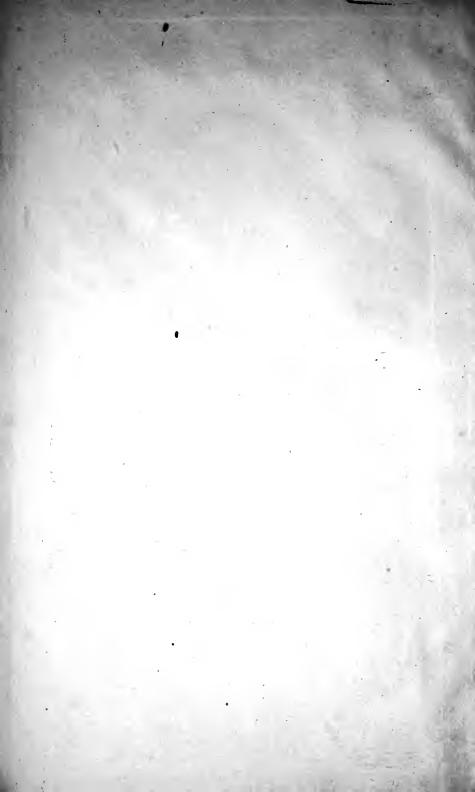


Digitized by the Internet Archive in 2007 with funding from Microsoft Corporation





### LETTERS

ON THE

# PHILOSOPHY OF THE HUMAN MIND.

SECOND SERIES.



#### Works on Mental Philosophy by the same Author.

- LETTERS ON THE PHILOSOPHY OF THE HUMAN MIND. First Series. 1 vol. 8vo.
- DISCOURSES ON VARIOUS SUBJECTS, LITERARY AND PHILOSOPHICAL. 1 vol. 8vo.
- THE THEORY OF REASONING. Second Edition, 1 vol. 8vo.
- A REVIEW OF BERKELEY'S THEORY OF VISION. 1 vol. 8vo.
- ESSAYS ON THE PURSUIT OF TRUTH AND ON THE PROGRESS OF KNOWLEDGE. Second Edition, 1 vol. 8vo.
- ESSAYS ON THE FORMATION AND PUBLICATION OF OPINIONS. Third Edition, 1 vol. 8vo.
- A LETTER TO A PHILOSOPHER in Reply to some recent Attempts to Vindicate Berkeley's Theory of Vision. (Pamphlet.)

LONDON;
PRINTED BY SPOTTISWOODE AND CO.
NEW-STREET SQUARE,

B156

# LETTERS

ON THE

PHILOSOPHY OF THE HUMAN MIND.

BY SAMUEL BAILEY.

SECOND SERIES.

LONDON:

LONGMAN, BROWN, GREEN, LONGMANS, AND ROBERTS.
1858.

The way to the state of the sta

23584

EVENUE OVER

ELECTRONIC VERSION
AVAILABLE

NO. 0000 1019 Per - 307 B

### PREFACE.

The present Work being only the continuation of a preceding one, the formality of a preface is scarcely required. The various questions discussed in it are not inferior in importance to those which occupied the pages of its predecessor, while some of them may be generally thought superior in interest. The Author ventures to add that he has materials for a third series, but as much time will be required to work them into satisfactory shape and coherence, he can hardly promise himself anything more from the effort to complete them than the solitary pleasure of the labour itself.

Norbury, near Sheffield, April 5th, 1858.

## EUR VERNI

And the second s

# CONTENTS.

			Page
LETTER	I.	Summary Recapitulation of the principal Discussions in the First Series of "Letters on the Philosophy of the Human Mind" -	
	II.	Summary Recapitulation of the principal Discussions in the First Series of "Letters on the Philosophy of the Human Mind"—continued	19
	III.	The Theory of Perception propounded by Dr. Reid	34
	IV.	The Doctrines of Sir William Hamilton regarding Perception -	46
	V.	General and Abstract Ideas and Terms, as treated by Berkeley, Hume, and other Writers of a more recent Date -	65
	VI.	General Propositions: their Formation and Character	78
	VII.	General Propositions (in continuation). Comparison of the Innate Principles of Leibnitz and the à priori Cognitions of Kant	86
	VIII.	General Propositions (in continuation).  Propositions expressive of Necessary Facts. The à priori Cognitions of	100

	Page
LETTER IX.	General Propositions (in continuation).  Contingent Propositions and Laws of Nature. The à priori Cognitions of Kant further considered - 115
X.	General Propositions (in continuation).  Kant's Doctrine of à priori Cognitions as set forth by one of his Expositors - 122
XI.	The Prominent Characteristics of German Philosophy and their Causes 130
XII.	The Prominent Characteristics of German Philosophy and their Causes (in con- tinuation) 143
XIII.	The Prominent Characteristics of German Philosophy and their Causes (in con- tinuation) 155
XIV.	The Causation of Voluntary Actions - 163
XV.	The Causation of Voluntary Actions (in continuation) 175
XVI.	Physiology in relation to the Philosophy of the Human Mind 190
XVII.	Phrenology in relation to the Philosophy of the Human Mind 205
XVIII.	The Phrenological Organs considered as Indications of Mental Characteristics - 216
XIX.	Phrenological Explanations of Historical and Fictitious Characters - 243
XX.	Anthropology. Proposed Classification of Inquiries relating to Man 258
XXI.	The Present Condition, Estimation, and Prospects of the Philosophy of the Hu-

### LETTERS

ON THE

## PHILOSOPHY OF THE HUMAN MIND.

### LETTER I.

SUMMARY RECAPITULATION OF THE PRINCIPAL DIS-CUSSIONS IN THE FIRST SERIES OF "LETTERS ON THE PHILOSOPHY OF THE HUMAN MIND."

You have set me a task not very easy to perform. You ask from me a summary of the doctrines in my first series of letters indicating their order or dependence more plainly than it is indicated in the series itself; and you further request that I would take occasion, as I proceed, to point out their relation to those held by some preceding and contemporary philosophers who have touched on the same subjects.

Your request is, I grant, reasonable enough, and in endeavouring to comply with it, I shall have opportunities of justifying in some degree the professed design with which I set out, and the

accomplishment of which, if I understand you aright, has been called in question.

I said in the opening letter of the series, that I did not contemplate the production of a systematic treatise on mental philosophy, but only an exposition of those parts of it respecting which I seemed to myself (erroneously perhaps) to have something new to say, or something not sufficiently recognised to enforce, or which I might hope to place in a clearer light than had hitherto fallen upon them — no extravagant pretension surely to originality.

I scarcely need to repeat that some pretension of this sort is necessarily implied (although it is in general very properly and prudently not obtruded on the reader) in all treatises which are not avowed compilations or abridgments; and I felt obliged to state it expressly in my own case in order to account for my treating only certain portions of the subject. I would much rather, you may be sure, have left it to be understood, being fully alive to the instinctive renitency of human nature against the slightest direct claim to "the new," whether in physical research or in metaphysical speculation.

Now whether I have succeeded or not in the proposed design, will be to a considerable extent determined by such a brief summary of the doctrines put forth in the letters and such a passing glance at their bearings on prior or contemporary speculation, as you desire: in the course of which

I hope it will appear that the principal views brought forward, although necessarily interspersed for the mere purposes of connection and transition with familiar knowledge, come under one or other of the predicaments (and it really matters not which) mentioned in the preceding extract: they will be found, at all events, to differ very considerably from those of modern writers in general repute.

I may add that although I have disclaimed the attempt to lay down a system of philosophy, the views which I present to you in these letters are not desultory speculations, but systematized in my own mind; and, how detached so ever they may at first sight appear, form interdependent parts of a connected and consistent whole.

The first two or three letters are mainly occupied in showing the evils of treating the mind as divided into faculties, and of erecting them into so many distinct agents, instead of simply considering the operations and affections, or mental states, of which we are conscious, grouping them into classes, and tracing their laws as we do in the case of physical phenomena.

These evils had been pointed out incidentally and in general terms by sundry philosophers, as I have shown in numerous quotations from Hobbes, Locke, and others; but no one, as far as my knowledge extends, had previously taken the trouble of adducing from eminent writers particular examples

of the asserted consequences, or of directing attention in detail to the specific manner in which the practice referred to, had vitiated and still continues to vitiate the philosophy of mind. As part of the same exposition I have also amply illustrated by examples the great and mischievous prevalence of fictitious or imaginary facts, arising chiefly from this source, in the speculations of many celebrated philosophers.

There are critics, doubtless, who will pronounce the adoption of one method rather than the other to be of little moment, while I on my part consider it of vital consequence. Without contesting their opinion on the present occasion, I will content myself with referring to the philosophers from whose writings I have quoted; one of whom\* stigmatises what I have for shortness called the method of faculties, as no small occasion of wrangling, obscurity, and uncertainty; another†, as the copious source of error, delusion, and rank nonsense; and a third‡, as the origin of innumerable controversies.

With these and other philosophers I not only agree, but I have, as already intimated, furnished ample elucidations of the mischiefs of a method which some of them incidentally proscribed without illustrating it, and, I may add, without avoiding it in their own writings; and which notwithstanding

<sup>\*</sup> Locke. † The author of a Fragment on Mackintosh. † Dr. Thos. Brown.

their condemnation of it, still flourishes with unabated vigour. Their protest seems in fact to have been wholly disregarded. In the particular circumstance of ascribing importance to the point in question, I most cheerfully acknowledge myself to have been forestalled by these my predecessors.

To show at once the tenacity with which the practice is still adhered to and the vagueness of thought which it tends to engender, I may adduce the language of one of our most recent and most eminent metaphysicians, Sir William Hamilton. For example, in speaking of consciousness, one of the last things surely that ought to be personified, he uses the following expressions:

"Consciousness assures us that in perception we are immediately cognisant of an external and extended non-ego." \* "Consciousness is the instrument and criterion of the acquisition of truth." "It reveals truths." Again he speaks of "the deliverances of consciousness;" and further, in the same strain although not precisely on the same theme, of "beliefs certifying us of their own veracity."

There may be little objection, I have allowed, to expressions of this kind in ordinary or rhetorical writing (except in point of taste), but in treating of the philosophy of mind, as in physical science, the plainest and most direct forms of speech should,

<sup>\*</sup> For these and similar expressions, see Reid's Works, Hamilton's Edition, note A.

I have endeavoured to show, be systematically adopted, or futility, confusion, and vacillation of view will most probably result.

Philosophical language, especially when employed to explain the rudiments of psychology, ought to be such as will stand the test of literal construction; or, should that seem too much to require, it ought at least to yield on analysis something better than mere nullities or identical propositions.

Let us make the trial in the instance under review, if it be only for the sake of the curious issue to which it will conduct us.

In the first extract above given from Sir Wm. Hamilton's writings, all that is really meant might, it is clear, be expressed in the simple words "we perceive external and extended objects."

Instead of this, we human beings are first separated from consciousness, and then the latter assures "us" (who while thus separated are of course unconscious entities and therefore incapable of being assured), that in perception, or, in other words, when we perceive an external object, we are immediately cognizant of the object, i. e. we do perceive it. Inasmuch as the passage represents "consciousness" as assuring "us," it clearly makes "us" and "consciousness" into two distinct existences, and inasmuch as the assurance given is merely to the effect that we are cognizant of what we perceive, it seems to be a somewhat needless feat to detach consciousness from ourselves in order

that it may attest so mere a truism. The phraseology is not much more philosophical, although perhaps more amusing, when the author speaks of "beliefs certifying us of their own veracity." Here assurance is made doubly sure; for how can we decline taking their word for what they aver? how avoid believing our beliefs on their own testimony, delivered to ourselves, that they are true?

I need not subject to the same analysis the equally futile assertion that "consciousness is the instrument and criterion of the acquisition of truth," than which nothing can well be looser or apparently more unmeaning. There could scarcely be a stronger proof of the danger of personifying mental states or affections than the fact of so acute a metaphysician being led by it into downright platitudes. The personification might have been excused had it brought out any proposition worth enunciating.

It will be said, I know, that this is really being too particular—being hypercritical—requiring a severity and precision of language utterly unattainable, of little utility could it be attained, and which the critic himself might be easily shown not always to observe.

Of this objection, from the substance of which I wholly dissent as founded on an inadequate estimate of the importance in psychological researches of exactness in expression, I have already said something in a former letter and I shall pro-

bably have something more to say in the sequel. At present I adduce the preceding examples of current philosophical language, without pretending to an entire exemption from similar delinquency myself, merely to show that such phraseology continues to prevail amongst the best writers down to our own times; and that if it is not the phraseology likely to further the progress of close and correct thinking in the science of mind, the exposure of its weakness and perplexing tendency has not become either an obsolete or a fruitless task.

In proof of the unsatisfactory state of philosophy, on the points here in question, to a robust and sagacious intellect, I may cite the sentiments of the late Sydney Smith—himself a lecturer on mental science. Writing to Jeffrey he says, "I don't know whether you agree with me about the present language and divisions of intellectual philosophy. They appear to me in a most barbarous state, and to be found no where in a state of higher confusion and puzzle than in the 'Intellectual Powers of Dr. Reid.'"\*

After having thus exposed the evil consequences flowing in philosophical investigations from the division of the mind into faculties, and from the personifications and laxity of language thence arising, I proceed in my next letter to point out

<sup>\*</sup> Memoirs of Sydney Smith, vol. ii. p. 23.

the mode which I proposed to adopt of classifying mental operations and affections; or in other words the phenomena of consciousness. This I follow up in subsequent letters by an explanation where needful, of the grounds on which the several parts of the classification are founded.

The arrangement in question may not be worth much: on that point I leave you and others to pronounce; but both the table itself and more especially some of the explanations which follow are, at all events, considerably different from any other to be met with — the only thing I am at present concerned to show and in which I should be very glad to find that I am mistaken, since the discovery would be a positive addition to my knowledge, and bring with it all the pleasures of coincidence and corroboration in unborrowed opinions.

I may meanwhile direct your attention in this part of the work to my views as to various points;

1. as to bodily sensations, in regard to which my doctrines are essentially different from those of Reid, Stewart, and Hamilton;

2. as to the desirable limitation to be observed in employing the words 'belief' and 'judgment,' in which I am also at variance with the Scottish school;

3. as to the operations generalised under the word discernment;

4. as to the composite character of the processes of contingent and demonstrative reasoning;

5. as to the influence of willing over our intellectual movements, in regard to which there has hitherto been

no generally accepted discrimination; and 6. as to the mixed operations thence arising.

The exposition of the grounds on which my classification is formed and of some important points connected with it, is followed by an analysis of Mr. Stewart's carefully elaborated definition of Reason, in order to exhibit the vagueness, perplexity, and want of precise thinking which, even in so accomplished a philosopher, attend the method of dealing with faculties instead of operations: and in the same letter with the same view is given an examination of Kant's celebrated distinction between the Reason and the Understanding, with an attempt to show what it really amounts to. Both these brief critical disquisitions, right or wrong, differ from any, as far as I know, before presented to the public.

In a subsequent parenthetical epistle I have entered into some explanations of the meaning of words, and the ambiguous import of certain terms in frequent use, preparatory to the Letters which immediately follow and which are dedicated to the important subject of perception.

In these I contend for the direct perception of external objects against Hobbes, Locke, Berkeley, Hume and others.

It is true that the bare doctrine there propounded, is anything rather than a novelty; but it will be found, I think, by the careful inquirer that it is held by few metaphysicians in its complete purity and strictness, or with rigid consistency;

and, at any rate, the frequent virtual denial of it, even in our own day, still requires it to be elucidated and enforced.

You will particularly observe, on a close inspection, that I maintain the direct perception of external objects in a much more rigorous sense than many or most of the philosophers of the Scottish school. They, amongst other things, contend for an irresistible belief in the existence of an external world; I, on the contrary, for a direct knowledge of it; and I give my reasons for thinking that theirs is an objectionable mode of stating the real fact, and confounds processes which ought to be kept perfectly distinct.

Thus Sir William Hamilton says, "We do not in propriety know that what we are compelled to perceive as not-self, is not a perception of self, and we can only on reflection believe such to be the case, in reliance on the original necessity of so believing imposed on us by our nature;"\*—an array of words with as little meaning in them, I must say, notwithstanding my great respect for the writer, as could well be put.

Some of these metaphysicians, be it observed, speak both of our knowing external objects and of our believing in their existence. The distinguished author who in the last quotation has told us we believe because we believe, affirms not very con-

<sup>\*</sup> Reid's Works, p. 750.

sistently in another passage, "we believe it [the external world] to exist only because we are immediately cognizant of it as existing:"—i. e., we believe it to exist because we know it to exist. Surely knowledge supersedes belief. He had better have kept to the statement that we believe because nature has thrust the belief upon us.

Reid's doctrine is so far different from mine (which is the simple doctrine of all persons who are not metaphysicians) that it may be doubted, as Sir W. Hamilton after an elaborate examination admits, whether it is to be held as maintaining direct perception at all. My reasons for joining in the doubt and extending it to the views of Sir W. Hamilton himself, I will reserve for two separate letters, since to state them here at length would interfere too much with the train of explanations in which I am engaged. I will at present content myself with a single remark by way of intimating the nature of the difference between the learned editor of Reid and myself. While he professedly holds the doctrine that we directly perceive external objects, he virtually abandons it, as it appears to me, when he speaks of our perceiving the thing nearest to our organisation and of our not immediately perceiving distant objects.

"In the third place," he says, "to this head we may refer Reid's inaccuracy in regard to the precise object of perception. This object is not as he seems frequently to assert any distant reality; for

we are percipient of nothing but what is in proximate contact, in immediate relation, with our organs of sense. Distant realities we reach not by perception but by a subsequent process of inference founded thereon."\*

\* The Works of Dr. Reid, by Sir W. Hamilton, p. 814.

There is a very explicit passage of similar tendency in Dr. Porterfield which is worth quoting: "How body acts upon mind, or mind upon body, I know not, but this I am very certain of, that nothing can act or be acted upon, where it is not; and therefore our mind can never perceive anything but its own proper modifications, and the various states of the sensorium to which it is present: so that it is not the external sun and moon which are in the heavens, which our mind perceives, but only their image or representation impressed upon the sensorium. How the soul of a seeing man sees these images, or how it receives these ideas from such agitations in the sensorium, I know not; but I am sure it can never perceive the external bodies themselves, to which it is not present."—Treatise on the Eye, vol. ii. p. 356, quoted by both Reid and Stewart.

The fictitious facts here asserted scarcely need pointing out. We do not perceive "images impressed upon the sensorium," nor "the various states of the sensorium," nor do we receive (consciously) ideas from "agitations in the sensorium;" while on the other hand, contrary to what Dr. Porterfield asserts, we really perceive the external bodies themselves. It is vain to try to evade this simple fact by pleading the impossibility of the mind perceiving objects to which it is not present. What after all does he mean by the mind being present to objects? It can mean no more than perceiving them: so that to affirm that the mind cannot perceive objects to which it is not present, amounts to the truism that it cannot perceive what it cannot perceive. In a subsequent letter devoted to an examination of Sir W. Hamilton's views on this subject, I shall have occasion to enter into the consideration of a doctrine similar to the strange assertion of Dr. Porterfield's above quoted, that "it is not the external sun and moon which are in the heavens, which our mind perceives."

In contrariety to these views what I maintain is, that we perceive the object itself notwithstanding its being distant, and that we do not in that case perceive what is nearest to the organ, as is most conspicuous in the instance of sight: further that no knowledge of the intermediate material or organic process, such as a picture being formed on the retina, or of rays of light proceeding from the object and impinging on the organ (of all which we may be profoundly ignorant) can affect the conscious act of perceiving, of which they form no It is to be observed, too, that in consistency with his doctrine on this point, my learned and able contemporary is a holder, in common with almost all his countrymen, of Berkeley's Theory of Vision, which is incompatible, in my judgment, with a sound doctrine of perception. So prevalent had that theory become, so stereotyped in the minds of philosophers, that when I first broached my heresy as to the utter groundlessness of the bishop's celebrated but little understood speculation, I was supported by scarcely a single professed metaphysician of the day. Better things may now be said. difference on this point, I may venture to add, is a radical one and affects the whole philosophy of the intellect.

In the survey taken in the "Letters," of writers on the theory of Perception, there are several other points which, if not peculiar to myself, either have been almost entirely lost sight of, or still require to be urged on account of prevailing errors or differences of opinion regarding them.

To take them in order.

I show at some length Locke's error and inconsistency in teaching that we know nothing but our own sensations or ideas, and have no knowledge of external objects, which knowledge he is yet continually assuming that we possess. It may possibly occur to many readers, that in the present day such an exposure is needless, inasmuch as the doctrine is no longer held: and I might have thought so myself, had I not found it virtually and even explicitly maintained in the writings not only of the majority of those German metaphysicians with whom I am at all acquainted but of eminent contemporary philosophers in our own country as well as in abundance of English elementary works and compilations. One or two examples will show how strongly it has rooted itself in our Literature.

"It may therefore," says an able writer, "safely be laid down as a truth both obvious in itself, and admitted by all whom it is at present necessary to take into consideration, that of the outer world we know and can know absolutely nothing except the sensations which we experience from it." \*

This strictly interpreted is making our sensations a part of the external world (which the writer could not of course intend) somewhat like Milton in-

<sup>\*</sup> A System of Logic, by J. S. Mill, vol. i. p. 80.

advertently making Eve one of her own daughters\*, but it clearly maintains that we do not know external objects and speaks of our not knowing them both as an obvious and an admitted truth.

"The idea of a horse," says another modern logician, "is the horse in the mind, and we know no other horse. We admit that there is an external object, a horse which may give a horse in the mind to twenty different persons: but no one of these twenty knows the object, each one only knows his idea. There is an object, because each of the twenty persons receives an idea without communicating with the others; so that there is something external to give it them. But when they talk about it, under the name of a horse, they talk about their ideas." †

The rather contemptuous setting aside of all realists by Mr. Mill as too insignificant to be taken into consideration, is a presumptive proof that he could not be familiar, if he were at all acquainted, with the celebrated Article on Perception in the Edinburgh Review of October 1830, which was subsequently translated into both French and Italian and republished in Sir W. Hamilton's Discussions in 1852. The latter author, however, returns the sinister compliment by no measured censure of the Cosmothetic Idealists (to use the

<sup>\* &</sup>quot;Say, did not Milton our first mother make The fairest of her daughters—by mistake?"

<sup>†</sup> Formal Logic by Augustus de Morgan, p. 29.

baronet's peculiar phraseology) amongst whom both Mr. Mill and Mr. de Morgan are to be ranked. Of Cosmothetic Idealism, Sir William says, "This last, though the most vacillating, inconsequent, and self-contradictory of all systems, is the one which, as less obnoxious in its acknowledged consequences (being a kind of compromise between speculation and common sense) has found favour with the immense majority of philosophers." \*

Before quitting Locke I also point out what I deem the radical error in his method of treating his subject (it being indeed the necessary consequence or accompaniment of the preceding mistake), namely, not keeping distinct in thought and language the objects of perception (in his nomenclature the sensations) and the ideas or representations we subsequently have of them; an error on his part, prolific of all sorts of confusion, although never before I believe brought into distinct view (I should rejoice to find it had been); nay, one on which I do not recollect at the present moment to have seen the slightest direct animadversion in any antecedent commentator on Locke's essay.

Had this thoughtful philosopher been able to free himself from the embroilment here pointed out, the simple truths which were at the bottom of his speculations but which in consequence of this

<sup>\*</sup> Reid's Works, p. 749.

confusion he only imperfectly developed, would have come out in their natural clearness and cogency; namely, 1. That the objects of human knowledge are of two kinds, external existences and events perceived through the organs of sense, and internal states and operations, or in other words mental existences and events; which two classes comprise everything we actually know: 2. That our ideas are representative of the objects belonging to one or other of these two classes; and other ideas than these we have none, although we have the power of putting them together in new combinations of endless diversity.

But my letter is growing too long, and I must here break off.

### LETTER II.

SUMMARY RECAPITULATION OF THE PRINCIPAL DIS-CUSSIONS IN THE FIRST SERIES OF "LETTERS ON THE PHILOSOPHY OF THE HUMAN MIND"—CONTINUED.

I resume my summary.

The letters which immediately follow the observations on Locke are devoted to some strictures on Berkeley's theory of the non-existence of matter. I mark in the first place the precise point where he deviates into error and assumes the very thesis he sets himself to prove: and I then proceed to show the fictitious or imaginary facts which he assigns in explanation of real phenomena. Subsequently I not only explain the relation in which his theory stands to common opinion but point out the inconsistency of Berkeley's own statements of that relation and the sources of it—a part of his writings which has greatly contributed to perplex his readers, and has not, as far as I can find, been elucidated by any of his commentators.

I follow this up by an argument — certainly unborrowed — which, if valid, demonstrates what has been frequently affirmed without demonstration, that the existence of external objects is not

susceptible of either proof or disproof—that it is in truth out of the province of proof altogether.

In the letter immediately following, I adduce the declaration of Hume that Berkeley's arguments "admit of no answer and yet produce no conviction;" and I do not hesitate to venture upon the counter-declaration that Berkeley notwithstanding the credit commonly given to him, brings forward no arguments whatever (those in a circle excepted) to substantiate his fundamental position, but at once assumes what it was his professed business to establish by proof. I further show how Hume's declaration that Berkeley's arguments are unanswerable\*, is the more extraordinary inasmuch

<sup>\*</sup> That Berkeley's arguments are logically unanswerable seems even now a prevalent tradition. "The opinion of the ablest judges," says Dr. Reid, "seems to be that they neither have been nor can be confuted; and that he hath proved by unanswerable arguments what no man in his senses can believe." - Inquiry into the Human Mind, chap. i. sect. 5. "The confutation of the scepticism on this subject," says Dr. Thos. Brown, "it is evident, may be attempted in two ways, -by showing the arguments urged by the sceptic to be logically false; or by opposing to them the belief itself, as of evidence either directly intuitive, or the result, at least, of other intuitions, and early and universal associations and inferences, so irresistible after the first acquisitions of infancy, as to have then all the force of intuition itself. As long as Dr. Reid confines himself to the latter of these pleas, he proceeds on safe ground; but his footing is not so firm when he assails the mere logic of the sceptic, - for the sceptical argument as a mere play of reasoning admits of no reply."-Lectures, vol. ii. p. 51.

as he himself although generally regarded as a follower of Berkeley misconceived the bishop's theory, and really maintained one in contradiction to it. If this criticism on Hume has been anticipated, I shall certainly be both surprised and gratified to learn the fact.

I afterwards discuss a more subtile representation of the ideal theory as given by Dr. Thomas Brown, although not originating with him; and animadvert on several points connected with the general doctrine which it would be tedious here to recapitulate. Of these comments, I will nevertheless mention one. Having before shown that the existence of external objects is not susceptible of either proof or disproof, I now show that there is a latent absurdity not only in Berkeley's but in every possible form of the ideal theory; an inherent self-contradiction in every denial, however it may be expressed, of the perception or the existence of external material objects; an inevitable assumption, on the part of the deniers, of that which they deny.

Putting these two arguments together — the first demonstrating that the existence of an external world is not in the very nature of the case susceptible of proof, that it is out of the province of proof altogether; and the second showing that it cannot be denied without self-contradiction — we obtain a complete answer to any system of idealism that it is possible to devise.

The discussions in reference to Berkeley's theory

of which I have given this brief account, differ in material respects, and especially in the one last named, from any I have ever met with; and that they are at the least timely and needed, is shown by the misconceptions or different interpretations of the theory to be found not only in writers of the past age whom I have already pointed out, such as Hume and Darwin, but in authors of our own day. One or two remarkable instances will suffice to substantiate this assertion.

"The question respecting the Ideal Theory of Berkeley," says a living writer, "has been mixed up with the recognition of this condition of the externality of objects. That philosopher maintained, as is well known, that the perceptible qualities of bodies have no existence except in a perceiving mind. This system has often been understood as if he imagined the world to be a kind of optical illusion, like the images which we see when we shut our eyes, appearing to be without us, though they are only in our organs; and thus this Ideal System has been opposed to a belief in an external world. In truth, however, no such opposition exists."\*

Compare this representation with Berkeley's own statement: "In common talk," he says, "the objects of our senses are not termed *ideas* but *things*. Call them so still, *provided you do not attribute to* 

<sup>\*</sup> The Philosophy of the Inductive Sciences, by Rev. W. Whewell, D.D., vol. i. p. 269.

them any absolute external existence, and I shall never quarrel with you for a word."\*

"Did men but consider," he says in another place, "that the sun, moon, and stars, and every other object of the senses, are only so many sensations in their minds, which have no other existence but barely being perceived, doubtless they would never fall down and worship their own ideas."†

Even the able author of a System of Logic narrows Berkeley's theory by characterising it as

\* Dialogues between Hylas and Philonous.

† Principles of Human Knowledge, sect. 94. This passage furnishes a remarkable instance, in Berkeley himself, of the same blunder which has drawn down so much just discredit on some of his opponents—the fallacy of assuming that those who adopt the ideal hypothesis must, to be logically consistent, act differently from what they otherwise would do. Thus Dr. Reid maintains that the idealists ought not in rigid consistency to avoid running their heads against a post or walking into a ditch; a preposterous misconception on his part which was well exposed by Dr. Priestley in his Examination of Reid, Beattie, and Oswald. The stories told of Pyrrho's acting such blunders are wholly incredible and are in fact blunders on the part of those who invented them. It is highly curious and instructive to find Berkeley in his zeal to proclaim the blow which his doctrine would give to atheism and superstition, committing himself in the same way by insisting, that if men knew that the sun, moon, and stars, were only their own ideas, they would never fall down and worship them. He might just as well have said that if men knew that the dishes before them at dinner were only their own ideas they would never fall to and eat them. Such passages inspire a doubt whether he had fully mastered his own theory, and at all events confirm the observation in the text that a false system is almost sure to be marked by inconsistencies.

scepticism relating to a supposed substratum,\* whereas the question about a substratum is a minor point, as I have shown in Letter 16, and the existence of such a thing may be denied by an anti-Berkeleian. Further Berkeley's mental state as described by himself is not scepticism, although generally styled so, but downright dogmatism—dogmatic denial of the existence of an absolute external world, which he pronounces to be impossible. It must be acknowledged, however, that by a sort of natural necessity, Berkeley, like every inventor or expositor of a false system, is often inconsistent with himself.

Having finished my comments on Berkeley, I bring forward several circumstances in perception not always (I take occasion to remark) perspicuously treated, and apply the conclusions at which I arrive to certain speculations of Hobbes, D'Alembert, and Stewart, on the subject of colour, insisting by the way on the truth too often overlooked, that a knowledge of the physical process in perception does not at all affect the nature of the mental act. In these special illustrations and animadversions, be their worth what it may, I am not conscious of having been preceded by any critic or commentator either here or abroad, and should be by no means displeased to find that I had, inasmuch as I have reason to apprehend a pretty general dissent from the views there propounded - an apprehension

<sup>\*</sup> Vol. ii. p. 471.

which would give a relish to the discovery of coincidence in any quarter. With one eminent metaphysician of the present day, Sir Wm. Hamilton, I find myself greatly at variance on the points in question.

The two next letters are devoted to an examination of Kant's theory of perception, dividing it for the sake of perspicuity into the negative doctrine respecting our non-knowledge of external things, and the positive doctrine that our minds act upon them and even give birth to them. This division and the subsequent examination are, as far as I know, different in many respects from any before published, although in the innumerable comments which have been given to the world on the philosopher in question, it is likely enough that I have been more or less anticipated. That in the mode of answering him, however, unanimity is still to be attained, and discussion still required, is proved by the criticisms called forth in consequence of my asserting that his proposition "we cannot know things in themselves," is perfectly unmeaning. Kant's doctrine on this point is endorsed (to use an old phrase in a modern application \*) by many if not most of the metaphysical writers of the present day.

<sup>\* &</sup>quot;A low metaphor," says Dr. Richardson, "from the counting-house."—Supplement to Dictionary.

<sup>†</sup> See Cousin amongst others in his Cours d'Histoire de la Philosophie Morale.

In Letter 21 I pass from the consideration of perception to that of the dependent and secondary operation named 'conception' or 'having ideas,' showing after Reid and others, as a step to what follows, that ideas bear no part in the former process, and adding that they are without exception representative phenomena. I further show that when the term idea has been applied or has been supposed to be applied to any thing else than representative affections of the mind, there has been a misconception of the phenomena so designated.

As this doctrine, which is much wider in scope than may at first sight appear, and the bearings and consequences of which I know no one who fully grasps, is incompatible with the existence of any ideas corresponding to general and abstract terms, I enter next into the consideration of such terms, and endeavour to illustrate the truth that, like proper names, they raise up nothing but ideas of individual objects - that there are no such things as either general ideas (which are of course denied by all consistent nominalists) or abstract ideas (sometimes called simple ideas) for the existence of which some eminent nominalists see no inconsistency in contending. The same assertion is equally applicable to general and abstract notions and conceptions which are only the same alleged mental phenomena under different names.

The latter opinion, namely that there are such things as abstract or simple ideas — ideas non-

representative in character — I next proceed to examine, selecting for this purpose the exposition of it given by its decided supporter Mr. Dugald Stewart, in order to show its unsoundness and to vindicate my own views. And, lastly, to exhibit the importance of duly appreciating the bearings of this part of philosophy, I enter upon the consideration of several common names and abstract terms which have been the subjects of much perplexity and dispute, and particularly the words cause, causation, power, time, and space, applying my conclusions to some celebrated doctrines of Hume and Kant relating to them or to their signification.

In maintaining the non-existence of such things as general and abstract ideas, I do not commit the folly of claiming originality for a doctrine well known for ages before I was born. On the contrary I quote an ample passage from Berkeley, in which it is most explicitly laid down; and he, although Hume ascribes the origination of it to him \*, had

<sup>\*</sup> So at least I read the following passage in the Treatise of Human Nature, part 1, section 7: "A very material question has been started concerning abstract or general ideas, whether they be general or particular in the mind's conception of them. A great philosopher [Dr. Berkeley] has disputed the received opinion in this particular, and has asserted, that all general ideas are nothing but particular ones annexed to a certain term, which gives them a more extensive signification, and makes them recall upon occasion other individuals which are similar to them. As I look upon this to be one of the greatest and most valuable discoveries that has been made of late years in the republic of letters, I shall here endcavour to confirm it by

numerous predecessors in it. I rest the conformity of introducing these discussions with my declared purpose, partly on some degree of novelty or at any rate greater strictness in the mode of explaining and applying the doctrine, in which there has been much of both defect and inconsistency; partly on the ground of pushing it farther to its consequences than most if not all preceding writers; and partly on the fact that, as far at least as abstract or simple ideas are concerned, and even farther, it is still extensively denied, and needs to be illustrated and enforced.

Indeed, since Berkeley's clear and explicit declaration of his opinion on the subject, I scarcely know a writer who has completely adopted and thoroughly, accurately, and consistently, carried out the denial of general and abstract ideas.

The philosophers subsequent to him, who appear to me to have made the nearest approach to this (and even Berkeley himself only approached it) are Hume and Dr. Thomas Brown; and with these may be joined one or two more recent writers of

some arguments which I hope will put it beyond all doubt and controversy." It is marvellous how Hume could write this in face of the long controversy which had been carried on century after century between the Nominalists and Realists. He had only to turn to the writings of Hobbes to see the doctrine which he treats as a discovery of Berkeley's, stated with the utmost clearness and precision. Mr. Stewart has incidentally noticed Hume's historical lapse on the point before us.

repute, in the present century. Still in all these authors, amidst clear enunciations of the truth, are to be found apparent inaccuracies, inconsistencies, or infelicities of exposition. Of such an assertion some proof may be reasonably required; but since to produce it would involve considerable detail, I will consign it to a separate letter.

As an instance that abstract ideas — ideas of a non-representative character - continue to be maintained down to the present time, I may cite Sir William Hamilton, who every where admits the existence of abstract notions, and specifically asserts that there are thoughts which "cannot be represented in the imagination, as the thought suggested by a general term: " \* which is directly contrary to my doctrine that we have none but representative ideas, and that the thoughts called up by general terms are, in all cases, thoughts of particular objects or events, physical or mental, although they may be in trains or groups; that in a word there are no distinctive mental phenomena induced or implied by those terms. Indeed the whole of this distinguished author's writings abound with the recognition and assertion of abstract notions. Amongst the rest he maintains that we

<sup>\*</sup> Sir Wm. Hamilton's edition of Reid's Works, p. 360. The assertion here quoted is not in reference to any restricted meaning of the term imagination, since it is made without limitation and would consequently apply to general terms denoting visible objects as well as to any others.

have abstract ideas of space and time, the nonentity of which I have taken some pains to show.

If I wanted further examples, I might find them in abundance in writers who, although of high standing in mathematical or physical science, can scarcely take equal rank as metaphysicians, such as Dr. Whewell and Mr. de Morgan, whose dissertations about ideas present an ample and tempting field for criticism and comment, to any one who has leisure to enter upon it.

I am not here contending, you will observe, that my views on these latter points are correct—the evidence on that point must be sought in the body of the original letters themselves—but that while they have eminent authorities more or less in their favour, they are at variance with those of recent writers competent to form their own opinions; and consequently that the whole subject still requires to be discussed and to be placed in fresh lights.

You will observe too that in claiming some degree of novelty or in pointing out instances of departure from the track of my predecessors in the treatment of various questions, I frequently use the qualification "as far as I know," or other equivalent phrases, because it is quite possible in the abundance of extant works that preceding writers, without my being aware of it notwithstanding a pretty extensive reading on the subject or in some cases without my remembering what ought not to have escaped recollection, may have been beforehand with me in some of my comments and specu-

lations. Should this be the case, I should feel obliged if you or any other critic would do me the favour to name the works and quote the passages in which such anticipations when they are of any importance are to be found; or, if this is too much, at least to indicate them by particular references.

I shall have unaffected pleasure in becoming acquainted with such coincidences and yielding to the authors who have forestalled me all the honour of priority.

It is not surely for the mental philosopher above all others (although we authors of whatever description are weak creatures in this respect) to indulge the feeling expressed in the trite saying "Pereant qui ante nos nostra dixêre," — a saying which is or ought to be less applicable to the searcher after truth — the man of science or the metaphysician, than to the creator of emotion the wit or the poet. In the prosecution of inquiry there is always, as every one must admit, great reason for satisfaction in finding conclusions which we have reached in the course of our own thinking, clearly laid down and proved by others before us. It may fairly be questioned, indeed, whether, on the whole, the confirmation obtained from the concurrence of independent thinkers in the same views, does not yield a higher pleasure than mere priority in discovery.

An author who is desirous of assisting the progress of knowledge may be thus placed in an agreeable kind of dilemma. If his views should prove

to have been anticipated he will have the solid satisfaction of being confirmed in them by the concurrence of others; and thus, feeling more sure of his ground, he will be better prepared to essay a further advance; if, on the other hand, they have not been anticipated, although he will lose in that case the satisfaction described, he will enjoy the elevating thought of having probably done something towards the attainment of truth, even were it only by the promulgation of some new form of error. On either supposition, if the speculations have proceeded from earnest inquiry and from any real insight into the subject, they will bear unmistakable marks of having been "cast in the mould of his own mind," and so far be of genuine value.

You will, nevertheless, see the propriety of such a one holding himself excused from admitting on the bare assertion of any critics or commentators whatever, that he has been forestalled in such of his matured speculations as wear to him some appearance of novelty. If he possesses any accurate and competent knowledge of the history and actual state of the philosophical doctrines discussed—a knowledge undoubtedly very difficult to be acquired by either author or critic—there is no call upon him to surrender his own convictions in this respect to any thing short of actual proof. But on these points I say no more. The question of priority or novelty or originality, is, after all, a petty question beside that of truth, although truth

itself requires that, whenever it is agitated, it shall be justly settled.

I cannot refrain from appending to the explanations now concluded, an extract from a letter addressed to our distinguished countryman Dr. Thomas Young by the celebrated French philosopher Fresnel, in reference to some discoveries in Physical Optics which appear to have been independently achieved by both. If the writer of the following passage had not quite attained the philosophic spirit which I have attempted to describe, he must be allowed to have approached it, and not to have been insensible to the real advantage flowing even from the misfortune of having been forestalled. "When we believe," says Fresnel, "that we have made a discovery, it is not without regret that we find that another has made it before us; and I will frankly confess to you, Sir, that such was the feeling I experienced, when M. Arago showed me that there were only a small number of observations really new in my original memoir. But if any thing could console me for not having the advantage of priority, it is that it has brought me into contact with a philosopher who has enriched physical science with so great a number of important discoveries, a circumstance which has not a little contributed to increase my own confidence in the theory which I have adopted."\*

<sup>\*</sup> Life of Dr. Thomas Young, by Dr. Peacock.

## LETTER III.

THE THEORY OF PERCEPTION PROPOUNDED BY DR. REID.

When I was treating the subject of perception, I did not deem it necessary to enter into an examination of Dr. Reid's views regarding it, partly to avoid wearying the reader, and partly because I thought the difference between his doctrines and mine would be sufficiently obvious, to any one who felt an interest in the matter, from my classification of the phenomena of consciousness and the accompanying elucidations.

On more mature consideration, however, and especially after your intimation that I have been spoken of by several critics as a follower of Dr. Reid, I have seen reason to conclude that a brief commentary on his doctrines regarding this part of philosophy might not be superfluous or misplaced. What is more important, it will give me an opportunity of more fully explaining the peculiar views I entertain of the relation in which sensation and perception stand to each other.

Dr. Reid, it cannot be doubted, virtually denied, in several parts of his writings, the direct percep-

tion of external objects, although not consistently with many express declarations. His theory is that physical impressions on the organs of the senses produce sensations, and that these sensations suggest to the mind external objects, in the same way that signs suggest the things signified by them. Thus, to quote his own words, "When I see an object the appearance which the colour of it makes may be called the sensation which suggests to me some external thing as its cause."

That this doctrine of Reid's should have made any way amongst philosophers is to me marvellous. I cannot recognise in my own experience such a process as the sensation of colour suggesting an external thing. I directly and immediately see the coloured external object. You will not fail to observe, in particular, that the word suggest as Dr. Reid uses it, implies that the object suggested is not present to the organs of sense. He compares the process to that of signs suggesting the things which they denote; but when a sign (e.g. a written word) suggests the thing signified, it is under the two conditions that the thing signified is or may be absent and that it has been previously known in connexion with the sign. Here, then, unless we can perceive absent things, there is undoubtedly a virtual denial of the direct perception of external objects (although not consistently as I have already said with numerous express declarations) and moreover an assertion that the sensation suggests a

thing previously unknown and unconnected with it. Taking suggestion in its ordinary sense — in the sense indeed required by the analogy employed by himself — he might I think with equal propriety have maintained that a proper name could suggest to him the image or likeness of a man whom he had never seen.

