b) alteration, modification, or additions or deletions to any Project Gutenberg work, and (c) any Defect you cause.

Section 2. Information about the Mission of Project Gutenberg

Project Gutenberg is synonymous with the free distribution of electronic works in formats readable by the widest variety of computers including obsolete, old, middle-aged and new computers. It exists because of the efforts of hundreds of volunteers and donations from people in all walks of life.

Volunteers and financial support to provide volunteers with the assistance they need are critical to reaching Project Gutenberg's goals and ensuring that the Project Gutenberg collection will remain freely available for generations to come. In 2001, the Project Gutenberg Literary Archive Foundation was created to provide a secure and permanent future for Project Gutenberg and future generations. To learn more about the Project Gutenberg Literary Archive Foundation and how your efforts and donations can help, see Sections 3 and 4 and the Foundation information page at www.gutenberg.org.

Section 3. Information about the Project Gutenberg Literary Archive Foundation

The Project Gutenberg Literary Archive Foundation is a non-profit 501(c)(3) educational corporation organized under the laws of the state of Mississippi and granted tax exempt status by the Internal Revenue Service. The Foundation's EIN or federal tax identification number is 64-6221541. Contributions to the Project Gutenberg Literary Archive Foundation are tax deductible to the full extent permitted by U.S. federal laws and your state's laws.

The Foundation's business office is located at 41 Watchung Plaza #516, Montclair NJ 07042, USA, +1 (862) 621-9288. Email contact links and up to date contact

information can be found at the Foundation's website and official page at www.gutenberg.org/contact

Section 4. Information about Donations to the Project Gutenberg Literary Archive Foundation

Project Gutenberg™ depends upon and cannot survive without widespread public support and donations to carry out its mission of increasing the number of public domain and licensed works that can be freely distributed in machine-readable form accessible by the widest array of equipment including outdated equipment. Many small donations ($1 to $5,000) are particularly important to maintaining tax exempt status with the IRS.

The Foundation is committed to complying with the laws regulating charities and charitable donations in all 50 states of the United States. Compliance requirements are not uniform and it takes a considerable effort, much paperwork and many fees to meet and keep up with these requirements. We do not solicit donations in locations where we have not received written confirmation of compliance. To SEND DONATIONS or determine the status of compliance for any particular state visit www.gutenberg.org/donate.

While we cannot and do not solicit contributions from states where we have not met the solicitation requirements, we know of no prohibition against accepting unsolicited donations from donors in such states who approach us with offers to donate.

International donations are gratefully accepted, but we cannot make any statements concerning tax treatment of donations received from outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg web pages for current donation methods and addresses. Donations are accepted in a number of other ways including checks, online payments and credit card donations. To donate, please visit:

www.gutenberg.org/donate.

Section 5. General Information About Project Gutenberg electronic works

Professor Michael S. Hart was the originator of the Project Gutenberg concept of a library of electronic works that could be freely shared with anyone. For forty years, he produced and distributed Project Gutenberg eBooks with only a loose network of volunteer support.

Project Gutenberg eBooks are often created from several printed editions, all of which are confirmed as not protected by copyright in the U.S. unless a copyright notice is included. Thus, we do not necessarily keep eBooks in compliance with any particular paper edition.

Most people start at our website which has the main PG search facility: www.gutenberg.org.

This website includes information about Project Gutenberg, including how to make donations to the Project Gutenberg Literary Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.