If in spite of this unfortunate comparison to signs and things signified, we were to give Dr. Reid, all the benefit which may be derived from his distinction of suggestion into natural and artificial and, carrying concession even farther, construe the word to mean originating something before unknown - bringing a thing into the mind instead of bringing it to mind \*, - the doctrine would certainly be quit of one objection, but others would The theory would still be that a sensation remain. is always interposed between the percipient and the external object, or, to state it in its least vulnerable form, that we perceive external objects by first having sensations; that sensations are a primary and perceptions a secondary state of mind; that the former invariably precede the latter. doctrine so modified may be given in his own words: "the impression," he says, "made upon the organ, nerves, and brain, is followed by a sensation,

<sup>\*</sup> Mr. Stewart, in explanation of this point, says that Dr. Reid employs the word to comprehend not only the *intimations* which are the result of experience, but those which result from the original frame of the human mind. — Dissertation, p. 167.

and this sensation is followed by the perception of the object." \*

The most curious passage, however, asserting such a succession is the following:

"The impression made upon the nerves and brain is performed behind the scenes and the mind sees nothing of it. But every such impression by the laws of the drama is followed by a sensation, which is the *first* scene exhibited to the mind, and this scene is quickly succeeded by *another*, which is the perception of the object."† Here there is nothing about signs and suggestion: the sensations and perceptions are spoken of as equally "exhibited to the mind," the former not signifying but only preceding the latter.

Now although we may have, as I shall proceed to explain, certain sensations along with the perception of external objects, the latter is in such cases as instantaneous and direct as the former;‡ the one is no more secondary than the other; there is no succession as here represented; neither are a sensation and a perception in the case of all the senses necessarily conjoined. To this last point I

<sup>\*</sup> Inquiry into the Human Mind. - See chapters ii. and vi.

<sup>†</sup> In another passage both sensation and perception are ascribed to inspiration. "We are inspired with the sensation, and we are inspired with the corresponding perception by means unknown."—Inquiry into the Human Mind, chap. vi. sect. 21.

<sup>‡</sup> That "sensation proper and perception proper" are simultaneous, is maintained against Reid by his editor. See Hamilton's edition, p. 186.

entreat your particular attention as the affirmative is expressly maintained by Reid, Stewart, and Hamilton, however they may vary on other points connected with it. Had it not been for their erroneous views, as I take them to be, regarding sensation, I should scarcely have troubled you with the present letter.

In the whole of this doctrine, the author has, I think, confounded together matters which ought to be kept separate, and has misconceived what actually takes place. On referring to the classification of the phenomena of consciousness already presented to you in a former letter, you will find that I have there put down bodily sensations as of a distinct genus and even of a distinct order from acts of perceiving; but it is unquestionable that we frequently have sensations of this kind at the same time that we perceive external objects; and we have them not only in other parts of the body but in the very organs through which we perceive.

In the case of touch, when I tactually perceive an external object, as, for example, the pen I hold in my hand, I am conscious also of perceiving it by means of a certain part of the body, namely the thumb and fingers. Here is doubtless a bodily sensation combined with the perception of an external object; but the first does not suggest or necessarily introduce the second. We have assuredly the feeling that we possess thumbs and fingers before the pen is taken up, and so far it is

prior to the act of perceiving; but perceiving the pen and feeling that we perceive it with a certain part of the body must be simultaneous and inseparable.

With the sense of sight the case is different. When I see an object under ordinary circumstances, I am not conscious of any affection in the organ of sight. I am conscious of perceiving the object at some distance but not of any sensation in the eye itself. It is quite true that even in the exercise of sight I may have such a sensation. When I look upon a shining object, it may be so dazzling as to occasion a pain felt to be localized in the organ of sight; but the object itself you will observe is not perceived to be there, and this clearly shows what it is to have a bodily sensation and what it is to perceive.

Even Dr. Reid admits that visual perception may be disjoined from sensation. After remarking that the perceptions we have might have been (as I contend they are) immediately connected with the impressions on our organs without any intervention of sensations, he adds, "this last seems really to be the case in one instance, to wit, in our perception of the visible figure of bodies."\*

<sup>\*</sup> How Dr. Reid reconciled this with a passage before quoted from him, designating "the appearance which the colour of the object makes, the sensation which suggests the external object," it is not easy to see, since visible figure cannot be perceived without colour. It is perhaps part of that doctrine of visible

What has been said of sight applies to hearing. When we hear we have not necessarily any bodily sensation localized in the ears. We perceive external sounds without feeling the body to be affected in that part unless they are so loud as to produce uneasiness or unless the organ is in a morbid condition.

A similar observation may be made as to smelling, but is not applicable to touching, and not perhaps to tasting, in both of which there is a feeling that perception is taking place in a certain part of the body.

In strict accordance with these observations we find that pain experienced in the eye is felt through the instrumentality of a different nerve from that which is the medium of seeing external objects. A nerve possessed of a quality totally different from that of the optic nerve, extends over all the exterior surfaces of the eye, and gives to those surfaces their delicate sensibility.\*

Thus my definition of a bodily sensation is "an affection felt to be in some part of the body, whether attended or not by a discernment of any

figure which even his admirer Dugald Stewart confesses himself incapable of entering into [Dissertation, p. 66.] Nor is Reid consistent in what he expressly says about colour, sometimes representing it as a sensation suggesting a perception, sometimes as a perception, or at least a something suggested. See Inquiry, chap. 6. sect. 8.

<sup>\*</sup> The Hand, by Sir Charles Bell, p. 161.

thing different from or external to the sentient being:" while my definition of perception is "discerning something different from or external to the percipient being, whether attended or not by a bodily sensation."

In these particular views of sensation and perception, and of the connexion between them, I differ fundamentally, as already indicated, not only from Dr. Reid but also from Dugald Stewart and Sir Wm. Hamilton; all of whom, although they disagree more or less in details, accord in the main; and they especially unite in asserting (save in the single exceptional case of Dr. Reid's before mentioned) that sensation as a distinct phenomenon always accompanies the perception of external objects.\*

Eminent authorities combining to support the same theory, ought to stimulate a dissentient to rigorous and repeated examination of the grounds of his dissent. Such, in the case before us, I have bestowed. The account I have given of these

<sup>\*</sup> Sir Wm. Hamilton may not always appear consistent in regard to this invariable concomitance. In one place [Discussions, p. 67], he says, "Perception and sensation, the objective and subjective [a curious use of these terms], though both always co-existent, are always in the inverse ratio of each other;" while in other places [Reid's Works, pp. 248, 821], he maintains it is not necessary that sensation should precede perception. But there is no inconsistency. In the latter passages he does not deny concomitance but merely sequence — the antecedence of sensation to perception.

mental phenomena, is a faithful and well-considered description of what I am myself conscious of.

Sir Wm. Hamilton has entered into an elaborate consideration of Dr. Reid's whole theory of perception, arranging in separate order the passages favouring the doctrine of *immediate* perception (denominated by Sir William, Presentationism or Natural Realism) and those favouring the doctrine of *mediate* perception (in Sir William's language Egoistical Representationism). On a comparison of these dissonant passages, he finally comes to the conclusion that his predecessor did in reality confound the two doctrines here mentioned. Speaking of Reid's erroneous criticism (as he thinks it) of Arnauld's doctrine on the subject, namely, that it was inconsistent with itself, he proceeds:—

"This plainly shows that he [Reid] had not realized to himself a clear conception of the two doctrines of Presentationism and Egoistical Representationism, in themselves and in their contrasts. But it also proves that when the conditions and consequences of the latter scheme, even in its purest form, were explicitly enounced, that he was then sufficiently aware of their incompatibility with the doctrine which he himself maintained—a doctrine, therefore, it may be fairly contended (though not in his hands clearly understood, far less articulately developed) substantially one of Natural Realism."\*

<sup>\*</sup> Reid's Works, p. 823.

The same author adds that the theory of suggestion so explicitly maintained in the "Inquiry," is not repeated in the later work, the "Essays on the Intellectual Powers," and that therefore Reid may have become doubtful as to its tendency.

The term suggestion may not perhaps be found, but the theory that there is in perception a sign and a thing signified (which virtually implies it) is plainly re-asserted in the Essays. "Every different perception," he there says, "is conjoined with a sensation proper to it. The one is the sign, the other the thing signified. They coalesce in the imagination."\*

I have said that this phraseology is virtually the same as using the word suggestion, but it is in fact more objectionable, inasmuch as although suggestion may be explained to mean (awkwardly enough it is true) the original introduction of something into the mind, a sign cannot with any propriety be spoken of as signifying (and indeed cannot signify) any thing not previously known.

My own conclusion is that Reid while he retained his theory as first propounded, was utterly unconscious of its being in that shape at all inconsistent with holding a direct knowledge of the external world. He had not in fact a clear insight into the subject, and as a consequence held incompatible doctrines.

<sup>\*</sup> Essay II. chap. xvi.

But a still more extraordinary unconsciousness of inconsistency in relation to the same question, appears to me to be exhibited by his learned editor, an examination of whose singular opinions on some points in the theory of perception, I will reserve for a separate letter.

Before taking leave of Dr. Reid, however, I must not omit to notice his supposition that by subverting as he claims to have done the doctrine of intermediate ideas as separate entities—third things—in perception, he and those who took the same view with him, destroyed Berkeley's theory of Idealism.

This was a great mistake in which he was joined by Dugald Stewart, and to my surprise countenanced, in one part of his comments at least, by Sir Wm. Hamilton.\*

Berkeley fully accorded with Reid that in perception there are only two entities, the percipient and that which is perceived; but while Reid following the common view regarded and called the perceived things, external objects, Berkeley called them ideas, the difference on the part of the latter

<sup>\*</sup> In reference to a passage in Reid overturning (as that writer declares) the whole ideal system, Sir Wm. Hamilton has the following note:—"It only overturns that Idealism founded on the clumsy hypothesis of ideas being something different, both from the reality they represent, and from the mind contemplating their representation, and which also derives such ideas from without. This doctrine may subvert the Idealism of Berkeley, but it even supplies a basis for an Idealism like that of Fichte."—Reid's Works, p. 128.

being so far only nominal. The real difference was that he endowed his ideas with several peculiar attributes positive and negative (all fictitious) which could not be predicated of objects; and more especially assumed without any possible proof that in virtue of being ideas (i. e. really, in virtue of his calling them ideas) these entities could exist only when perceived. But he never taught that there are both objects and ideas. The subversion, therefore, (whether due to Reid or not) of the doctrine of intermediate ideas in perception as distinct entities-third things-left Berkeley's theory untouched. This was shown, indeed, by Dr. Thos. Brown. It is now, I think, generally admitted that Dr. Reid did not fully comprehend the theory which he assailed, and he certainly exhibited his misapprehension of it in a way which, it is to be regretted, exposed him to inevitable ridicule.\*

<sup>\*</sup> I can by no means, however, concur in the judgment pronounced by a recent author, that the Inquiry into the Human Mind "is a very shallow and feeble performance."—See "Locke's Writings and Philosophy," by Edward Tagart, p. 31.

## LETTER IV.

THE DOCTRINES OF SIR WILLIAM HAMILTON REGARDING PERCEPTION.

SIR WM. Hamilton's doctrines on the subject of perception appear to me even more singular and incongruous with each other than those of Dr. Reid, although they do not manifest the qualities just named on the same points, and the more recent writer seems as unconscious of any inconsistency in what he teaches as his predecessor.

In his edition of the Works of the latter he makes the following dogmatic assertion: "As not here present an immediate knowledge of an object distant in space is impossible."\* Now mark the reason assigned: "For," he continues, "as beyond the sphere of our organs and faculties, it cannot be known by them in itself."

This is surely much like saying "it cannot be known because it cannot be known." What is meant by the sphere of our organs and faculties? To say that a distant object is beyond this sphere, according to the only interpretation of the phrase

<sup>\*</sup> Works of Dr. Reid, edited by Sir Wm. Hamilton, p. 810.

which I can think of, seems to be at once begging the question.

But the most notable fallacy lurks in the term "immediate" when he affirms "an immediate knowledge of an object distant in space is impossible." He had previously characterized it as "a contradiction in terms."\* A few words will suffice to show that it is neither one nor the other; and that the assertions just quoted involve a confusion of what is physically immediate with what is mentally immediate. As this distinction is exceedingly important I must take some pains to elucidate it.

It is allowed on all hands that a distant object cannot be known without a physical medium between the object and the percipient. In the case of all the senses we can trace the intermediation of physical agents such as light, air, and nerves. Even in cases where the object is in contact with the organ, as in feeling by the touch, the nerves which are always interposed may be strictly regarded as a material medium between the percipient and the object; as a substance, namely, which must be affected before perception ensues, but of whose affections requisite for that end we are insensible.

As all this is, I believe, uncontroverted, as physical intervention is universally admitted, we must consider the author before us to mean that there can

<sup>\*</sup> Reid's Works, p. 305, note: "An immediate perception of things distant is a contradiction in terms."

be no mentally immediate knowledge of an object distant in space; i.e. no knowledge of it without the intervention of some other act or state or mode of consciousness. Thus Dr. Reid's theory which I have just examined affirms a mediate knowledge of external objects inasmuch as he maintains that it comes to us not directly but by means of a state of mind called in his vocabulary "sensation:" and in like manner Sir Wm. Hamilton's doctrine now under consideration must also be construed to affirm an intermediate mental state.

This, however, according to my own personal experience is contrary to fact. As soon as any object is placed before the organs of sight, we see it instantaneously and we see that it is distant from us. We are conscious of no other mental state preceding the perception; and as to the intermediation of light and of our own bodily structure, if a thousand physical actions in them could be traced as interposed, the discovery could not affect the mental act or render it less immediate. The utter incompetence of a knowledge, however complete, of the physical processes concerned in perception to modify the resulting state of consciousness or to alter the object perceived, was shown in a former letter.

Hence if Sir Wm. Hamilton's doctrine that an immediate perception of a distant object is impossible and the assertion of it self-contradictory means physically immediate, the answer is that no

one maintains an immediate perception in that sense: if on the other hand it means mentally immediate, it affirms what is contrary to fact.

There are two theories, certainly, still current, which teach that there is something mental interposed between the object and the percipient.

The first is the theory that we perceive only our own mental states produced by the objects, and have no direct knowledge of the objects themselves; which although still maintained by several philosophers, is expressly repudiated by the author before us; and could not be of any avail in the present case, inasmuch as it manifestly includes all objects, proximate as well as remote, the latter of which alone are here in question.

The second is the Theory of Vision, due to the fertile imagination of Berkeley, which insists that we cannot see objects to be distant, but obtain the knowledge of their being so by the intervention of touch, and that the universal conviction of mankind (philosophers excepted) of their seeing objects to be at different distances from each other and from themselves, or rather their perfect freedom from doubt on the subject, is altogether an illusion.

Now as far as the Theory of Vision is concerned, Sir Wm. Hamilton is a Berkeleian, although not a thorough-going one, as I shall show by-and-by; and in that character must of course maintain that our sight of distant objects as distant is not immediate; that we seem to ourselves to perceive them visually to be distant through an association with tactual impressions or conceptions. But if this is consistent in him, he has no grounds for charging others with self-contradiction who maintain the direct and immediate perception of distant visible objects. It is, in truth, a difference about a matter of fact, and involves no self-contradiction any way.

It may be presumed, therefore, that in the passage already quoted Sir Wm. Hamilton had not in view any reference to Berkeley's peculiar theory of vision, and this is confirmed by another consideration to which I shall have shortly to call your attention.

But whether he had or had not any reference to the Berkeleian hypothesis, he is equally mistaken in his award against the direct vision of distant objects. If he had, he is wrong in pronouncing that the doctrine of immediate perception, which is a question of fact to be determined by evidence, is a contradiction in terms. If he had not, he is wrong in not discriminating the mentally immediate and the physically immediate; and in transferring the stigma of self-contradiction from a proposition embodying one meaning and maintained by nobody, to a proposition embodying the other meaning, to which the imputation is wholly inapplicable.

And now for the circumstance—an extraordinary feature in the case—to which I have already alluded, and which most clearly and conclusively shows that Berkeley's theory was not in his mind.

While that philosopher denies merely that we see objects to be at any distance from us, Sir Wm. Hamilton in his doctrine falls into the still greater extravagance (although it may not be apparent at first) of denying that we perceive distant objects at all; and as this must refer principally to perception by sight, it is denying that we see such objects in any way. They do not even seem to us, on this hypothesis, to be in the eye or in the mind as Berkeley curiously enough propounds in his Essay. To the sense of sight they are nowhere. At this statement (which doubtless you will think incredible, but which I shall forthwith proceed to confirm) every one will be ready to exclaim, "If we do not see objects which are distant from us, what do we see when such objects are before us? We undeniably see something—what is it?"

The learned author proceeds to enlighten us on this point: he tells us in unmistakable language that the precise object of perception is not any distant reality, "for we are percipient of nothing but what is in proximate contact, in immediate relation with our organs of sense."\*

In another place he is still more explicit and particular, although perhaps at some expense of consistency. "The total object of visual perception," he says, "is thus neither the rays in themselves, nor the organ in itself, but the rays and the

<sup>\*</sup> Reid's Works, p. 814.

living organ in reciprocity: this organ is not, however, to be viewed as merely the retina, but as the whole tract of nervous fibre pertaining to the sense."\*

Now as "the object of visual perception" can be no other than that which we see, this is in fact asserting that we see the rays of light, the retina, and the nerves connected with it, all in a state of reciprocity (whatever that may mean); and that we see nothing else: whereas in simple truth, as every one on a moment's reflection must be sensible, we see none of these things, and it is unaccountable how any man of common acuteness could have been betrayed into so glaringly erroneous a statement. It seems almost superfluous to contradict it in detail by saying that this is purely a question of consciousness; that we are not conscious of perceiving either the rays, or the retina, or the connected tract of nervous fibre, or the rays and the living organ in reciprocity. The man who is totally ignorant of the existence of these physical and physiological facts, sees objects precisely in the same way and quite as well as the philosopher who possesses the greatest amount of knowledge respecting them. Sir William, in other places,

<sup>\*</sup> Reid's Works, p. 160. Lest it should be supposed that these are merely casual expressions, I refer the reader to the following pages in the same volume, 145, 159, 186, 247, 267, 299, 302, 305, and 810, for passages of similar tenor, the number of them proving that they proceeded from a deliberate theory.

insists that perceiving objects and being conscious of them, are one and the same thing; yet, in such passages as these, he teaches that we are percipient of things which we have not the slightest consciousness that we perceive; or, to put it differently, that the majority of human beings in the ordinary exercise of vision perceive and therefore are conscious of, material and organic circumstances the existence of which they never even suspect. Here we have indeed a contradiction in terms.

This extraordinary doctrine is the precursor of other incredible and not altogether congruous or coherent paradoxes. Dr. Reid having remarked that people in general "are firmly persuaded that when ten men look at the sun or the moon, they all see the same individual object," Sir William asserts that "so far from all men who look upon the sun perceiving the same object, in reality every individual in this instance perceives a different object, nay a different object in each several eye."\*

Without stopping to discuss the compatibility or incompatibility of this paradox with the preceding one, I must request you to bear in mind that it is from the pen of a writer who in other parts of the same work strenuously maintains the doctrine which he himself denominates Natural Realism, or in other words the direct or immediate perception of the external world.

<sup>\*</sup> Reid's Works, p. 814.

Thus his readers who have been led to regard the question of Perception as steadfastly moored by the learned professor and his predecessors in the secure harbour of Natural Realism, find it again set afloat by the very same hand that had assisted in letting go the anchor.

Surely he had not reflected on the extraordinary consequences flowing from the position he has here taken — consequences so obvious, and I may say so monstrous, that I scarcely need to point them out. A few of them may be nevertheless exhibited for your amusement if not edification.

Permit me, however, instead of following up Sir William's resplendent instance of the sun, in managing which his own mental vision seems to have been injuriously affected, "blasted," it may be, "by excess of light," to take the less dazzling and more tractable case of the able professor himself, while engaged in delivering a lecture to his class. According to the strange doctrine under review every pupil directing his eyes to his teacher would perceive a different object. Not being acquainted with the number of pupils who are wise enough to avail themselves of the prelections of so competent an instructor, and numerical accuracy for the purpose in view being unimportant, I will suppose at hazard that there are a hundred watchful disciples present on this hypothetical occasion; - on which supposition there would be, according to the theory before us, a hundred different objects actually perceived, all wearing the appearance of the professor. For the sake of simplification I will say nothing of the second hundred due to binocular vision; "a different object in each several eye." Now these hundred perceived objects would be either real or not real. If they were real, there would be a hundred actual Sir Williams in the room. If, on the other hand, they were not real, then inasmuch as the whole hundred would, without exception, be in the same predicament, there would not be one real object perceived. The actual Sir William would remain unseen, and might be literally described as disappearing in the crowd.

But in either case how is the theory of a multiplicity of objects to be reconciled with the learned author's position maintained with so much pertinacity that we not only perceive external objects, not only are conscious of perceiving them, but are conscious of the objects themselves; especially if we take it in combination with another doctrine on which, very properly and consistently with his own phraseology, he insists, namely the veracity of consciousness?

According to these combined doctrines pupil A is conscious of perceiving a certain object in the professor's chair, nay is actually conscious of the very professor himself, and the veracity of consciousness being unimpeachable, he must be conscious of the real man, not of any illusive appearance or phantasm: but pupil B, at the same moment

sees a different object in the chair, is conscious of a different professor, and as his consciousness is also veracious, there is indisputably a second real man. In this way we are swept along by a logical torrent to the inevitable conclusion that the room contains a hundred veritable Sir Williams.

There is, to be sure, a refuge from these consequences in falling back on our author's definition of a visible object; but a recourse to that only plunges us into fresh difficulties. We should then have to assume that every pupil instead of seeing the professor at the distance of a few yards, is wholly engaged in perceiving the rays of light reflected upon himself from the lecturer's person together with his own retina and the nervous tract connected with it, all in reciprocity and forming "the total object of visual perception:" i.e. he does not see the object before his eyes but perceives and is conscious of things of which at the moment he has no cognizance, of which he may have never heard, and of which the completest ignorance would not render his perception of the lecturer less perfect than it would be with the fullest knowledge.

It is interesting to surmise how so acute and thoughtful a philosopher as the editor of Reid is allowed to be, could have fallen into these transparent fallacies and self-contradictions.

The origin of such mistakes will I think be found, first in his not clearly discerning, or not perhaps uniformly bearing in mind, that the physical pro-

cesses necessary to produce perception are one thing and the mental effect — the perception of the object - is another; that these must ever stand apart as distinct in their nature; and that the latter is entirely unaffected by a knowledge or ignorance of such physical processes, on the part of the percipient: secondly in his not accepting the fact, notwithstanding his Natural Realism, of our perceiving external objects, as a simple and primary act of consciousness not susceptible of any analysis or explanation, whence it is vain attempting to trace any mental event between the percipient and the thing perceived; vain trying to express the fact more simply or fully than by saying that he perceives the object. Sir William, I may add, is not quite original in these extraordinary speculations. Dr. Thos. Brown (whom he had no great disposition to follow) falls into similar aberrations. "There never is," he says, "in the strict philosophic meaning of the phrase, perception of distant things." \* Again, "all which we truly see is the light that is present at the retina."†

It is curious that the learned baronet in the passage about every spectator seeing a different object, very closely approximates to those philosophers whom he rightly considers as maintaining a very

<sup>\*</sup> Sketch of a System of the Philosophy of the Human Mind, p. 128.

<sup>†</sup> Ibid. p. 146.

unphilosophical theory; I mean (to avail myself of his own nomenclature) the Cosmothetic Idealists.

In proof of this, take a passage from Professor De Morgan's Formal Logic relative to the idea of a horse. I have quoted it in a preceding Letter, but as it is short I will here reproduce it.

"The idea of a horse," he says, "is the horse in the mind: and we know no other horse. We admit that there is an external object, a horse which may give a horse in the mind to twenty different persons; but no one of these twenty knows the object; each one only knows his idea. There is an object because each of the twenty persons receives an idea without communicating with the others: so that there is something external to give it them. But when they talk about it, under the name of a horse, they talk about their ideas."\*

The difference between the two philosophers is soon told: while one of them would maintain that when twenty men look at a horse each man perceives a different *object*; whence there would ensue an arithmetical result of twenty objects: the other would insist that no object is seen but that every man has in his mind a different *idea*; whence there would be a sum total of twenty ideas.

It is clear, however, that on both theories the horse himself would not be perceived: he would walk, trot, or gallop over the ground in complete invisibility.

<sup>\*</sup> Page 30.

Hence I cannot for my own part divine how Sir William can possibly escape being ranked (as far at least as vision is concerned) with the Cosmothetic Idealists or Hypothetical Realists, unless, indeed, he may please to shelter himself under the appellation of Cosmothetic Organist — one who holds that we do not perceive ideas but organs, played upon (I am not punning) by rays of light; and thence comes to know in some inexplicable way that there is an external world of invisible objects.

I have already adverted to the language employed by the author on whom I am commenting, in reference to our perception of an external world. He maintains the correctness and propriety of saying that we are conscious of the objects themselves.\* This appears to me, I confess, an innovation in language at once needless, at variance with custom, and repugnant to good taste.

When we say we are conscious of anything, we mean that it is a state or act or mode of consciousness. Thus we are conscious of joy or sorrow, of a pain in the head, of remembering a beautiful landscape, of hearing the song of a blackbird: in other words joy and sorrow and pain and remembering and hearing, are modes of consciousness, or mental phenomena.

So we are conscious of seeing a tree: i.e. seeing

<sup>\* &</sup>quot;The assertion," he says, "that we can be conscious of an act of knowledge without being conscious of its object, is virtually suicidal." — Discussions on Philosophy, p. 47.

a tree is a state of consciousness. But if, conforming to Sir Wm. Hamilton's phraseology, we were to say, "we are conscious of the tree," it would be tantamount to calling the tree itself a state of consciousness, which would not only be at variance with custom but would set aside an important distinction.

To explain: while all the operations and affections of the mind may be designated as modes of consciousness, it is only some of them that can be spoken of as having *objects*; nor can we always use the latter phrase in precisely the same sense.

We may, for example, speak of an idea being the object of conception or contemplation, but in this case the object admits of being only verbally or logically discriminated from the operation; it has no distinct existence, but forms an integrant part of the mental affection, and thus we may be said to be conscious of it.

This is true of all objects spoken of as actually present to the mind except in the single but very comprehensive case of perceiving through the organs of sense, of which the objects are external things—things which are present to the mind but being separate entities are not states of consciousness, although the perception of them comes under that appellation; and, consequently, it cannot be said with any correctness that we are conscious of them. We are not conscious of anything which has a distinct existence from ourselves; we simply

perceive it. It may, it is true, be said that this is only a question about terms, whether we shall generalise the word 'conscious' in a greater or less degree; but even were this admitted, nothing is to be gained by such a generalization, while the power of marking an important distinction would be lost as well as both usage and taste contravened.

Before closing these strictures on Sir Wm. Hamilton's views regarding Perception, it may be worth while to take a passing glance at some points in his opinions on the subject of Berkeley's Theory of Vision, to which I have already alluded.

I have remarked that he is by no means a thorough follower of Berkeley in that extraordinary speculation. In the first place, he allows the possibility, nay the probability, of our seeing objects to be external \* without the aid of touch; which Berkeley altogether denies. At the same time he asserts that the knowledge we have of distance through the eye is in a great measure acquired; which is allowing that it is in some measure natural: an admission also totally at variance with the original hypothesis. He likewise acknowledges that the theory is "provokingly found totally at fault" † (his own phrase) in the case of the lower animals; "for we find," he adds, "that all the animals who possess at birth the power of regulated

<sup>\*</sup> Reid's Works, p. 177, note. † Ibid. 182.

motion (and these are those only through whom the truth of the theory can be brought to the test of a decisive experiment) possess also from birth the whole apprehension of distance, &c., which they are ever known to exhibit."\*

It is marvellous that after such admissions, a sagacious metaphysician like Sir Wm. Hamilton should cling to the traditionary philosophic faith of the eighteenth and ninetenth centuries, for they amount in reality to a surrender of the whole theory.

The position which Berkeley takes is, that it is *impossible* for an object to be seen either as external or as distant; assigning a reason which, if relevant at all, applies to the organs of vision in the lower animals with as much cogency as to the eyes of mankind.

It is not, therefore, as Sir William makes it, a question of degree but a question of absolute possibility or impossibility: and the admission that we can see an inch before us upsets the whole doctrine. Nor is it against the eye as human that Berkeley alleges the incapacity to see distance; but against the eye as a peculiar organ adapted to the reception of rays of light falling upon it in right lines, and which, as fitted for its special functions, has, to say the least, no superior excellence in man to that manifested by it amongst many of the lower

<sup>\*</sup> Reid's Works, p. 182.

animals. The reason alluded to —which is the only one given by Berkeley—is, I grant, and as I have shown in another place\*, exceedingly weak, unmeaning, and confused, and has really no applicability to the matter which it is intended to prove: but such as it is, if it is good against the human organ of vision, it is good against all organs of vision whatever. The parity of the two cases has, indeed, been slighted or hurried over by the defenders of the good bishop, but any one who takes the trouble to scrutinize the argument, will see the asserted parity at once and that it is fatal to the theory.

Adam Smith without discerning this inevitable conclusion, made the same admission with regard to sight in the lower animals that Sir Wm. Hamilton confesses himself to have conceded with so much unphilosophical reluctance. Who in truth at all acquainted with such facts as the following can possibly avoid it?

"Sight," says Cuvier, "is extremely perfect in birds, and they have the peculiar faculty of seeing objects near and distant equally well. The means by which this is effected are not satisfactorily explained, though a power of changing the convexity of the eye is probably the proximate cause. Like all other physical peculiarities, it is admirably adapted to the mode of existence of the class; a

<sup>\*</sup> Review of Berkeley's Theory of Vision; also Theory of Reasoning, Appendix.

quick and perfect sight of objects and perception of distances is necessary to the rapidity of movements and the securing of their prey to birds."\*

It is afterwards said of eagles in the same work, that their admirable power of vision enables them "to distinguish their prey at an immense distance, and they rush upon it with the velocity of an arrow." †

Just indulge your imagination for a moment in the exquisite supposition that the eagle learns distances by the touch!

If I have appeared to bestow too much time and labour in setting forth these erroneous views (as I conceive them to be) I must allege the high authority of the author on whom I am commenting in justification of the pains I have taken in pointing them out. Any confusion and inconsistency in a writer of his reputation must tend to produce a painful kind of perplexity in the mind of the earnest student. A philosopher of mature reflection may be able to detect such incongruities, and to divine their sources, and will at all events experience little disturbance from them in his own wellconsidered views; but it is in the process of education chiefly that the work on which I have animadverted is likely to be studied; and it is the young mind eager after knowledge that has to be guarded from embarrassment.

<sup>\*</sup> Cuvier's Animal Kingdom, translated by Ed. Griffith, vol. vi. p. 102.

<sup>†</sup> Page 223.

## LETTER V.

GENERAL AND ABSTRACT IDEAS AND TERMS, AS TREATED BY BERKELEY, HUME, AND OTHER WRITERS OF A MORE RECENT DATE.

I PROMISED in a preceding letter to furnish some proof that the philosophers who had in recent times maintained, more decidedly perhaps than any others, the non-existence of general and abstract ideas, had not, while so doing, steered altogether clear of inconsistencies and inaccuracies, or, at any rate, infelicities of exposition.

In attempting to fulfil the promise, I give precedence to the distinguished author of "A Treatise concerning the Principles of Human Knowledge."

Berkeley, while denying general and abstract ideas as commonly understood, still teaches that a particular idea may become general by being made to represent or stand for all other particular ideas of the same sort, just in the same way as a proper name may become general.\*

Surely there is here a want of due discrimination.

<sup>\*</sup> Introduction to the Principles of Human Knowledge, sect. 12.

The reason he assigns for the application of the epithet "general" to an idea, namely, that it represents other ideas, would not be valid even if the description of its function as representative were correct: and further, if the epithet were allowed to be appropriate, the meaning of it could not be the same, the case being a totally different one from the generalization of a name to which he likens it. The justness of this objection will be more clearly seen if we consider that the term "general," when applied to names, means "common," or belonging in common to the individuals of a genus or class.

A proper name may undoubtedly lose its particularity and become common or general by being given to more objects than one, and will then belong alike to each object: but a particular idea can never in any analogous sense be applied to other particular ideas or belong to them in common, and therefore cannot become general in the same sense as a name becomes so.

Moreover, if an idea can with any propriety be called general because, as alleged, it represents a class, so may an object; for an object actually perceived may represent other objects (whatever may be meant by the process so designated) just as well as an idea can represent other ideas: both stand in the same relation (however it may be described) to the other individuals of their respective classes.

It is curious enough that Berkeley himself, with apparent unconsciousness of what he is doing, asserts the same thing; for while attempting to show how an *idea* may become general by this kind of representation, he is actually engaged in showing how an *object*, and incidentally a *name*, may become general.

"Now," he says, "if we will annex a meaning to our words, and speak only of what we can conceive, I believe that we shall acknowledge that an idea which, considered in itself, is particular, becomes general by being made to represent or stand for all other particular ideas of the same sort. make this plain by an example, suppose a geometrician is demonstrating the method of cutting a line in two equal parts. He draws, for instance, a black line of an inch in length; this, which in itself is a particular line, is nevertheless, with regard to its signification, general, since, as it is there used, it represents all particular lines whatsoever; so that what is demonstrated of it, is demonstrated of all lines, or, in other words, of a line in general. And as that particular line becomes general by being made a sign, so the name line, which taken absolutely is particular, by being a sign is made general. And as the former owes its generality, not to its being the sign of an abstract or general line, but of all particular right lines that may possibly exist; so the latter must be thought to derive its

generality from the same cause, namely, the various lines which it indifferently denotes."\*

Here you will observe we have general objects, general ideas, and general names, and all asserted to be general in the same sense and from the same cause.

Yet it surely is anomalous and tends to confusion to talk of a general line, i. e. a general object, to call it general for no other reason really than its belonging to a class and possessing qualities similar to those possessed by the other individuals of the class: and it seems to me equally anomalous to speak of a general idea on account of its being in the same predicament.

Such language may have arisen from the circumstance which occasionally happens, that when a general term is in familiar use some one particular idea is called up by it more readily than others: but this, which is merely incidental, does not divest the idea of its particularity (if I may speak of an inconceivable process) nor does it remove a formidable objection to the expression that the particular idea represents the rest. The term "represent" is already pre-occupied in this connexion, and has a strictly definite meaning: in common metaphysical language an idea represents the object of which it is the copy, and to apply the phrase as Berkeley does is to render it ambiguous.

<sup>\*</sup> Principles of Human Knowledge, Introduction, sect. 12.

At all events, if the terms "general" and "represent" are to be employed in these senses by metaphysicians on account of the poverty of philosophical language, let it be clearly understood that each of them is also used in another perfectly distinct acceptation. So long as the double meaning is fully borne in mind, no great evil may ensue; but still the simpler and more effectual way of avoiding the risk of ambiguity is, I venture to think, restricting each of the words to one signification.\*

Hume, who substantially agrees with Berkeley, contributes to the explanation of his predecessor the somewhat inconsistent addition that an idea becomes general by being annexed to a general term—which certainly does not mend the matter. It is much like saying that when a private individual consigns his affairs to a general agent who is employed perhaps by fifty others, he by so doing becomes himself in some way or other "general:" that he contracts that quality by placing his con-

<sup>\*</sup> This employment of the word general is in truth an instance of that transfer of terms which the reader will find explained in a subsequent letter in reference to the epithet necessary. Should I be able to complete a third series of these Letters, some of them would probably take up the subject of language again at greater length, with the view of showing, amongst other things, the unsuspected variety of modes in which the same word is applied, and the erroneous inferences which unavoidably ensue.

cerns in the hands of one to whom it may be appropriately attributed.

Turn the matter as you please, you will find that a general idea is a solecism—except in the sense of an idea generally entertained, or present to the minds of a number of individuals, which is an application of the epithet not here in question.

It may be worth while observing that Berkeley prefers the term notion to that of idea in certain cases, and, amongst the rest, in the case of "the relations and habitudes between things:" which seems to be in some measure an anticipation of the views and language of Dr. Thomas Brown, who exhibits the same preference. It would be digressing too far to consider the accuracy or propriety or consistency of such a distinction in the hands of the former.\* To me he appears by it to depart from his previous doctrine.

Dr. Thomas Brown, both in his Lectures and in the Inquiry into the relation of Cause and Effect, which may be considered as containing his mature and revised opinions, coincides with Berkeley and Hume in denying general and abstract ideas as usually held: but he at the same time insists that we have general notions. In his explanation of what he means by these, he is not very precise. Sometimes he calls them "feelings of resemblance." Thus, after remarking that the term quadruped

<sup>\*</sup> See Principles of Human Knowledge, particularly section 142.

would not have been invented if we had not felt that particular relation of similarity which it denotes, he proceeds: "The feeling of this resemblance, in certain respects, is the true general notion or general idea, as it has been less properly called, which the corresponding general term expresses."\* Again he speaks of it as "that general notion of the relation of similarity in certain respects which is signified by the general term, -and," he adds, (giving us another equivalent for general notion) "without which relative suggestion, as a previous state of mind, the general term would as little have been invented as the names of John and William would have been invented, if there had been no perception of any individual being whatever to be denoted by them."† In the immediately subsequent passage he tells us, "that we have general relative feelings of the resemblances of objects, and that our general terms are significant of these," I adding, "and limited, therefore, to the particular objects which excite some common feelings of resemblance."

In the whole of the explanation of which these extracts form a part, there is an obvious looseness of phraseology and confusion of several things which ought to be carefully discriminated, while there is at the same time, it must be admitted, a display of no little acuteness and ingenuity.

Nothing, surely, can be gained except indistinct-

<sup>\*</sup> Lectures, vol. ii. p. 486.

<sup>†</sup> Ibid. p. 512.

<sup>‡</sup> Ibid.

ness by making an intellectual act into an emotional affection, as he does when he transmutes "general notions" into "feelings of resemblance" or rather when he gives us these two phrases as equivalent expressions. Where is the advantage of saying we feel things to be related instead of we perceive or discern them to be so?\* And in his frequent definitions of the meaning of a general term, he is not content with confusing notions and feelings by making it signify "a general notion" or "feeling of resemblance," but sometimes he tells us it is the name which we give "to the circumstances of felt resemblance." †

The general term man, he afterwards says; expresses "briefly those very general circumstances of resemblance which we discover in all the individuals to whom that name is given."‡

Thus he describes a general term as signifying three really different things, a notion, a feeling, and a set of circumstances, whereas it cannot be said in accurate language to signify any of these. A general term such as man denotes, in truth, neither a general notion, nor a feeling of resemblance, nor the circumstances of resemblance, but the objects which resemble each other: it is the common name of the

<sup>\*</sup> This phraseology appears to have sprung from a reluctance general amongst philosophers to regard *perceiving* as a primal fact: there seems not to be the same difficulty with respect to *feeling*, although both are really on a level.

<sup>†</sup> Lectures, vol. ii. p. 506.

<sup>‡</sup> Ibid. p. 507.

individuals of a class. Dr. Brown, in these and other passages, confounds the reason for which the name is given with the object on which it is bestowed.

The observations which I before made on the application of the word general to "ideas" by Berkeley and Hume, are equally relevant to Dr. Brown's application of it to "notions" or "feelings of resemblance." The epithet in question, which has a definite and appropriate meaning when used to characterise a word, or even a quality, cannot be employed in the same acceptation to characterise a notion or idea.

The impropriety of such language is perhaps more strikingly manifest, when he uses "common" in place of "general," as he sometimes does. He speaks of "a common feeling of relation," which means, in accurate phraseology, "a feeling common to mankind or to a number of individuals;" whereas he intends by the expression to intimate not that the feeling is common to a number of percipient beings, but that the relation is common to a number of objects perceived.

I may add that, like Berkeley, he mingles objects and ideas. His general notions would have been more appropriately named general perceptions, and consist in perceiving or feeling resemblances in objects; they are—at least in the outset—primary states of mind, not secondary, not representative: in Hume's language they are impressions, not ideas, and appear to me to approach in some respects to

Dugald Stewart's simple ideas discussed in a preceding letter.

This interpretation is borne out by what he says in his Inquiry into the relation of Cause and Effect.

"We may," he affirms, "have original feelings that are faint and remembrances that are far more lively. Our notions of equality, difference, proportion, for example, are not copies of any former feelings: they are new feelings that arise in the mind on the contemplation of certain forms: but our conceptions of the beautiful forms themselves which we may have been comparing, are, as mere feelings or states of mind, not less, but more lively than the notions of relation, which we cannot regard as copies of former states of mind, and must therefore consider as themselves, in Mr. Hume's sense of the word, Impressions."\*

What Dr. Brown here calls "feelings that arise in the mind on the contemplation of certain forms" seem (as already intimated) very much the same alleged mental phenomena as Dugald Stewart's "ideas" which "necessarily arise in the human understanding, when employed in the exercise of its different faculties." †

The simple truth, according to my view, as I must take the liberty of reminding you, is that equality, difference, proportion, and other similar words, are merely abstract terms, not representing

<sup>\*</sup> Page 270.

any detached or separable qualities or ideas, but signifying only that the objects in which they are said to reside are equal, different, proportionate, and so on. When we say that we perceive two lines to be equal, we express the whole of the fact: we do not perceive also the equality of the lines. Both phrases mean the same thing and no more.

In the exposition of this subject by a still more recent writer, James Mill, there is much worth the attention of the student. He nevertheless falls, as it appears to me, into several important errors. Two of them I will briefly indicate.

- 1. He teaches that a general term (such as man) not only calls up the ideas of an indefinite number of individual objects, but forms all these ideas into one very complex and indistinct idea\*: a process of which I myself am quite unconscious—nay, which I find it impossible to conceive.
- 2. He spoils his exposition of abstraction by introducing into it another process of which I am equally unconscious, and which I am equally incapable of conceiving, namely, what he styles "dropping the connotation." He maintains that the difference between concrete and abstract terms consists in this dropping of the connotation, and he illustrates his position by the abstract word TIME. After stating that the past is "an infinity of simultaneous successions, each having antecedents, running back without end," he proceeds:

<sup>\*</sup> Analysis of the Human Mind, vol. i. p. 207.

"These are successions in the concrete: successions of objects. Drop the connotation to form the abstract, as is done in other cases; you have then successions without the objects; which is precisely the meaning of the word TIME."\* But if we leave out the objects, what is there left to precede and follow? How can there be successions, or how can we think of successions, without things succeeding each other? "Dropping the connotation" in this way is obviously impossible. plain fact underlying this erroneous description seems to be that when the abstract word time is used, it does not necessarily raise up the ideas of any specific set of objects succeeding each other but sometimes of one set of objects sometimes of another. An object or objects nevertheless there assuredly must be, actual or conceived. In Mr. Mill's account of the matter the doctrine of abstract ideas seems to be restored.

A living writer, no degenerate successor of the one last named, who has given to the world an instructive System of Logic, containing, however, much that is questionable in psychology including the theory of reasoning, presents us with several valuable passages on the subject under review, in his at once "luminous" and "voluminous" work†: yet he sometimes uses expressions relative

<sup>\*</sup> Analysis of the Human Mind, vol. ii. p. 118.

<sup>†</sup> An allusion to the well-known anecdote of Sheridan and Gibbon. In coming out of Westminster Hall on one of the days

to it, against which some of the preceding objections may be brought, and in which I find myself unable to concur; and since he tells us that there are undoubtedly such things as "general conceptions,"\* I am not sure that he would assent to the unqualified proposition, as I have maintained it, that there are absolutely none but representative ideas, and that as there are no general or abstract objects or events, whether physical or mental, all our ideas, notions, and conceptions are in fact, and must be of necessity, representative of particular phenomena.

Hence, in my view, all the general and abstract ideas, notions, and conceptions, which make so great a figure in speculation, are mere fictions, and the terms which are regarded as denoting them, highly useful and important and indispensable as they are, can raise up in the mind none but particular representations, and are only expedients, although most valuable expedients, of language. Our idea of life is nothing but the idea of something living; of truth, but of something true; of causation, but of something causing; of time, but of something lasting; of space, but of something extended.

of Hastings's trial, the latter thanked the former for having complimented his historical work in the presence of the whole British nation there virtually assembled, by styling it "the luminous page of Gibbon:" whereupon Sheridan, with characteristic humour, whispered aside to a friend, "I said voluminous."

<sup>\*</sup> A System of Logic, by J. S. Mill, vol. ii. p. 213.

### LETTER VI.

GENERAL PROPOSITIONS: THEIR FORMATION AND CHARACTER.

Having discussed at sufficient length the subject of general terms, I will now proceed to that of the general propositions in which they are employed, and which you will find to be connected with several doctrines of greater renown than solidity.

Take any general proposition you please, and on examination you will discern that it consists in predicating a quality or attribute or circumstance of every individual member of some class; in other words, it consists in asserting that all things which possess one quality or one set of qualities, or agree in one or more points, also possess another quality, or another set of qualities, or agree in another point or other points.

It is the assertion of resemblance between things in at least two respects.

Thus, when it is said that all fixed stars twinkle, the proposition asserts that those celestial luminaries which resemble each other in being fixed also resemble each other in the circumstance of twinkling. Simple as the instance may appear, it suffices to illustrate both what a general proposition is, and what is necessary before it can be formed.

The formation of the proposition here adduced, as well as the understanding of its import, requires a knowledge of what stars are, what being fixed is, and what twinkling is, all which particulars are such as can be learned only through the organs of sense.

I might furnish you with abundance of additional examples in illustration, were they needed on so plain a matter.

When it is affirmed that water is composed of oxygen and hydrogen in certain proportions, an assertion is made that all portions of matter having the collective properties on account of which we give the name of water, will be found on analysis to yield the two gases just mentioned in uniform proportions: that all portions of matter resembling each other in the former set of properties, also resemble each other in the later property or set of properties.

The several particulars necessary to be known before such a proposition can be either formed or fully understood, it would be superfluous to do more than glance at; such as the various qualities of water, the properties of oxygen and hydrogen, and the nature of chemical union and chemical decomposition.

What I particularly wish to insist upon is the

absolute indispensableness of a knowledge of certain particulars, each to be acquired through the appropriate channel, before any general proposition whatever can be formed or the ideas expressed in it be present to the mind: a position plain enough, one would think, to dispense with formal enunciation, but not so plain, we shall presently see, as to escape controversy and denial.

The propositions I have hitherto considered are in their nature contingent; but general mathematical and other self-evident or demonstrable propositions, notwithstanding what has been maintained to the contrary, do not differ in the characteristics here described from other general propositions. They predicate resemblance or agreement in at least two respects, just in the same way as the rest; and they can be formed only from individual instances, or (what that implies) from a knowledge of particular facts perceived through the organs of sense.

The difference between them and contingent propositions is not in the mode of their formation, not in any exemption from the indispensableness of perceptible facts, but in the circumstance that the facts which they express are of a different order, namely, of the kind termed necessary—a term on which I shall have more to say hereafter—so that to deny the propositions affirming the facts would not only involve a contradiction in words, but imply the absurdity of thinking a certain fact

to be true and false, to exist and not to exist, at the same time.

If we take an example, the subject will be rendered clearer to those readers who have not before thought about it: let it be the proposition, "parallel lines never meet although indefinitely prolonged."

As a general proposition, this is an assertion that certain things—lines—agreeing in one respect—being parallel—agree also in another respect—never meeting.

Moreover, it is a proposition which could be formed only from knowing individual instances of parallel lines, of lines meeting, and of lines being prolonged—circumstances none of which could be learned except through the organs of perception, all of them being nothing else than physical objects or physical facts.

Having learned these things, we discern, or may discern, on reflection, (for such truths do not necessarily force themselves on the mind) that there would be a contradiction in supposing any parallel lines whatever to meet, inasmuch as with the slightest tendency to meet they would cease to be parallel.

The circumstance of being parallel and the circumstance of not meeting are necessary co-existing facts or conditions, the former of which cannot have place or be conceived to have place without the latter. But they are nevertheless physical or

material facts with which we become acquainted through our bodily organs, although certain writers appear to regard mathematical knowledge as concerned with something beyond matter; something transcending the sphere of the senses.

So far as to what we perceive in the world without us and the general propositions formed respecting external objects: let us next glance at what concerns the world within us. It would at first sight seem scarcely to need insisting upon, although it is requisite to bring the truth into view on account of some doctrines at variance with it, that general propositions respecting modes of consciousness or operations and affections of the mind, are not at all different in their nature from other general propositions, and can be formed only in the same way.

As we give common names, such as reasoning, willing, hoping, rejoicing, to the modes in which the mind operates and is affected, from discerning resemblances and differences between individual mental operations and affections, so we form general propositions regarding these mental states from a number of individual facts in which they are concerned.

For example, we designate instances in which the mind operates in a certain way by the common name reasoning in consequence of having known repeated operations of that sort; and we form the general proposition "reasoning is liable to error,"

from having known mistakes committed in the process.

Thus for this one general proposition, for the formation as well as the comprehension of it, we must know what reasoning is, what an error in reasoning is, and what "being liable" is.

From the considerations now adduced, it is clear that in physical, mathematical, and mental science alike, general propositions are formed from a particular knowledge of the things they comprehend, and are of the same nature in regard to asserting two points of agreement in every one of the things comprehended.

One important conclusion flowing from this truth is that what are termed maxims, or axioms, or first principles, inasmuch as they are all general propositions belonging to one or other of the three classes specified, cannot possibly, as some eminent philosophers have maintained, be brought with us into the world, or, in other words, be innate.

If a knowledge of the individual facts comprehended by them is indispensable to their being formed, the maxims could not be said, without self-contradiction, to be in existence till the particular facts constituting their very substance had become known.

To see the strange doctrine of innate maxims in its true light, we must carefully note one important distinction: we must steadfastly keep in view the essential difference between the general propositions themselves and the circumstance of human beings or the human mind being so constituted as to form them when certain occasions arise.

It is undoubtedly one of the natural or constitutional modes of mental procedure in beings like ourselves, possessing articulate speech, to form general propositions, laws, principles, or maxims, whichever you may choose to call them, when the requisite objects and facts are before the mind or have come under its cognizance; just as it is natural to discern the objects and facts themselves and the points of resemblance on which the general propositions are grounded.

The aptitude to generalize, as well as to discern resemblances and differences, being part of our very nature, it may, if any one chooses, (although the phrase is not very happy) be called innate, the epithet when so used being synonymous with natural or constitutional: but the results of this part of the mental constitution, namely, the general propositions formed, cannot be innate for the simple reason that they are necessarily posterior to the knowledge of the particular facts comprehended in them.

In the same way, remembering the objects we have seen is a natural or constitutional mode of mental action, but cannot have place till we have seen some objects to remember: and it is surely quite obvious that the constitutional aptitude to form general propositions no more brings

with it the knowledge of particular facts without which general propositions are impossible, than the capacity of remembering brings with it a knowledge of the objects which must be known before they can be remembered.

If this letter should appear to be engaged in laying down some doctrines sufficiently trite, you will please to recollect that the distinctions drawn in it are often overlooked, and to consider it as expressly intended to clear the way for what follows.

# LETTER VII.

GENERAL PROPOSITIONS (IN CONTINUATION). COM-PARISON OF THE INNATE PRINCIPLES OF LEIBNITZ AND THE A PRIORI COGNITIONS OF KANT.

In discussing at so much length as I have done, and purpose to do, the nature and formation of general propositions, I have been influenced less by any natural difficulty in the subject than by the factitious importance given to it by the doctrines of several philosophers of distinguished reputation; some of whom have taught, as I have already intimated, that certain general truths are born with us; while others, dropping or disclaiming any such term as innate and what is implied in it, affirm that such truths spring up in the mind independently of the perception of external objects, but still on occasion of perceiving them: - theories which, how variously soever they may be expressed, do not, in my opinion, essentially differ, and are obnoxious to the same refutation; although the second is less palpably wide of the truth than the first.

Locke, as I scarcely need mention, opened his masterly Essay on Human Understanding, by combating a doctrine of this sort; namely, that the human mind is endowed with innate practical and speculative principles; and he did it so successfully as to create a wonder, on my part at least, that anything of the kind should have since re-appeared.

Yet Leibnitz, in his latest commentary on Locke's Essay, contends in the most express terms for innate ideas and innate principles, overlooking or not duly appreciating, as I think, the scope and force of our distinguished countryman's reasoning against them.

On the question whether the mind is a tabula rasa as maintained, according to him, by Aristotle and Locke, Leibnitz professes to believe with Plato that "the soul contains originally the principles of several notions and doctrines which external objects merely awake on certain occasions." "The Stoics," he adds, "called these principles common notions, Prolepses, i. e. fundamental assumptions, or what we take for granted beforehand. The Mathematicians call them common notions (\*2012a5 221201025)."\*

He afterwards very explicitly repeats, "that there are ideas and principles which do not come to us from the senses, and which we find in ourselves without forming them, although the senses furnish the occasions of our perceiving them."

It has been sometimes asserted that the author of the Essay on Human Understanding was needlessly engaged in his preliminary Chapters with

<sup>\*</sup> Nouveaux Essais sur l'Entendement Humain, Avant-Propos.

combating fallacies no longer in existence, and I once, I confess, thought so myself; but here we have positive proof of their dominion over one of the master-spirits of the age, although professing to be critically acquainted with Locke's able reasoning against them, which, in fact, he sets himself to contest argument by argument.

No one who reads the New Essays on the Human Understanding can doubt that Leibnitz was a thorough, if not always a consistent, advocate of innate ideas and innate principles in the extreme sense of that term.

It is surprising that his views on this point have attracted so little notice, and that Kant's doctrine relating to it, which is in many respects the same, although less clearly and decisively expressed, should have attracted so much. The cognitions a priori of the latter have many points of agreement with Leibnitz's innate principles, as the following comparison of their doctrines will show.

LEIBNITZ.

The soul contains originally the principles of several notions and doctrines, which external objects merely awake on certain occasions.

There are ideas and principles that do not come to us from the senses, and which we find in ourselves without forming them, although the senses furnish the occasion of perceiving them.

KANT.

Cognitions a priori are such as are absolutely independent of experience; and even of all impressions of the senses. But the faculty of cognition is awakened into exercise through objects which affect our senses.

#### LEIBNITZ.

All the examples which confirm a general truth, however numerous, are not sufficient to establish the universal necessity of this same truth.

Even if the maxims "whatever is, is" and "a thing cannot be and not be at the same time," should not be known, they would not cease to be innate because they are recognised as soon as they are understood.

All Arithmetic and all Geometry are innate.

That the square is not a circle is an innate truth.

#### KANT.

Experience teaches us that something is constituted in such and such a manner, but not that it could not be otherwise.

Necessity and strict universality are sure characteristics of a cognition a priori.

The axioms of mathematics are judgments or cognitions a priori.

Pure mathematical propositions are at all times judgments a priori, because they carry along with them necessity, which can never be obtained from experience.

The science of Mathematics affords us a striking example how far we can advance in cognition *a priori* independent of experience.

So far there is little difference to be discerned between the doctrines of these philosophers except a difference in expression. They both come nearly to the same thing. Leibnitz terms his principles innate, but still represents them as not perceived until the occasion is furnished by the senses, until they are awakened by external objects. Kant designates his cognitions by the epithet a priori, and disclaiming to mean by this phrase "previous to any impressions on the senses," likewise describes them as awakened or developed into perceptible existence through objects by which the senses are affected.

The important feature in the matter is that the innate principles of the one philosopher and the cognitions a priori of the other, are both described as not derived in any way from the senses, but on the contrary as having a perfectly independent origin; and since they are alike asserted, notwithstanding this independence, not to be awakened or come into cognisable existence until the senses are exercised, there is, it is clear, a close correspondence between them. Kant nevertheless avoids, as far as I can find, the epithet inborn, and does not equally expose himself to the charge of glaring inconsistency by directly maintaining the existence of knowledge when nothing is known, while Leibnitz, in such passages as the following, boldly asserts it. "There are ideas and principles which do not come to us from the senses, and which we find in ourselves without forming them."

There is at the outset one fatal objection to both these doctrines. Not only are we utterly unconscious of any such alleged innate principles and a priori cognitions (although if they exist at all they must be matters of consciousness), but when they are presented to us in words, we find that it is in the shape of propositions expressive of nothing but knowledge which has been acquired through the organs of sense, and which cannot be acquired in any other way.\*

<sup>\*</sup> The question is here treated, for the sake of simplicity, in reference to external objects alone, but the arguments apply mutatis mutandis to mental phenomena.

The doctrines in question are, in truth, at once overturned by a consideration of the nature of general propositions as set forth in my last letter. Innate principles and a priori cognitions are alike general propositions, or, if you prefer the description, they are portions of knowledge which general propositions enunciate, and it is impossible, as I have shown in the letter referred to, that any such propositions (whatever their matter may be) can be formed except from particular instances. I shall hereafter examine the attributes of these maxims, on account of which they cannot, it is alleged, be formed from experience; but at present I have solely to do with their character as affirmative of properties belonging to a class.

A general proposition being, as already explained, nothing more or less than an assertion that every individual thing which possesses one quality or collection of qualities, also possesses another, we cannot know the truth or even the meaning of such a proposition respecting external objects (to confine the question, for the sake of simplicity, to outward things) without discerning at the time, or having formerly discerned through the organs of sense, some individual objects in possession of the two qualities combined.

Hence if certain principles are innate, as taught by Leibnitz, or if cognitions a priori arise in the mind independently of perception, as taught by Kant, we are driven to one of two suppositions, either that knowledge may exist without something being known, or that there must be some other mode of obtaining a knowledge of such external facts as are embodied in any maxim than perceiving them through the organs of sense.

1. The first of these suppositions, although expressly asserted in Leibnitz's doctrine and implicitly in that of Kant, is manifestly self-contradictory, since knowledge presupposes consciousness, and cannot have place without both a knower in activity as such and something known, just as perceiving, which is immediate knowledge through the organs of sense, cannot have place, according to the explanation given in a former letter, without both an actual percipient being and an object perceived.

This I am aware may be denied. "Knowledge," it may be said, "continually exists without consciousness, since the greater part of the knowledge which we possess is, at any given moment, not present to the mind but latent:" an argument employed by Leibnitz himself to vindicate his innate principles. But what are the real facts, stated without figure or hypothesis? They are these, that things which we have before known (it would be tautology to add consciously) recur spontaneously to the mind or come back to us on the use of certain expedients. We call this the possession of knowledge, and the phrase, as it is commonly understood, very conveniently indicates what really happens, although, like many other compendious expressions which must not be literally construed,

it does so in a defective and elliptical manner: but as the knowledge in such cases is always the revival of the ideas of things with which we had previously become acquainted, it is in an essentially different predicament from that of the alleged original innate knowledge, of which nobody is or ever has been aware.

Knowledge, correctly speaking, can no more exist in a latent state, *i.e.* without the conscious act of knowing, than flying as in the instance of a bird, can exist when, instead of moving through the air, the bird is quietly perched upon a tree.

When an intelligent being is said to possess latent knowledge, nothing more can be truly signified than that he is in a condition which ensures or admits the revival of what he has previously known.\* This condition, whatever it may be in itself, manifestly cannot be predicated of any one whose organs of sense have not been exercised. There can be no innate latent knowledge in any way.

- 2. The second hypothesis of which it would be difficult to find an express upholder, must also fall
- \* There is an ambiguity in the word knowledge similar to that formerly pointed out in the word perception, for which I beg to refer you to the Twelfth Letter in my First Series. I shall content myself with saying here, that "knowledge" sometimes means the objects or facts known, considered as known, and sometimes the mental act or state of knowing. In each of these senses, nevertheless, both the object and the act are implied.

to the ground unless those who may attempt to support it can point out some external objects which have come to their knowledge without having been perceived through the organs of sense. To be sure even this might be maintained by any one who thinks with Plato that we bring into the world with us reminiscences of a former existence:

—a matter which may be safely left to Wordsworth and the poets.\*

The conclusion from all this is plain.

If individual external objects cannot be known except through the organs of the senses, the agreement of such objects with each other in two or more respects, or what is expressed in a general proposition, cannot be known except through the

\* "Our birth is but a sleep and a forgetting; The soul that rises with us, our life's star, Hath had elsewhere its setting, And cometh from afar; Not in entire forgetfulness, And not in utter nakedness, But trailing clouds of glory do we come From God who is our home: Heaven lies about us in our infancy! Shades of the prison-house begin to close Upon the growing boy; But he beholds the light, and whence it flows, He sees it in his joy; The youth who daily farther from the east Must travel, still is Nature's priest, And by the vision splendid Is on his way attended; At length the man perceives it die away, And fade into the light of common day." Wordsworth. same medium, and hence innate principles and cognitions a priori independent of impressions on the senses or experience are impossible.

Should it be urged, in objection, that I have not fairly represented what these two philosophers mean when they employ the terms innate principles and cognitions a priori, I can truly say that if I have misconceived them, I shall be most heartily glad to be set right. I have taken these expressions, it may be said, to denote general propositions, whereas they signify something quite different. Let us see. With regard to the word principle, as employed by Leibnitz, I cannot understand by it anything else than either an act or portion of knowledge, or a proposition exhibiting or expressing in words an act or portion of knowledge. He himself speaks of general maxims and principles as being equivalent.\*

If he intended by the term an act or portion of knowledge, then the argument that there can be no knowledge without some particular objects known, at once applies, and he is landed in a contradiction.

If he intended by it a proposition expressive of a portion of knowledge, the same argument is applicable, with the additional difficulty that besides some particular objects known, there must also be an innate acquaintance with some particular words in which the knowledge is declared; in short, he

<sup>\*</sup> Nouveaux Essais, liv. i. He also speaks of general propositions being graven on the understanding—which identifies them with innate principles beyond all question.

must maintain that words are born with us as well as knowledge.

It is true that in several passages he seems to qualify his doctrine, — I had almost said to nullify it, — but he does not really give it up.

Thus he tells us in one place that ideas and verities are innate "as inclinations, dispositions, and habitudes, not as acts," and draws a distinction between actual and virtual knowledge.

After he has pronounced explicitly and without qualification that all Geometry and all Arithmetic are innate, the question is asked by the opposing speaker in the Dialogue, "Can we say, then, that the most difficult and profound of sciences are innate?" and he answers that the actual knowledge of them is not innate but the virtual knowledge is; just as a figure delineated by nature in the veins of marble, is in the marble before they are laid open to view in the working.

In other places he teaches that certain ideas and principles are stamped on the mind originally, although it requires, or may require, subsequent labour to discover them.

Thus, whatever apparent inconsistency marks the passages quoted, he really maintains that knowledge may exist in the mind when nothing is actually known. Misled most probably by a metaphor, he treats the mind as a substance in which ideas and maxims can exist stamped or engraved without the man himself being aware of them. You will not fail to remark, in addition to what I

have already said, that this virtual knowledge, this latent science, is a pure assumption. By the very terms of the hypothesis we cannot be conscious of it, for it is latent; and there is not, nor can there be, the slightest evidence in any way possible or conceivable that it exists It is perfectly imaginary, It is also perfectly needless. As there is nothing else in the asserted knowledge, when, according to the theory, it ceases to be latent, than what can be traced as an acquisition through the organs of sense, to suppose it first to exist in a latent state and afterwards to be also acquired from without, is inventing a machinery altogether superfluous.

Yet this is what Leibnitz literally supposes, for Philalethes, the representative of Locke in the Dialogue, having with great good sense asked "whether the prompt acquiescence of the mind in certain truths may not come barely from considering the nature of things which does not allow it to judge otherwise rather than from these propositions being naturally engraven on the understanding," Theophilus (Leibnitz himself) answers, "Both are true: the nature of things and the nature of the mind concur therein: "i.e. the propositions are first engraved on the understanding \* without any

<sup>\*</sup> As propositions cannot be formed except in some particular language—Greek or Latin, or English, or German,—it becomes a curious problem on Leibnitz's hypothesis, whether nature always contrives to engrave them on the understanding in the language of the country in which a man happens to be born.

consciousness of their existence, and then the nature of things operates upon it so as to make corresponding impressions which bring the original ones into cognizance — a gratuitous and not even plausible hypothesis.

The doctrine of a twofold origin as here set forth seems to be a part of his strange theory of a pre-established harmony, or at least chimes in with it: the ideas and maxims are in the mind, while objects and events totally unconnected with them but completely correspondent are existing and happening outside. Nothing can be more totally destitute of evidence. It is a pure fiction.

The first part of these remarks will apply with little or no modification to Kant's cognitions à priori.

By cognitions rigorously interpreted he must mean either knowledge itself or the propositions in which such knowledge is affirmed, and in either case the objections urged against Leibnitz are valid against him. There is, indeed, another interpretation—a third meaning—brought forward in defence or explanation of the cognitions in question; an interpretation which would resolve Kant's doctrine into a mere assertion of certain modes of procedure which are natural to the mind, and are called forth by the exercise of the senses on appropriate occasions, at various periods in after life.

The discrimination of modes of mental action from general propositions, which I insisted upon in

the preceding letter, will enable me to show, when the occasion arrives, in what sense the plea is urged and how far it is available.

I have in the preceding argument treated these innate principles and à priori cognitions solely as general propositions, without regard to the character of the facts comprised in them, and have endeavoured to show that, from their very nature as such, they must be posterior to a knowledge of the individual facts which they comprehend; that, without such knowledge, no principles, maxims, or cognitions of any kind can exist.

But it is not all general propositions which, in the theories before us, are maintained to be innate principles or *à priori* cognitions. It is only those which are characterised by necessity and universality: attributes (it is alleged) not to be discovered by experience or perception but furnished by the mind itself.

The examination of the doctrine here intimated will occupy the two next letters, after which I shall enter upon the consideration of cognitions in their second character, in which, emerging from the condition of maxims or general propositions, they claim to be regarded as modes of mental procedure.

## LETTER VIII.

GENERAL PROPOSITIONS (IN CONTINUATION.)—PRO-POSITIONS EXPRESSIVE OF NECESSARY FACTS.—THE A PRIORI COGNITIONS OF KANT.

In taking up the subject mentioned at the close of my last letter, I must draw your attention to the circumstance that in the passages quoted from Leibnitz and Kant there are two assertions made respecting innate principles and cognitions à priori: first, that they are independent of experience and even of all impressions on the senses; secondly, that they owe the necessity and universality which distinguish them from other propositions to the mind itself. More extraordinary assertions never saw the light.

A sort of haze seems to envelope some of the terms here employed, particularly the words experience and necessity. To the latter, I shall come by-and-by: at present I have to do with the former.

Experience is evidently of various kinds, sometimes it is simple and sometimes complex. When it is simple and has reference to external objects, it is the same thing as perception through the organs of sense. Perception is, indeed, a more

comprehensive word, for it may be used of only a single quality, whereas "experience," in common usage and in the simplest cases, denotes the perception of two or more qualities in connexion with each other, or what is appropriately termed a fact, of which a proposition is the verbal expression. We cannot, in ordinary language, be said to know the colour red by experience. We know it from perceiving or having perceived it, but we might, with great propriety, be said to know by experience that blood is of that colour. So, in common parlance, we learn by experience that ice is cold, that steel is hard, that metals are expanded by heat; or we may resort to the wider term and say we perceive them to be so.

I have introduced these remarks for the purpose of showing that the question "whether an external fact is learned from experience," is virtually identical with the question "whether it is learned from perception."

Kant himself seems to admit the same thing and to draw a similar distinction between the two phrases, when he says, in a passage already quoted, that cognitions à priori are independent of experience and even of all impressions on the senses.

Bearing in mind these considerations let us examine how far innate principles and à priori cognitions can be properly characterised as being thus independent. Since however a separate examination of the instances given or referred to, both by

Leibnitz and by Kant, would only weary you by a double commentary, I will direct my remarks chiefly to the latter author, with the bare intimation that they will in substance apply to his great predecessor.

For the purpose in view I will take the proposition that two straight lines cannot inclose a space\*, which, according to Kant's assertion, must be an à priori cognition or judgment; and as such must be independent of experience or even of any impression on the senses.

But here I stumble, as I have no doubt you will do, at the very threshold; for it is plain that in order to form such a judgment you must have learned through your organs of sense what a straight line is, what the act of inclosing is, and what a space is. You must also have before you two definite straight lines, either parallel to each other or inclining to each other; and in either case you inevitably perceive that they do not inclose a space, just as clearly as you perceive that they are straight lines, not crooked or curved, and that they are black or coloured.

\* This proposition has been discussed in reference to the same part of philosophy by Dr. Whewell, Mr. John Mill, Sir John Herschell, and other writers; and on finding myself going over the same ground, I had thoughts of substituting some other proposition; but as what appears in the text was written without advertence to their dissertations, and my treatment of the question differs in several respects from that of any of my predecessors, I think it the best way to let the passage stand as originally penned.

Up to this point there is confessedly nothing but perception. Whatever you know so far, you perceive or have perceived through your organs of sense.

But the à priori judgment (we are told) is not merely that the lines do not but that they cannot inclose a space.

Well, let us see what truly happens before any one discerns this inability, and whether even in this respect the cognition is independent of experience.

Perceiving as the lines lie before you, that they do not inclose a space in their actual position, you place them, or you conceive them to be placed, in another position. They were, we will assume, originally parallel and half an inch asunder; but you proceed to make them approach as near to each other as possible, while you still keep them parallel, and you find that no inclosing takes place by approximation; or in other words, supposing the lines for the purpose of convenient elucidation to be of equal length, you can form with them only two sides of a parallelogram, the two other sides remaining open or rather being deficient. is not circumscribed; the problem is not solved. You next try whether the feat can be achieved by inclining the lines towards each other, and you find that in every position in which you can place them or conceive them to be placed, while a mutual inclination is preserved, they cannot converge towards or touch each other at one end without diverging at the other; so that the inclosing of a space cannot possibly ensue. To effect this one of the lines at least must be bent, which would be in direct contradiction to the datum.

Hence it is plain that the formation of such a judgment, as it is termed, requires perceiving certain objects and either actually trying or conceiving certain transpositions; and after these things have been done, which may take place with wonderful rapidity, we discern that in this particular instance the two straight lines not only do not but cannot inclose a space. We may further discern, on reflection, that what holds good of the particular lines before us holds good of every pair of such lines which we can either draw or imagine, and that to assert the contrary in any case involves a direct contradiction in thought and language.

I have purposely used the phrase "we may discern," because it frequently happens that the learner perceives a particular truth without proceeding to generalize it, or to discern the necessity or impossibility, as the case may be, in all similar instances.\*

Mr. Stewart, who doubtless speaks from his expe-

<sup>\*</sup> This is taught, indeed, by Leibnitz himself, who while contending for the maxims being engraven on the mind, admits that they are sometimes deciphered with labour and frequently not at all.

rience as a teacher of mathematics, has a passage mich is an apt illustration of this point:—

"It will not, I apprehend, be denied," he says, "that when a learner first enters on the study of geometry, he considers the diagrams before him as individual objects, and as individual objects alone. In reading, for example, the demonstration just referred to, of the equality of the three angles of every triangle to two right angles, he thinks only of the triangle which is presented to him on the margin of the page. Nay, so completely does this particular figure engross his attention, that it is not without some difficulty he, in the first instance, transfers the demonstration to another triangle whose form is very different, or even to the same triangle placed in an inverted position. It is in order to correct this natural bias of the mind, that a judicious teacher, after satisfying himself that the student comprehends perfectly the force of the demonstration, as applicable to the particular triangle which Euclid has selected, is led to vary the diagram in different ways, with a view to show him, that the very same demonstration, expressed in the very same form of words, is equally applicable to them all: in this manner he comes, by slow degrees, to comprehend the nature of general reasoning, establishing insensibly in his mind this fundamental logical principle, that when the enunciation of a mathematical proposition involves only a certain portion of the attributes of the diagram

which is employed to illustrate it, the same proposition must hold true of any other diagram involving the same attributes, how much soever distinguished from it by other specific peculiarities."\*

To revert to the case which led to this quotation. Here then we have, 1. perception of external objects; 2. trial either actual or conceptual following the perception; 3. discernment of necessary facts as necessary, following the trial; 4. generalization following the discernment of the particular necessary facts: all which incidents involve nothing but the ordinary operations of the mind as described in the preceding letters, and indeed in almost any psychological treatise you may happen to take up.

No one can discern that a proposition is what is called a necessary and universal truth, without going through such a process as I have described.

Hence it is a strange perversion of language to affirm mathematical propositions to be independent of experience or even any impression on the senses, when without such experience or impressions we could not possibly arrive at them: when even by the admission of both the philosophers under review, the exercise of the senses or perception or experience is the indispensable preliminary to bringing the propositions into discernible existence. With what semblance of propriety then can they be

<sup>\*</sup> Elements of the Philosophy of the Human Mind, vol. ii. p. 117.

said to be independent of that without which they must confessedly remain dead, and would be really impossible?

But putting aside the consideration of such misleading language, I would more particularly insist upon the needlessness of resorting to the supposition of any innate principles or cognitions à priori to account for the peculiar character of mathematical science, or the necessity and universality of its propositions. The hypothesis is not only gratuitous, not only without evidence, and more especially without any support in our consciousness, but entirely superfluous; which I think may be very briefly shown.

Through the whole process of mathematical reasoning we are engaged in the operation of discerning, and in the mere act of discernment it is of course implied that we discern what is, and not something contradictory to it; just as when we feel love to any one it is implied that we do not feel hate. An object cannot be itself and some other thing. Lines cannot at one and the same time be parallel and meet, which is only another mode of saying they cannot be at once parallel and unparallel; and we are of course incapable of discerning what they are incapable of being. We can discern them only as they are.

To be perceptible at all objects must possess some qualities, and certain of these qualities must, in the nature of the case, be perceptibly necessary: *i.e.* necessary to each other, or, in different language,

some of them cannot exist without others, and we cannot perceive the first without perceiving the second, nor without perceiving that they are mutually necessary.

Of the links in a chain freely depending from a hook in the wall, some are necessarily nearer the ground than others are. We perceive the fact without reflection, and if we come to think about it, we discern that it cannot be otherwise, and that the same fact must have place not only in the particular chain before us but (to carry the generalization no further) in all chains under the same circumstances: to suppose the contrary would be to suppose a contradiction.

Of all this, however, the explanation is simple enough without calling in the aid of cognitions à priori or supposing the impossible process of the mind bestowing necessity on the facts before it. To adopt for the occasion objectionable and really unmeaning phraseology, it is not we that furnish or apply any principle or cognition, or that give the character to the facts: it is the facts themselves that have this character and we discern it.

If certain attributes, or facts appropriately termed coexisting conditions, were not in themselves necessary, they could not be discerned to be so by an intelligent observer.

All external facts are doubtless necessary from the very constitution of matter, but to us, for want of insight or evidence, many of them are contingent. Whether, nevertheless, all facts can be said to be necessary or not, it is certain that we discern the attribute in only a portion of them; not because our minds invest some facts with the attribute and not others, as taught by the German metaphysicians, which is a purely imaginary transaction, expressed in language without definite meaning, but for the simple reason already given. We discern them to be necessary because they are so, as we perceive St. Paul's church in London to be lofty because it is lofty.

In certain cases, I repeat, one fact or state of things cannot possibly exist without another fact or state of things; and the whole mystery is, that we see their mutual dependence, we discern them to be inseparable facts, and cannot even imagine one without the other. We bring nothing to the facts but the discernment of what they are.

Hence Kant's doctrine about cognitions à priori, as far as mathematical propositions and other self-evident or demonstrable assertions are concerned, amounts, when divested of error or (perhaps it would be more correct to say) points, to the simple truth, that we are so constituted as to discern, or be capable of discerning, necessary facts as such when they are presented to us. In this there is surely nothing more marvellous than our perceiving objects to possess other characteristics; to be red or yellow, to be high or low, rough or smooth, equal or unequal, to resemble or to differ.

A good deal of confusion has arisen on this subject from not properly limiting to one acceptation, or rather one allocation, the term necessary, which denotes, correctly speaking, an attribute of facts, not an attribute of our knowledge, nor yet of the propositions we form respecting those facts, and expressive of our knowledge. This distinction is so important, and yet, as far as I know, has been so entirely overlooked, that you must excuse me for dwelling upon it at some length. The whole question may indeed be decided on this single ground.

When two facts cannot have place or exist independently of each other; when to exist at all they must coexist, they are properly said to be necessary, i. e. necessary to each other's existence. But if we say that our discernment of this mutual dependence is necessary, or that a proposition expressing the mutual dependence is a necessary truth, we transfer the term according to a common artifice of speech to a position in which it is not strictly at home, and cannot be employed except elliptically. To show clearly what the phrase signifies, we must retransfer it to its proper allocation, and supply the needful ellipses.

All that the epithet necessary can mean when we say that a certain proposition is a necessary truth is, that the proposition affirms a necessary fact, or, it may be, necessary facts. It is the facts

which are necessary, not the knowledge of them, nor yet the assertion of their existence.

When Kant, therefore, affirms necessity to be a sure characteristic of a cognition à priori, he transfers an attribute of the facts which (to borrow his own language) are cognized to the cognition, or mental state, or expression of that state, to which it is not really applicable.

From thus attributing necessity to the cognitions (mental states), he is led into the error of regarding it as being furnished or infused into the facts by the mind (an inconceivable process), instead of being only discerned by it as a characteristic of the facts themselves.

If facts alone are regarded and spoken of as necessary, which is the only mode of philosophically treating the subject, the whole difficulty conjured up by our philosophers vanishes. There is no longer any question about the source or origin of what Kant terms necessary cognitions: it immediately becomes obvious that certain facts are discerned by us to be necessary, as certain lines to be straight, or certain angles to be acute, simply because they are so; and then, as a matter of course in the case of intelligent beings gifted with speech, the discernment is enunciated in proposi-It would really be quite as correct (custom apart) to call our knowledge of angles, acute or obtuse, as to call our knowledge of self-evident or demonstrable facts, necessary.

This transference of terms from their proper location (it might be named translocation) is a common incident in language, arising perhaps partly from the poverty which characterizes expression in comparison with the multifariousness of objects and the consequent affluence of thought; partly from our proneness to abbreviation or compendious utterance; and it is not to be altogether avoided or condemned: but when we are compelled, or find it convenient, to resort to it; when we make one word serve several purposes, or take it out of its proper connexion for the sake of brevity, we should at least know what we are about, and be especially careful not to treat the "translocated" term as if it retained precisely the same applicability in its new position.

For example, we call a court of law which tries offences against person or property, a criminal court; but we should (it is to be hoped), in this country at least, egregiously err were we to regard the epithet as denoting the moral quality of the judicial proceedings there in the same way as when we apply it to the offences brought to trial. We must retransfer it to its proper position to express fully what, in its transplanted state, it so very elliptically indicates. Instead of speaking of a criminal court, we shall then style it a court for the trial of criminal acts. So we sometimes transfer the term natural from the objects of knowledge to the knowledge itself, and speak of "natural

science" — not intending by the epithet to qualify the substantive to which it is prefixed, or to apply it in the same sense as when we say that the emotions of hope and joy and fear and grief are natural, but to mark the character of the objects of which the science treats. It is a convenient form of compendious expression, and does not entail much risk of our inferring that the knowledge, in virtue of its being natural, will, like hope and joy, spring up spontaneously in the mind, and needs not to be sought after by assiduous study.

Yet it is really an inference of a similar kind which Kant has fallen into. Having transferred the term necessary from the facts to the cognition of the facts, he has drawn his conclusions without adverting to the elliptical character of the epithet in its new position and the different offices it is meant to serve in the two cases. He has overlooked the consideration that our knowledge of a necessary fact is itself neither more nor less necessary than our knowledge of any other kind of fact.

If on a sheet of paper, at which we are looking, two right lines drawn with black ink not yet dry (I purposely introduce these trivial circumstances) intersect each other, we cannot help seeing the lines and their intersection and also that they are black and wet; nor can we help (at least when it is pointed out to us) observing that they make four angles, or discerning, if we happen to be mathematicians, that

the four angles are together equal to four right angles.

In this case, if our knowledge of the facts, some of which are called contingent and some necessary, may be said to be itself necessary, it is in the sense of unavoidable: the exhibition of the sheet of paper to our sight obliges us, if we look at all, to see what it contains; but this unavoidableness is quite independent of the differences in character of the several facts discerned. We cannot avoid seeing the contingent facts that the lines are black and wet any more than the necessary facts that their intersection makes four angles and that these four angles are together equal to four right angles. In both cases we perceive the facts as they exist because they so exist.

Should our vocabulary be so scanty or our dislike of circumlocution so great, that we are obliged or choose to resort to the expedient of designating our knowledge as necessary because the facts known are so, the least we can do is not to draw our conclusions as if the epithet in both cases equally and similarly qualified the substantive to which it is attached.

## LETTER IX.

GENERAL PROPOSITIONS (IN CONTINUATION). CONTINUENT PROPOSITIONS AND LAWS OF NATURE. THE À PRIORI COGNITIONS OF KANT FURTHER CONSIDERED.

Perhaps you will think, and not without reason, that I have bestowed sufficient attention on cognitions  $\grave{a}$  priori, but there is another class of them which must not be entirely passed over.

The so-called cognitions considered in my last letter are what are usually termed necessary truths—propositions, namely, the contraries of which involve a contradiction and which are said to be necessary because the facts affirmed by them are so.

But the propositions which I have now in view have not this character, inasmuch as the contraries of them may be imagined without any contradiction being implied. Such are propositions relating to the events around us, to the operation of various substances on each other, to the succession of natural phenomena, to the causes of effects, and to the effects of causes.

Amongst these there are some of extreme generality which have been considered by certain philo-

sophers as necessary or as expressing necessary truths in the same way as mathematical axioms.

Of this kind are the following: "every change has a cause;" "similar causes have similar effects;" "similar effects have similar causes."

Applying to these his test of universality and necessity, Kant pronounces them (with a modification regarding the first) to be cognitions  $\grave{a}$  priori independent of experience. They are, he says, necessary, and they admit of no exceptions.

There is, nevertheless, a wide and fundamental distinction between the facts expressed by this class of propositions and the facts expressed by mathematical propositions. While, as I have just had occasion to remark, the facts affirmed by the latter are discerned to be necessary, those affirmed by the former are not discerned to be so. While there would be self-contradiction in asserting that some parallel lines meet, there would be no self-contradiction in the assertion that some changes occur spontaneously without causes; or that similar causes do not always produce similar effects, although there might be and indeed would be an utter inconsistency between such assertions and others which we are habitually and unavoidably making.

Self-contradiction in a proposition is one thing, and the inconsistency of a proposition held by any one with other propositions maintained by the same person, is another.

By those who admit that mathematical proposi-

tions are not independent of perception or experience, this other class cannot obviously be considered as being so. Much of the reasoning, indeed, in my last letter, will, mutatis mutandis, apply to both classes, and hence the necessity of any long explanation is superseded: but still, as there is a real and important difference between them, let us briefly consider the first of these maxims: "every change has a cause."

It is obvious that no one could know what a change is \* and what a cause is, except by perceiving some particular cause and some particular change following it, such as the application of fire to wood and the consequent charring of the material. Having witnessed a number of similarly consecutive circumstances—a variety of particular events followed by other events—we designate the first events in the sequence by the common name "cause," and the second by that of "effect," or, as here, "change:" and from these observations, following our natural propensity to generalise, we draw the universal conclusion—"every change has a cause."

We manifestly could not have drawn it had we seen changes happening without causes.

There is no difference between the origin of these comprehensive propositions and that of such minor generalisations as "metals are expanded by heat;"

<sup>\*</sup> Kant acknowledges this in the case of "change;" it is curious how he failed to discern that "cause" is exactly in the same predicament.

"water is composed of oxygen and hydrogen;" "men are subject to hunger and thirst;" "the angle of incidence in the case of rays of light is equal to the angle of reflection:"—propositions which no one, I presume, maintains to be cognitions à priori, but which are truly conclusions from observation or experience.

The maxim that every change has a cause, is in the same way a generalisation of observed facts; only it is a proposition of far greater generality: it is what is called a law of nature deduced from observation, just as is the less general law that metals are expanded by heat.

In a treatise which I published several years ago\*, I explained at some length, that all such laws are conclusions from collective facts, but more comprehensive than the aggregate of facts from which they are drawn; and are precisely of the same nature, and rest on the same evidence, as particular inferences.

From the collective fact that, as far as observation has extended, all metals have been found to expand when additional heat has been applied to them, we deduce the universal law expressed in the formula "all metals are expanded by heat," which is an affirmation independent of time, and implies that they have always expanded when not observed, and that they will expand in future as they have done in time past.

<sup>\*</sup> The Theory of Reasoning.

It is precisely on the same grounds or from the same premises that I make the particular inference, that the mercury in the thermometer on the mantel-shelf of the library in which I am writing, will rise if it be removed to the neighbouring conservatory.

Such is the very nature of contingent reasoning: it consists in thus inferring unobserved facts from similar facts observed, and the inference is equally valid whether it is restricted to a particular event or extends to all events of a similar character.

Hence the general proposition "every change has a cause," termed by Kant a cognition à priori, is in reality a conclusion deduced from observed facts, precisely as all conclusions are deduced in moral, probable, or contingent reasoning.

As far as human observation has extended all changes have had causes; this is the sum of our actual knowledge; and hence we infer that all changes past, present, or future, have had or will have causes, although beyond the reach of observation: a conclusion which we more simply and concisely express without reference to time, by the maxim in question — "every change has a cause."

In all these conclusions of probable or contingent reasoning, whether they are general laws or inferences of particular facts, you will not fail to observe, from what I have said, that there is one uniform and essential characteristic.

Although they are all drawn from an unavoidably limited experience, which may be embodied

in a proposition affirming what I have called the collective fact, they are obviously much more comprehensive than the collective fact: they go beyond the experience of which it is the summary.

It is, indeed, in this going beyond experience that such reasoning wholly consists.

If we had had experience, or possessed personal knowledge of the individual facts comprised in our conclusions, we should have had no occasion to infer them; or, more correctly speaking, the inferring of them could not have taken place: and on the other hand, if we had had no experience or possessed no knowledge of similar facts, we could not have inferred any facts at all.

In the one case inferring would have been superseded by knowing, in the other case precluded by ignorance.

It may have been from seeing our conclusions in this way transcend actual knowledge that Kant was led to imagine the most general of them to be cognitions à priori, or independent of, if not antecedent to, experience, overlooking the important truth, that although it is the essence of such conclusions to comprise facts not themselves individually observed, yet they could not be deduced except from similar facts which had already fallen under observation.

And if on the ground of going beyond experience general laws are to be termed cognitions à priori, every conclusion we draw in contingent reasoning,

although restricted to a single event, would be entitled to the same appellation. The inference that my-thermometer would rise on being removed to a warmer room, might claim to be styled an  $\dot{a}$  priori cognition.

It will scarcely, after the foregoing explanation, be contended that general laws, to the formation of which a knowledge of facts is thus indispensable, are independent of it, because they comprise something beyond the individual facts known. It might as well be alleged that our seeing the prospect from the top of a mountain is independent of our having reached the summit.

The sum of the preceding considerations may be briefly stated.

As Kant's mathematical cognitions à priori proved, on the examination to which they were subjected in my last letter, to be only general propositions affirming necessary co-existing facts or conditions, which we discern to be necessary because they are so in their very nature; so these other cognitions turn out, on a similar scrutiny, to be nothing else than conclusions in contingent reasoning deduced from the facts of observation or experience.

We are undoubtedly so constituted as to reason in this way, but we cannot make a single inference without previous knowledge.

## LETTER X.

GENERAL PROPOSITIONS (IN CONTINUATION). KANT'S DOCTRINE OF  $\tilde{A}$  PRIORI COGNITIONS AS SET FORTH BY ONE OF HIS EXPOSITORS.

You will doubtless feel that these discussions on an abstruse question in which none but thorough metaphysicians can take any interest, grow a little wearisome, and therefore, in commencing another letter in reference to the same topic, I will promise that it shall be brief.

It will be very probably maintained by some of the partisans of German Philosophy that all which was meant by Leibnitz and Kant in asserting their innate principles and cognitions à priori is, that we are naturally so constituted as to form them when appropriate occasions arise. If this were the case, they certainly would have been wasting a vast deal of superfluous ingenuity in proving what no one would be found to contest. In regard to Leibnitz such a defence is wholly irrelevant, as he draws a distinction between actually possessing truths graven on the mind, and having only the faculty of acquiring them. As to Kant, something of this kind, if I mistake not, is alleged, or seems to be

alleged, in his behalf by Chalybäus in the "Historical Development of Speculative Philosophy," published a few years ago, although the precise sense in which it is to be understood strikes me as not altogether clear.

After stating that Kant conceived he had discovered that the most general and highest notions are à priori contained in our faculty of cognition, Chalybaus proceeds as follows:

"But these the most general notions of relationship, such as cause and effect, substance and accident, &c. &c., must not be conceived as being ready made, and à priori placed into man's consciousness previous to all reflection, or in other words, as innate notions and ideas. The only things innate to our minds are certain modes of procedure in cognising and judging. If we actually come to know or judge any thing, we necessarily proceed to do it in that peculiar manner; and hence immediately, and, as it were, without any choice of our own, we view the things as standing related to each other; for example, as causes and effects, substances and accidents. Now we do this without any premeditation; and the child, and the unthinking person who has never for a moment reflected upon the abstract notion of these relations, proceeds in the same way as the philosopher. This manner of viewing things is simply the mode and the necessary law of our perception itself. Afterwards only when reflection has been cultivated, and we turn our attention to the forms of our activity, we become conscious of it in abstracto, and then we designate it in language by substantives (appellatives). Our understanding itself is also capable of making these modes—the laws which regulate its own movements—the subject of observation, and of reducing them to certain abstract notions, which, however, may not be confounded with innate cognitions or ideas in the sense attached to them by Des Cartes or by Plato, but are themselves really the results (products) of abstraction on the part of our own understanding."\*

If this passage could be interpreted as simply intending to state that we are so constituted as to perform certain mental operations, in the ordinary acceptation of that term, I should say that, allowance being made for certain exceptionable expressions and a little confusion of things which ought to be kept distinct, it contains a tolerably correct view of the subject, and corresponds, in the main, with that which I have myself given: but it would not, so interpreted, be at all according to Kant. It would amount, in fact, to an abandonment of the peculiarity of his doctrines, the essence of which consists in representing (doubtless with much confusion and inconsistency) what are only the modes and results of mental action, as knowledge or cogni-

<sup>\*</sup> Historical Development of Speculative Philosophy from Kant to Hegel by H. M. Chalybäus, Edersheim's translation, p. 46.

tions indigenous to the mind, or springing up in the mind independent of experience or of all impressions on the senses. The very passage which I first cited from Chalybäus represents Kant as conceiving he had discovered that the most general and highest notions are à priori contained in our faculty of cognition, which, inasmuch as the term notion implies the act of knowing, is clearly asserting knowledge somehow to exist when nothing is known, and which is therefore a doctrine totally inconsistent with the supposed interpretation as well as with itself.

General notions contained à priori in a faculty of cognition on the one hand and modes of mental procedure on the other, are wholly different things, as I have pretty fully explained in a former letter; and the attempt to identify them can lead to nothing but confusion.\* On carefully sifting the expres-

\* Locke very forcibly shows the futility of such an identification in the chapter of his essay before referred to:—

Having affirmed the truth that "no proposition can be said to be in the mind which it never yet knew, which it was never yet conscious of," he proceeds: "For if any one [proposition] may, then, by the same reason, all propositions that are true and the mind is capable of ever assenting to, may be said to be in the mind, and to be imprinted: since if any one can be said to be in the mind, which it never yet knew; it must be only because it is capable of knowing it, and so the mind is of all the truths it ever shall know. Nay, thus truths may be imprinted on the mind, which it never did nor ever shall know 1;

<sup>&</sup>lt;sup>1</sup> This was actually (marvellous as it may seem) the doctrine of Leibnitz, even after he had read this passage in Locke.

sions, however, we shall find that something more is meant by "certain modes of procedure in cognising and judging being innate to our minds" than the plain truth that we are so constituted mentally as to discern and compare and generalise the facts presented to us. It is meant to assert that the mind contains innately certain forms with which it invests or according to which it regards external facts. In consequence of this constitution of our minds we cannot do otherwise than view things as having certain relations, and divers truths as possessing necessity and universality, not because these relations and attributes really exist in the things, but because we cast them over what we perceive. We, in fact, according to the doctrine under consideration, furnish forth the relations (such as that between cause and effect) and the necessity and universality of certain truths (e.g. mathematical propositions) from our own inward

for a man may live long, and die at last in ignorance of many truths, which his mind was capable of knowing, and that with certainty. So that if the capacity of knowing be the natural impression contended for, all the truths a man ever comes to know, will, by this account, be every one of them innate; and this great point will amount to no more, but only to a very improper way of speaking; which while it pretends to assert the contrary, says nothing different from those who deny innate principles. For nobody, I think, ever denied that the mind was capable of knowing several truths. The capacity, they say, is innate, the knowledge acquired. But then to what end such contest for certain innate maxims?"—Essay on Human Understanding, book i. chap. ii. sect. 5.

resources; we impose them on the external world, and do not, as intelligent or percipient beings, discern things to be causes and effects, and facts to be necessary, merely because they are so in nature.

It is difficult to describe wholly groundless theories, some parts of which are generally inconsistent with others, in unexceptionable or uniformly applicable language; but I think I could make good my description, were it needful, by abundant quotations.

Such a view of the matter as that given by Chalybaus is perfectly compatible with Kant's doctrine examined in a preceding letter, and regarded by him with much gratuitous self-complacency in the light of a happy discovery of his own: the doctrine, namely, of the mind's acting on the external world; or rather, it may be considered as part of that doctrine; but it is both self-inconsistent and irreconcilable with many other passages of his philosophy. After what I have already said, in several places, it is scarcely needful to repeat that the whole theory of the mind's action on objects and imposing its own forms upon them, is the pure product of the imagination. It is entirely destitute of evidence to support it if not of precise meaning. To adopt for the occasion the language of the system, the only thing the mind supplies or furnishes, in its perception of an external world, is the discernment which it exercises.

In conclusion, it may be useful to describe briefly, the distinctive peculiarities of four separate theories on the subject before us, which it has fallen in my way to notice in the preceding discussions. They severally teach as follows:

- 1. That there are innate ideas and principles stamped on the mind, but existing in a latent state until they are roused, or brought into distinct cognisance, by the exercise of the senses; amongst which principles are all necessary truths. This is Leibnitz's doctrine.
- 2. That there are certain cognitions which are à priori without being innate, and, although independent of the senses, are awakened in the mind when, and not before, the senses are exercised; and which include all mathematical judgments and all other propositions marked by necessity and universality. This is the doctrine of Kant, according at least to one interpretation, or in one of its phases.
- 3. That there are certain modes of mental procedure innate to the mind, by which it necessarily views things under certain forms and relations, not because the things are so fashioned or related, but because the constitution of the mind determines it to impose these forms and relations on the outer world. This is the doctrine ascribed to Kant by Chalybäus. It may be considered as another phase of his philosophy, and is supported by numerous passages: but how far it is reconcilable with the preceding theory (No. 2) may be left to his disciples to determine.

4. That we human beings have no innate knowledge, but are so constituted as to perceive objects as having various properties, because they actually possess such properties; to be high and low, near and distant, straight and crooked, like and unlike, connected together as necessarily coexisting, and unconnected or casually conjoined: that we are likewise so constituted as to indicate by articulate speech what we thus perceive, and in the exercise of this part of our constitution, to express, in general propositions, the points of resemblance which we discern amongst the various objects brought under our cognizance.

This is the doctrine maintained in the present Letters.

## LETTER XI.

THE PROMINENT CHARACTERISTICS OF GERMAN PHILOSOPHY AND THEIR CAUSES.

You will, I think, agree with me that the tone of German Philosophy does not, generally speaking, harmonize with the English understanding; and is even decidedly repugnant to it. Largely as the philosophy in question appears to have engaged the attention of our continental neighbours, and chimed in with their strain of thought, it has found few cordial followers here, and it is worth while to search for the sources of this dissonance and antipathy.

The principal causes of the mysticism, obscurity, vagueness, and, I may add, extravagance, which in the estimation of most Englishmen, and I must frankly declare in my own, characterise the speculations of German philosophers, and repel many of us from the study of their works, appear to me to be the following:

1. Regarding perception through the organs of sense as something to be analysed, explained, or accounted for, instead of considering it as a simple and primary fact of consciousness, the only possible

explanation relating to it being an explanation of the physical conditions on which it depends.

- 2. Personifying what are usually termed the faculties of the mind and even what may be called 'mental incidents,' and treating them as distinct entities.
- 3. Treating in a similar way the abstractions, generalisations, and other expedients of language relating to the objects and events of the material world.
- 4. Adducing imaginary or fictitious events as facts, sometimes in explanation of realities and sometimes in explanation of other fictions: a practice which is an inevitable consequence of the beforementioned errors, although frequently the result of different circumstances; and especially of the unbridled spirit of hypothesis.

It is not too much to affirm that these fictitious facts, however they may originate, constitute the great body of the philosophy of such writers as Kant, Fichte, Schelling, and Hegel.

Such defects as are enumerated in these four divisions may, it is true, be found in English writers, but they appear to me to exist amongst German philosophers in so greatly exaggerated a form, that the characteristic style of speculative thought in the two nations is widely contrasted.

Our own philosophers have been, in the main, disposed to conform their researches to the methods employed in physical inquiry; and although their scientific success has not been great, owing to the many traditional prejudices under which they have entered upon the subject, and also to their not perhaps seeing clearly how to follow the line of inductive investigation pointed out to them by physical science, they have usually felt both the desire and the necessity of speaking plainly to the practical understandings of their audience. Hence they have given us much good sense, if not much precise thinking, and at the same time comparatively little mysticism.

With the continental philosophers, the case has been very different, as I shall now proceed to show.

1. The first error above particularized, namely, not accepting the perception of external objects as a primary fact of consciousness, which does not require or admit of proof, explanation, or question, is widely prevalent, and manifests itself in the denial either of the existence of the outward world, or of our direct knowledge of its existence.

I have already considered these views as expounded by some English philosophers, and also by Kant, which renders it needless to enter upon them now at any length. Much of what I have said in reference to the speculations of Berkeley and others, will apply to almost every modification of the ideal theory.

The form which the theory assumes amongst some other German philosophers may be thus stated:

We know only our subjective states, or in other

words our states of consciousness: we can know nothing of the causes of these states, nothing beyond them. That external things exist, is only a supposition or an inference, which is forced upon us, or which we resort to for the satisfaction of our craving for explanation, but which is, at best, only a conclusion from internal or subjective phenomena. Thus Fichte contends that we first have representations or images in our minds, and then suppose or infer external objects in order to account for them.

I have first to observe as to the assertion that we know only our subjective states - an assertion continually repeated by German and even English philosophers — how obviously it assumes the whole question, and how utterly at variance it is with our consciousness. We are conscious, as I have before had frequent occasion to remark, and reiterate now merely because the train of refutation requires it, that we know external objects. This is exemplified in the trite instance of seeing a tree, which, according to the philosophy under review, is only a subjective fact; but which is truly both subjective and objective. No one can possibly be in the subjective state called seeing a tree (which is knowing through the organ of sight), without being at once conscious of himself as seeing, and conscious also (as an integrant part of the act) of seeing the object. Seeing can no more take place or exist without both a

seer and an object seen, than a triangle can exist without both three sides and three angles.

But the most important consideration remains. The very phrase "it is only a subjective fact," presupposes a knowledge of that which it denies — a knowledge of what is objective. If we knew no other than subjective facts, we could not think or speak of objective ones, in comparison or contrast with them. The phrase would then have no meaning for us, and indeed could not possibly have been invented or employed. I have before made this remark on another occasion, and in different language, but you will pardon me for repeating a truth which is so little recognized or understood and so essential to a right apprehension of the question.

But you proceed to urge with Fichte\* (allow me to constitute you his advocate) that we infer or suppose that there is an external object—a tree. This is the same great fallacy in another form, and deserves especial consideration: we do not infer the existence of the external object: no inference takes place, nor could it take place; for we can infer or suppose only such facts as we already generically know. We can infer only internal facts similar to those we have been conscious of, and only external facts similar to those we have known through the

<sup>\*</sup> In his "Destination of Man" he tells us that nothing more is known of a cause for our sensations than this—that such an inference is unavoidable.

organs of sense.\* This is the fundamental law of moral, probable, or contingent reasoning. If then you infer that the tree is an object out of you, or different from yourself, you must already know what objects out of you are: i. e. you must possess a knowledge of the class of facts, alleged to be only inferred, before you infer the particular fact, and in order to be able to infer it.

It is consequently impossible that the existence of an external world can be deduced by reasoning: it is directly perceived: it is not, nor can it be, a matter of inference; it is a matter of perception or knowledge.

This erroneous doctrine sometimes, it will be observed, assumes the shape of denying not only a knowledge of matter, or of the external world, but its very existence.

In this, however, there is the same contradiction, only a little modified in form, that I have just pointed out, as I explained in a former letter. You cannot rationally deny the existence either of any thing known, or of anything absolutely unknown.

Now it is clear that in denying the existence of matter, you transgress in one of these ways; for you must either know what matter is, or not know it.

\* What is here said contains a most important and universal truth, prolific of consequences, and not to be lightly passed over by any one who wishes to master the subject. Let him try to follow it out, in some of its most obvious applications, and he will become sensible of its value.

If you say you know what it is, you assert a knowledge of that which, according to you, has no existence, and never has had existence: you affirm that you know a nonentity: your doctrine is therefore self-contradictory.

If, on the other hand, in denying the existence of matter, you say that you have no knowledge of matter, you may escape self-contradiction, but it is at the expense of falling into an absolute nullity: you assert the nonexistence of something perfectly unknown to you, of which, consequently, you can form no conception, and concerning which you can draw no inference, nor make any rational assertion; your doctrine is therefore altogether destitute of meaning, perfectly null, worse than idle; as much so, as if you were to affirm the nonexistence of an unknown quantity of an unknown substance in an unknown place at an unknown time.

A similar refutation is applicable to the doctrine that we cannot "know things in themselves;" which involves the same fallacies as those which I have just exposed; and hence it would be tedious to treat it separately here except in the briefest manner, even if I had not already expressly animadverted upon it in one of the letters of the first series devoted to Kant.

The argument, nevertheless, since it has been controverted, and I think misunderstood, may as well be repeated in a condensed form.

You who assert that mankind cannot "know

things in themselves," either understand what "things in themselves" are or you do not. If you say you do, then unless you possess exclusive sources of information, or a monopoly of this peculiar sort of knowledge (which you will not pretend), mankind have according to your own declaration a knowledge of things in themselves.

If, on the contrary, you do not know what things in themselves are, your doctrine amounts to a perfectly unmeaning assertion: you affirm, in reality, that mankind do not know something you cannot tell what.

There is, in fine, as every reader must have discerned before this time, one dilemma common to all these phases of negation or of scepticism relating to the direct perception, or to the existence, of external things;—a dilemma which seems to have been strangely overlooked when the several doctrines or hypotheses have been put on their trial: they are all, according as their advocate shall adopt one or other of two assertions, between which he is compelled to make choice, either intrinsically unmeaning or self-contradictory, and they cannot be otherwise.

It is understating the case to say, as is commonly said, that they are without proof; they are in a far worse condition than this: they necessarily either contradict themselves or are altogether destitute of rational import. From this dilemma there is manifestly no escaping. Utrum horum mavis accipe.

It is easy to see how doctrines which, in this way, either amount to nothing or contain a self-contradiction, are almost sure, when followed out, to lead their authors into vagueness, perplexity, and confusion, and into abundance of fabulous statements and imaginary facts.

It is the same error of not taking the facts of perception as primary and in their nature unsusceptible of proof, explanation, or analysis, which has led to the doctrine taught by some philosophers that everything which we ascribe to objects and which is supposed to come to us from them, has first (to borrow very curious phraseology\*) been put by us into those objects. It has also led to the less extravagant but kindred and not better-founded doctrine, that part of what we perceive is furnished by the mind and part by the objects themselves.†

More groundless, vague, and confused doctrines,

\* To show that I am not here drawing on my own imagination, which might be readily supposed by any reader not acquainted with German speculation, I will produce a voucher. "In short," says Chalybäus, in giving an account of Fichte's philosophy, "everything that we ascribe to objects, and that is supposed to come to us from them, has first been put by us into these objects by a conclusion."— Historical Development of Speculative Philosophy, p. 185 (Eng. translation).

† The writer quoted in the preceding note tells us that Kant acknowledged that objects somehow affect us, but the result of their affecting us is so intimately and thoroughly mixed up with the ingredient added by our own understanding, that our sense-perceptions may now be looked upon as a perfectly subjective product, which no longer corresponds to the object. Ibid. p. 83. Abundance of other passages of the same tenor might be cited.

could scarcely be given forth. The events described are wholly fabulous and, in truth, impossible.

It must be borne in mind that by "perceiving" is meant a state of consciousness, and if anything is "furnished" by ourselves in the act of perception, we must be conscious of it, first as being present in the mind, or forming a part of the conscious state, and then as being transferred to the object and becoming perceptible through an organ of sense. The only possible way in which we could become cognizant of such a transaction would be this being conscious of it: but as we are utterly unconscious of anything of the kind, the whole proceeding may be justly set down (by all at least whose experience tallies with mine) as purely imaginary. In the process of perception there are undoubtedly both physical facts and mental facts two kinds of facts which, although they may be connected as causes and effects, are perfectly distinct from each other as objects of knowledge, - but the doctrine before us seems to imply a sort of mongrel facts, partaking of the character of both, and utterly unknown to precise and accurate observation.

Such doctrines as these appear to arise, in some measure at least, from confounding the part played by our physical organism in the preliminary business necessary to perception with the mental act of perceiving.

It is quite true that perception depends conjointly

upon the external object with the inorganic medium necessary in some cases to the sensuous impression, and upon the organic structure of the percipient being, on which the proximate external substance acts. One is not less essential to the mental result than the other, but neither of them must be confounded with that result itself.

Perhaps a simple case may sufficiently illustrate the part taken by each as well as the fundamental difference of both from the act or state of consciousness which they unite to produce. For this purpose I will adduce an hypothetical instance, not taken from any writer on the subject (probably none would like the credit of it) but supposed merely for the sake of elucidation. A derangement in the structure of the eye sometimes occasions us to see a really straight line, crooked. Here the faulty form is due to some imperfection in the physical organ, and it might possibly be said by those whose opinions I am controverting (although I will not attribute the doctrine to them in this imaginary case) that the external world furnishes the straight line and the mind furnishes the crookedness: but this would manifestly be to confuse the optical properties of the eye, which are external physical facts, ascertainable only by observation through the senses, with the phenomena of consciousness, which in this case may be simply described as "seeing a crooked line." The mind "adds" or "furnishes" nothing: it is here the perceiving entity only. The

organic apparatus is what enables us to see a line when placed before us, and it is a derangement in that apparatus which causes us to see the line crooked \*, — which occasions the particular state of consciousness so described. It must be obvious that the state of consciousness cannot modify itself, which would be implied in the assertion that the mind contributes or furnishes the crookedness (or indeed anything else) to the object.

The only thing furnished by the mind (to speak in the language of the doctrine under examination) is the discernment. If it be said that no one would be so absurd as to maintain the opinion here supposed, I reply, perhaps not in so glaring a shape, but substitute "colour" for "crookedness" and you have the precise doctrine of some eminent philosophers.

If you take the trouble of looking back on what I have written in this letter, you will probably be struck with the numerous forms of fallacy which have arisen from an imperfect discernment or want of discernment that our perception of the external world is a simple fact of consciousness, not requiring, and not susceptible of, explanation.

<sup>\*</sup> The case of a straight stick, partly immersed in water, being seen bent, furnishes an instance where the apparent flexure is owing not to the organ but to the two different inorganic media, through which the rays refracted from the two different parts of the stick are transmitted. The percipient mind has nothing to do with originating these circumstances, but is affected by them.

Thus, as we have just seen, it is contended by some philosophers that we know only our subjective states, and merely infer the existence of an external world: by others that an external world does not exist: by others that we do not know external things in themselves: by others that the qualities we perceive in external objects are first put by us into the objects: by others that part of what we perceive is furnished by ourselves and part by the things without us.

These are all so many struggles of speculative minds with a difficulty of their own raising. The plain truth seems to have been too simple for them to accept, and they have strangely wandered abroad in search of what they had left behind at home.

In my next letter, I purpose to consider the other causes already enumerated of the prominent characteristics of the same philosophy.

## LETTER XII.

THE PROMINENT CHARACTERISTICS OF GERMAN PHILO-SOPHY AND THEIR CAUSES (IN CONTINUATION).

In pursuance of my plan, I now come to the second circumstance to which I attribute the prominent characteristics of German speculation.

It consists in treating the so-called faculties of the mind as real and distinct entities.

This I have elsewhere so fully pointed out in the writings of authors, English, French, and German, that I must content myself on the present occasion with doing little more than referring to the previous letters in which the subject is explained.

It is, perhaps, more conspicuous in Kant than in any of his successors.

With the larger number of these philosophers, (it may be remarked,) whatever becomes of the other faculties, the reason figures as a very important independent entity, and is charged with the most various functions. Thus Schelling talks of the absolute reason embodying itself in inorganic matter—also as entering as an organic law into the germs of vegetable life—further as coming to consciousness in animated nature, until in man it

reaches the stage of self-consciousness, than which it has hitherto got no higher in its range through organized beings. Here, as in the other examples I have cited, we have a description of wholly fictitious events, arising from the original personification of reason. Unfortunately for the philosopher, there is (as it seems almost needless to repeat) no such entity as absolute reason, and consequently no embodying or entering or coming to consciousness on the part of this imaginary power. There is reasoning in abundance in the world, both demonstrative and contingent, but it is always a particular act or series of such acts done by an individual living being.

The following account of some of the doctrines of Jacobi will serve to illustrate how philosophers vary in their descriptions of what the faculties do, and how little likely they are to agree in their psychological views so long as they do not adopt the simple plan of classifying and explaining operations, instead of creating powers and partitioning mental territories:

"In his [Jacobi's] view, reason was something wholly different from that logical faculty which Kant had, in his theoretical philosophy, represented it to be. Jacobi thought that just as our senses are a faculty by which we have immediate perception of what in the province of corporeity has existence for us, so reason is that sense or faculty by which we have immediate perception of that which

in the supersensual sphere of mind and intelligence has existence for us." \*

On this it may be observed, without entering upon other comments, that since there is no criterion by which to judge whether one philosopher's description of "reason" is more correct than that of another, the assignment of functions is in a measure arbitrary; each speculator is at liberty to comprehend in his award what the other leaves out, and after all no progress will be made by any of them in the classification of the facts which constitute our knowledge of man as a sensitive and intellectual being. If, on the other hand, they content themselves with describing a mental operation they can scarcely fail to agree in the main as to the particulars to be comprehended under it, and, should they differ, every reader may decide the matter thus reduced to its simplest form, by the test of his own consciousness.

Sometimes we find the so-called faculties designated by abstract terms, as in the following description of a doctrine ascribed to Kant:

"In every perception, receptivity and spontaneity are inseparably connected and co-operate together. The former furnishes the material, the latter the form of all experience."

Here pure abstractions are converted into active agents, each having its distinct function yet co-

<sup>\*</sup> Chalybäus, Historical Development, p. 84. Edersheim's translation.

operating with the other; the first "furnishing" substances, the second shapes. If any real fact lurks under this phraseology, all that can be said is that it is pretty effectually disguised: it may possibly be the simple truth that we generalize and reason from the facts we perceive.

In another author\*, we find what I have before termed mental incidents undergoing the process of personification: "representations" are described as engaged with each other in a struggle,—as being thrust back or thrust aside,—as waiting on the threshold of consciousness for the favourable moment when they may be enabled once more to rise up,—as operating in the dark,—as becoming feelings, and eventually desires, and even volitions.

Of all such descriptions, outrageously figurative as they are and at the best full of imaginary events, it may be affirmed that whatever modicum of meaning they may shadow forth they never can do anything but confuse and perplex the science of mind; they are signal and lamentable departures from that true method of philosophical investigation which brings forward none but real facts and states them in the simplest language.

3. The next source in my enumeration, which contributes to the vagueness, obscurity, and confusion of the philosophy before us, is the creation of fictitious entities out of the mere forms of lan-

guage in reference to physical objects and events the personification of material generalisations and abstractions; or, to express it differently, the practice of ascribing a distinct and independent existence to the signification of general and abstract words, and, it may be added, of collective and complex terms, concerning the external world.\* These are doubtless indispensable forms of expression in speaking both of mind and of matter, but the moment you make them the bases of separate entities you are in imminent danger of falling into vagueness and error and the assumption of imaginary events. It may be said, indeed, that some noted systems of metaphysical speculation consist of little else than fictitious processes, described as being performed or exhibited or undergone by

<sup>\*</sup> The tendency of mankind to personifications is amusingly exemplified in an incident recorded in "The Discovery of the North-West Passage," by Captain McClure. During the time the "Investigator" was frozen in the ice, there happened to be a remarkable rise of temperature, from 2° minus to 24° plus of Fahrenheit. "This sudden change was far from being pleasant to the crew, who had put on their winter clothing and felt the heat oppressive. The old hands, however, warned the novices against 'being fools enough to pull their clothes off on account of such a bit of sunshine, for perhaps in an hour's time Zero would be about again.' Zero, it must be observed, was invariably referred to as a veritable foe, having an actual existence, and was to be combated as they would do the Arch-Enemy," p. 130. The last part of the statement is at once instructive and suggestive.

fictitious entities of one or other of the kinds which have been pointed out.\*

This is especially true of the writings of the later German philosophers, where at every step you meet with assertions of events or operations which you are not internally conscious of and which you cannot externally observe—assertions which would never have been made had there been a due appreciation of the nature of general and abstract language.

4. Three of the causes which I have here classed under distinct heads are so intimately allied and so frequently intermixed that I have, in some degree, anticipated the elucidation of the last of them; and what I have further to remark will serve to illustrate both the preceding and the present divisions.

It is certainly not necessary to travel any great way through the systems of German philosophy, or even any one of them, for the purpose in view. It

<sup>\*</sup> I am happy in being able to corroborate some of my views on the present subject by the following passage from an eminent living writer, with whom, as several of the preceding Letters show, I do not always find myself in accordance: "This misapprehension of the import of general language constitutes Mysticism, a word so much oftener written and spoken than understood. Whether in the Vedas, in the Platonists, or in the Hegelians, mysticism is neither more nor less than ascribing objective existence to the subjective creations of the mind's own faculties, to mere ideas of the intellect; and believing that, by watching and contemplating these ideas of its own making, it can read in them what takes place in the world without."—

A System of Logic, by J. S. Mill, vol. ii. p. 364.

will be sufficient to select a few examples of what I wish to point out.

One very remarkable set of these imaginary transactions may be attributed to a lavish employment, and an incessant personification, of the general term nature, which is a word requiring from its various senses to be used with great care and discrimination. I scarcely need say that there is no separate entity indicated by the term, which is a mere form of language applied to designate sometimes the aggregate of actual existences, and sometimes the constitution of particular objects, or the qualities of things; besides possibly other acceptations. Let us see, however, how the word is employed.

We are told that "nature tends throughout towards individuation. Its progress in the grand total has been a distinguishing of that which primitively was undistinguished, an unfolding of that which was undeveloped and comprehended together in the subjectivity, hence an individualising into different parts, and again of those parts amongst themselves, yet in such a manner that the positive essence remains eternally that which is unitous in each and all, just as nature itself surrounds, as an invisible and eternal bond, each and all, and unites them into a whole."

"If nature" (the same writer \* proceeds) "is thus

<sup>\*</sup> Schelling.

looked upon in general as one infinite organism, then every part of it is only serviceable to the whole, and has by itself no existence and no aim." . . .

Again "It (nature) aims as much to exhibit relative totalities (wholenesses) in the individual, as on the other hand it again swallows up all these totalities in the one grand organism, as being only part totalities. Hence the universal bond manifests or affirms itself relatively again in the individual and exhibits in the latter the form of totality." Here we have a description of purely hypothetical transactions of a hypothetical agent, the precise signification of the whole of which I will not venture to surmise except for my own private edification. Two or three of the positions are curious enough, especially those relating to the circumambient bond.

If there is no separate existence corresponding to the word nature, but when used in its widest sense it can mean nothing but the aggregate of individual objects or operations, then in the assertion that "nature surrounds each and all and unites them in a whole" either there is no real meaning except the mere truism that existing things taken together form a totality, or we have the description of an imaginary event or condition. Construed literally the description of nature surrounding all things is simply nugatory, and is much the same as predicating that a man surrounds himself.

Again, when nature is said "to aim to exhibit relative totalities in the individual," this is a mere

figure of speech scarcely worthy of appearing in any philosophical explanation except professedly as a figure, and when this nature is further described as swallowing up all these totalities in one grand organism, although exhibiting in the individual the form of totality, we can consider the entire description only as either simply unmeaning or asserting that individual objects, while being parts in relation to the grand whole, may yet be considered as wholes in themselves — which is at the best a mere platitude.

There is another abstraction, "the absolute," which plays a great part in this philosophy.

Thus in one work "the absolute" is spoken of as "unfolding itself into the totality of what is."

In another; "the absolute" is described as "having intuition of itself," and again the absolute itself is designated as "living reason."

The term absolute used as a substantive is, in fact, simply an abstract word implying nothing more than absoluteness, and can have no meaning until it is connected with some real existence.

We may speak of absolute power or absolute wisdom, meaning power without limit and wisdom without imperfection; and even these phrases can call up only concrete ideas—the idea of a being absolutely powerful and perfectly wise, or powerful and wise in a degree to which we can assign no limits—an indefinite degree.

A similar remark may be applied to the phrase "the infinite," which is an abstract term equivalent to infinitude or infiniteness, and can be connected with no clear idea in our minds except an idea of some particular object or combination of objects; nor, when so connected, can it be more in meaning than the word indefinite.

We have seen above that nature is styled the universal bond: but in other places we find "the absolute" is designated by the same title: and we are further told that the absolute has differentiated itself into light and gravity and is identical with the material world.\*

In such phrases as these we really have the essence of fiction; they describe purely imaginary events and the only grain of meaning we can by the utmost ingenuity extract from them is what we scarcely needed to be told—that there are such things as light and gravitating bodies in the universe.

Similar extravagancies abound.

"Light," says one author, is "the thinking of nature," or rather "the intuition of herself by herself."

"We of mankind," says the same (or another), "are, as it were, only the innumerable eyes by which the infinite world-spirit contemplates itself."

In another place we are gravely told that man has within himself the principle of *Meity*, a phraseo-

<sup>\*</sup> Schelling.

logy which rivals the quiddity and hicceity of the schools.

In these three last extracts, the only truths I can discover are, that light is light, that mankind are conscious beings, and that an individual man is himself and not another man — truths which might have been kept back without any serious detriment to philosophy.

Regarding the passages literally, I can find in them only the description of imaginary conditions or events.

It is a fiction that light is "thinking;" it is a fiction that the world-spirit contemplates itself through mankind as through so many eyes; it is a fiction that man contains within himself an abstract entity here styled the principle of *Meity*. In reference to this last expression I may add that the most curious philosophical treatment is experienced by "ME." In the above passage it is turned into an abstraction: while in another place, it is, like the rules of a law-court, *made absolute*; we are told there is "an absolute *me* in the broad ground of which every individual *me* has struck root."

This is astounding enough, but, in the following sentences we reach the climax of extravagance and self-contradiction in the creation of imaginary personages and events.

"Being and naught" (gravely asseverates a celebrated philosopher \*) "are identical."

<sup>\*</sup> Hegel.

Further, "if we analyse origination [literally becoming] it is found, that it is a continuous transition from being into naught and a continuous coming over from naught into being."

Comment on this is scarcely required:

"The force of fiction could no farther go."

I will venture, however, to remark that if being and naught are identical, the transition of one into the other — the transition of the same thing into the same thing — is a most extraordinary process: and when it again happens "may we" (as the poet ejaculated in reference to the future rides of John Gilpin), "may we be there to see."

You must excuse this little spirt of levity on so weighty a subject, for it is impossible to treat some of the doctrines under consideration with uniform seriousness.

"To laugh were want of goodness or of grace, But to be grave exceeds all power of face."

## LETTER XIII.

THE PROMINENT CHARACTERISTICS OF GERMAN PHILO-SOPHY AND THEIR CAUSES (IN CONTINUATION).

It may be objected, perhaps, that it is unfair to take single sentences without the context, wrenched from their places in that system of philosophy of which they merely form a part.

And so perhaps it might be were my object to enter into a confutation of the systematic doctrines of the several treatises containing the passages cited: but my principal design being to show the errors flowing from the personification or erection into distinct entities of abstractions and generalities, and especially the multiplicity of fictitious or imaginary objects and events which pervade philosophy and are in a great measure consequent on this practice, the end may be attained by quoting even single propositions provided they clearly manifest the characteristics in question. And I scarcely need to say that the writings on which I am animadverting do not merely exhibit these characteristics in an incidental way and at long intervals, but are almost wholly made up of them.

Nevertheless, to meet the preceding objection as

far as I can do it consistently with that brevity of discussion which is all that such speculations are worth, I will select some one systematic doctrine for particular examination, and try whether we can obtain a different result.

With the same view to brevity, I will take the exposition of the doctrine from the pages of some author who endeavours to present it in a succinct form and a popular style.

The following is an explanation of one part of Hegel's philosophy by a recent English expositor:

"Take any object whatever and ask how it becomes to us a real existing idea or thing (for with Hegel these two are the same). Philosophers ordinarily say, that when we have a perception there is implied the mind or subject that perceives on the one side, and the object which is perceived on the other, the two communicating by some unknown process. The pure idealist, it is true, denies the reality of the object, and regards it as the production of the subject; but Schelling hadexploded this notion, and introduced the doctrine of identity, according to which we must admit a real subject and a real object, but must regard them as two corresponding manifestations of the same absolute existence. Hegel, however, now goes one step further in his analysis. He says that there is neither subject nor object separately considered, but that they both owe their existence and reality to each other. The only real existence then is the

relation; the whole universe is a universe of relations; subject and object which appear contradictory to each other are really one — not one in the sense of Schelling, as being opposite poles of the same absolute existence, but one inasmuch as their relation forms the very idea, or the very thing itself."\*

A brief consideration of the nature of abstract language suffices to show that this doctrine is just the reverse of the truth. So far from the only real things being relations, there is not a single real entity in the universe answering to that name.

There are innumerable objects in the world which are *related* to each other in a variety of ways, but there are no separate existences represented by the term relations.

The latter term is, in truth, a generic word of a peculiar character; it is a common name for a number of abstractions. Thus resemblance, distance, fitness, successiveness, symmetry, equality, are all abstract terms; in each case, that which is denoted by them is designated a relation, and none of these terms, the last included, can do more than raise up the ideas of particular objects in pairs or groups.

It is scarcely needful to enforce here the truth explained in a former letter, that all abstract phrases may be thrown into concrete language without any loss of meaning. When we say that

<sup>\*</sup> An Historical and Critical View of the Speculative Philosophy of Europe, by J. D. Morell, vol. ii. p. 136.

a portrait has a resemblance to the original, or that one simple flower, a daisy for instance, has a resemblance to another daisy, we express no more in each instance than that one resembles the other. The phrases "they resemble one another," and "they have a resemblance to one another," or "there is a resemblance between them," are perfectly equivalent. The relation termed resemblance has thus no independent existence, is no separate entity; and the same is true of all other relations. Pardon me for repeating these familiar truths.

Instead then of the whole universe being a universe of relations, which would be a universe of nothings, it is a universe of related things. The realities are not, as taught by Hegel, the relations between objects, but the objects themselves between which the so-called relations have place, or, in other words, which are variously related to each other.

Mark again the singular reasoning that subject and object are one, because the relation between them forms the very thing itself; which can scarcely be surpassed in self-contradiction and confusion of thought, except it be by the preceding assertion that both subject and object owe their existence to each other — the ingenious story of the Kilkenny cats inverted.

I am not sure that I ever met with a finer instance of the absurdities into which the creation of fictitious entities out of the abstractions of language, can be tray a reputedly powerful intellect.

If this should seem severe, pray observe for a moment the contradictions in the theory animadverted upon.

Subject and object are one, yet there is a relation between them: which necessarily implies that they are two.

They owe their existence to each other, the former as father producing the latter as child, and then the latter begetting its own parent.

Yet notwithstanding their existence is thus marvellously brought about, they are not real things; i. e. they do not really exist.

And hence, although there is a relation between them, it is a relation between two nothings; and such relations between nothings, are the only realities in the universe.

If the student of philosophy would always, or at least in cases of importance, adopt the rule of throwing the abstract language in which it is so frequently couched into a concrete form\*, he would find it a powerful aid in dealing with the obscurities and perplexities of metaphysical specu-He would then see clearly the character of the immense mass of nothings which constitute what passes for philosophy.

The doctrine of Hegel above commented upon, is at once disclosed in all its absurdity when this effective touchstone is applied to it.

<sup>\*</sup> See on this subject "The Theory of Reasoning" by the present author, Appendix.

The rule here recommended is formed from a view of the nature of general and abstract terms: but there is another rule drawn from the consideration of general propositions or laws, which he will find of no less utility whether the language is abstract or concrete.

In a preceding letter I have shown that from their very nature, general rules, laws, or propositions, can be legitimately formed from nothing but particular instances.

If, consequently, such a proposition has any real meaning, it will be always possible to find some instance in exemplification of it. Let the student then endeavour to discover such an instance. If this cannot be done; if no instance can be adduced; if the general proposition should elude all attempts to bring it to this homely test; it may be set down as a mere empty form of words. If on the other hand an instance can be found, the falsity of the general proposition (should it be false) will come out.

Let us try this rule on a passage from Schelling:
"The lifeless and unconscious products of nature
are only the unsuccessful attempts of nature to
reflect itself."

Well a quartz crystal is a lifeless and unconscious product of nature; in what sense is it an unsuccessful attempt of nature at self-reflection? If I were to follow the philosopher in his personification, I should say, that the crystal, although lifeless and

unconscious, is a successful attempt of nature to put forth a beautiful production. "Nature," however, as here used being an aggregate word signifying no particular thing or entity but the whole universe, it is nugatory—a mere flourish of fancy quite appropriate in poetry or rhetoric—to ascribe to it an attempt (which is the act of an intelligent being) to accomplish any end and especially such an end as self-reflection—whatever that may mean. In the passage quoted there are manifestly no real facts corresponding to the assertion, and it is only the generality of the proposition which can give it the semblance of a meaning. Demand an example and it vanishes into nothing.

Take as another proposition on which to try the test, the extraordinary passage quoted in a preceding letter.

"If we analyse origination [becoming] it is found that it is a continuous transition from being into naught and a continuous coming over from naught into being."

Let any one task his recollection or rack his invention to the utmost, he will be unable to discover or even imagine a single instance in which this is true. The annihilation of matter, the "transition of being into naught," as well as the converse process "the coming over of naught into being," is to man an unknown occurrence.\*

<sup>\*</sup> On this point I may perhaps be pardoned for introducing a short quotation from one of my own works. "In the pre-

The inevitable conclusion is that the author has here suffered himself to be imposed upon by words, and has announced an analysis of "origination" destitute of real meaning although not of conspicuous absurdity. If it should be alleged that I have mistaken his drift, I reply that I should be glad to find I had, inasmuch as it would show that there is one speculative folly in the world less than I supposed.

sent course of Nature, we have no evidence of the production of new matter,—not an iota of evidence; no philosopher of modern times has ever maintained that we have. It is the same with the extinction of matter: no act of extinction, no phenomenon of annihilation, has ever yet crossed the inquiries of the searcher into the secrets of Nature. The chemist, who pursues substances through all their changes, finds them, indeed, assume new forms, enter into new combinations, cast off their sensible properties, and escape all tests of their existence but the grasp of gravitation; yet in all these metamorphoses (as far at least as ponderable matter is concerned) he loses not a particle of the original quantity."— On the General Principles of Physical Investigation, being one of the "Discourses on Various Subjects," p. 160, A.D. 1852.

## LETTER XIV.

## THE CAUSATION OF VOLUNTARY ACTIONS.

On my view of the proper way in which the philosophy of consciousness should be treated, namely by regarding operations and affections instead of faculties, and shaping our language accordingly, a number of puzzling questions appear to me to be got rid of with comparative ease.

Amongst these, if I mistake not, is the controversy as to the so-called freedom of the Will; which is literally the freedom of a nonentity.

As the Will is merely a personification of our acts of willing, there ought, in consonance with the preceding remark, to be an evident advantage gained by dropping the personification and throwing the question into a different form. In no case, perhaps, except in treating of "the Reason," have graver disputes and more embarrassing perplexities arisen from the creation of a fictitious entity than in the instance before us. We may disencumber ourselves of almost all these by resolutely abstaining from the use of this formidable noun, and putting our meaning into the plainest and most direct expressions.

What the vexed question really amounts to, may be stated as follows:

Are we free to perform those movements of the body and those operations of the mind which are admitted by all to be effects of willing or to be voluntary? There is no occasion to embarrass the inquiry by considering dubious cases: let us take such alone as exhibit undoubted volitions.

Now it is very clear that we are quite free to do these acts if we please or will to do them.

Thus the act of stretching out my arm is one of the motions produced by willing, and whenever I please to do it I can do it, or, what is the same thing, I am free to do it.

The expressions "I am free to do an action if I please," and "I can do it if I please," are clearly equivalent.

Where then in a matter so stated can there be any room for doubt or controversy? It seems almost absurd to make a question of it at all.

On close examination nevertheless it will be found, that, when reduced to its simplest form the disputed point is, in reality, not whether we are free to act in certain matters as we please, for no one, I believe, disputes that we are, but whether there are regular causes (as there are in physical events) which bring us into the state of "pleasing or willing" to act in the ways in which we do act.

This question, although evidently a question of fact, it might be impossible to determine to the

satisfaction of every body, were the causes referred to not distinctly assignable: but, if there are circumstances which can be assigned as regularly preceding certain volitions, so that when the circumstances take place the voluntary acts can be foreseen and predicted, then the doctrine that voluntary acts depend on, or are the effects of, regular causes in the same way as physical events are, cannot be doubted without self-contradiction. Now nothing is easier than to show that there are circumstances which can be so assigned and of which the results can be so predicted.

Cases in point abound in the ordinary course of daily life, although they are very commonly overlooked or not viewed in the aspect in which it will be my design to exhibit them.

In a dissertation which I published above thirty years ago\*, "On the Uniformity of Causation explaining the General Principle of all Evidence and Expectation," I adduce numerous examples of the confidence with which we habitually anticipate the results of voluntary acts from causes put in motion either by ourselves or by others.

As the Treatise is little known, has long been out of print, and is not likely to be soon republished, I may be permitted to quote from it, as a prelude to what follows, two or three passages of considerable length which state the matter as clearly and

succinctly as I could hope to do were I to attempt a fresh exposition, availing myself of the right of an author to make alterations in his own text, although in the present case they will be either merely verbal or introduced for the sake of compression.

"It is surprising that this connection between motives and actions should have ever been theoretically questioned, when every human being every day of his existence is practically depending upon its truth; when men are perpetually staking pleasure and fortune, and reputation and even life itself on the very principle that they speculatively It is, in truth, intermingled in all our schemes, projects, and achievements. In the address of the orator, in the treatise of the author, in the enactments of the legislator, in the manœuvres of the warrior, in the edicts of the monarch, it is equally implied. Examine any one of these. Take, for example, the operations of a campaign. A general, in the exercise of his authority over the army which he commands, cannot move a step without taking for granted that the minds of his soldiers will be determined by the motives presented to them. When he directs his aide-de-camp to bear a message to an officer in another part of the field, he calculates upon his obedience with as little mistrust as he reckons upon the stability of the ground on which he stands, or upon the magnifying power of the telescope in his hand. When he orders his soldiers to wheel, to deploy, to form a

square, to fire a battery, is he less confident in the result than he is when he performs some physical operation,—when he draws a sword, pulls a trigger, or seals a despatch? It is obvious that throughout all his operations, in marches and encampments, and sieges and battles, he calculates as fully on the volitions of his men as on the strength of his fortifications or the reach of his guns. \* \*

"In commercial transactions of all sorts there is the same reliance. In the simple circumstance of a merchant's draft on his banker payable on a specified day, we have it strikingly exemplified. can scarcely conceive an instance of more perfect reliance on the production of voluntary acts by the motives presented to human beings, than this common occurrence. The merchant dismisses his draft into the commercial world without the least doubt that however circuitous the course, it will at last find some individual to present it for payment on the appointed day, and that his banker will finally Here we have in fact a series of volitions, the result of which is looked for with unhesitating confidence, with a confidence quite equal to that with which the material of the draft is expected to retain the handwriting upon it.

"The principal illustration, however, which I have to adduce on this subject is the science of Political Economy, especially as it will afford at the same time an opportunity of exhibiting the real basis of this science, which has not perhaps been

fully understood, even by some of those who have been successful in the discovery and elucidation of its truths.

"The principle which is at the bottom of all the reasonings of Political Economy is in fact the uniformity with which visible or assignable circumstances operate in producing voluntary acts.

"To exemplify:-

"It is a received conclusion in Political Economy that where competition is left open there is a tendency to equality in the profits of the various branches of commerce. If any one branch becomes much more lucrative than the rest, a flow of capital to that department soon restores the equilibrium. This general law is explained with perspicuity by Adam Smith in the case of the builder, whose trade, as he shows, must yield sufficient profit to pay him the ordinary interest of money on the capital expended and also to replace that capital within a certain term of years. If the trade of a builder affords at any time a much greater profit than this, it will soon draw so much capital from other trades as will reduce the profit to its proper level. If it affords at any time much less than this, other trades will soon draw so much capital from it as will again raise that profit.

"Now when Dr. Smith asserts that the trade of a builder under the circumstances supposed, will draw capital from other trades, he is not stating a physical fact which will take place in consequence of some material attraction, but he is laying down a result which will ensue from the known principles of the human mind; or, in other words, from motives acting on society with certainty and precision. The secession of capital from other trades is not a mechanical effect, like the motion of water to its level, but the consequence of a number of voluntary actions. It is an event which is produced through the medium of human volitions, although we reason upon it with as much certainty as on the tendency of water to an equilibrium.

"In employing such figurative expressions as these, in exalting trade and capital into spontaneous agents, and investing them with certain qualities and tendencies, we are apt to be deceived by our own language; to imagine that we have stated the whole of the truth, and to lose sight of all those mental operations concerned in the result which we so concisely express. Let us reflect for a moment on all the intellectual and moral processes, which lie hid under the metaphorical description of the trade of a builder drawing capital from other trades. To produce this result, the fact must transpire that the trade is more than ordinarily lucrative; this circumstance must excite the cupidity or emulation of a number of individuals; these individuals must deliberate on the prudence or propriety of embarking in it; they must resolve upon their measures; they must take steps for borrowing money, or withdraw capital before appropriated to other purposes and apply it to this; in doing which they will probably have to enter into bargains, make sales, draw bills, and perform a hundred other voluntary actions; the result of all which operations will be the employment of a greater portion of the labour of the community in building than formerly, and a smaller portion in other pursuits; and all these, with a number of other occurrences, are masked under the phrase of one trade drawing capital from another.

"It is the same throughout the whole science of Political Economy. The rise and fall of prices, the fluctuations in exchange, the vicissitudes of supply and demand, the return of excessive issues of paper on the bankers, the disappearance of specie, the depreciation of the currency, and various other events are to be traced to certain determinate causes acting with regularity on the minds of individuals and bodies of men: all these phrases are in fact expressions of the results of voluntary actions. Such circumstances furnish as striking instances of perfect vaticination in regard to the acts of human beings as any that can be adduced in regard to material occurrences. Political Economy is, in a great measure, an inquiry into the operation of motives, and proceeds on the principle that the volitions of mankind are under the influence of precise and ascertainable causes." \*

<sup>\*</sup> Essay on the Uniformity of Causation, chap. vi.

Thus when the vague language about the freedom of the Will—the freedom, as before said, of a nonentity—is set aside, the real question assumes a shape which presents little ground for difference of opinion.

Voluntary actions are proved to be dependent on regular and, in many cases, distinctly assignable causes, by the facts that we habitually predict them and calculate with the utmost confidence that they will ensue from the motives which we present to the intelligent beings whose conduct we wish to influence or direct.

"Well but after all," it may be said, "when we thus predict or calculate upon the voluntary actions of our fellow-creatures, we merely regard them as likely to happen; there is, no necessity in the case; they may or may not occur; a sort of latitude prevails in these things; we are not obliged to resort to the supposition of a dependence on regular or invariable causes."

And most assuredly the actions so predicted are only what come under the class probable or likely to happen; but as assuredly no probability can be ascribed to any events (if such can be conceived) which do not depend on regular antecedents. The moment you admit an event to be probable, you pronounce it to be the consequence of invariable causes. It is our ignorance of all the causes in operation which makes the events to us only probable: an acquaintance with the whole would

produce perfect certainty; and practically, as I have shown, our knowledge in the case of many voluntary actions is so complete that there is but an infinitesimal admixture of doubt, corresponding to the same minute quantity of ignorance. In this respect they resemble innumerable physical events which vary in degrees of probability to us, according as our knowledge of the causes in operation is greater or less; but no one surely supposes that this difference in probability is owing to some of the events being more loosely connected (to adopt for the moment an unmeaning phrase) than others with the series of which they form a part.\*

Variations in probability are entirely due to variations in the state of our own knowledge; and this is equally true whether the events in question are of a physical or moral character.

The preceding exposition has been employed in elucidating two facts which can scarcely be controverted by the most prejudiced of mankind; namely, 1st. that voluntary actions are not only constantly predicted but purposely produced by the motives which human beings present to each other; and

<sup>\* &</sup>quot;The word chance serves conveniently to veil our ignorance: we employ it to explain effects of whose causes we are ignorant. To one who could foresee all things there would be no chance; and the events which now appear to us most extraordinary would have then natural and necessary causes, in the same way as the commonest occurrences."—Letters on the Theory of Probabilities, by M. A. Quetelet, Letter 2.

2ndly. that in performing such actions we nevertheless do as we please: we act with perfect freedom: an option is presented to us, and we choose to do the actions rather than not do them.

Mankind, however, seem not to understand the relation in which these two facts (both incontrovertibly true) stand to each other. It is generally apprehended that there is some discrepancy or inconsistency or incompatibility between them: but for my own part I see none; and if both are real facts, they cannot, I scarcely need say, be discordant or incompatible one with the other.

Why should there seem to be any incompatibility between your doing as you please, and my predicting what you will do, and even causing you to please to do it?

My purposely producing in you the state of pleasing to do a thing—which implies of course my foreseeing the action,—is not compelling you to do it, but the reverse.

For example, when I offer to a bookseller the price of a volume exposed for sale in his shop, and thus bring his mind into the state of pleasing to part with it, as well as foresee that he will part with it, I do not put him under any necessity to sell me the book, I render him willing to do it, which is the opposite of compelling him or forcing him to surrender his property.

On the other hand it is equally plain that the circumstance of an event being in the class of

voluntary actions does not prevent me from predicting it or producing it in any human being.

In a word while my foreseeing an action, or raising in any one the wish to do it, does not necessitate or compel the performance of the action, its being voluntary is no obstacle to my foreseeing or inducing it. The two things are completely compatible. The same human actions may be willed with perfect freedom by the performer, and predicted with perfect confidence by the looker-on.

## LETTER XV.

THE CAUSATION OF VOLUNTARY ACTIONS (IN CONTINUATION).

The view of voluntary actions which has been presented in the preceding letter will doubtless seem to many readers incompatible with moral responsibility, with a sense of merit and demerit, with self-satisfaction and remorse, with the justice of rewards and punishments, and in a word with all feelings of retrospective complacency and condemnation directed either to our own conduct or that of others. It will be argued that if voluntary actions are the results of regular causes, if they can be predicted, if they can be purposely produced in one human being by another, or be the issue of unavoidable circumstances, then although it is through the medium of a willing mind that they are effected, all accountability for them is destroyed.

This opinion seems natural enough, if I may judge from its extensive prevalence, but it is plain to my own understanding that the opinion has arisen from not attending to some necessary distinctions which I shall endeavour to convey to you as perspicuously as I appear to myself to discern them.

In regard to moral accountability, a clear comprehension of the subject will be assisted by discriminating responsibility itself from the feeling or sense of responsibility. Responsibility itself means liability on the part of some sensitive and intelligent being to punishment for his conduct by some other sensitive and intelligent being.

In no correct sense can one being be said to be responsible to another, unless the latter has the power of inflicting upon him some evil, whether positive pain or the deprivation of pleasure—the power of affecting, in some way or other, his happiness or welfare.

But the feeling of responsibility is another thing, and the two are by no means commensurate.

Responsibility may exist without any adequate sense or apprehension of it, while conversely the apprehension of it may far exceed the reality or be wholly groundless.

If the question to be considered is, how far the doctrine which maintains that voluntary actions are the result of regular causes, takes away responsibility itself, or, in other words, liability to punishment for such actions, the solution seems simple and clear.

It is obvious that the doctrines on this point which may be held by the actors, cannot take away the power of punishing from the being or beings in whom it is vested.

If the latter have appointed certain punishments for certain actions, the mere opinions or sentiments of those who commit them respecting the causes in operation on their own minds, can evidently be of no avail in enabling them to avoid the penalties. The acts are done and the punishments follow. Responsibility is not touched.

If on the other hand, the question to be considered is how far the doctrine diminishes or takes away the *feeling* of responsibility; and if this feeling is regarded only as the expectation or apprehension of punishment, the solution of the inquiry also seems simple.

So long as the punishment decreed, or known to follow, remains the same, unaffected by any opinions entertained respecting it by the persons liable to be punished, there can be no reason why the apprehension of it should be weakened by such opinions.

Hence it may be presumed, the real objections intended are, that the doctrine would render the punishment of any actions unjust in itself, and cause both the perpetrator of the action and the inflictor of the punishment to feel it to be so. The sense and the odium of guilt, and the disposition to punish it would be annihilated; remorse or compunction would be inappropriate and useless, and

moral reprobation with all other penalties inapplicable and out of place.

These are formidable considerations, but not, I think, beyond a satisfactory answer.

In reply to the objection that the doctrine would render the punishment of any action unjust, inasmuch as it teaches that a concurrence of circumstances beyond the control of the perpetrator determined him to commit it, I must take upon myself to deny that the punishment in such a case would be unjust, for the simple reason that he pleased or willed to do it. Causes beyond his control, i.e. which he did not will, may certainly have determined him so to please - may have brought his mind into that state - but this allegation is unavailing: it is precisely because the state of mind termed pleasing or willing was interposed between the determining circumstances, whatever they were, and the act, that he becomes justly liable to punishment; it is this which makes the act his. Suppose the act in question to be giving a blow to an unoffending fellow creature; if the striker, by whatever circumstances he was induced to commit such violence, pleased to strike, he rightly incurs the penalty consequent on the act. Had some third person seized his arm and compelled him to give the blow, he would have been manifestly free from responsibility.

It is the essential circumstance of "willing" an evil action and nothing else that constitutes moral

guilt, and where it has place, however it may have been generated, condemnation justly follows. Neither the remote nor the proximate causes of the state of mind, termed willing, have necessarily anything to do with the guilt or the innocence of the voluntary action.

This representation will not, I am aware, satisfy every one. It will be objected (and doubtless with some force) that I only assert the justice of punishment in the described circumstances, whereas it requires to be proved.

The objection manifestly involves a particular consideration of the meaning of the word justice—a meaning which it is easier to ask for than to furnish, except by equivalent expressions.

In order to prove my position, I must distinguish two possible significations of the term when so applied.

The proposition that the punishment of an evil action is just, may mean either that human beings feel it to be just, or that the punishment is the direct and appropriate means of preventing similar actions in future.

It would perhaps be a sufficient answer to the objection were it just in either of these senses, but I shall endeavour to show that it is just in both, and I cannot imagine any other acceptation which can be given to the term in this connection, although a delusive appearance of one might easily be presented by resorting to synonymous language.

In regard to the first interpretation, it is a fact in human nature that when evil actions are seen or known to be voluntary, they excite resentment, or, in other words, a disposition to punish the evil doers; and the infliction of punishment in some way or other for such offences is universally felt to be just; it satisfies, and does not outrage the feelings.

The only conditions necessary for the production of these sentiments are, obviously, that the act is evil or thought to be so, and that it is voluntary. These conditions existing, the sentiments of resentment towards the offender and satisfaction at his punishment follow, irrespective of the circumstances which engendered in him the state of mind called pleasing or willing to do the action.

It may be laid down as a general law, that whatever circumstances may have determined a culprit to the voluntary commission of a crime, they are not felt by his fellow creatures to exonerate him from guilt, or to render his punishment unjust.

Such is the constitution of our moral nature.

A man has committed a robbery, and is detected and apprehended. It is proved on his trial that he was the offspring of depraved parents, that from childhood he was trained in the art of stealing, that he had not been taught any other mode of getting a livelihood, and that he and his companions had been habituated to pride themselves on their skill and felicitate each other on their success in abstracting the property of others.

Here there is an accumulation of circumstances operating with such manifest force to determine the career of the culprit, that no one who was acquainted with them could anticipate a different result; yet he is condemned and punished, not only without violence to the moral feelings of the community, but even with the sanction of those feelings, although to thoughtful and sensitive minds there is doubtless much in the case to excite reflection, regret, commiseration, and reluctance. Punishment is felt by them to be in such circumstances a stern and repulsive necessity, but a just necessity notwithstanding. The more powerful are causes determining culprits to the crime, the stronger is felt to be the call for counteraction by strict and undeviating penalties.

Mankind, indeed, are not invariably consistent in this matter. Their resentment of conduct is manifested somewhat irregularly, and modified by numerous circumstances. Sometimes, when the particular causes which have determined the conduct of an offender are fully set forth, the disclosure exasperates the odium excited by the offence; and sometimes, if the inducements are found to be such as scarcely any human being could have resisted, and especially if they are discovered to have been purposely offered by specious subornation, a more lenient judgment is passed, than if the offence alone

had become known, while the inducements which led to it remained in obscurity.

The mitigation of the moral judgment in such cases, is in truth due to a variety of influences which although they are interesting to trace, cannot now be discussed, but it chiefly arises from the apparent approach which the offences make in their character to compulsory actions; and this is, in its turn, owing to the attention of the observer being fixed more expressly and minutely than it can usually be, on the circumstances determining the volitions.

The judgment, however, never undergoes more than a mitigation, and not always that, so long as it appears that the mental state of pleasing to do the action preceded it, or, in other words, that the action was voluntary.

To these views it may still perhaps be objected that if voluntary actions are regarded when evil as justly subjecting their doers to punishment, it is because men in general are incognisant or unconvinced of the doctrine that all voluntary acts are determined by involuntary circumstances, and were the doctrine incontrovertibly established and generally held, mankind would as generally feel that praise and blame, rewards and punishments, self-complacency and remorse, were alike misplaced, inappropriate, and undeserved.

In such a conclusion, I find it impossible to concur. No speculation as to the nature and force

of motives, nor any insight into the causes of voluntary actions could substantially and permanently alter our natural feelings in regard to those actions. We should still continue to like and dislike, to commend and discommend, in a word to resent them (I use the term in its widest acceptation), according to their manifest or apprehended tendency. These sentiments would in truth be confirmed by the insight here spoken of. same perspicacity which discerned that voluntary actions are determined by regular causes, would take in the whole bearings of the question, and would discover that it is the highest wisdom in mankind to give way, within certain limits, to their instinctive resentment of each other's conduct. They would see the beneficial ends which this resentment answers, and direct it to its proper objects under the salutary restrictions which a clear apprehension of those ends would point out.

With regard to that part of the objection which insists upon such a doctrine having a tendency to weaken, and even wholly extirpate repentance and remorse, a similar answer to the one which has just been given may be returned to it. There is no greater difficulty in the latter case than the former. Remorse is a natural feeling which habit may deaden, and sympathy pervert in regard to particular offences, but which no speculative considerations as to its being useless and unreasonable can uproot.

In this respect it is similar to the grief we feel

at the loss of beloved friends, or the bitter regret with which we look back on having missed some great opportunity of distinction or happiness offered to our acceptance, but, as the event proved, unwisely declined and lost for ever, when the choice of one branch of the alternative in preference to the other involved no moral considerations.

Such grief and such regret are very little abated by the most vivid conviction that they are unavailing and irrational—nay, they are sometimes even aggravated by it \*; and although, like all strong emotions, they yield some of their strength to time, they frequently recur in sharp, sudden, and irrepressible pangs.

It is the same with remorse, which is truly bitter regret aggravated by the moral reprobation so freely lavished at all times on our neighbours, and now self-directed to our own conduct; and also by a deep sense of the condemnation which that conduct must excite wherever it may become known.

And surely, if mere speculative considerations or mere intellectual conclusions as to uselessness and irrationality cannot extirpate or even mollify bitter sorrow unaccompanied by moral self-reproach, neither can they extinguish or abate that compound state of passion in which regret is combined at once with self-condemnation and with a strong impression or apprehension of the reprobation of others.

<sup>\* &</sup>quot;I weep the more because I weep in vain." - Gray.

Remorse, you may rest assured, is, as well as resentment, perfectly safe from extirpation by speculative doctrines.

The remark which I made in a preceding page on the wisdom of resentment, has almost forestalled what I have to offer on the second interpretation of the epithet just when applied to punishment, namely, in the sense of being the direct and appropriate means of preventing evil actions in future. In this acceptation no one will probably deny that punishments are just as well as wise.

Even if mankind were rendered averse to the infliction of penalties by the doctrine under discussion, and erroneously regarded evil actions no longer as crimes to be avenged, but as misfortunes to be pitied, they could not fail to see that punishments are the indispensable means of repressing offences, and that if such actions were really free from guilt according to their misconstruction of the doctrine, the most relentless punishment of them would be equally innocent; so that virtue and vice being set aside and all human deeds placed on a moral level, the question with every one would simply be as to the efficacy of punishments in warding off evil. Men would resort to them without the slightest resentment or moral reprobation, on the same principle that they put up conducting rods to protect their houses from lightning or raise embankments to prevent their lands from being flooded by a river. Happily, however, mankind have the uneradicable feeling of resentment to stimulate and enforce what would be otherwise a languid and intermitting application of means speculatively discerned to be proper and efficacious.

In a case somewhat parallel—the sustenance of the animal frame—we are also not left to mere intellectual discernment in respect of the consequences to be secured or averted; we are not so left either as to the kinds of food, or the frequency of taking it, or the quantity in which it should be taken, but are urged on by the recurrent appetites of hunger and thirst, which effectually prevent health and strength from being impaired by that fitful and desultory attention to their preservation which would be the consequence of regulating the business of eating and drinking by mere considerations of what is needful for keeping up the proper condition of the body.

What I have here attempted to show may be summed up in a few words.

Men associate together, and are from constitution and circumstances unavoidably benefited and injured, pleased and displeased by each other's actions, and they not only instinctively resent them (I again use the term in its widest sense), but finding from experience that they can produce or prevent certain actions by applying certain modes of resentment, they do apply them; their instinctive feelings are guided by intelligence; they praise and blame, reward and punish prospectively as well as retro-

spectively, and they reap beneficial effects from so doing.

No rational end can be answered by abstaining from such a course. There can be no reason, on the principles here laid down, that resentment should not be entertained, and that an evil doer should not be reprobated and punished.

Punishment inflicted on such an offender is not, as I have shown, felt as unjust because he willed to do the action, and it is our nature to resent a voluntary offence, whatever may have been the motives which brought the culprit into the state of pleasing to do it.

Nor can it, as I have also shown, be considered unjust in reason any more than in feeling, because punishment is calculated to affect his mental state in such a manner that he will please to act differently in future; and it is, in fact, the great and direct means of preventing offences by its effects on others as well as on himself.

The only indispensable conditions for the justice of punishment are that the actions be evil in intention and voluntary; and it is obvious that the great end of preventing such actions should form the limit to the satisfaction of the instinctive and salutary resentment which it is our nature to feel. Within that limit the feeling may be legitimately indulged, but whenever the penalty imposed is greater than is absolutely necessary for the attainment of the beneficial end, the excess is mere

wanton cruelty—the infliction of misery for no purpose; the production of needless evil in one form with the avowed aim of repressing it in another when the repression is already adequately provided for.

So in the parallel case of the physical organisation to which I have before adverted. The end in view of maintaining the health of the body should always limit the satisfaction of hunger and thirst and the enjoyment of the pleasures of the palate. So far as the appetites can be gratified within that limit, they may be wisely indulged, but to push the gratification beyond it, is to sacrifice the end to the means, the greater good to the less; to purchase small pleasures at the expense of great pains.

In this view punishments are seen to be alike just and beneficial. They are indispensable parts in that system of existence, of activity, of thought, and of feeling in which we find ourselves as human beings involved.

It is when the discursive thinker ascends, as it were, higher than the system, and takes, so to speak, an outside view of what is going on within; when he discerns that the voluntary actions committed are the effects of circumstances operating without alternative on the mind to produce volitions, and that these volitions take their place in the various series of causes and effects devolving from the past and flowing forward to the future,—it is then that he is led to question, for the moment, the absolute

justice of resentment and of the penal measures prompted by the feeling and in unison with it.

At this high point of view, however, where darkly looms the question of the origin of evil, he cares not perhaps, long to maintain himself; and he descends to the more circumscribed speculation that the determining circumstances, the volitions, the actions, the resentment, the punishments, and the consequences of the punishments, are to be looked upon as internal to the system, as interhominal (if I may venture to coin a word), as adapted to each other, as the working of wheels among themselves; and he acquiesces in the necessity, the congruity, and the reasonableness of the whole.

Into the theological view of the subject I do not at present enter.

## LETTER XVI.

PHYSIOLOGY IN RELATION TO THE PHILOSOPHY OF THE HUMAN MIND.

There is one very interesting and important subject which, at the present time, calls for special notice in any professed survey of the philosophy of mind,—I mean the connexion between the mind and the body, or, in preciser language, between the phenomena of consciousness, and the phenomena of the bodily frame, discovered like other external phenomena through the organs of the senses.

Passing over at present the doctrines of phrenology, which I shall hereafter consider, I would call your attention to the circumstance that there has, if I mistake not, lately sprung up a strong disposition to forsake, and even contemn the study of the phenomena of consciousness as such, and to magnify in importance, if not to devote almost exclusive attention to those physiological facts on which there are grounds for believing that the phenomena of consciousness depend, as well as those to which the phenomena of consciousness give rise.

Now the department of inquiry here indicated is

most assuredly deserving of all the pains which can be bestowed upon it, and I am the last person in the world to discourage or depreciate it.

But at the same time I am at a loss to see why it should be regarded as at all superseding the science of consciousness; and since very inconsiderate and erroneous views are, in my opinion, entertained of what physiological investigation can effect in the philosophy of mind, I purpose, in as brief a manner as I can, to lay before you my thoughts on that subject at once difficult, interesting, and important.

I must set out with repeating a remark—certainly not very recondite—which I formerly brought to your recollection, that there are two classes under which all the facts in human science may be arranged—physical facts, and mental facts or facts of consciousness; and it is of great importance for accurate thinking that they should, in every case, be discriminated from each other.

In both these sets of facts we can trace such as are co-existing, and such as are consecutive. Either of them may be investigated independently of the other, and also in certain cases dependently: or, to express it differently, physical facts may be investigated as accompanying or following each other, and so may mental facts: further physical facts of a certain order may be investigated as preceding, accompanying, or following mental facts, and conversely, certain mental facts may be investigated

as preceding, accompanying, or following physical facts.

On the one hand, according to this view, the object or aim of the physical sciences (using the term in its widest sense), is to investigate the coexistent and consecutive facts presented by the material world—the world that can be observed through our organs of sense; the vastness of which field of observation it is needless to describe.

On the other hand, the aim of the philosophy of mind is to investigate the co-existent and consecutive facts of consciousness—a narrower department than the other, but yet abounding with materials of knowledge not to be surpassed in importance.

But, agreeably to what I have already said, there is, besides these two departments, another, a third department of knowledge, which arises from the circumstance that we have a physical frame through which many of the facts of consciousness are produced, and which is itself an external object of observation, exhibiting not only facts independent of consciousness, and belonging therefore to what may be called material physiology, but also facts connected with states of consciousness as causes and effects.

Now although this department of knowledge must necessarily be taken into view in the researches of the other two, and also derive facts from them, it is sufficiently distinct to be pursued as a separate sphere of inquiry. This point may be illustrated by the instance of Geology, which necessarily avails itself of the facts of natural philosophy and chemistry on the one hand, and the facts of natural history on the other, and yet is very properly prosecuted as a distinct line of investigation. It derives great assistance from these other sources, but is itself neither natural philosophy, nor chemistry, nor yet (in the common acceptation of the term) natural history.

The investigations which have been instituted into this connexion of mind and body, appear to have in view the solution of the following questions:—

- 1. Whether any and what organs, tissues, or parts of the bodily frame are connected with particular mental phenomena, either as affecting or being affected by them, over and above the organs of the senses, which are of course universally allowed to be the instruments through which certain modifications of mind are produced.
- 2. Whether the connexion discoverable between such parts of the body and the phenomena of consciousness, is carried on by motions in the tissues themselves; or by some subtile fluid, or ether, or imponderable substance, or some other indescribable agent pervading them.

Here we have certainly a wide and interesting field for investigation and a most unlimited one for conjecture. But supposing all the knowledge that is desiderated in these inquiries, or (if that is beyond rational supposition) a great part of it, to be attained, it would obviously supersede neither material physiology on the one hand, nor the philosophy of consciousness on the other.

The structure and movements and physical functions of the body which are not attended by consciousness, but are wholly things of merely outward observation, would still continue to form a principal part of physiological science; and those movements or functions which are preceded or accompanied or followed by certain states of consciousness, must also be investigated as external phases of matter; nor would a knowledge of their connexion with mental phenomena enable us to understand them better as physical facts.

On the other hand, all the mental operations and feelings which may or may not have been ascertained to be connected with certain parts of the body, would have to be studied as states of consciousness, and could none of them be known to us any better in consequence of ascertaining this connexion in particular cases than they were before. The connexion when traced could not modify either the mental affections as experienced by us or the character of our knowledge of them.

The nature of such operations and feelings, or what they are in themselves, would remain the same notwithstanding the discovery of any physiological dependence on tissues and organs; and the relations traceable amongst such phenomena of consciousness would be unaffected by it.

The most complete discovery of this kind, valuable as in many respects it might be, would throw no light whatever on what perception is, what recollection is, what belief is, what reasoning is, what willing is, what joy or grief or hope or fear is; or on the influence which these various states, operations, or affections have respectively on each other, and the dependence existing amongst them.

Take the operation of remembering, and suppose you could trace a connexion between it and certain tissues of the body, and even certain definite motions in those tissues.

This discovery, doubtless, would in many respects be exceedingly valuable, but it would not make clearer to our apprehension the nature of the act called remembering; nor would it elucidate the mental circumstances on which remembering depends: neither would it at all affect the truths familiar to all of us that we remember best those things which have had our principal attention, and that we remember them very much in the order in which they have come to our knowledge; that we sometimes suddenly forget the past, and sometimes as suddenly recollect what we had forgotten. In short the whole of what it could do would be to show a connexion and correspondence between two series of facts which had become known to us

through totally different channels, one through consciousness, and one through external observation.

It is now a familiar fact that the nerves on which the perception of outward objects depends, are in every case different from those on which the voluntary motions of the body depend; that we perceive through the instrumentality of one set of nerves, and exercise volition through the instrumentality of another.

This is extremely valuable knowledge, and is one of those discoveries which extend our views of the complicated machinery of the animal structure; yet it sheds no light whatever on the mental state called perception, nor yet on the act of willing muscular movements; nor does it in the least alter these operations of the intelligent and active being in whom they take place. Both of them are mental events or phenomena of consciousness, while the facts that one nerve is necessary for the sensation of touch, and a separate nerve for the voluntary act of stretching out the hand or bending the finger, have become known to us by the aid of external observation.

It may serve to illustrate this point, if I refer to the connexion between musical sounds and the vibrations of strings or of other forms of visible matter.

We know very completely that vibrations of a certain velocity produce certain musical notes. By shortening or lengthening the strings or other sonorous bodies, and thereby occasioning quicker or slower vibrations, we can produce the precise notes we wish. It has been established by repeated observations, that there is thus a correspondence between one set of phenomena known to us through the eye, and another set known to us through the ear—between the visible vibrations of bodies and musical sounds. When we hear a certain note we can tell that it is produced by a certain number of vibrations in the sonorous body in a given time; and conversely, when we cause such vibrations we know that they will produce a certain musical note.

The connexion here is perfect, but the two sets of facts between which the connexion exists, are respectively in themselves of an entirely different character; and since they come to our knowledge through two different organs of sense, they might each be studied independently of the other.

It is manifest, in a word, that the two series of phenomena, although connected together as cause and effect, are as objects of knowledge essentially distinct, and in that capacity are not affected by each other. The most thorough acquaintance with musical sounds by a person blind from birth, might be attained without his being aware of the existence of corresponding vibrations in tangible substances (tangible vibrations being the only ones he could know); and should he become ultimately apprised of the latter, the knowledge of them would make no difference in the sounds he heard, or in his sense

of melody and harmony, the laws of which (it may be added) would be unaffected to his apprehension by the discovery of an intimately connected and corresponding set of facts through another sense.

In the same way a deaf mute might become acquainted with many things concerning one set of the facts, while entirely cut off from a knowledge of the other; as for example, with the connexion between the lengths of strings (under certain conditions of weight and tension), and the number of vibrations in a given time, together with the various figures into which a freely moving body, such as sand, is thrown by vibrations of various velocities: and all this of course, without the slightest conception of sound.

Moreover, should he be afterwards restored to hearing, or more properly, should the impediments to that sense be removed, this knowledge of vibrations would not be at all altered in its nature by his freshly acquired sensations (as they are usually termed), nor would the various notes pouring upon his ear, differ in the least from what they would have been heard to be, had he never been instructed in the mechanism of their causes.

The soul of music, if I may borrow a beautiful expression from the poets, the melody and harmony so delightful to man, and the laws of musical succession and combination, could not either in this or any other case, be susceptible of the slightest modification from the most thorough knowledge of the

mechanical means by which musical sounds are created; although such knowledge would doubtless be serviceable to music as an art, and particularly in the construction of instruments. A man may be a great musician, without going beyond the mere rudiments of mechanical acoustics.

There is one way indeed in which a knowledge of such means might possibly have some influence, not on the perception but on the science of harmony; namely, by directing attention to certain movements the effects of which on the sounds produced might be otherwise passed over. This direction of the attention seems to be the only way in which one sense can be said to assist any of the rest; or, to express it differently, in which a series of facts known to us through one organ of sense can influence our knowledge of a connected and corresponding series of facts known to us through another.

It would not perhaps have been found out that two sonorous vibrations reaching the ear at the same time would under certain conditions neutralise each other and result in silence, unless it had been previously shown that two undulations of a liquid so encountering each other are mutually destructive. In a parallel case, the production of a dark spot in an illuminated space by the interference of two rays of light, might not have been discovered but for the same analogy, and had not the undulatory theory, proceeding on the analogy, pointed it out as a phenomenon which on that theory must take place.\*

To apply these remarks on sound to the subject in hand: the operations and affections of which we are conscious form as much a separate sphere of observation as musical sounds must be admitted to do, and are equally distinct as objects of knowledge from the mechanical or physical means by which they are generated or influenced.

What are styled the phenomena of perception, of

\* "Supposing the light of any given colour to consist of undulations, of a given breadth, or of a given frequency, it follows that these undulations must be liable to those effects which we have already examined in the case of the waves of water, and the pulses of sound. It has been shown that two equal series of waves, proceeding from centres near each other, may be seen to destroy each other's effects at certain points and at other points to redouble them; and the beating of two sounds has been explained from a similar interference. We are now to apply the same principles to the alternate union and extinction of colours."—A Course of Lectures on Natural Philosophy, by Thomas Young, M.D., vol. i. p. 464, 4to. ed.

Speaking of this doctrine of the interference of light, Sir John Herschel styles it "the elegant, simple, and comprehensive theory of Young, —a theory which, if not founded in nature, is certainly one of the happiest fictions that the genius of man has yet invented to group together natural phenomena, as well as the most fortunate in the unexpected support it has received from all classes of new phenomena, which at their first discovery, seemed in irreconcilable opposition to it: it is in fact, with all its applications and details, a succession of felicities, insomuch that we may be almost induced to say, if it be not true, it deserves to be so."— Optics, Encyc. Metrop. See Life, by Dr. Peacock, p. 140. Dr. Young is one of those great men to whom their country has never done justice.

recollection, of the association of ideas, of reasoning, of willing, of the sensations and emotions, may be granted to be, in all likelihood, as intimately connected with conditions and movements in our physical frame, as musical sounds are with the vibrations of strings and other sonorous bodies: nevertheless, not only are they internal events, modes of consciousness, but they have laws and relations among themselves which are known to us quite independently of any observation of material phenomena, and of which the latter could never convey to us the faintest notion; just as melody and harmony are felt and the laws relating to them are gathered, independently of observing the tangible and visible vibrations of which musical sounds are the effects.

Now these internal laws and relations must ever constitute the principal subject of mental philosophy, in the same way as the laws and relations of musical sounds must ever form the chief subject of the science of harmony: and it appears to me as little reasonable to contend that the mind should never be investigated except in connexion with the study of the bodily organisation, as that music should never be methodically pursued except in connexion with the scientific study of the mechanical vibrations of sonorous bodies.\*

<sup>\* &</sup>quot;We should very much mistake the matter, should we suppose that from the consideration of these proportions [in musical strings] we should be able to deduce the rules that are to guide the musician in the use of musical intervals. Such an

There are, however, manifest differences between the two classes of phenomena here compared, which are likely for an indefinite period, if not indeed for ever, to prevent the analogy between the cases from being complete or even approaching to it.

In the case of vibrations and musical sounds, it will be observed, we have two easily and well ascertained series of facts completely corresponding with each other, so that from any fact in one series we may infer the other. We can infer the note from the vibrations, and conversely, the vibrations from the note. The facts are conspicuously open to observation, and the connexion between the two is perfectly established.\*

But in the case of bodily and mental phenomena the requisite investigations are difficult, and the knowledge hitherto attained of the connexion between them is exceedingly, partial, slight, and imperfect.† There are a thousand mental states and

attempt has been frequently made, but has always proved abortive. Speculative inquirers may please themselves by finding a physical cause of the pleasure given to the ear by certain combinations in the coincidences of their vibrations, but they could never derive from such speculations one practical rule to guide the composer."— Edinburgh Encyclopædia, vol. xv. p. 50.

\* To show the precision of the knowledge which has been attained on this subject, it may be stated, in the words of Dr. Peacock, that "the pulses of air which produce the keynote C of the natural scale of music, form an undulation whose breadth is about 212 inches, and of which 64 are propagated in a second of time."

† The author of "Psychological Inquiries," one of the most

movements or modifications of consciousness, occurring every day and every hour, which we conjecture in a general way are somehow or other dependent on physical movements in the organisation, but we are unable except in a very slight degree, in a vague manner, and in a comparatively few instances, to determine the precise change whether of composition or interior arrangement in the tissue, or relative position to other parts, which precedes or follows any mental affection.

We may, perhaps, ascertain occasionally the physical seat of the movement, or the part of the body affected, but seldom the nature of the movement or affection. To this day it remains undetermined not only how the nerves move, but whether they have a motion of their own, or are only the lines traversed by a subtle fluid, ether, or other indescribable agent.

Nor is there, to speak in very moderate terms, any reasonable prospect that the most wonderful success in physiological research will ever issue in the establishment of a correspondence and connexion between the play of matter in the organisation on the one hand and affections of the mind on the other, at all approaching to that which subsists between vibrations and musical sounds.

And even if, in contravention of all probability,

recent works on the subject, admits that little has been done towards connecting physical organisation and mental phenomena with each other. See p. 172.

it should so issue, highly valuable as the acquisition would be, no change would be thereby effected in the phenomena of consciousness, or in our knowledge of the resemblances, successions, and other relations, to be observed amongst them.

These would remain as little altered, as melody and harmony, and the laws which govern them, and our knowledge of those laws, have been by all that has been accomplished in the science of mechanical acoustics.

## LETTER XVII.

PHRENOLOGY IN RELATION TO THE PHILOSOPHY OF THE HUMAN MIND.

Having in my last letter endeavoured to show the relative position in which mental philosophy and material physiology stand to each other, I purpose next to inquire into the relation between the former, or the science of consciousness, and phrenology; and how far the views already propounded apply to the particular phase of the subject presented by the latter.

It is not necessary for my purpose to profess either belief or disbelief in the doctrines of the system I am about to consider.

Assuming for argument's sake that certain portions of the brain are severally connected with certain propensities, certain kinds of emotion, and the operations of the mind about certain subjects, I proceed to examine what bearing the discovery of this connexion can have on the philosophy of consciousness, premising that it is immaterial, in the proposed investigation, whether the phrenological organs are taken to be few or numerous.

In the first place it may be observed, that all the arguments already employed to show that, however sedulously and successfully we may study the phenomena of mind and of body in connexion with each other, they will ever remain perfectly distinct objects of knowledge, manifesting themselves to us through different channels, will apply to the subject to be considered.

As even the movements we may be able to trace in the parts or tissues of the body, can throw no light on what the operations of the mind with which they are found to be connected are, it follows, a fortiori, that the motionless tissue, or the mere form or size or relative position of any part, however intimately it may be associated with the phenomena of consciousness, is incapable of doing it. And in phrenology, as commonly studied and explained, there are no perceptible physical movements to be connected with mental events, but only a set of unmoving forms, as subjects of observation for that purpose.

But leaving this general ground, let us turn to the particular aspect of the investigation before us.

The subject will perhaps be best approached by selecting for examination a single phrenological organ. I will take that of cautiousness, and assume it to be an established fact, that a person who has a cranium exhibiting a large development of that organ is proportionately, or at least in a high degree, timorous, or easily frightened.

At the outset it may be admitted that the connexion thus shown to exist between the size of a certain part of the skull, and an excessive manifestation of fear, might be usefully employed in aiding us to regulate our intercourse with our fellow-men, to select individuals for particular offices, to choose professions for young people, to shape appropriately our instructions and discipline in the education of children; and, in a word, to appreciate the character of both ourselves and others.

These are, doubtless, exceedingly useful results in matters collaterally related to mental philosophy; but it is plain that the connexion between the emotion and the particular conformation of the skull or brain, although it may thus be serviceable as an indication of character, does not enlighten us at all as to the nature of the feeling, its various modifications, the circumstances which generate, foment, prolong, and allay it, the conduct to which it leads, how it affects other states of consciousness, such as reasoning and imagination, and is affected by them, nor yet how it operates on the nerves and other tissues of the body. All these things - what the emotion is, its distinctive peculiarities, how it arises, subsides, and departs, and its moral and physical results—must be gathered from our own conscious experience, assisted as to some of the particulars mentioned by external observation directed to the conduct of others, as well as to physiological It is knowledge which never could be phenomena. gained by measuring or manipulating or scrutinising the cranium, or anatomising the brain. The fact of the connexion may throw light on a man's character

as to the possession of cautiousness or the want of it, as to his constitutional susceptibility to the class of feelings allied to it, or implied in it; but none as to the nature of the quality or the The philosophy of fear, an emotion which has played so important a part in government, in social conduct, and especially in religious inculcation, since the first records of the human race, and the effects of which, when excited for moral purposes, are as yet very imperfectly understood, would not be advanced by it a single step. The whole of the assistance rendered by the establishment of the connexion in question, resolves itself, I repeat, both in this and all other instances, into the circumstance of enabling us from an external physical indication to form a rough estimate of the probable degree in which the mental characteristic indicated is naturally possessed.

It may be added that the establishment of the organ of cautiousness, as it is styled, serves to corroborate most completely the previously ascertained fact, that timidity is not the product of external circumstances, but a constitutional quality, varying in intensity and excitability in different individuals; and it serves also to show the futility of expecting that an appeal to it for any purpose will have a uniform result in all cases.

What has been here said of the organ of cautiousness is true mutatis mutandis of all the rest.

Let us take as another illustration the faculty of

Wit. From the circumstance that witty menindividuals who possess an extraordinary facility in forming ingenious and unobvious combinations of ideas—have a particular part of the brain largely developed, we may anticipate a rich intellectual treat when we are fortunate enough to meet with them; but from such a development we can tell absolutely nothing of the nature of wit or its essential characteristics, of what constitutes its charm, of its various kinds, of its difference from humour, of the incidents which tend to heighten or abate its effects, of the intellectual habits and discipline favourable to it, and of its influence on the conduct of the man who is endowed with so brilliant a gift.\* On all these points the phrenologist possesses no advantage whatever over an ordinary inquirer who knows nothing of the cranium and its organs.

What then in this instance is our amount of gain from the science? Simply the fact that the capacity for wit has some inexplicable connexion with a part of the forehead, and that where the part in question is largely developed, an exuberant manifestation of it may be expected. It is scarcely needful to add that the superficial appearance of the organ, which is all that is accessible during life, yields not the slightest perceptible indication whether it is in repose or activity.

<sup>\*</sup> The reader who feels interested in the subject may find most of these topics elucidated in "The Theory of Wit" by the present author, in his volume of Discourses Literary and Philosophical.

On the most favourable view of the whole matter, the utmost which can be said on the side of phrenology is, that it presents us with an assemblage of organs indicating, to a limited extent and in a manner more or less vague and indeterminate, the mental qualities of their possessor; but as to what these qualities are (which is purely an affair of consciousness), the organs themselves can obviously give us no information whatever. The latter are simply outward physical signs, empirically established, of inward mental characteristics.

Our knowledge of the so-called faculties, feelings, and propensities, is primarily constituted by the recollection of the various states of consciousness through which we have passed, combined in some instances with our observation of the conduct of others; and these mental states we arrange and classify under convenient names. It is only after they are known and classified that it is possible to connect them empirically with any external appearances as indications of their being possessed, and these external indications, although they may be established by the most indubitable proofs, cannot in any way modify or add to our knowledge of those things which they indicate.\*

<sup>\*</sup> In the ablest essay on Phrenology which I had ever the good fortune to meet with, there is a passage so consonant with the views in the text, that I am tempted to subjoin it: "Whatever," says the writer, "may be the defects or absurdities of the mental or moral philosophy which phrenologists teach, we will avouch phrenology itself to be wholly innocent. It is

This description of phrenology undoubtedly circumscribes its province within very narrow bounds, and is widely at variance with the views of those philosophers who regard it as presenting us with a tolerably complete philosophy of mind.

I can imagine an advocate of it arguing in the following manner:—

"By a long series of observations we establish that certain developments of the brain indicate severally certain propensities, sentiments, and faculties. When this is done we take these propensities, sentiments, and faculties, as the material of our science, and trace the ways in which they manifest themselves and the laws which follow. Now it is plain that inasmuch as the connexion of every one of these mental affections or phenomena with a particular portion of the brain or cranium was, in the course of the before-mentioned investigation, separately and independently established, they must, taken together, form a set of moral and intellectual characteristics true in themselves and susceptible of being classed according to their resemblances.

powerless alike for good or evil. It cannot go an inch beyond its first principles: those principles can only assert the correspondence between one set of facts and another set of facts; and one of these sets of facts can only be ascertained by means—those of observation and consciousness—to which the phrenological method of philosophizing is always characterized as opposed."—Edinburgh Review, No. 150, art. Phrenological Ethics.

"Thus without any premeditated plan or theoretical assumption at the outset, we arrive by a patient observation of facts at a multiplicity of sentiments, propensities, and faculties in connexion with the exterior forms of the cranium, presenting in themselves if not a complete congeries of mental phenomena, yet a fair approach to it; and a methodical exposition of the results so attained may justly claim to be styled a philosophy of the human mind."

In looking at this argument, which I have endeavoured to put in its most forcible form, it must be admitted that whatever mental qualities or characteristics have been proved to be indicated in human beings, must be possessed, and so far form a part of the material of mental philosophy.

But it is also true that all which there is in this proceeding peculiar to phrenology is connecting them with certain forms or developments in the eranium.

The moral and intellectual phenomena themselves have not been brought to light by the establishment of the connexion, but are presupposed by it; and would have been just the same as objects of knowledge, and been susceptible of the same discrimination and arrangement, had the connexion never been established or imagined.

Showing that certain forms indicate certain characteristics, supposing it to be perfectly accomplished, discovers nothing new in what is indicated;

and the whole of the facts relating to the human mind and character, adduced by the phrenologist, are such as are open in common to every speculator in human nature, and such as must be learned by every one in the same way, whether he is cognizant or ignorant of the part played by the brain.

In accordance with the preceding representation it will be manifest to the careful inquirer that phrenological disquisitions are for the most part, when they are well founded, made up of either facts of consciousness or facts of observation, which might have been collected without the knowledge of a single cerebral organ. Of this remark I shall take occasion in a subsequent letter to furnish abundant elucidations.

What is peculiar to phrenology, I repeat, is simply the establishment of the connexion between certain cranial forms or developments and certain mental characteristics.

It is true in this and in other instances, as already pointed out, where two sets of facts resting on independent evidence, or known through different channels, are shown to be connected as causes and effects, or concomitant phenomena, that facts belonging to one set may be highly serviceable in stimulating inquiry and in directing attention to facts belonging to the other, which might have else escaped observation, or not have been so promptly noticed.

The endeavour to establish a connexion between cranial developments and mental characteristics, has undoubtedly been serviceable, not only in raising the importance of the nervous structure as an object of investigation, but in bringing to light many curious facts in human nature; and in collecting a great number and variety of grounds for concluding that there are original differences, frequently of an extraordinary kind, in the constitutional qualities of individuals and races.

Although it is true that all these facts might have been observed without reference to the brain, or its configuration, or its exterior covering, still to phrenology as actually prosecuted must be awarded the merit of strongly directing general attention to many of them; and also of hastening, confirming, and disseminating views regarding the constitution of human nature which, notwithstanding they were once warmly contested, and are yet not universally received, the philosophical observer, without such assistance, would doubtless have finally reached.

A century or half a century ago, it seems to have been a prevailing notion that men are not naturally adapted by mental constitution to one pursuit more than to another; but that when any such peculiar aptitude is evinced, it is due to the direction given to the mind by casual events or surrounding circumstances. In unison with this view, it was expressly maintained by Dr. Johnson, in a well-known passage, that the true genius is a

mind of large general powers accidentally determined to a particular direction.\*

Phrenology, while failing in its more ambitious attempts, has greatly assisted in dissipating such erroneous views of human nature, and by the instances which, partly in the mistaken estimate of its own proper scope, it has industriously brought together, of extraordinary aptitude for music, mechanical invention, calculation, language-learning, and other pursuits, as well as of peculiar proneness to certain emotions and sentiments, it has widely spread the conviction that there is an infinite variety in the degree and combination of constitutional qualities by which men are adapted to as great a variety of functions and fortunes.

<sup>\*</sup> The passage occurs in the "Life of Cowley:"—"In the window of his mother's apartment lay Spenser's 'Fairy Queen,' in which he very early took delight to read; till, by feeling the charms of verse, he became, as he relates, irrevocably a poet. Such are the accidents which, sometimes remembered, and perhaps sometimes forgotten, produce that particular designation of mind, or propensity to some certain science or employment, which is commonly called Genius. The true Genius is a mind of large general powers, accidentally determined to some particular direction. Sir Joshua Reynolds, the great painter of the present age, had the first fondness for his art excited by the perusal of Richardson's treatise."—Lives of the Poets.

## LETTER XVIII.

THE PHRENOLOGICAL ORGANS CONSIDERED AS INDI-CATIONS OF MENTAL CHARACTERISTICS.

It is sufficiently apparent from the preceding exposition that if phrenology has any value at all, it must mainly, if not wholly, consist in furnishing a series of physical facts corresponding to a series of mental facts, so that one shall indicate the other.

This it has in a measure accomplished by establishing (according to the hypothesis I have assumed) that certain cranial developments indicate certain moral and intellectual characteristics. But there are several reasons why this business of indication is very imperfectly done, and exceedingly limited in its scope: and why, notwithstanding the pretensions of phrenologists, it cannot be either minute or precise. Where two series of facts are perfect indications of each other it is obvious that both must be known in detail; that the facts of each series must be susceptible of precise ascertainment and exact definition, and that each particular fact or set of facts in one series must indicate a

particular fact or set of facts in the other. Such are the two series of facts in the mechanical department of acoustics and in music, to which I have adverted in a former letter: one is a perfect or rather set of perfect indications of the other. The vibrations are definite; the notes which they produce are equally so; and every kind of vibration is paired with a particular note.

In phrenology, on the contrary, the two series of facts presented to us as conjoined are defective in definiteness and in particular correspondence: the organs indicating, and the faculties and feelings or mental phenomena alleged to be indicated, are alike indeterminate: or at least there is an absence of easily discernible limits in both, and of correspondence in detail between the two.

With regard to the cerebral organs, there are confessedly no definite lines or divisions in the cranium or in the brain, to mark out one from another, to determine where one ends and another begins. Nor, if this difficulty were surmounted, or of no practical moment, are there any discoverable conditions or movements in the organs corresponding to the fine and complicated varieties of thinking and feeling and willing of which man is the subject; no perceptible physical states or changes answering to the diversified and intermingled and continually shifting phases of consciousness which it requires so much sagacity to reduce under definite heads. There is no parity in

point even of multifariousness, if we set aside the requirement of particular correspondence, between the indicating and the indicated facts.

In theory the phrenologist is bound to maintain that every mental change must be preceded or accompanied by a particular corresponding movement within the appropriate organ: but no such interior motions are in any way discoverable. They are wholly conjectural or inferential, nor is there the least clue to the kind of movements or (if you prefer the term) physical affections, which take place. Not only has the organ no definite external or even internal boundary, but when it may be presumed to be in the most intense action, it appears to the observer a mere motionless surface presenting no signs of the physical changes which are theoretically going on below, and of which, in their character of physical facts, the possessor of the organ is quite insensible.

Debarred from direct cognisance of cerebral movements, the only possible way in which the phrenologist can connect any of the various phenomena of consciousness with parts of the brain, is by first classifying such phenomena, or taking the classifications already made to his hands, and then finding out by repeated observation what particular classes (if any) are severally conjoined with the exterior developments of the cranium: which has been done or attempted by noting, in each case, what mental characteristic is largely manifested by

persons who have a given part of the cranium amply developed.

This is a perfectly legitimate and philosophical undertaking, but it is a much narrower, a more strictly limited, and a more difficult one than the advocates of the system under review appear to suppose. What I have just described is the utmost which can be achieved by it, viz. establishing that certain parts of the brain are connected in some unknown manner with certain kinds or classes of mental phenomena, and that by the size of the several parts an indication, more or less exact, is afforded of the degree in which the phenomena are manifested; or, to express it differently, of the degree in which the mental properties or characteristics exist. Although the legitimate end or aim of the science is thus by no means comprehensive, yet to reach even this moderate result requires both rare discrimination and a rigid adherence to rules, while the liability to error in the pursuit of it seems to be in proportion to the facility with which both discrimination and rules may be neglected and yet the semblance of methodical inquiry preserved.

I purpose then to consider, in the present letter, the limits which circumscribe the proper sphere of phrenology; or, to express myself differently, the principles which must in the nature of the case regulate the process of establishing the connexion between organs and mental phenomena, as well as limit the indications of the phenomena by the organs; and likewise the errors which, from inattention to such principles, pervade phrenological speculations.

The remarks which I have to offer in the prosecution of this design, I will throw for the sake of clearness into several distinct propositions, to be afterwards more fully elucidated.

- 1. In order to establish an organ there must be a definite class of mental phenomena proved by appropriate evidence to be connected with it.
- 2. After the organ has been established, it cannot be assumed to indicate anything not comprehended in the class of mental phenomena with which it has been proved by evidence to be connected; and, reciprocally, nothing else can be assigned to it.
- 3. In proportion as the class of mental phenomena is general or comprehensive, the establishment of a corresponding organ by the requisite evidence will be difficult, and require multiplied observations, while the value of the organ as an indication will necessarily decrease, till it may be finally annihilated.
- 4. In the same proportion facilities and inducements will be multiplied for lapsing into the error, so predominant in phrenological speculations, of assigning operations to organs without evidence: whence the necessity of a rigorous adherence to rules 1 and 2.
  - 5. A remarkable form of this predominant error

which is worth dwelling upon, occurs when the functions or provinces of two or more organs are so represented as to interfere with each other, rendering it necessary to resort to arbitrary lines of demarcation between them — in itself a suicidal reductio ad absurdum.

Such principles and observations as are here laid down might perhaps be advantageously multiplied, but the elucidation of the preceding five propositions will suffice to exhibit the proper scope and limits of the science, the difficulties incident to it, and the nature of the aberrations into which its followers have been betrayed.

1. The first proposition, that in order to establish an organ a definite class of mental phenomena must be proved to be connected with it, sounds like a truism, but what follows will show that to explain and enforce it is by no means needless. The class in question may be more or less general or comprehensive, but it must be definite, otherwise the organ will be an imperfect and useless indication. It is of course implied that two or more classes cannot be connected with the same organ, but were it possible or attempted, separate evidence would obviously be required for each.

The consequences of not attending to the plain and simple rule embodied in the first proposition, are seen in the strange and unscientific jumble of mental phenomena frequently referred to one organ. I will select an example from one of the most eminent phrenologists of the day.

"The faculty of ideality," says Mr. George Combe, "produces the feeling of exquisiteness and perfectibility, and delights in the beau-ideal. knowing and reflecting faculties perceive qualities as they exist in nature, but this faculty desires something more exquisitely lovely, perfect, and admirable than the scenes of reality. It tends to elevate and endow with splendid excellence every idea conceived by the mind; and stimulates the other faculties to imagine scenes and objects invested with the qualities which it delights to contemplate, rather than with the degree of perfection which Nature usually bestows. It is this faculty which inspires with exaggeration and enthusiasm, which prompts to embellishment and splendid conceptions." \*

Mark the number of things which a single faculty or organ is here represented as doing: it produces feelings, and itself experiences delight; it also desires what is preternaturally exquisite, as well as rejoices: further, it endows all ideas with splendid excellence; it stimulates other faculties to exercise their imaginations; it inspires with exaggeration and enthusiasm, and it prompts to embellishments and brilliant conceptions.

In this crowd of operations, real and fictitious, huddled together without congruity, you seek in

<sup>\*</sup> Elements of Phrenology, p. 75. Third edition.

vain for any principle of classification; the author could not have had any distinct class in his mind, and it is difficult to surmise what sort of evidence he fancied he had to prove that these various mental phenomena (many of them wholly imaginary) are alike the results of movements in the organ of ideality. He seems not to have been at all aware that for the assignment to the organ of every different kind of operation described, separate grounds are indispensably required. For instance, assuming it to have been indisputably established that ideality "delights in the beau-ideal," we cannot fail to see that distinct evidence must be adduced to show that it also performs the very dissimilar function of "inspiring with enthusiasm."

2. We shall now be prepared to take up the second proposition. After the phrenologist has legitimately established the connexion between the organ and the class of mental phenomena, he is manifestly precluded from assuming the organ to indicate anything not comprehended in the class. The evidence being such as to establish a connexion between the cranial development and a definite kind of mental phenomena, and nothing beyond, the subsequent introduction of any other mental phenomenon must by the supposition be without evidence, and would arbitrarily unsettle the classification.

It would be of no avail to urge that the phenomenon so introduced is closely allied to the others or consequent upon them.

If anything not belonging to the class as established were allowed to be included, it would necessarily be brought in without any grounds for it, or the original classification would be wrong.

The point here insisted upon may be elucidated by referring to the organ of cautiousness, or more properly, of fear, which has been established on the ground that men very much subject to that passion, have the part of the cranium so denominated largely developed.

Let us see then how far this fact can carry us.

A man who is suffering under the passion of fear is not only possessed with it, and percipient of what excites it, but is at the same time conscious of other affections: he perhaps conceives, remembers, reasons, exaggerates appearances, imagines unreal objects, takes precautions, adopts means of evasion or flight from the apprehended evil, or resolves in the very excess of his alarm to contend manfully with it.

Of all these various operations and affections the phrenologist cannot, according to the principle laid down, refer any one to the organ but the emotion of fear itself. His sole evidence of the connexion between the mental phenomena and the organ being that in persons who have the feeling in excess, the organ is large, nothing more can be inferred in the hypothetical case before us than that during the excitement of the feeling of fear the organ is in activity. He cannot include in this activity any

concomitant or consequent mental incidents how closely soever they may be allied. And reciprocally, as he cannot refer such incidents to the organ, the organ cannot indicate the incidents: it can indicate nothing but emotions of fear, or rather liability to such emotions.

Some light may be thrown on the question before us by referring to a difference between the founder of the science, Dr. Gall, and other phrenologists in relation to this very organ — a difference which is singularly instructive as to the difficulties to be encountered and conditions to be observed in connecting an organ with mental phenomena. He attributes to the organ not only the emotion of fear but the intellectual properties of circumspection and foresight; while Dr. Spurzheim more sagely, but in language at which it is difficult not to smile, declares his belief that it does not "foresee," but on the contrary "is blind," and "without reflection."

Surely since the organ is recorded as "established," there ought to be no doubt or controversy about what it indicates. If the process of establishing it, briefly expressed, was "large organ, much fear," nothing but that passion can be referred to it. Should it be contended that the evidence adduced by Dr. Gall goes to prove that circumspection and foresight ought to be included in the functions of the organ, the defence, if admitted, would indeed free him from the charge of having overstepped the limits prescribed by the assumed evistence in the state of the same of the charge of the limits prescribed by the assumed evis

dence, but it would involve him in the difficulties and disadvantages consequent upon comprehensiveness and even incongruity of classification to be considered under my next proposition.

Meanwhile all that it is here needful to maintain on this point is, that the phrenologist when he has finally formed his class must, in the nature of the case and in logical consistency, abide by it. If in the course of investigation he discovers that he has made his class too narrow as, in the opinion of succeeding inquirers, Dr. Gall did by limiting the organ of Acquisitiveness to theft, and that of Destructiveness to murder, let him widen it; but after having rectified all errors he must at last come to a definite class more or less comprehensive, the limits of which he cannot be allowed to exceed in his subsequent expositions or dissertations.

We must not confound the liberty of altering a class on the acquisition of new evidence, with the irregular or surreptitious introduction without evidence of something not belonging to the class.

An example of the irregularity is furnished by Mr. Combe in treating of the aforesaid Destructiveness, the organ which is attended by the impulse and desire to destroy, and is greatly developed in carnivorous animals as well as in human beings who hunt them. We have here something definite, and there is no reason, as far as I know, to question the facts. But the author goes on to tell us that "it [the organ] is essential to satire; and inspires

authors who write cuttingly with a view to lacerate the feelings of their opponents "\*—a gratuitous introduction of what would require a large amount of separate evidence to substantiate it. Mr. Combe's leap from a lion to a satirist (lions suggest leaps even when they do not make them) is a leap in the dark, although he contrives to look at the hunters' heads by the way.

3. The third proposition is, that in proportion as the class of mental phenomena is comprehensive, the difficulty of establishing the connexion with the organ by the requisite evidence is augmented, while the value of the organ in its character of an indication necessarily decreases.

This remark applies with additional force to those numerous cases in which what is said to be indicated by the organ consists in fact of heterogeneous mental phenomena forming several distinct kinds or classes, and scarcely reducible under the widest denomination.

To elucidate the proposition before us, I cannot do better than to take up again the instance of Dr. Gall's classification last cited.

Suppose that instead of regarding what is usually termed the organ of Cautiousness as simply indicating the passion of Fear, any one tried to prove, in accordance with Dr. Gall, that it indicates likewise Circumspection and Foresight, he would have to

<sup>\*</sup> Elements of Phrenology, p. 39.

show, in order to make the indication of any value, that these three different qualities always accompany each other, as well as that they are always accompanied, when remarkable, by a large development of the cranial organ.

The classification or rather collocation, in any way, of mental phenomena so different under one head, would be bad simply as a psychological arrangement, inasmuch as there is (to express myself in popular language) the foresight of hope, of love, of ambition, as well as that of fear; and there is the circumspection of wisdom contemplating all things in the circle of its resources as means to the highest ends, and the circumspection of self-interest quietly looking about for every opportunity of aggrandisement, as well as that of alarm casting around it a hurried glance at the outlets for escape from the dreaded object.

But, what is more important, fear is an emotion, while foresight, although it may be attended by an emotion or result from it, is an intellectual act or combination of intellectual acts. The two are heterogeneous and disparate, and bear no sort of regular proportion to each other; nor can they well be brought under a less general description than that of "modes or phenomena of consciousness." The same remarks are of course applicable in the case of circumspection.

For the reasons here given it may be pronounced impossible, to all appearance at least, that these

several mental phenomena can be proved to be the consequences of movements in the same organ; it would require at all events the evidence of three separate trains of very numerous and well sifted facts; but supposing the apparent impossibility to be overcome by some inconceivable means, the indication subsequently afforded by the organ would be extremely vague and therefore comparatively Should you happen to meet with a worthless. person endowed with a large development of the organin question, you would be altogether perplexed what distinctive conclusion to draw as to the qualities indicated: you would be utterly at a loss to tell whether he was very timid, very circumspect, or possessed of great foresight. Your safest inference would doubtless be that the qualities appertained to him in equal measure, but even this cautious conclusion would not be borne out by uniform experience. It is well known that the Duke of Wellington, whose courage was unquestionable, and who was certainly not subject beyond his fellow-soldiers to needless or easily excited alarm, was one of the most circumspect generals that ever conducted a campaign or fought a battle; and his foresight reached to the minutest as well as the most comprehensive arrangements needful to carry out his purposes. In respect of these latter qualities he ought to have had the organ large; in respect of fear, he ought to have had it small. Such indications of dissimilar qualities consequently, could they even

be established, which they cannot be, would prove of little or no value in any case, and in most cases would mislead.

4. The fourth proposition flows naturally from the third. In proportion as the class is comprehensive it affords facilities for assigning, or rather it leads irresistibly to the practice of assigning, mental phenomena to the organ arbitrarily, or without evidence.

Perhaps no instance can illustrate this position better than the speculations of phrenologists about the organ which they name Individuality. Its function is very comprehensive; it seems to be simply Observation, but is described phrenologically to be "knowing things as mere existences," the precise meaning of which I leave to your sagacity to discover. Such a wide definition presents a fine field to men who are not bound down to evidence, and they accordingly take the opportunity of freely roaming over it.

The faculty of Individuality (say the phrenologists) renders us observant of objects which exist; gives the notion of substance; forms the class of ideas represented by substantive nouns when used without an adjective; gives the desire accompanied with the ability to know objects as mere existences, without regard to their modes of action; it prompts to observation; it is a great element in a genius for natural history; it assists imitation in promoting mimicry; it enables the artist to give body

and substance to the conceptions of his other faculties; it gives the tendency to personify notions and phenomena, or to ascribe existence to mere abstractions of the mind, such as Ignorance, Folly, or Wisdom; and it does many other things. Such is the account, abridged but not misrepresented, which is given by Mr. Combe.\*

Now you must recollect that the phrenologist here virtually makes the astounding assertion that physical movements take place in the organ of Individuality corresponding to all these diversified mental incidents. Conceive the amount of evidence, the separate chains of facts required for the scientific establishment of such a position; and then turn to the narrow ground on which the whole is apparently made to rest, viz. the alleged fact that persons who have the part of the cranium referred to largely developed are remarkable for large powers of observation, or (to keep to phrenological language) for great aptness at "knowing things as mere existences:" - in itself, by the way, a sort of knowledge which I for one have never been able to attain or even conceive.

I should like to see this evidence, or, if I have understated it, any other which can be adduced, the stronger the better, brought to bear in support of some of the preceding assertions, especially the positions, laid down with such remarkable punc-

<sup>\*</sup> System of Phrenology, 4th edit. p. 463.

tiliousness, that Individuality forms the class of ideas represented by substantive nouns when used without an adjective; and that it assists Imitation in promoting mimicry.

It seems as if, in such cases as these, the phrenologists, taking the general function of the organ, which alone they can prove (e. g. observation in the above instance), set themselves to imagine what a man endowed with such an organ would be likely to think, feel, and do, and then forthwith put down these his hypothetical or imaginary deeds as the functions of the organ.

5. Passing to my next division, I come to the consideration of another form of the attribution of functions without evidence. It occurs when two or more organs are so represented as to clash with each other in the functions assigned to them, whence it becomes necessary for the phrenologist to draw arbitrary boundaries between their several provinces; a necessity which bespeaks that he is already deep in error, and which amounts, as I have said, to a self-inflicted reductio ad absurdum.

To explain what I mean, it will be requisite to take a rapid glance at the phrenological organs from my own point of view.

What I have already, for the convenience of brief reference, called their functions, or in other words the mental operations and affections assigned to them, may, for the convenience of the present exposition, be arranged as follows:

1. Simple feelings, such as benevolence, firmness, veneration, &c. &c.

2. Feelings having specific directions, such as amativeness, philoprogenitiveness, &c.

3. Specific intellectual operations about various things, as comparison, individuality, &c.

4. Various intellectual operations about specific

things, as tune, colour, form, language, &c.

In the case of the two first divisions there is not much room for the defect of which I am treating. Here the phrenologist may have little difficulty in establishing an organ, and has chiefly to guard afterwards against ascribing to it anything but feelings of the appropriate and peculiar kind. He is not very likely, even in his most random explanations, to be led into making the organs or their functions clash, although it is quite possible to do so. when we come to the so-called knowing and reflecting organs, and find that the function of one organ is represented as consisting in a specific intellectual operation about various subjects, and the function of another organ as consisting in various intellectual operations about a specific subject, we cannot fail to see a source of collision and confusion.

The phrenologist in dealing with them cannot help involving himself in embarrassment; he is obliged either to assign to the organs what may be called cross-processes — to make them, in fact, play at cross-purposes — or to draw quite arbitrary lines of demarcation between their respective functions.

The point in question is pretty well illustrated by the phrenological treatment of the organ of comparison. In ordinary philosophy to compare objects is simply to discern their resemblances and differences, and although other mental operations may be going on at the same time in connexion with it, the process itself, to whatever objects it may be directed, whether sights or sounds or tastes, or lines or angles, or actions or passions, is generically the same. If it were not, it would scarcely have received in all these cases the same appellation.

Mark, however, what the phrenologist teaches:

"The faculty [Comparison] gives the power of perceiving resemblances and analogies. Tune may compare different notes; Colouring contrast different shades; but Comparison may compare a tint and a note, a form and a colour, which the other faculties by themselves could not accomplish. 'The great aim of this faculty,' says Dr. Spurzheim, 'seems to be to form abstract ideas, generalisations, and to establish harmony among the operations of the other faculties. Colouring compares colours with each other and feels their harmony, but Comparison adapts the colours to the object which is represented; it will reject lively. colours to present a gloomy scene. The laws of music are particular, and Tune compares tones; but Comparison chooses the music according to the situations where it is executed. It blames dancing music in a church; it is opposed to walking with

fine clothes in the dirt; to superb furniture beside common things; it feels the relation between the inferior and superior feelings, and gives the preference to the latter. Its influence, however, presupposes the activity of the other faculties, and it cannot act upon them if they are inactive. This explains why some persons have taste and good judgment in one respect and not in another. He who is deprived of Reverence may not be careful enough about its application. He may deride what others respect. But if another possess it in a high degree and at the same time Comparison, he will wish to bring his Reverence into harmony with his other powers.' Comparison thus takes the widest range of nature within its sphere."\*

Can any thing, by the way, be more positive and precise and minute than this assignment of special functions, this distribution of distinct offices?

How clearly and unhesitatingly everything is laid down!

We seem to see the faculties at work as plainly as bees in a glass hive.

The multiplicity of duties falling to Comparison is indeed somewhat astounding — forming abstract ideas, establishing harmony amongst its neighbours, adapting and rejecting colours, choosing one sort of music and blaming another, opposing perambulations and fine furniture, feeling relations and show-

<sup>\*</sup> A System of Phrenology, by George Combe, vol. ii. p. 565.

ing preferences. Just glance in passing (for it is not yet time to do more) at the mass of evidence requisite to substantiate such allegations.

But the circumstance for which I have cited the passage and which I particularly entreat you now to notice, is how the organs would be inevitably playing at cross purposes, or rather treading on each other's heels, unless they were prevented from doing so by the most arbitrary limitations of their respective functions. It is obvious that if Tune, Colour, Form, Language, Weight, and the rest, all compare their own proper objects as there represented, they must wofully interfere with the function of Comparison, and very often disagreeably jostle with it; in a word, they threaten to leave it nothing to do. Hence it becomes necessary to mark out its distinctive province, so as to preclude such interferences and collisions, and save it from imminent extinction; and it is certainly an admirably conservative expedient — a life-boat amidst the breakers — to allot to it the perception of resemblance between objects lying within the different spheres of the other organs, while each organ looks after resemblances between objects within its own special sphere.

So far all seems adroit and ingenious and plausible enough; but in order to appreciate it fully and fairly, we must come to the evidence on which it rests.

Harsh as it may seem to disturb such precise and

specious representations by asking for the grounds on which they proceed, it cannot be avoided: the spirit of modern inquiry is inexorable: the question must be put. What then are the facts that warrant this allotment of functions, this accumulation of offices assigned to comparison, and particularly, in connexion with the subject before us, this, at first sight, arbitrary limitation of provinces?

How, amongst other marvellous things, is it discovered that Colour (to adopt phrenological language) perceives and feels the harmony of crimson and green in a rose, but that it is Comparison which discerns the adaptation of the latter hue, in its utmost freshness, to symbolise the mental condition of a young man just entering the world in a tumult of high spirits and inexperience? or, in literal language, that there is in the first case a physical affection of the organ of Colour, in the second, a physical affection of the organ of Comparison?

In vain we turn to the cranial developments; they are mute, they tell us nothing in such a case. If we turn to consciousness we are no better off. Not being conscious of the organs at all, we cannot be conscious of the part which each of them plays, or how the business is partitioned amongst them; or, in other words, of the motions of which they are severally the seats.

In reference to what is ascribed to comparison, we may be conscious, I admit, of the various acts.

and affections described; of abstracting and generalising; of discriminating what colour is adapted to a gloomy scene; of blaming dancing-music in a church; of feeling decidedly opposed to a walk with fine clothes in the dirt; of discerning the incongruity of superb furniture in juxtaposition with common things; and of preferring the loftier to the lower principles of human nature; but of any movements in a particular organ of the brain, preceding all or any of these multifarious acts and varied emotions, we have no consciousness whatever. In a word, neither are we conscious of these cerebral movements, nor can we perceive them as external facts, nor can we infer from the mental phenomena described that they take place in one organ, or two, or twenty organs. As to the usual kind of phrenological proof, the large organ found in connexion with a powerful manifestation of the function, it is scarcely within the capacity of the human mind to conceive the possibility of bringing evidence of this description, which would establish that such different operations as forming abstract ideas, adapting colours to objects, blaming, opposing, preferring, are all the results of physical affections or movements in one and the same busy region of the brain. Independently of the clashing with other organs so fatal in itself, the evidence for these multifarious functions is a complete blank.

"Well, but taking the general function we find" (it may be said in reply) "that men with inverted

pyramids in the upper part of the forehead are always prone to the use of similes and metaphors; in short, to drawing comparisons in general. This is a fact which no reasoning can put down."\*

Be it so. I grant it. What then? Should we happen to fall in with persons carrying such a development in front, we may confidently look out for figures of speech when they open their lips, or take up a pen: just as when the barometer suddenly sinks at sea, we may look out for squalls. But how does this prove that while the frontal pyramid, in phrenological deference to Tune, takes no notice of the similarity of the sounds issuing from the various instruments of yonder military band, it reserves to itself the exclusive privilege of perceiving that the martial music and the gorgeous banners are alike adapted to inspire warlike ardour? Why should not Tune and Colour compare notes on the occasion? Why not unite to oppose the monopoly and claim as a joint-right the office, in which they are both interested, thus usurped by Comparison?

The survey which I have now taken is designed to show how greatly phrenologists have overrated the capabilities of their science even in its legitimate province; and how insensible they have been

<sup>\*</sup> Dr. Gall's description of the organ is, that it is an eminence of the form of a reversed pyramid, on the upper and middle portion of the frontal bone — typical, it may be presumed, of the slender basis on which many turgid comparisons rest.

to the difficulties in their way, and to the necessity of evidence at every step.

I have endeavoured to point out, by a somewhat minute examination of their doctrines and explanations, the errors into which they have fallen in ascribing functions to organs without any, or without adequate proof; and to bring into view the great truth which they have overlooked in their zeal, but to which they must ultimately come, that all which the phrenological organs can indicate is a proneness to some particular kind of feeling, or an aptitude for some particular kind of mental operation, or for some particular intellectual pursuit.

When the frontal pyramid (to take the last example cited) is established as the organ of comparison, what in reality does the fact amount to? Stripped of all hypothesis, it amounts simply to this, that the part of the forehead in question is connected in some unknown manner with discerning resemblances, and that the function will probably be manifested in proportion to the size of the organ. The same assertions may of course be applied mutatis mutandis to the other organs, and they comprise all that phrenology can teach. When seen in its true light and kept in its proper place, it is a species of knowledge which may be exceedingly useful, and is worthy of strenuous cultivation: but when, leaving the simple facts of such a connexion and of the limited indications afforded, it proceeds to allot various and often discrepant functions to the same organs, and in a series or complication of mental actions, to distribute the several parts of the performance amongst them with all the particularity of a play-bill, the so-called science loses all pretension to that name, talks without evidence, and weaves a mere tissue of dreams.

You will probably have observed that in the preceding commentary, I have in general avoided using the term faculties, and spoken only of organs. I have done so purposely, because organs are, in truth, the only peculiar things belonging to phrenology.

To speak of faculties is the common and much abused practice of all philosophy, and I have shown, in the first series of these letters, that they are only fictitious entities assumed for the sake of readily conveying our meaning, but frequently leading us into serious error. On the other hand, organs are real things and form the sole peculiarity of the science before us, which has no mental phenomena exclusively belonging to it either as subjects of speculation or by right of discovery.

The shortest and most direct way of treating it is, consequently, to set aside the imaginary existences called faculties, and come at once to the connexion between the real mental phenomena and the physical organs. Accordingly, you will find that whenever a mental operation or affection has been assigned to a faculty, I have treated the

assignment as equivalent to asserting a physical affection or movement in the organ. To this the phrenologist cannot consistently object. If he did, I should be at a loss to conceive what ground of objection he could take.

The organic movement or affection is all in the way of event that is peculiar to his doctrine, and if in assigning a mental phenomenon to a faculty he refuses to be considered as affirming or implying the physical incident, he deserts his colours. for example, when he attributes a simile to the faculty of Comparison, or a smart saying to that of Wit, he disclaims any ulterior reference to the physical process — denies that his assertion implies an organic affection - then he is employing such language only in the same manner as any other writer may do; there is nothing phrenological in what he enunciates. It is by the assertion either expressed or implied of a corresponding affection of the cerebral organ that the doctrine of the phrenologist is distinguished from all others, and to this he must be held.

abilition is deliberated and and a day

# LETTER XIX.

PHRENOLOGICAL EXPLANATIONS OF HISTORICAL AND FICTITIOUS CHARACTERS.

THE preceding letters have endeavoured to show what is the utmost that phrenology can do, on the supposition that the connexion asserted to exist between the developments of the brain and the possession of certain mental characteristics has, at least to a considerable extent, been established.

I have attempted to point out that, besides the establishment of the connexion itself, which I thus assume to be proved, and the assistance which it may lend in the appreciation and predication of personal character, this department of inquiry, as actually prosecuted, has been of service by directing the attention of the observer to facts of consciousness and of conduct otherwise likely to be for a while overlooked or less minutely investigated; but that it is, and must be, quite powerless to throw any light derived from exclusive sources on the nature of mental qualities and operations; that, even as furnishing indications of such qualities and operations, its sphere is exceedingly circumscribed;

that, when it oversteps its proper limits, it falls into inevitable error, and frequently assigns functions to organs, particularly in complicated mental events, either on inadequate grounds, or without any evidence at all.

It will be instructive to follow up and corroborate these conclusions, by examining some of those explanations of historical and even fictitious characters which make so conspicuous a figure in phrenological writings. The science claims to throw new light on the history of mankind, and especially to afford a deeper insight than is commonly obtained into the virtues and vices, the excellences and defects, of the eminent men who have at once benefited and dignified their race. Such large pretensions, although already virtually disproved, challenge an express and careful investigation.

Amongst other celebrated persons on whom the experiment of phrenological elucidation has been tried, I find our great lexicographer, Dr. Samuel Johnson, and I do not know that a better subject could be selected for the trial.

It is, perhaps, an advantage that the paper from which I shall quote was written by one who was considered in his day as an accomplished and successful expounder of the science, and was besides of fair repute in his profession, I mean Dr. Andrew Combe.

From a biographical article before him, Dr. Combe cites an account of Dr. Johnson's tendency to me-

lancholy; of the predominance of his fears of the Supreme Being over more cheerful views; of his constant apprehension of death; of his slavish adherence to the creed of the nursery; and of his horror at the slightest incredulity. Had the biographer been a phrenologist, says Dr. Combe, he would have added that these feelings arose out of large Cautiousness, Veneration, and Wonder.

He then goes on to give us information respecting these three sentiments. As to the first, an overactivity of Cautiousness produces distressing dread without adequate external causes; also doubts, hesitation, uneasiness, melancholy, and hypochondria. This "explains" the gloomy part of Dr. Johnson's character. Next as to Veneration. "It gives the feeling of respect" (in the language of Dr. Spurzheim) "and leads us to look upon some things as sacred; it venerates old age, and whatever is respectable, and it adores God." We are further told, that it predisposes to religious feeling, but does not judge what ought to be venerated.

"Besides the proof" (continues our author) "already afforded us of the activity of this feeling in the mind of Johnson, we are expressly told, that the tendency was so strong as to prevent him exercising his intellect in determining the objects of worship. His veneration for everything connected with religion was extraordinary." All this part of his character is "explained" by a large endowment of the organ appropriated to reverence. The writer

then proceeds to the third organ before mentioned, namely, Wonder.

"Nothing," he says, "has excited more astonishment in the minds of philosophers than that a man of Dr. Johnson's mighty intellect should have been so credulous and superstitious as to believe in supernatural agency, ghosts, second sight, lucky days, &c.; 'for,' says his biographer, 'though a jealous examiner of the evidence of ordinary facts, yet his weakness on the side of religion, or where anything supernatural was supposed to be concerned, rendered him willing to give credit to various notions with which superstition imposes upon the fears and the credulity of mankind." \* \* "But," continues our author, "phrenology again shows its superiority in the simplicity with which it explains this singular feature."

This simple explanation is that a large endowment of "Wonder" gives the tendency to seek and see the supernatural in everything, and to believe in inspirations, forewarnings, phantoms, demons, witchcraft, astrology, and such like.

Thus the melancholy, the gloomy apprehensions, the religious tendencies, the superstition, and the credulity of Dr. Johnson, are simply and satisfactorily "explained" in the view of the phrenologist by referring to the great development in him of Cautiousness, Veneration, and Wonder.

In all this, nevertheless, I am unable for my own part to see any explanation at all. It is substan-

tially no more than enunciating in a round about way, with the admixture of a few incongruities, two or three identical propositions; that his fears proceeded from his fearfulness; that his pious feelings sprang from his piety, and that his credulous conduct resulted from his credulity. It is for the most part putting into the phraseology of a system truisms, which, were it needful to utter them at all, might be equally well expressed in ordinary language. It obviously furnishes no information of any kind. What is said of his feelings and his conduct does not specify an emotion or an incident, a peculiarity of superstition, or an eccentricity of behaviour, which is contributed or pointed out by phrenology: they are all taken from the common accounts of his life, and referred in a somewhat rough and indiscriminating manner to the phrenological faculties and organs, without any special and independent evidence to warrant the attribution. Looking at this reference merely as a classification of mental characteristics, it is largely disfigured by those faults which almost always attend the creation of distinct faculties and the attempt to describe their spheres of action - incongruity, indefiniteness, and want of grounds for the distribution of the parts severally assigned to them.

In the instance before us, there is, you will not fail to observe, an odd heterogeneous mixture (similar to what I have pointed out in the preceding letter) of the actions and feelings attributed

to the so-called sentiments or their organs, a remarkable if not a ludicrous jumble. Thus Cautiousness engenders not only "distressing dread," but "melancholy" and "hypochondria:" Veneration "venerates whatever is respectable" and "adores God, but does not judge what ought to be venerated:" Wonder "gives the tendency to seek and see the supernatural in everything" and "to believe in phantoms, demons, and astrology," and "contributes to religious faith."

The whole of the "explanation" is surely lamentable, trifling in a really well informed and sensible writer,—making assertions without proof; allotting functions without either evidence or discrimination, and yet doing all with a happy unconsciousness of its nullity, and with the intrepidity of perfect intuition.

If an actual examination of the great lexicographer's head had been made, and the cranial organs of Cautiousness, Veneration, and Wonder, had been found to be large, something strictly belonging to phrenology would have been effected; but it would have amounted only to this, that the conformation of his skull showed he was constitutionally very much inclined to fear, to reverence, and to credulity: that the remarkable proneness to these sentiments or affections evinced in his life was the result of his organisation, and not to be ascribed in the main to the circumstances by which he had been surrounded and impressed: and even the

conclusion that these were in a high degree natural or complexional qualities of his mind, might have been inferred by any one well acquainted with his career, his conversation, and his writings, yet utterly ignorant of his cerebral organisation.

But instead of furnishing independent cranial evidence, to proceed, as the author on whom I am commenting has done, to take a man's character as portrayed in a biographical narrative without any proof of the actual conformation of his brain, and gravely tell us that certain gloomy moods resulted from his Cautiousness, certain religious traits were the consequences of his Veneration, and certain credulous acts were the fruits of his Wonder, plainly amounts to nothing but a transmutation of phrases. Considered as to the reasoning implied, it is moving in a circle. It is first deducing the possession of a faculty and its corresponding organ from the recorded conduct of the man, and then "explaining" his conduct by referring it to the faculty and organ previously deduced from it.

To sum up what I have said: when a phrenologist takes in hand the skull of any eminent character of past times and shows that its conformation indicates the qualities which the conduct of the individual actually exhibited, he is engaged in a rational and scientific proceeding; but the whole of what he accomplishes is proving that such qualities had a constitutional ground or origin. What else they were, all their particular manifestations and

connexions, must be gathered from the biographical narrative.

When, on the other hand, without reference to the actual cranium, he merely attributes the sentiments and conduct of the individual to the phrenological faculties, he is doing nothing more than classifying the feelings, mental operations, and actions of the man under the peculiar terms of his own system. He cannot proceed a step beyond. I correct myself: there is a further achievement possible. Should he choose to amuse himself with drawing inferences from the qualities displayed to the organisation possessed, he may conjecture or conclude, without the possibility of being refuted, unless the actual skull should be subsequently produced, that the subject of his speculations had very probably a cranium of a particular conformation; that he had one organ full, another moderate, a third large, and a fourth small. But of what avail would such inferences be?

The sort of explanation of which I have attempted in the present letter to show the utter futility has been carried so far that the actions of Shakespeare's dramatis personæ have been elaborately "explained on phrenological principles."

"They," says a writer in the 'Phrenological Journal,' \* "who have studied the subject, and who have consequently accustomed themselves to think phrenologically, are able in all cases of real cha-

racter, even the most anomalous, to discern the combination of powers and feelings (according to the phrenological system), which produce the manifestations perceived; and whenever a character is well or naturally described, either in real or fictitious writing, have no difficulty in applying to the delineation the same mode of analysis. We who have experienced this in numberless instances, feel, in the occurrence of every new case, a confident expectation that it is capable of being explained satisfactorily on phrenological principles, and we are never disappointed. We can assure our readers that if they will only be persuaded to try the efficacy of this system as a medium of thought, they will find it to furnish a key to human character, and to afford an insight into human nature, of which, antecedently to actual experience, they could not have formed the remotest conception."

The writer then proceeds to what he calls an analysis of the character of Macbeth, and quotes for this purpose the following soliloquy from the third scene of the first act:—

"Two truths are told,
As happy prologues to the swelling act
Of the imperial theme. — I thank you, gentlemen. —
This supernatural soliciting
Cannot be ill; cannot be good: — If ill,
Why hath it given me earnest of success,
Commencing in a truth? I am thane of Cawdor:
If good, why do I yield to that suggestion
Whose horrid image doth unfix my hair,

And make my seated heart knock at my ribs,
Against the use of nature? Present fears
Are less than horrible imaginings:
My thought, whose murder yet is but fantastical,
Shakes so my single state of man, that function
Is smother'd in surmise; and nothing is
But what is not."

From this soliloquy it is inferred that self-esteem, acquisitiveness, and love of approbation were strong; and conscientiousness and veneration moderate—not sufficiently active to keep down the evil thoughts that began to rise in his mind. On another passage of the same tragedy it is remarked, "Destructiveness, secretiveness, and cautiousness seem all to have a share in dictating this speech," [another of Macbeth's] "while conscientiousness and the love of approbation seem only so far awake as to show him the evil nature of the deeds he is meditating without making him resolve to avoid them."\*

These specimens are sufficient to exhibit the kind of analysis attempted, which, so far from meriting that name, is nothing more than showing how the mental qualities attributed by the poet to Macbeth may be described in phrenological language — no improvement certainly on the original text. There is no new light thrown in any way on the meaning of our great dramatist; or on his powerful description of what is passing in the mind of the future murderer; or on the nature of the passions described.

<sup>\*</sup> Phrenological Journal, vol. i. p. 97.

How the so-called analysis, amounting as it does to a mere change of terms, should furnish a key to human character and afford an insight into human nature, I am wholly at a loss to discover. Such a transmutation of phrases may possibly inspire the novice with the conceit of having a scientific hold of a subject, by putting into his hands a set of technical terms, in the management of which little difficulty can occur; and about these terms his mind may revolve and seem at once busy and concentrated, when, if not provided with such helps, it might have idly wandered without method or purpose. It is something certainly to have the attention aroused and directed.

Even a false system may give both an impulse and a coherence to a man's thoughts, and conduce to the satisfaction of that longing to account for passing phenomena which is so natural to the mind, and which is so susceptible of being appeased by trivial and even fantastic explanations; but by doing this, the system is likely enough to stop any real advance of knowledge on the subject to which it relates.

If any one, for example, should fancy he understands any better the characteristic feelings and motives of a brave man, by being able to ascribe them technically to certain organs called Destructiveness and Combativeness, he would be deceived by mere words, and would probably seek no further knowledge and bestow no further thought in that

particular direction. The notion of being possessed of "a key" to the character, would strongly tend to stop inquiry and prevent reflection.

With a wish to do full justice to the department of inquiry under consideration, I am not able to say that it can render more assistance to any one in the appreciation and description of historical and fictitious characters, than he might derive from an equal attention to their qualities and actions, without possessing any knowledge of phrenology, but at the same time provided with a tolerably precise and consistent nomenclature in which to describe what he observes in himself and his neighbours.

The whole of the preceding observations on phrenology have had in view the original mode of allotting functions to organs, by noting the extraordinary development of particular regions of the cranium in men remarkable for extraordinary endowments or susceptibilities; but they will apply, in the main, or with certain modifications, to the science in the new position in which it has been placed since the alleged discovery of the influence exercised over the organs by mesmeric manipulations.

Admitting this influence without question, for the sake of argument, I think it will be at once acknowledged by the candid inquirer, that it lessens the indefiniteness on which I have insisted in regard to the locality, if not to the boundaries of the organs, and strengthens the evidence for their several functions.

If an organ can, as these experiments avouch, be roused into action by a touch or pointing of the finger, its locality or relative position to other organs is at all events confirmed, although its limits are still undefined by precise lines. And further, if, when the organ is thus touched or pointed at, particular feelings, ideas, and volitions ensue, you approach nearer than before to the establishment of a connexion between the organ and a class of mental phenomena.

But the business even yet is not so simple and easy as people are apt to suppose. There are in reality great difficulties to be overcome.

It is obvious, that if a single organ were alone in activity, it would be easy enough to determine its function. Such a solitary activity, however, may be said never to occur spontaneously; and there are no means of insulating an organ so as to dissever its action from that of the rest of the organs. We may assume, therefore, that several of them are always in activity although only one is purposely excited. As this nevertheless may be presumed to be more active than the others, the predominant feeling or intellectual operation manifested might be regarded as proceeding from it; but it is evident that to determine with any precision which of the mental phenomena exhibited are exclusively connected with movements in that organ, and which

of them with movements in other organs, would in the majority of cases require a long and elaborate series of observations, conducted with great patience, nice discrimination, and sound judgment.

It is obvious, too, that this new method of investigation, although it might be serviceable in establishing or confirming the connexion of organ and function, could be of little avail as an instrument for the predication of character.

Thus, however valuable the recently discovered mode of phrenological inquiry may be, the indeterminateness of the two sets of corresponding facts is by no means eliminated, although it is in some respects lessened; nor is there any approach worth speaking of to a perfect set of signs and of things signified, as in the case of vibrating strings and musical notes: there are no movements observed in the organs, and consequently no connexion established between particular motions in the brain and particular mental phenomena. The phrenological organs may still be described as mere superficial and motionless regions or developments of the cranium, capable of indicating only classes of mental characteristics, more or less general or comprehensive.

But the most important consideration remains. Even supposing the discovery in question, to render the connexion between organs and mental phenomena ascertainable with greater precision, still, while it makes the science more complete in its

proper province, it does not at all enlarge its scope, nor set aside the conclusions already arrived at: namely, that all which is peculiar to the science, all which it can claim as exclusively its own, is the establishment of this connexion; and that whether it be more or less completely accomplished, the moral and intellectual phenomena concerned cannot be elucidated by it, but must ever continue to be learned from internal sources, as they always have been; on which account the philosophy of mind can never be any other than a philosophy of consciousness.

## LETTER XX.

ANTHROPOLOGY. PROPOSED CLASSIFICATION OF INQUIRIES RELATING TO MAN.

In writing the letters on the connexion between the body and the mind, as it is commonly termed, or the reciprocal dependence of the phenomena of our physical organisation and the phenomena of consciousness, I was more strongly impressed than ever with the expediency, if not the necessity, of dividing our investigations relating to man into a greater number of departments than has, hitherto, been usual, except in the instance of the physical organism, and perhaps also in that of social science; and keeping these departments as distinct as the nature of the case would admit with matters so closely allied. The attempt to make such a division, if it bore no other fruit, would at least not be without advantage in bringing before the eye the relative position in which several subjects of investigation stand to each other.

If we were to comprise all the departments of inquiry relating exclusively to the human race under the term Anthropology, we might proceed, it occurred to me, with the distribution of the subject in something like the following manner:—

#### CLASS.

ANTHROPOLOGY, OR INQUIRIES CONCERNING MAN.

### Order I. Inquiries relating to Man as an Individual.

- Genus 1. Relating to his Corporeal Frame or Physical Organization, comprising Anatomy and Physiology.
  - 2. Relating to his Mental Operations and Affections, or the Phenomena of Consciousness (including Language, as connected with Thought and Feeling): a department of inquiry now appropriately termed Psychology, or, if you like the older name, the Philosophy of the Human Mind.
  - 3. Relating to the mutual dependence or connexion of the Phenomena of our Physical Organization and the Phenomena of Consciousness, which would of course include Cranioscopy or Craniology (the proper designation for the modern Phrenology), and Physiognomy as cultivated by Layater and others.
  - Relating to Individual or Personal Character a department usually referred to Psychology, but admitting of separate cultivation.

### ORDER II. Inquiries relating to Man as a Social Being.

- Genus 1. Relating to Morals, or to Right and Wrong Conduct between Man and Man and other sensitive and intelligent Beings.
  - 2. Relating to Government.
  - 3. Relating to the Economical Condition of Communities, or Political Economy.
  - 4. Relating to Language as a medium of intercommunication and influence, including the principles of Exposition and of Rhetoric.

ORDER III. Inquiries relating to Mankind as to their Origin, Races, Progress, and Civilization.

> These inquiries might have been included as a Genus in the second order, but they will stand very conveniently alone, and might be divided into several genera themselves.

Order IV. Inquiries relating to the connexion of Mankind with Superior Beings, or Theology.

This distribution of anthropological inquiries, to be correct, must necessarily coincide in many respects with received classifications, and is proposed in its totality merely as tentative or suggestive. It is doubtless exceedingly imperfect, but so simple as not to require much explanation. A few remarks on some of the divisions under the first Order, on account of which the arrangement has in truth been produced, and which more particularly come within the compass of the present letters, are all that I think it needful to lay before you.

With regard to separating our inquiries into the phenomena of consciousness, from those into the reciprocal influence of mind and body (which there is a tendency, I think, in the present age, not to keep sufficiently distinct), it scarcely needs pointing out that there would be ample occupation in both pursuits for the undivided attention of their followers, and that they so far differ as to require, in a great measure, different kinds of mental aptitude. The two would of course be always intimately connected, and the inquirer in one de-

partment would have to acquaint himself more or less with the collateral processes, principles, and results of the other.

The latter, or the inquiry into the mutual influence of the physical and mental parts of our nature, presents not only an important but a very extensive subject, and one which could not be adequately treated until psychology on the one hand, and physiology on the other, had attained something like a mature state.

The affections and operations of the mind, and the structure and organic functions of the body, must be tolerably well known before any investigation of their mutual influence could be satisfactorily attempted. Speculators seem to have sometimes engaged in the inquiry without first determining what were the precise phenomena they were to inquire about.

It would be out of place to do more here than briefly advert to two or three of the principal topics embraced by it.

The connexion between the structure of the brain, or rather the form, size, composition, arrangement, or other incidents, of its several parts, and mental qualities or characteristics, may be cited as one of the most interesting.

It is scarcely needful under this head to repeat the mention of phrenology. There is evidently no insuperable difficulty in tracing a connexion between the form, size, and internal structure of any part, and certain mental qualities, provided it exists; or in showing the groundlessness of asserting it, provided it does not exist.

The problem is both within the range of experience, and worthy of investigation.

Closely allied to and scarcely separable indeed from the preceding topic, is the connexion between the changes or movements in the nerves, as well as other tissues and mental events.

We have grounds for inferring that no mental affection or operation takes place without some antecedent change in the state of the brain and nerves, although we are unacquainted with the nature of these changes: and from their being inaccessible to direct observation we are likely enough long to remain so.

It is a subject, however, concerning which we ought to be at once alive to the least gleam of evidence, and on our guard against the strong temptation to indulge in gratuitous theories. We shall not be wrong in discarding merely hypothetical explanations destitute of proof (Dr. Hartley's vibrations for instance) as fruitless or rather preventive of real progress. The kind of movement in the nerves is, as far as I am informed, yet undetermined, notwithstanding the discovery that certain nerves are concerned exclusively in the physical process instrumental to perception, and others in the process instrumental to willing — a discovery which (it may be remarked by the way)

throws no light either on the nature of the two mental acts (how should it?) or the nature of the physiological motions concerned.

Turning to the other phase of the connexion we find that certain mental affections can be traced to their effects on certain tissues of the body. Shame produces blushing, fear paleness and tremor, wit and humour laughter; and other feelings seem severally to disturb, to impede, or to stimulate the action and secretions of some one or more tissues or organs. Cabanis has well described the unsuspected muscular vigour which a man finds in himself when under the influence of energetic passions.\* All these phenomena and others akin to them are worthy of minute scrutiny.

The effects of external agents, applied to the body, upon the phenomena of the mind form another topic under this head, and one perhaps more accessible to investigation and more promising in results than any of those hitherto mentioned.

One of the subjects falling within its scope is the mental influence, temporary or permanent, of various substances—food and medicine, stimulants and sedatives—received into the stomach; a very interesting and important inquiry, which has been hitherto greatly neglected, by English philosophers at least, but which would repay an almost exclusive devotion to it, while it would come within the

<sup>\*</sup> Rapports du Physique et du Moral de L'Homme, tom. i. p. 175. Quatrième Éd.

range of the purely mental philosopher only as a subsidiary topic.\*

This is only one amongst a multitude of interesting researches which a division like that I have suggested would bring into more distinct apprehension, and probably incite inquirers to undertake; such as will rise to view at the mention of the effects of light, heat, various conditions of the atmosphere, and other elements of climate, with numerous other agents producing modifications of mind through the physical organs and tissues.

In fact, the connexion of mind and body abounds with weighty but neglected questions, and questions too of a nice and difficult nature. The work of the eminent French author whom I have already cited is full of information and suggestions on many of them.

<sup>\*</sup> The reader may be amused with the following illustration of the subject here lightly touched upon; it is highly characteristic of the admirable writer:—

<sup>&</sup>quot;I am convinced," says Sydney Smith, in one of his Letters, "that digestion is the great secret of life; and that character, talents, virtues, and qualities are powerfully affected by beef, mutton, pie-crust, and rich soups. I have often thought I could feed or starve men into many virtues and vices, and affect them more powerfully with my instruments of cookery than Timotheus could do formerly with his lyre." — Memoirs of Sydney Smith, vol. ii. p. 405. To this may be added the assertion of Cabanis, that in certain countries, where the indigent class live almost exclusively on chestnuts, buck-wheat, and other gross aliments, there is to be remarked in that entire class an almost total want of intelligence, and a singular slowness in their determinations and movements. — Rapports, tom. ii. p. 58.

In reference to the division concerning Individual or Personal Character, I may remark that it would be advantageous on several accounts to keep it distinct from Psychology, which, when confined to its proper objects, is chiefly occupied in describing, classifying, and bringing under general laws, the phenomena of consciousness common to all mankind, and deals with Individual Character only incidentally and briefly—too briefly for the importance of the subject.

The expediency of making the latter a separate department of inquiry, will be more readily admitted if we consider that character is constituted not by peculiar qualities, but chiefly by the proportion in which mental properties common to the individual with the rest of his species are manifested.

The elements of a man's character may be stated to be mainly the following:—

- 1. The predominance of certain feelings, propensities, and desires in his mind over others which, although existing there, are less marked, such as fear, hope, resentment, the love of approbation, conscientiousness, curiosity, benevolence, ambition, and so on; all of which may be found united in infinitely varying proportions.
- 2. His being able to perform certain intellectual operations better than other operations, such as remembering better than imagining or reasoning, and conversely reasoning better than remembering.

3. His being able to perform these and other intellectual operations much better in respect to certain objects than in respect to other objects. Thus one man will recollect, imagine, and reason about mechanical matters more readily than he will perform those operations in the case of mental phenomena; and another will remember mathematical figures and draw conclusions respecting them, with more facility than he will perform similar acts in reference to the incidents of common life, to music, or to poetry.

One important ingredient in the aptitude for particular arts or sciences, is being able to form clear and steady mental representations of the objects in which they deal, when such objects are not present. To grasp them firmly in conception is manifestly indispensable both to devising new combinations and to reasoning on their results whilst yet untried.\*

- 4. The energy or feebleness of his volitions—his acts of willing. The observation is anything but new, that we frequently see men of strong intellect combined with weak powers of volition, and *vice versâ*. Coleridge was a notorious example of the former.
- 5. His physical endowments or the qualities of his bodily constitution, the perpetual consciousness

<sup>\*</sup> It is the want of this power of clear conception which, as it appears to me, leads writers into mixed metaphors, as well as other both rhetorical and logical incongruities.

of which (not to mention other effects) enters largely into the composition of his character. Of this remark Lord Byron may be cited as an illustration. The contrast between the mental effects of a consciousness of great muscular vigour on the one hand, and muscular feebleness on the other, has been well drawn by Cabanis.

The attributes or characteristics above enumerated being the results partly of natural constitution and partly of the peculiar habits and associations superinduced by the particular circumstances in which the individual has been placed, or by the discipline through which he has passed, there is ample room in this province of inquiry for the exercise of the most sedulous observation and the most discriminating sagacity.

It is this science of character which constitutes a great part of the modern Phrenology; and from which, I may say, have been gathered the chief fruits of that department of knowledge as actually cultivated. As a philosophy of mind, phrenology can, as we have seen, do little or nothing: as a system of cranioscopy, by assisting us in the appreciation of the natural qualities of individual men, it may do more; and in calling attention to peculiarities of conduct and constitution, it has actually, although from no exclusive sources, thrown useful light on the special department of Anthropology before us.

The advantages of dividing our investigations

concerning mankind in the way proposed, without insulating any of them, would, I apprehend, be the same as we see attend the separation of physical science into so many different sections. The several departments here sketched out, although some of them would be often united, would usually be pursued by different individuals as their peculiar qualifications and opportunities might determine, and such a division of labour would doubtless have the usual beneficial results.

Above all, so far from preventing or impeding large and comprehensive views of human nature, it would not fail to multiply the points of speculation presented to the man of a powerful intellectual grasp.

It may be said indeed that the end here in contemplation will be naturally effected (and has already been partially so) in the progress of knowledge, during which such divisions as are now recommended, present themselves as matters of course when the necessity arises, without any preconcerted distribution such as I have formally suggested: and the assertion that it will be effected, and is even now in process of being accomplished, is true enough; but then it must be recollected that such tentative distinctions and classifications (I offer mine in no other light) far from being useless or supererogatory, are themselves steps towards the goal which we are looking to reach. Although they are often silently made in the prosecution of

inquiry, it is not without advantage to the inquirer to have them beforehand distinctly set forth.

The supposed objection would be levelled against taking measures expressly adapted to further a certain end, on the ground that there were other causes already in operation which would also contribute to effect it, and might perhaps accomplish it alone if there were leisure to wait.

Manne Lander

#### LETTER XXI.

THE PRESENT CONDITION, ESTIMATION, AND PROSPECTS OF THE PHILOSOPHY OF THE HUMAN MIND.

On casting a retrospective glance over the two series of letters which I am now hastening to close, I cannot help being sensible that the philosophy of the human mind, as received and taught by its most eminent cultivators, stands out in my representations as being in an extremely unsatisfactory condition. In regard to this point you will see that I coincide in a great measure with the late Sydney Smith, who, in a passage which I have before quoted, declared that the language and divisions of intellectual philosophy appeared to him to be in a most barbarous state.\*

I shall not now attempt to enter further, except incidentally, into the causes of this disheartening position of the science, but will content myself with offering a few remarks in vindication of its rank and importance, and with briefly touching on one or two considerations which claim to be attended to in all endeavours to improve what so much wants improvement.

<sup>\*</sup> Memoir of the Rev. Sydney Smith, vol. ii. p. 23.

Of one thing we may at the outset make ourselves sure: there can be no real progress in mental philosophy without the most careful precision of language, the uniform and consistent employment of all terms on which our statements and inferences depend, and the rigorous exclusion of fictitious entities and imaginary events. Neither can any progress be achieved without minute self-introspection, nor without the trouble (or the tediousness if you will) of making very nice and subtile distinctions amongst the phenomena of consciousness, as well as the words in which they are described; and, what is of equal moment, in the views right or wrong which have been taken of them.

These are the indispensable means of uprooting error and establishing truth on a subject of so much difficulty.

Yet such close research, rigorous precision, and nice distinctions in mental philosophy as are here insisted upon, have been contemptuously decried, and stigmatised as vain, shadowy, and valueless, even by some of those who eagerly extol the minutest inquisitions of physical science.

What! shall thousands of scientific men with triumphant acclaim employ themselves in almost infinitesimal physical investigations; in searching into the atomic composition and microscopic structure of bodies; in exploring the innumerable forms of animal and vegetable life which are invisible to the unassisted sight; in discovering planets that

have for ages rolled unmarked through their obscure orbits; in condensing with telescopic power into suns and systems what was recently regarded (so to speak) as the elemental vapour of stars\*; in throwing into arithmetical expression inconceivably rapid vibrations in the apparently steady ray that even the strongest wind cannot shake; thus bringing into view from the distant and the diminutive, the most recondite parts of the material universe; and shall the exact analysis of the phenomena of consciousness, the discrimination of differences in feelings and intellectual operations however fine and minute, the vigilant detection of the subtilest concatenations of thought, the firm yet delicate grasp of mental analogies which elude the rough and careless handling of common observation, the nice appreciation of language and of all its changing hues and latent expedients, the decomposition of the processes of reasoning and laying bare the foundations of evidence, shall these, I say, be stigmatised as an

<sup>\*</sup> It was the hypothesis of Laplace "that systems of revolving planets, of which the solar system is an example, arise from the gradual contraction and separation of vast masses of nebulous matter. Yet it does not appear that any changes have been observed in nebulæ which tend to confirm this hypothesis; and the most powerful telescope in the world, recently erected by the Earl of Rosse, has given results which militate against the hypothesis; inasmuch as it has been shown that what appeared a diffused nebulous mass is, by a greater power of vision, reso'ved, in all cases yet examined, into separate stars."—

History of the Inductive Sciences, by Dr. Whewell, latest edition, vol. ii. p. 29.

over-exercise of acuteness, a waste of analytic power, a useless splitting of hairs, and a worthless weaving of cobwebs? Amidst the honours lavished on investigations into the most secluded recesses of the material world, are we to be told that the close and minute and discriminating examination of our own mental nature is a vain and superfluous labour leading to no beneficial or important issue?

Believe it not: rest assured that here untiring investigation, minute analysis, close scrutiny, careful discrimination of things apt to be confounded, scrupulous accuracy in pursuing processes, and precision in recording results, are as apposite, as fruitful, as important, as indispensable, as dignified if you will, as they are (I say it without disparagement) in tracking invisible stars, calculating the millions of imperceptible undulations in a ray of light, weighing the atoms of chemical elements, peering into the cells of organic structures\*,

<sup>\*</sup> These are really interesting and important investigations: the following passage from an eminent naturalist will nevertheless justify the description in the text. "Cells," says Professor Owen, "predominate in the tissues of the vegetable kingdom, the lower members of which consist exclusively of them, and have been thence called 'plantæ cellulares:' the lowest of all consist of a single nucleated cell. The animal kingdom starts from the same elementary beginning: a cell-wall forms the smooth, elastic, and contractile integument of the Gregarina: a fluid with granules, and a firm nucleus which sometimes contains one or more nucleoli, — the ordinary cell contents — are the sole representatives of organs or viscera." — Parthenogenesis, p. 6.

studying the anatomy of mites and midges\*, and even searching into the specific characters and peculiar habits of molluscs and animalcules.

But this is not the only kind of depreciation and disparagement which mental philosophy has had to sustain. Strange to say, a man of science who has attempted to grasp the whole body of human knowledge†, has pronounced that the pretended direct contemplation of the mind by itself is a pure illusion. The fallacy of this notable declaration it is not difficult to see. It is worthy of a completer examination than the incidental one which is all that, were I so disposed, I could now consistently give it; but should I live to send you a third series of philosophical letters, I hope to show the untenableness of the position and the source of the mistake.

The depreciation of a department of inquiry which concerns itself, professedly, with only internal objects and events is scarcely to be wondered at in the mass, although it may be surprising in a philosopher.

<sup>\*</sup> I hope the acarus and the culex will not disdain to recognise themselves under these humble appellations. I may add, that in the Handbook of Natural History, used in the schools and colleges of France, which I have just happened to take up, I find the anatomy and physiology of insects, molluscs, and animalcules occupy a considerable space both in the text and the plates, showing the importance attached to these minute inquiries.

<sup>†</sup> M. Comte: "Cette prétendue contemplation directe de l'esprit par lui-même est une pure illusion."— Cours de Philosophie Positive, tom. i. p. 35.

Mankind are pre-eminently a sensuous and mechanical race. Long before they know themselves, their own mental and physical qualities, their relations to each other and to surrounding circumstances, their rank in the scale of being, what they may rationally hope and rationally fear; while still floundering about their own position in the universe, and blindly wandering into courses of action which, although they are too ignorant to discern it, lead them headlong to their own misery; they exhibit the most astonishing proofs of mechanical ingenuity and dexterous handling generally of the properties of matter.

Thus nations who cannot with any accuracy be called morally civilised, barbarians in personal habits, in domestic morals, in social customs and political arrangements, in theological dogmas and ecclesiastical institutions, in self-knowledge and consecutive thought, have left behind them monuments of architecture, sculpture, dynamical art and manufactural skill, which are viewed with astonishment and admiration by the most advanced people of modern times.

And even we, who plume ourselves on the high position in refinement which we have attained, can we pretend that it is essentially different with us? Is the civilisation in which we have made a progress more than physical?\*

<sup>\* &</sup>quot;Let us not deceive ourselves. Like the man who used to pull off his hat with great demonstrations of respect whenever he spoke of himself, we are fond of styling our own the en-

Our great achievements are only triumphs of material science and mechanical art, while in all that constitutes moral progress, in the cognisance of what is purely internal, in the knowledge of the dependence of mental causes and effects, and their connexion with physical circumstances; of the nature and varieties of intellectual and emotional. processes; of the true character and use of evidence on which so immense a superstructure must always rest; of the wisest modes of individual and social procedure so as to insure all practicable happiness to every human being; of the best methods of cultivating the nature of every man so as to bring out its capabilities and make him no unworthy specimen of his race—in the knowledge of all such things, and above all, in the appreciation of what is purest and noblest in spirit and in conduct, we have comparatively speaking made scarcely a perceptible advance.

Is proof required? What proof of some of these assertions can be more striking than the derogatory attributes and procedures which we still continue to embody in our conceptions of a Supreme, Perfect, and Infallible Being?

Or turning towards what solely concerns our mundane affairs, for evidence on other points, look

lightened age: though as Jortin, I think, has wittily remarked, the golden age would be more appropriate."—Coleridge's Friend. This is now a somewhat trite saying, but the important question is, does it not still point to a truth?

at the grovelling earthly superstitions, the absurd doctrines, the mean sentiments, of which we are the slaves; and at the rapacity, the frauds, the wars, and the still pettier hostilities and quarrels by which we ignorantly or wantonly destroy the happiness or create the misery of ourselves and our kind. And even irrespective of crime and violence, look at the wretched economical condition of a large section of the people in every so-called enlightened country—in itself a signal proof of our incapacity to understand and deal with our own position.

The discrepancy, too, between our rapid strides in physical science, and our tardy progress in moral and intellectual knowledge and its application; in the science of human nature and human welfare; seems to become every day wider and more conspicuous. We are truly, as it has been said by some one, "immersed in matter." If civilisation may be compared, as it sometimes is, to a rising tide with its alternate advances and retrocessions, it would be difficult to show, as far as morality, mental refinement, and general happiness are concerned, that it is not in the present age at a very low ebb.

Is it then in this position of human affairs that any department of what may be called non-physical in contradistinction to physical inquiry, is to be depreciated or even neglected and excluded from the benefit of all that subtility of research and minuteness of discrimination which are so freely bestowed on the most obscure and unobtrusive appearances of the material universe?

Surely at no time could it ever be more expedient, if not imperative, to look into our own nature and to direct accurate observation and precise thinking to moral, mental, and social inquiries of all kinds, than it is at present, even if it were only as a counterpoise to all the more engrossing influences to which I have adverted.

The intrinsic difficulty of such inquiries compared with those of a physical character, or, what perhaps amounts to the same thing, the natural inaptitude or distaste of mankind for them, renders it the more to be desired that minds, especially young minds, gifted with the peculiar genius requisite, should at least not be discouraged from yielding to their constitutional bent and pursuing their proper course.

Positive encouragement is scarcely to be looked for, if for no other reason than the formidable errors and prejudices which block the way. Besides the blunders of ordinary men, some of the most powerful minds that have appeared in the world, in exemplification (it might be said) of the constitutional inaptness of the human understanding for non-physical speculations, have employed themselves in building up ingenious systems destitute alike of sound foundation and natural coherence, as if they imagined their business was to construct truth instead of to discover it.

Errors of any kind which have established themselves in the world are of course serious impediments to progress, and can be overturned and removed only by earnest perseverance and repeated efforts; but they are especially difficult to contend with when they have been fixed in the minds of men not only by tradition but by the authority of great names.

To push aside such as now prevail and replace them by simple truth, is a work requiring all the acuteness and vigour of intellect, depth of thought, closeness of investigation, subtile discrimination, and punctilious accuracy, which the whole human race are for many ages likely to spare from their addiction to material research; and hence the science of man as a moral, intellectual, sensitive, and social being must, at present and for a long period to come, be in a great measure a militant science — a work of comment and criticism and contest — and cannot be expected in any of its departments to make a rapid advance.

With regard to my special subject, the philosophy of mind, which must always constitute the foundation of non-physical science of every description, I venture to repeat the prediction that no great progress will be made by those who prosecute it, and that they will continue to move in a circle, until they consent to do what successful physical inquirers do, namely, to dismiss all figurative statements of fact, all fictitious entities and occur-

rences, all abstractions except as mere forms of expression, all hypotheses but such as may be professedly put forth in the character of tentative suppositions; and to confine themselves to real objects, actual events, literal statements, and rigorous conclusions.

On the two latter points it is doubtless a disadvantage, and one that in the nature of the case must always attend a department of knowledge which deals with the common thoughts and feelings and mutual relations of men, that there is no exclusive scientific nomenclature appropriated to designate the operations and affections of the mind, but the philosopher is obliged, for the most part, to make use of the terms employed in common conversation and daily intercourse: employed, too, in the generality of cases either with very loose and indefinite meanings, or in more senses than one.

There are several momentous evils flowing from this want of a peculiar nomenclature.

It occasions great difficulty in always keeping to one precise sense, even on the part of the most exact thinker. It also operates to prevent the reception of doctrines which are really true, in consequence of the paradoxical air that, curiously enough, is frequently thrown over accurate and important conclusions by rigid adherence to the employment of terms in only one acceptation.

Worse perhaps than all, it tends to inspire the incompetent with the conceit that they can under-

stand and are qualified to pass judgment on doctrines far beyond their capacity because they have taken no pains to gain the requisite knowledge. As every word is one they are familiar with and presents no superficial difficulty, not the least suspicion enters their minds that it may be necessary to pause and ponder on the drift of the propositions before them; and they are fully satisfied with the negative result of meeting with no verbal stoppage.

On this point I beg your attention to what I have said in a former treatise not unknown to you. I am not sure that I could express my meaning better were I to attempt a fresh exposition, and to save you the trouble of reference, I will here introduce the passage (of no great length) to which I allude.

Speaking of the necessity of vigorous application, it proceeds, "We are apt to be deceived in this respect on subjects relating to morals. The terms employed are such as are daily used in the common intercourse of life, and we imagine we at once comprehend any doctrines which they are the medium of expressing. In physical science, where at every step we are encountered by the difficulties of a technical phraseology, as well as of practical observations and experiments, we immediately feel the necessity of a regular application and progression, of mastering one principle before we proceed to the next, of carrying our object by detail, working our way by vigorous and reiterated efforts. In

morals, on the contrary, we are too apt to be content with mere cursory reading: no difficulties are presented by the language, no unusual terms arrest our progress, no particular experiments demand a pause to verify them, and we glide smoothly along the pages of the profoundest treatise, with an apparently clear apprehension of the various propositions we meet with, but in reality with a vague conception of their full drift and precise meaning. Hence people are often deluded into fancying themselves competent to pronounce a decision on questions requiring severe study, great nicety of discrimination, and close logical deduction."\*

The same deceptive facility of superficial comprehension is one source even amongst philosophers of the not uncommon phenomenon of misconceiving and misrepresenting each other's doctrines.

From the frequency of such misrepresentations it would seem to be one of the most difficult things in the world to give a correct account of any philosophical theory.

Nor can there be the faintest doubt in the mind of any one who has tried the experiment, that it is exceedingly difficult, demanding much study and great care; difficult, partly because it is requisite to undergo the trouble of placing ourselves at the author's particular point of view, while we are too engrossed by our own preconceptions to be able or

<sup>\*</sup> Essay on the Pursuit of Truth, p. 78, second edit.

disposed to do it; partly because we are apt to catch up general assertions without attending to the context containing modifications by which they are accompanied and restricted; partly because there are real inconsistences, of which the writer himself is unaware, between different parts of the same exposition, whence discordant interpretations are unavoidably put upon his doctrine by various readers. And these sources of misrepresentation, if not engendered, are heightened and aggravated by the necessity of employing a lax and popular phraseology.\*

Such evils are undeniable, but not, in my opinion, to be remedied by any attempt to form a peculiar and scientific nomenclature. They will be best obviated by an endeavour after rigorous precision and consistency in the use of common phraseology, aided by a careful study of the various expedients of language (many of them little noted if not wholly overlooked) natural to mankind in the exercise of their gift of speech.

From these observations one truth may be deduced, which, however manifest it may be, is too frequently unheeded, that a department of knowledge destitute of a specific nomenclature, far from not demanding on that account equally

<sup>\*</sup> I have already had occasion to point out various misrepresentations, or to say the least, discordant representations of the theories of Berkeley on Vision and on the External World. which fully exemplify the remarks in the text.

minute and devoted application to it, requires even more than a science which possesses one.

No physical or physiological or mathematical science, neither astronomy, nor mechanics, nor chemistry, nor any of the sciences of organic nature, nor yet of calculation and measurement, exacts a longer, closer, and steadier dedication of time and attention to it than the Philosophy of the Human Mind.

THE END.

LONDON:
PRINTED BY SPOTTISWOODE AND CONEW-STREET SQUARE.

#### Works by the same Author, in Politics and Political Economy.

- A DISCUSSION OF PARLIAMENTARY REFORM. By a York-shire Freeholder. (Pamphlet.)
- THE RATIONALE OF POLITICAL REPRESENTATION. 8vo.
- THE RIGHT OF PRIMOGENITURE EXAMINED. By a Younger Brother. (Pamphlet.)
- A CRITICAL DISSERTATION ON THE NATURE, MEASURES, AND CAUSES OF VALUE, chiefly in reference to the Writings of Mr. Ricardo and his Followers. 8vo.
- A LETTER TO A POLITICAL ECONOMIST, occasioned by an Article in the "Westminster Review" on the subject of Value. (Pamphlet.)
- MONEY AND ITS VICISSITUDES IN VALUE as they affect National Industry and Pecuniary Contracts. 8vo.
- A DEFENCE OF JOINT-STOCK BANKS AND COUNTRY ISSUES. (Pamphlet.)
- QUESTIONS FOR DISCUSSION IN POLITICS, POLITICAL ECONOMY, and other departments of Knowledge. 8vo.

- 1 million of the contract of the state of

person that I mission may then you will

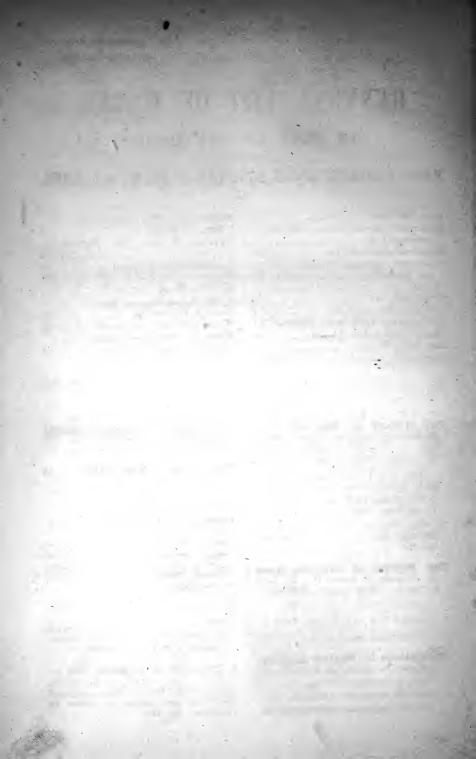
or migration ages and white some 1966 for the

and the second s

e sacrati de la companya de la comp

37, IV 1





### GENERAL LIST OF WORKS,

#### NEW BOOKS AND NEW EDITIONS,

PUBLISHED BY

#### Messrs. LONGMAN, GREEN, LONGMAN, ROBERTS, and GREEN.

ARTS, MANUFACTURES, &cASTRONOMY, METEOROLOGY, POPULAR	11	MISCELLANEOUS AND POPULAR META- PHYSICAL WORKS	(
Geography, &c	7	NATURAL HISTORY AND POPULAR	
BIOGRAPHY AND MEMOIRS	3	Science	8
CHEMISTRY, MEDICINE, SURGERY, AND		Periodical Publications	20
THE ALLIED SCIENCES	9	POETRY AND THE DRAMA	17
COMMERCE, NAVIGATION, AND MERCAN-		Religious Works	13
TILE AFFAIRS	19	RURAL SPORTS, &c	18
Criticism, Philology, &c	4	TRAVELS, VOYAGES, &c	
FINE ARTS AND ILLUSTRATED EDITIONS	11	Works of Fiction	
GENERAL AND SCHOOL ATLASES	20	WORKS OF UTILITY AND GENERAL IN-	
HISTORICAL WORKS	1	FORMATION	19
INDEX21-		-	

#### ——»».— Historical Works.

The History of England from the Fall of Wolsey to the Death of Elizabeth. By James Anthony Froude, M.A. late Fellow of Exeter College, Oxford.

Vols. I. to IV. the Reign of Henry VIII. Second Edition, 54s.

Vols. V. and VI. the Reigns of Edward VI. and Mary. Second Edition, 28s.

Vols. VII. and VIII. the Reign of Elizabeth, Vols. I. and II. Third Edition, 28s.

The History of England from the Accession of James II. By Lord MACAULAY. Three Editions, as follows.

LIBRARY EDITION, 5 vols. 8vo. £4.

CABINET EDITION, 8 vols. post 8vo. 48s.

PEOPLE'S EDITION, 4 vols. crown 8vo. 16s.

Revolutions in English History.
By ROBERT VAUGHAN, D.D. 3 vols. 8vo. 45s.

Vol. I. Revolutions of Race, 15s.

Vol. II. Revolutions in Religion, 15s.

Vol. III. Revolutions in Government, 15s.

The History of England during the Reign of George the Third. By WILLIAM MASSEY, M.P. 4 vols. 8vo. 48s.

The Constitutional History of England, since the Accession of George III. 1760—1860. By Thomas Erskine May, C.B. 2 vols. 8vo. 33s.

Lives of the Queens of England, from State Papers and other Documentary Sources: comprising a Domestic History of England from the Conquest to the Death of Queen Anne. By Agnes Strickland. Revised Edition, with many Portraits. 8 vols. post 8vo. 60s.

Lectures on the History of England. By WILLIAM LONGMAN. VOL. I. from the Earliest Times to the Death of King Edward II. with 6 Maps, a coloured Plate, and 53 Woodcuts. 8vo. 15s.

A Chronicle of England, from B.C. 55 to A.D. 1485; written and illustrated by J. E. Dovle. With 81 Designs engraved on Wood and printed in Colours by E. Evans. 4to. 42s.

History of Civilization. By Henry Thomas Buckle. 2 vols. £1 17s.

Vol. I. England and France, Fourth Edition, 21s.

Vol. II. Spain and Scotland, Second Edition, 16s.

- Democracy in America. By Alexis
  DE TOCQUEVILLE. Translated by HENRY
  REEVE, with an Introductory Notice by the
  Translator. 2 vols. 8vo. 21s.
- The Spanish Conquest in America, and its Relation to the History of Slavery and to the Government of Colonies. By Arthur Helps. 4 vols. 8vo. £3. Vols. I. & IV. 16s. each.
- History of the Reformation in Europe in the Time of Calvin. By J. H. MERLE D'AUBIGNE, D.D. VOLS. I. and II. 8vo. 28s. and Vol. III. 12s.
- Library History of France, in 5 vols. 8vo. By Eyre Evans Crowe. Vol. I. 14s. Vol. II. 15s. Vol. III. 18s. Vol. IV. nearly ready.
- Lectures on the History of France. By the late Sir James Stephen, LL.D. 2 vols. 8vo. 24s.
- The History of Greece. By C. Thirlwall, D.D. Lord Bishop of St. David's. 8 vols. 8vo. £3; or in 8 vols. fcp. 28s.
- The Tale of the Great Persian War, from the Histories of *Herodotus*. By the Rev. G. W. Cox, M.A. late Scholar of Trin, Coll. Oxon. Fep. 8vo. 7s. 6d.
- Ancient History of Egypt, Assyria, and Babylonie. By the Author of 'Amy Herbert.' Fep. 8vo. 6s.
- Critical History of the Language and Literature of Ancient Greece. By WILLIAM MURE, of Caldwell. 5 vols. 8vo. £3 9s.
- History of the Literature of Ancient Greece. By Professor K. O. MÜLLER. Translated by the Right Hon. Sir George Cornewall Lewis, Bart. and by J. W. Donaldson, D.D. 3 vols. 8vo. 36s.
- History of the Romans under the Empire. By the Rev. Charles Merr-vale, B.D. 7 vols. 8vo. with Maps, £5.

- The Fall of the Roman Republic: a Short History of the Last Century of the Commonwealth. By the Rev. Charles Merivale, B.D. 12mo. 7s. 6d.
- Critical and Historical Essays contributed to the Edinburgh Review. By the Right Hon. Lord MACAULAY.

LIBRARY EDITION, 3 vols. 8vo. 36s.

TRAVELLER'S EDITION, in 1 vol. 21s.
In Pocket Volumes, 3 vols. fcp. 21s.
People's Edition, 2 vols. crown 8vo.

- The Biographical History of Philosophy, from its Origin in Greece to the Present Day. By GEORGE HENRY LEWES. Revised and enlarged Edition. 8vo. 16s.
- History of the Inductive Sciences.

  ByWilliam Whewell, D.D. F.R.S. Master of Trin. Coll. Cantab. Third Edition. 3 vols. crown 8vo. 24s.
- Egypt's Place in Universal History; an Historical Investigation. By C. C. J. Bunnen, D.D. Translated by C. H. Cottrell, M.A. With many Illustrations. 4 vols. 8vo. £5 8s. Vol. V. is nearly ready.
- Maunder's Historical Treasury; comprising a General Introductory Outline of Universal History, and a Series of Separate Histories. Fcp. 8vo. 10s.
- Historical and Chronological Encyclopædia, presenting in a brief and convenient form Chronological Notices of all the Great Events of Universal History. By B. B. WOODWARD, F.S.A. Librarian to the Queen.
- History of Christian Missions; their Agents and their Results. By T.W. M. MARSHALL. 2 vols. 8vo. 24s.
- History of the Early Church, from the First Preaching of the Gospel to the Council of Nicæa, A.D. 325. By the Author of 'Amy Herbert.' Fcp. 8vo. 4s. 6d.
- History of Wesleyan Methodism. By George Smith, F.A.S. New Edition, with Portraits, in course of publication in 31 parts, 6d. each.

History of Modern Music; a Course of Lectures delivered at the Royal Institution. By John Hullah, Professor of Vocal Music in King's College and in Queen's College, London. Post 8vo. 6s. 6d.

History of Medicine, from the Earliest Ages to the Present Time. By EDWARD MERYON, M.D. F.G.S. Vol. I. 8vo. 12s. 6d.

#### Biography and Memoirs.

- Sir John Eliot, a Biography: 1590—1632. By John Forster. With 2 Portraits on Steel, from the Originals at Port Eliot. 2 vols. crown 8vo. 30s.
- Letters and Life of Francis
  Bacon, including all his Occasional Works.
  Collected and edited, with a Commentary,
  by J. Spedding, Trin. Coll. Cantab. Vols.
  I. and II. 8vo. 24s.
- Life of Robert Stephenson, F.R.S.

  By J. C. Jeaffreson, Barrister-at-Law, and William Pole, F.R.S. Memb. Inst. Civ. Eng. With 2 Portraits and many Illustrations. 2 vols. 8vo. [Just ready.
- Life of the Duke of Wellington. By the Rev. G. R. Gleig, M.A. Popular Edition, carefully revised; with copious Additions. Crown 8vo. 5s.
- Brialmont and Gleig's Life of the Duke of Wellington. 4 vols. 8vo. with Illustrations, £2 14s.
- Life of the Duke of Wellington, partly from the French of M. BRIALMONT, partly from Original Documents. By the Rev. G. R. Gleig, M.A. 8vo. with Portrait, 15s.
- Apologia pro Vita Sua: being a Reply to a Pamphlet intitled 'What then does Dr. Newman mean?' By John Henry Newman, D.D. 8vo.
- Father Mathew: a Biography.
  By John Francis Maguire, M.P. Second
  Edition, with Portrait. Post 8vo. 12s. 6d.
- Rome; its Rulers and its Institutions. By the same Author. New Edition in preparation.
- Life of Amelia Wilhelmina Sieveking, from the German. Edited, with the Author's sanction, by CATHERINE WINK-WORTH. Post 8vo. with Portrait, 12s.

- Felix Mendelssohn's Letters from Italy and Switzerland, translated by LADY WALLACE, Third Edition, with Notice of MENDELSSOHN'S Life and Works, by HENRY F. CHORLEY; and Letters from 1833 to 1847, translated by Lady WALLACE. New Edition, with Portrait. 2 vols. crown 8vo. 5s, each.
- Diaries of a Lady of Quality, from 1797 to 1844. Edited, with Notes, by A. HAYWARD, Q.C. Post 8vo. 10s. 6d.
- Recollections of the late William Wilberforce, M.P. for the County of York during nearly 30 Years. By J. S. Harford, D.C.L. F.R.S. Post 8vo. 7s.
- Life and Correspondence of Theodore Parker. By John Weiss. With 2 Portraits and 19 Wood Engravings. 2 vols. 8vo. 30s.
- Southey's Life of Wesley. Fifth Edition. Edited by the Rev. C. C. Southey, M.A. Crown 8vo. 7s. 6d.
- Thomas Moore's Memoirs, Journal, and Correspondence. Edited and abridged from the First Edition by Earl RUSSELL. Square crown 8vo. with 8 Portraits, 12s. 6d.
- Memoir of the Rev. Sydney Smith. By his Daughter, Lady HOLLAND. With a Selection from his Letters, edited by Mrs. Austin. 2 vols. 8vo. 28s.
- Life of William Warburton, D.D. Bishop of Gloucester from 1760 to 1779. By the Rev. J. S. Watson, M.A. 8vo. with Portrait, 18s.
- Fasti Eboracenses: Lives of the Archbishops of York. By the late Rev. W. H. Dixon, M.A. Edited and enlarged by the Rev. J. Raine, M.A. In 2 vols. Vol. I. comprising the Lives to the Death of Edward III. 8vo. 15s.

- Vicissitudes of Families. By Sir Bernard Burke, Ulster King of Arms. First, Second, and Third Series. 3 vols. crown 8vo. 12s. 6d. each.
- Biographical Sketches. By NASSAU W. SENIOR. Post 8vo. 10s. 6d.
- Essays in Ecclesiastical Biography. By the Right Hon. Sir J. Stephen, LLD. Fourth Edition. 8vo. 14s.
- Arago's Biographies of Distinguished Scientific Men. By François Arago. Translated by Admiral W. H. SMYTH, F.R.S., the Rev. B. POWELL, M.A., and R. GRANT, M.A. 8vo. 18s.
- Maunder's Biographical Treasury: Memoirs, Sketches, and Brief Notices of above 12,000 Eminent Persons of All Ages and Nations. Fcp. 8vo. 10s.

#### Criticism, Philosophy, Polity, &c.

- Papinian: a Dialogue on State Affairs between a Constitutional Lawyer and a Country Gentleman about to enter Public Life. By George Atkinson, B.A. Oxon. Serjeant-at-Law. [Nearly ready.
- On Representative Government.

  By JOHN STUART MILL. Second Edition,

  8vo. 9s.
- Dissertations and Discussions. By the same Author. 2 vols. 8vo. 24s.
- On Liberty. By the same Author. Third Edition. Post 8vo. 7s. 6d.
- Principles of Political Economy. By the same. Fifth Edition. 2 vols. 8vo. 30s.
- A System of Logic, Ratiocinative and Inductive. By the same. Fifth Edition. 2 yols, 8vo. 25s.
- Utilitarianism. By the same. 8vo. 5s.
- Lord Bacon's Works, collected and edited by R. L. Ellis, M.A., J. Spedding, M.A. and D. D. Heath. Vols. I. to V. Philosophical Works. 5 vols. 8vo. £4 6s. Vols. VI. and VII. Literary and Professional Works. 2 vols. £1 16s.
- Bacon's Essays, with Annotations.

  By R. Whately, D.D. late Archbishop of Dublin. Sixth Edition. 8vo. 10s. 6d.
- Elements of Logic. By R. Whately, D.D. late Archbishop of Dublin. Ninth Edition. 8vo. 10s. 6d. crown 8vo. 4s. 6d.
- Elements of Rhetoric. By the same Author. Seventh Edition. 8vo. 10s. 6d. crown 8vo. 4s. 6d.
- English Synonymes. Edited by Archbishop Whately. 5th Edition. Fep. 8vo. 3s.

- Miscellaneous Remains from the Common-place Book of the late Archbishop Whately. Edited by Miss Whately. Post 8vo. [Just ready.
- Essays on the Administrations of Great Britain from 1783 to 1830, contributed to the *Edinburgh Review* by the Right Hon. Sir G. C. Lewis, Bart. Edited by the Right Hon. Sir E. Head, Bart. 8vo. with Portrait, 15s.

#### By the same Author.

- A Dialogue on the Best Form of Government, 4s. 6d.
- Essay on the Origin and Formation of the Romance Languages, 7s. 6d.
- Historical Survey of the Astronomy of the Ancients, 15s.
- Inquiry into the Credibility of the Early Roman History, 2 vols. 30s.
- On the Methods of Observation and Reasoning in Politics, 2 vols. 28s.
- Irish Disturbances and Irish Church Question, 12s.
- Remarks on the Use and Abuse of some Political Terms, 9s.
- On Foreign Jurisdiction and Extradition of Criminals, 2s. 6d.
- The Fables of Babrius, Greek Text with Latin Notes, Part I. 5s. 6d. Part II. 3s. 6d.
- Suggestions for the Application of the Egyptological Method to Modern History, 1s.
- An Outline of the Necessary
  Laws of Thought: a Treatise on Pure and
  Applied Logic. By the Most Rev. W.
  THOMSON, D.D. Archbishop of York. Crown
  8vo. 5s. 6d.

- The Elements of Logic. By Thomas Shedden, M.A. of St. Peter's Coll. Cantab. Crown 8vo. [Just ready.
- Analysis of Mr. Mill's System of Logic. By W. Stebbing, M.A. Fellow of Worcester College, Oxford. Post 8vo. [Just ready.
- Speeches of the Right Hon. Lord Macaulay, corrected by Himself. 8vo. 12s.
- Lord Macaulay's Speeches on Parliamentary Reform in 1831 and 1832. 16mo. 1s.
- A Dictionary of the English Language. By R. G. LATHAM, M.A. M.D. F.R.S. Founded on that of Dr. Johnson, as edited by the Rev. H. J. Todd, with numerous Emendations and Additions. Publishing in 36 Parts, price 3s. 6d. each, to form 2 vols. 4to.
- The English Language. By the same Author. Fifth Edition. 8vo. 18s.
- Handbook of the English Language. By the same Author. Fourth Edition. Crown 8vo. 7s. 6d.
- Elements of Comparative Philology. By the same Author. 8vo. 21s.
- Thesaurus of English Words and Phrases, classified and arranged so as to facilitate the Expression of Ideas, and assist in Literary Composition. By P. M. ROGET, M.D. 14th Edition, crown 8vo. 10s. 6d.
- Lectures on the Science of Language, delivered at the Royal Institution. By Max Müller, M.A. Fellow of All Souls College, Oxford. FIRST SERIES, Fourth Edition. 8vo. 12s. SECOND SERIES nearly ready.
- The Debater; a Series of Complete Debates, Outlines of Debates, and Questions for Discussion. By F. Rowton. Fcp. 8vo. 6s.
- A Course of English Reading, adapted to every taste and capacity; or, How and What to Read. By the Rev. J. PYCROFT, B.A. Fep. 8vo. 5s.
- Manual of English Literature, Historical and Critical: with a Chapter on English Metres. By T. Arnold, B.A. Prof. of Eng. Lit, Cath. Univ. Ireland. Post 8yo, 10s. 6d.

- Southey's Doctor, complete in One Volume. Edited by the Rev. J.W. WARTER, B.D. Square crown 8vo. 12s. 6d.
- Historical and Critical Commentary on the Old Testament; with a New Translation. By M. M. KALISCH, Ph. D. Vol. I. Genesis, 8vo. 18s. or adapted for the General Reader, 12s. Vol. II. Exodus, 15s. or adapted for the General Reader, 12s.
- A Hebrew Grammar, with Exercises. By the same. PART 1. Outlines with Exercises, 8vo. 12s. 6d. Key, 5s. PART II. Exceptional Forms and Constructions, 12s. 6d.
- A New Latin-English Dictionary. By the Rev. J. T. White, M.A. of Corpus Christi College, and Rev. J. E. RIDDLE, M.A. of St. Edmund Hall, Oxford. Imperial 8vo. 42s.
- A Diamond Latin-English Dictionary, or Guide to the Meaning, Quality, and Accentuation of Latin Classical Words. By the Rev. J. E. RIDDLE, M.A. 32mo. 4s.
- A New English-Greek Lexicon, containing all the Greek Words used by Writers of good authority. By C. D. YONGE, B.A. Fourth Edition. 4to, 21s.
- A Lexicon, English and Greek, abridged for the use of Schools from his 'English-Greek Lexicon' by the Author, C. D. Yonge, B.A. Square 12mo.

  [Just ready.
- A Greek-English Lexicon. Compiled by H. G. LIDDELL, D.D. Dean of Christ Church, and R. Scott, D.D. Master of Balliol. Fifth Edition, crown 4to. 31s. 6d.
- A Lexicon, Greek and English, abridged from LIDDELL and Scott's Greek-English Lexicon. Tenth Edition, square 12mo. 7s. 6d.
- A Practical Dictionary of the French and English Languages. By L. CONTANSEAU. 7th Edition. Post 8vo. 10s. 6d.
- Contanseau's Pocket Dictionary, French and English; being a close Abridgment of the above, by the same Author. 18mo. 5s. 2nd Edition.
- New Practical Dictionary of the German Language; German-English, and English-German. By the Rev. W. L. BLACKLEY, M.A., and Dr. CARL MARTIN FRIEDLANDER. Post 8vo. [In the press.

#### Miscellaneous Works and Popular Metaphysics.

- Recreations of a Country Parson: being a Selection of the Contributions of A. K. H. B. to Fraser's Magazine. SECOND SERIES. Crown 8vo. 3s. 6d.
- The Commonplace Philosopher in Town and Country. By the same Author. Crown 8vo. 3s. 6d.
- Leisure Hours in Town; Essays Consolatory, Æsthetical, Moral, Social, and Domestic. By the same. Crown 8vo. 3s. 6d.
- Friends in Council: a Series of Readings and Discourses thereon. 2 vols, fcp. 8vo. 9s.
- Friends in Council, SECOND SERIES. 2 vols. post 8vo. 14s.
- Essays written in the Intervals of Business. Fcp. 8vo. 2s. 6d.
- Companions of My Solitude. By the same Author. Fcp. 8vo. 3s. 6d.
- Lord Macaulay's Miscellaneous Writings: comprising his Contributions to KNIGHT'S Quarterly Magazine, Articles from the Edinburgh Review not included in his Critical and Historical Essays, Biographies from the Encyclopædia Britannica, Miscellaneous Poems and Inscriptions. 2 vols. 8vo. with Portrait, 21s.
- The Rev. Sydney Smith's Miscellaneous Works; including his Contributions to the Edinburgh Review.

LIBRARY EDITION. 3 vols. 8vo. 36s.

TRAVELLER'S EDITION, in 1 vol. 21s.

In Pocket Volumes. 3 vols. 21s.

PEOPLE'S EDITION, 2 vols. crown 8vo. 8s.

- Elementary Sketches of Moral Philosophy, delivered at the Royal Institution. By the same Author. Fcp. 8vo. 7s.
- The Wit and Wisdom of the Rev. SYDNEY SMITH: a Selection of the most memorable Passages in his Writings and Conversation, 16mo. 7s. 6d.

- From Matter to Spirit: the Result of Ten Years' Experience in Spirit Manifestations. By C. D. with a Preface by A. B. Post 8vo. 8s. 6d.
- The History of the Supernatural in All Ages and Nations, and in All Churches, Christian and Pagan; demonstrating a Universal Faith. By WILLIAM HOWITT. 2 vols. post 8vo. 18s.
- Chapters on Mental Physiology. By Sir Henry Holland, Bart. M.D. F.R.S. Second Edition. Post 8vo. 8s. 6d.
- Essays selected from Contributions to the Edinburgh Review. By HENRY ROGERS. Second Edition. 3 vols. fcp. 21s.
- The Eclipse of Faith; or, a Visit to a Religious Sceptic. By the same Author. Tenth Edition. Fcp. 8vo. 5s.
- Defence of the Eclipse of Faith, by its Author; a Rejoinder to Dr. Newman's Reply. Third Edition. Fcp. 8vo. 3s. 6d.
- Selections from the Correspondence of R. E. H. Greyson. By the same Author. Third Edition. Crown 8vo. 7s. 6d.
- Fulleriana, or the Wisdom and Wit of THOMAS FULLER, with Essay on his Life and Genius. By the same Author. 16mo. 2s. 6d.
- Reason and Faith, reprinted from the Edinburgh Review. By the same Author. Fourth Edition. Fcp. 8vo. 1s. 6d.
- An Introduction to Mental Philosophy, on the Inductive Method. By J. D. MORELL, M.A. LL.D. 8vo. 12s.
- Elements of Psychology, containing the Analysis of the Intellectual Powers. By the same Author. Post 8vo. 7s. 6d.
- The Senses and the Intellect. By Alexander Bain, M.A. Professor of Logic in the University of Aberdeen. Second Edition. 8vo. 15s.
- The Emotions and the Will, by the same Author; completing a Systematic Exposition of the Human Mind. 8vo. 15s.
- On the Study of Character, including an Estimate of Phrenology. By the same Author. 8vo. 9s.

- Hours with the Mystics: a Contribution to the History of Religious Opinion. By ROBERT ALFRED VAUGHAN, B.A. Second Edition. 2 vols. crown 8vo. 12s.
- Psychological Inquiries, or Essays intended to illustrate the Influence of the Physical Organisation on the Mental Faculties. By Sir B. C. BRODIE, Bart. Fcp. 8vo. 5s. PART II. Essays intended to illustrate some Points in the Physical and Moral History of Man. Fcp. 8vo. 5s.
- The Philosophy of Necessity; or Natural Law as applicable to Mental, Moral, and Social Science. By Charles Bray. Second Edition. 8vo. 9s.
- The Education of the Feelings and Affections. By the same Author. Third Edition. 8vo. 3s. 6d.
- Christianity and Common Sense. By Sir Willoughby Jones, Bart. M.A. Trin. Coll. Cantab. 8vo. 6s.

#### Astronomy, Meteorology, Popular Geography, &c.

- Outlines of Astronomy. By Sir J. F. W. Herschel, Bart, M.A. Seventh Edition, revised; with Plates and Woodcuts. 8vo. 18s.
  - \*\* Two Plates are new in this Edition, one showing the willow-leaved structure of the Sun's photosphere, the other exhibiting a portion of the Moon's surface from a model by Mr. NASMYTH.
- Arago's Popular Astronomy.

  Translated by Admiral W. H. Smyth,
  F.R.S. and R. Grant, M.A. With 25 Plates
  and 358 Woodcuts. 2 vols. 8vo. £2 5s.
- Arago's Meteorological Essays, with Introduction by Baron Humboldt. Translated under the superintendence of Major-General E. Sabine, R.A. 8vo. 18s.
- The Weather-Book; a Manual of Practical Meteorology. By Rear-Admiral ROBERT FITZ ROY, R.N. F.R.S. Third Edition, with 16 Diagrams. 8vo. 15s.
- Saxby's Weather System, or Lunar Influence on Weather. By S. M. SAXBY, R.N. Principal Instructor of Naval Engineers, H.M. Steam Reserve. Second Edition. Post 8vo. 4s.
- Dove's Law of Storms considered in connexion with the ordinary Movements of the Atmosphere. Translated by R. H. Scott, M.A. T.C.D. 8vo. 10s. 6d.
- Celestial Objects for Common Telescopes. By the Rev. T. W. Webb, M.A. F.R.A.S. With Map of the Moon, and Woodcuts. 16mo. 7s.

- Physical Geography for Schools and General Readers. By M. F. MAURY, LL.D. Author of 'Physical Geography of the Sea,' &c. [Nearly ready.
- A Dictionary, Geographical, Statistical, and Historical, of the various Countries, Places, and principal Natural Objects in the World. By J. R. M'CULLOCH, Esq. With 6 Maps. 2 vols. 8vo. 63s.
- A General Dictionary of Geography, Descriptive, Physical, Statistical, and Historical: forming a complete Gazetteer of the World. By A. KEITH JOHNSTON, F.R.S.E. 8vo. 30s.
- A Manual of Geography, Physical, Industrial, and Political. By W. Hughes, F.R.G.S. Professor of Geography in King's College, and in Queen's College, London. With 6 Maps. Fcp. 8vo. 7s. 6d.
- Or in Two Parts:—Part I. Europe, 3s. 6d. Part II. Asia, Africa, America, Australasia, and Polynesia, 4s.
- The Geography of British History; a Geographical Description of the British Islands at Successive Periods, from the Earliest Times to the Present Day. By the same. With 6 Maps. Fcp. 8vo. 8s. 6d.
- The British Empire; a Sketch of the Geography, Growth, Natural and Political Features of the United Kingdom, its Colonies and Dependencies. By CAROLINE BRAY. With 5 Maps. Fep. 8vo. 7s. 6d.
- Colonisation and Colonies: a Series of Lectures delivered before the University of Oxford. By Herman Merivale, M.A. Professor of Political Economy. 8vo. 18s.

The Africans at Home: a popular Description of Africa and the Africans. By the Rev. R. M. MACBRAIR, M.A. Second Edition; including an Account of the Discovery of the Source of the Nile. With Map and 70 Woodcuts. Fcp. 8vo. 5s.

Maunder's Treasury of Geography, Physical, Historical, Descriptive, and Political. Completed by W. Hughes, F.R.G.S. With 7 Maps and 16 Plates. Fep. 8vo. 10s.

#### Natural History and Popular Science.

- The Elements of Physics or Natural Philosophy. By NEIL ARNOTT, M.D. F.R.S. Physician Extraordinary to the Queen. Sixth Edition. PART I. 8vo. 10s. 6d.
- Heat Considered as a Mode of Motion; a Course of Lectures delivered at the Royal Institution. By Professor John Tandall, F.R.S. Crown 8vo. with Woodcuts, 12s. 6d.
- Volcanos, the Character of their Phenomena, their Share in the Structure and Composition of the Surface of the Globe, &c. By G. POULETT SCHOPE, M.P. F.R.S. Second Edition. 8vo. with Illustrations, 15s.
- A Treatise on Electricity, in Theory and Practice. By A. DE LA RIVE, Prof. in the Academy of Geneva. Translated by C. V. WALKER, F.R.S. 3 vols. 8vo. with Woodcuts, £3 13s.
- The Correlation of Physical Forces. By W. R. GROVE, Q.C. V.P.R.S. Fourth Edition. 8yo, 7s, 6d.
- The Geological Magazine; or, Monthly Journal of Geology. Edited by T. RUPERT JONES, F.G.S. Professor of Geology in the R. M. College, Sandhurst; assisted by J. C. WOODWARD, F.G.S. F.Z.S. British Museum. 8vo. with Illustrations, price 1s. 6d. monthly.
- A Guide to Geology. By J. Phillips, M.A. Professor of Geology in the University of Oxford. Fifth Edition; with Plates and Diagrams. Fcp. 8vo. 4s.
- A Glossary of Mineralogy. By H. W. Bristow, F.G.S. of the Geological Survey of Great Britain. With 486 Figures. Crown 8vo. 12s.

- Phillips's Elementary Introduction to Mineralogy, with extensive Alterations and Additions, by H. J. BROOKE, F.R.S. and W. H. MILLER, F.G.S. Post 8vo. with Woodcuts, 18s.
- Van Der Hoeven's Handbook of ZOOLOGY. Translated from the Second Dutch Edition by the Rev. W. CLARK, M.D. F.R.S. 2 vols. 8vo. with 24 Plates of Figures, 60s.
- The Comparative Anatomy and Physiology of the Vertebrate Animals. By RICHARD OWEN, F.R.S. D.C.L. 2 vols. 8vo. with upwards of 1,200 Woodcuts.

  [In the press.
- Homes without Hands: an Account of the Habitations constructed by various Animals, classed according to their Principles of Construction. By Rev. J. G. Wood, M.A. F.L.S. Illustrations on Wood by G. Pearson, from Drawings by F. W. Keyl and E. A. Smith. In course of publication in 20 Parts, 1s. each.
- Manual of Coelenterata. By J. Reav Greene, B.A. M.R.I.A. Edited by the Rev. J. A. Galbraith, M.A. and the Rev. S. Haughton, M.D. Fcp. 8vo. with 39 Woodcuts, 5s.
- Manual of Protozoa; with a General Introduction on the Principles of Zoology. By the same Author and Editors. Fcp. 8vo. with 16 Woodcuts, 2s.
- Manual of the Metalloids. By J. Apjohn, M.D. F.R.S. and the same Editors. Fcp. 8vo. with 38 Woodcuts, 7s. 6d.
- The Alps: Sketches of Life and Nature in the Mountains. By Baron H. Von Berlepsch. Translated by the Rev. L. Stephen, M.A. With 17 Illustrations. 8vo. 15s.

- The Sea and its Living Wonders.

  By Dr. G. Hartwig. Second (English)

  Edition. 8vo. with many Illustrations. 18s.
- The Tropical World. By the same Author. With 8 Chromoxylographs and 172 Woodcuts. 8vo. 21s.
- Sketches of the Natural History of Ceylon. By Sir J. EMERSON TENNENT, K.C.S. LL.D. With 82 Wood Engravings. Post 8vo. 12s. 6d.
- Ceylon. By the same Author. 5th Edition; with Maps, &c. and 90 Wood Engravings. 2 vols. 8vo. £2 10s.
- Marvels and Mysteries of Instinct; or, Curiosities of Animal Life. By G. GARRATT. Third Edition. Fcp. 8vo. 7s.
- Home Walks and Holiday Rambles. By the Rev. C. A. Johns, B.A. F.L.S. Fcp. 8vo. with 10 Illustrations, 6s.
- Kirby and Spence's Introduction to Entomology, or Elements of the Natural History of Insects. Seventh Edition. Crown 8vo. 5s.
- Maunder's Treasury of Natural History, or Popular Dictionary of Zoology. Revised and corrected by T. S. Cobbold, M.D. Fep. 8vo. with 900 Woodcuts, 10s.
- The Treasury of Botany, on the Plan of Maunder's Treasury. By J. Lindley, M.D. and T. Moore, F.L.S. assisted by other Practical Botanists. With 16 Plates, and many Woodcuts from designs by W. H. Fitch. Fcp. 8vo. [In the press.
- The Rose Amateur's Guide. By THOMAS RIVERS. 8th Edition. Fcp. 8vo. 4s.
- The British Flora; comprising the Phænogamous or Flowering Plants and the Ferns. By Sir W. J. Hooker, K.H. and G. A. Walker-Arnott, LLD. 12mo. with 12 Plates, 14s. or coloured, 21s.

- Bryologia Britannica; containing the Mosses of Great Britain and Ireland, arranged and described. By W. WILSON. 8vo. with 61 Plates, 42s. or coloured, £4 4s.
- The Indoor Gardener. By Miss Maling. Fcp. 8vo. with coloured Frontispiece, 5s.
- Loudon's Encyclopædia of Plants; comprising the Specific Character, Description, Culture, History, &c. of all the Plants found in Great Britain. With upwards of 12,000 Woodcuts. 8vo. £3 13s. 6d.
- Loudon's Encyclopædia of Trees and Shrubs; containing the Hardy Trees and Shrubs of Great Britain scientifically and popularly described. With 2,000 Woodcuts. Svo. 50s.
- History of the British Freshwater Algæ. By A. H. HASSALL, M.D. With 100 Plates of Figures. 2 vols. 8vo. price £1 15s.
- Maunder's Scientific and Literary Treasury; a Popular Encyclopædia of Science, Literature, and Art. Fcp. 8vo. 10s.
- A Dictionary of Science, Literature, and Art; comprising the History Description, and Scientific Principles of every Branch of Human Knowledge. Edited by W. T. Brande, F.R.S.L. and E. Fourth Edition, revised and corrected.

Essays on Scientific and other subjects, contributed to the Edinburgh and

In the press.

- Quarterly Reviews. By Sir H. HOLLAND, Bart., M.D. Second Edition. 8vo. 14s. Essays from the Edinburgh and
- Essays from the Edinburgh and Quarterly Reviews; with Addresses and other Pieces. By Sir J. F. W. HERSCHEL, Bart, M.A. 8vo. 18s.

Chemistry, Medicine, Surgery, and the Allied Sciences.

A Dictionary of Chemistry and the Allied Branches of other Sciences; founded on that of the late Dr. Ure. By HENRY WATTS, F.C.S. assisted by eminent Contributors. 4 vols. 8vo. in course of publication in Monthly Parts, Vol. I. 31s. 6d. and Vol. II. 26s. are now ready.

Handbook of Chemical Analysis, adapted to the Unitary System of Notation: Based on Dr. H. Wills' Anleitung zur chemischen Analyse. By F. T. CONINGTON, M.A. F.C.S. Post 8vo. 7s. 6d.—TABLES of QUALITATIVE ANALYSIS to accompany the same, 2s, 6d.

- A Handbook of Volumetrical Analysis. By ROBERT H. SCOTT, M.A. T.C.D. Post 8vo. 4s. 6d.
- Elements of Chemistry, Theoretical and Practical. By WILLIAM A. MILLER, M.D. LL.D. F.R.S. F.G.S. Professor of Chemistry, King's College, London. 3 vols. 8vo. £2 12s. PART I. CHEMICAL PHYSICS. Third Edition enlarged, 12s. PART II. INORGANIC CHEMISTRY. Second Edition, 20s. PART III. ORGANIC CHEMISTRY. Second Edition, 20s.
- A Manual of Chemistry, Descriptive and Theoretical. By WILLIAM ODLING, M.B. F.R.S. Lecturer on Chemistry at St. Bartholomew's Hospital. PART I. 8vo. 9s.
- A Manual of Chemistry, Descriptive and Theoretical, for the use of Medical Students. By the same Author. Part I. crown 8vo. with Woodcuts, 4s. 6d. Part II. (completion) just ready.
- The Diagnosis and Treatment of the Diseases of Women; including the Diagnosis of Pregnancy. By GRAILY HEWITT, M.D. Physician to the British Lying-in Hospital. 8vo. 16s.
- Lectures on the Diseases of Infancy and Childhood. By CHARLES WEST, M.D. &c. Fourth Edition, revised and enlarged. 8vo. 14s.
- Exposition of the Signs and Symptoms of Pregnancy: with other Papers on subjects connected with Midwifery. By W. F. Montgomery, M.A. M.D. M.R.I.A. 8vo. with Illustrations, 25s.
- A System of Surgery, Theoretical and Practical. In Treatises by Various Authors, arranged and edited by T. Holmes, M.A. Cantab. Assistant-Surgeon to St. George's Hospital. 4 vols. 8vo.
- Vol. I. General Pathology. 21s.
- Vol. II. Local Injuries—Diseases of the Eye. 21s.
- Vol. III. Operative Surgery. Diseases of the Organs of Special Sense, Respiration, Circulation, Locomotion and Innervation. 21s.
- Vol. IV. Diseases of the Alimentary Canal, of the Urino-genitary Organs, of the Thyroid, Mamma and Skin; with Appendix of Miscellaneous Subjects, and GENERAL INDEX.

- Lectures on the Principles and Practice of Physic. By Thomas Watson, M.D. Physician-Extraordinary to the Queen. Fourth Edition. 2 vols. 8vo. 34s.
- Lectures on Surgical Pathology. By J. Paget, F.R.S. Surgeon-Extraordinary to the Queen. Edited by W. TURNER, M.B. 8vo. with 117 Woodcuts, 21s.
- A Treatise on the Continued Fevers of Great Britain. By C. MURCHISON, M.D. Senior Physician to the London Fever Hospital. 8vo. with coloured Plates, 18s.
- Demonstrations of Microscopic
  Anatomy; a Guide to the Examination of
  the Animal Tissues and Fluids in Health
  and Disease, for the use of the Medical and
  Veterinary Professions. Founded on a
  Course of Lectures delivered by Dr. HARLEY,
  Prof. in Univ. Coll. London. Edited by
  G. T. Brown, late Vet. Prof. in the Royal
  Agric. Coll. Cirencester.
  8vo. with Illustrations.

  [Nearly ready.
- Anatomy, Descriptive and Surgical. By Herry Gray, F.R.S. With 410 Wood Engravings from Dissections. Third Edition, by T. Holmes, M.A. Cantab. Royal 8vo. 28s.
- Physiological Anatomy and Physiology of Man. By the late R. B. Todd, M.D. F.R.S. and W. Bowman, F.R.S. of King's College. With numerous Illustrations. Vol. II. 8vo. 25s.
- A New Edition of Vol. I. revised and edited by Dr. Lionel S. Beale, is preparing for publication.
- The Cyclopædia of Anatomy and Physiology. Edited by the late R. B. Todd, M.D. F.R.S. Assisted by nearly all the most eminent cultivators of Physiological Science of the present age. 5 vols. 8vo. with 2,853 Woodcuts, £6 6s.
- A Dictionary of Practical Medicine. By J. COPLAND, M.D. F.R.S. Abridged from the larger work by the Author, assisted by J. C. COPLAND. 1 vol. 8vo. [In the press.
- Dr. Copland's Dictionary of Practical Medicine (the larger work). 3 vols. 8vo. £5 11s.

- The Works of Sir B. C. Brodie,
  Bart. Edited by Charles Hawkins,
  F.R.C.S.E. 2 vols. 8vo. [In the press.
- Medical Notes and Reflections.

  By Sir H. HOLLAND, Bart, M.D. Third
  Edition. 8yo, 18s.
- Hooper's Medical Dictionary, or Encyclopædia of Medical Science. Ninth Edition, brought down to the present time by Alex. Henry, M.D. 1 vol. 8vo.

  [In the press.]
- A Manual of Materia Medica and Therapeutics, abridged from Dr. Peretra's Elements by F. J. Farre, M.D. Cantab. assisted by R. Bentley, M.R.C.S. and by R. Warrington, F.C.S. 1 vol. 8vo. [In October.
- Dr. Pereira's Elements of Materia Medica and Therapeutics, Third Edition, by A. S. TAYLOR, M.D. and G. O. REES, M.D. 3 vols. 8vo. with numerous Woodcuts, £3 15s.

#### The Fine Arts, and Illustrated Editions.

- The New Testament of Our Lord and Saviour Jesus Christ, Illustrated with numerous Engravings on Wood from the OLD MASTERS. Crown 4to. price 63s. cloth, gilt top; or price £5 5s. elegantly bound in morocco.

  [In October.
- Lyra Germanica; Hymns for the Sundays and Chief Festivals of the Christian Year. Translated by CATHERINE WINK-WORTH; 125 Illustrations on Wood drawn by J. LEIGHTON, F.S.A. Fep. 4to. 21s.
- Cats' and Farlie's Moral Emblems; with Aphorisms, Adages, and Proverbs of all Nations: comprising 121 Illustrations on Wood by J. LEIGHTON, F.S.A. with an appropriate Text by R. PIGOT. Imperial 8vo. 31s. 6d.
- Bunyan's Pilgrim's Progress:
  with 126 Illustrations on Steel and Wood
  by C. BENNETT; and a Preface by the Rev.
  C. Kingsley. Fcp. 4to. 21s.

The History of Our Lord, as exemplified in Works of Art: with that of His Types, St. John the Baptist, and other Persons of the Old and New Testament. By Mrs. Jameson and Lady Eastlake. Being the Fourth and concluding Series of 'Sacred and Legendary Art;' with 31 Etchings and 281 Woodcuts. 2 vols. square crown 8vo. 42s.

In the same Series, by Mrs. JAMESON.

- Legends of the Saints and Martyrs. Fourth Edition, with 19 Etchings and 187 Woodcuts. 2 vols. 31s. 6d.
- Legends of the Monastic Orders. Third Edition, with 11 Etchings and 88 Woodcuts. 1 vol. 21s.
- Legends of the Madonna. Third Edition. with 27 Etchings and 165 Woodcuts. 1 vol. 21s.

#### Arts, Manufactures, &c.

- Encyclopædia of Architecture, Historical, Theoretical, and Practical. By JOSEPH GWILT. With more than 1,000 Woodcuts. 8vo. 42s.
- Tuscan Sculpture, from its Revival to its Decline. Illustrated with Etchings and Woodcuts from Original Drawings and Photographs. By CHARLES C. PERKINS.

  [In the press.
- The Engineer's Handbook; explaining the Principles which should guide the young Engineer in the Construction of Machinery. By C. S. LOWNDES. Post 8vo. 5s.
- The Elements of Mechanism, for Students of Applied Mechanics. By T. M. GOODEVE, M.A. Professor of Nat. Philos. in King's Coll. Lond. With 206 Woodcuts. Post 8vo. 6s. 6d.

- Ure's Dictionary of Arts, Manufactures, and Mines. Re-written and enlarged by ROBERT HUNT, F.R.S., assisted by numerous gentlemen eminent in Science and the Arts. With 2,000 Woodcuts. 3 vols. 8vo. £4.
- Encyclopædia of Civil Engineering, Historical, Theoretical, and Practical. By E. Crest, C.E. With above 3,000 Woodcuts, 8vo. 42s.
- Treatise on Mills and Millwork. By W. FAIRBAIRN, C.E. F.R.S. With 18 Plates and 322 Woodcuts. 2 vols. 8vo. 32s. or each vol. separately, 16s.
- Useful Information for Engineers. By the same Author. First and Second Series, with many Plates and Woodcuts. 2 vols. crown 8vo. 21s. or each vol. separately, 10s. 6d.
- The Application of Cast and Wrought Iron to Building Purposes. By the same Author. Third Edition, with Plates and Woodcuts.

  [Nearly ready.]
- The Practical Mechanic's Journal: An Illustrated Record of Mechanical and Engineering Science, and Epitome of Patent Inventions. 4to. price 1s. monthly.
- The Practical Draughtsman's
  Book of Industrial Design. By W. Johnson, Assoc. Inst. C.E. With many hundred
  Illustrations. 4to. 28s. 6d.
- The Patentee's Manual: a Treatise on the Law and Practice of Letters Patent for the use of Patentees and Inventors. By J. and J. H. JOHNSON. Post 8vo. 7s. 6d.
- The Artisan Club's Treatise on the Steam Engine, in its various Applications to Mines, Mills, Steam Navigation, Railways, and Agriculture. By J. BOURNE, C.E. Fifth Edition; with 37 Plates and 546 Woodcuts. 4to. 42s.
- A Catechism of the Steam Engine, in its various Applications to Mines, Mills, Steam Navigation, Railways, and Agriculture. By the same Author. With 80 Woodcuts. Fcp. 8vo. 6s.
- The Story of the Guns. By Sir J. EMERSON TENNENT, K.C.S. F.R.S. With 33 Woodcuts. Post 8vo, 7s. 6d.

- The Theory of War Illustrated by numerous Examples from Ristory. By Lieut.-Col. P. L. MacDougall. Third Edition, with 10 Plans. Post 8vo. 10s. 6d.
- Collieries and Colliers; A Handbook of the Law and leading Cases relating thereto. By J. C. Fowler, Barrister-at-Law, Stipendiary Magistrate. Fcp. 8vo. 6s.
- The Art of Perfumery; the History and Theory of Odours, and the Methods of Extracting the Aromas of Plants. By Dr. Piesse, F.C.S. Third Edition, with 53 Woodcuts. Crown 8vo. 10s. 6d.
- Chemical, Natural, and Physical Magic, for Juveniles during the Holidays. By the same Author. With 30 Woodcuts. Fep. 8vo. 3s. 6d.
- The Laboratory of Chemical Wonders: A Scientific Mélange for Young People. By the same. Crown 8vo. 5s. 6d.
- Talpa; or, the Chronicles of a Clay Farm. By C. W. Hoskyns, Esq. With 24 Woodcuts from Designs by G. Cruik-Shank. 16mo. 5s. 6d.
- H.R.H. The Prince Consort's Farms: An Agricultural Memoir. By John CHALMERS MORTON. Dedicated by permission to Her Majesty the QUEEN. With 40 Wood Engravings. 4to, 52s. 6d.
- Handbook of Farm Labour, Steam, Water, Wind, Horse Power, Hand Power, &c. By the same Author. 16mo. 1s. 6d.
- Handbook of Dairy Husbandry; comprising the General Management of a Dairy Farm, &c. By the same. 16mo. 1s. 6d.
- Loudon's Encyclopædia of Agriculture: Comprising the Laying-out, Improvement, and Management of Landed Property, and the Cultivation and Economy of the Productions of Agriculture. With 1,100 Woodcuts. 8vo. 31s. 6d.
- Loudon's Encyclopædia of Gardening: Comprising the Theory and Practice of Horticulture, Floriculture, Arboriculture, and Landscape Gardening. With 1,000 Woodcuts. 8vo. 31s. 6d.
- Loudon's Encyclopædia of Cottage, Farm, and Villa Architecture and Furniture. With more than 2,000 Woodcuts. 8vo. 42s.

History of Windsor Great Park and Windsor Forest. By WILLIAM MENZIES, Resident Deputy Surveyor. With a Map, and 20 Photographs by the EARL of CAITHNESS and Mr. BAMBRIDGE. Imperial folio. [Just ready.

Bayldon's Art of Valuing Rents and Tillages, and Claims of Tenants upon Quitting Farms, both at Michaelmas and Lady-Day. 8vo. 10s. 6d.

#### Religious and Moral Works.

- An Exposition of the 39 Articles, Historical and Doctrinal. By E. HAROLD BROWNE, D.D. Lord Bishop of Ely. Sixth Edition, 8vo. 16s.
- The Pentateuch and the Elohistic Psalms, in Reply to Bishop Colenso. By the same Author. 8vo. 2s.
- Examination Questions on Bishop Browne's Exposition of the Articles. By the Rev. J. Gorle, M.A. Fep. 3s. 6d.
- Five Lectures on the Character of St. Paul; being the Hulsean Lectures for 1862. By the Rev. J. S. Howson, D.D. Second Edition. 8vo. 9s.
- A Critical and Grammatical Commentary on St. Paul's Epistles. By C. J. Ellicott, D.D. Lord Bishop of Gloucester and Bristol. 8vo.

Galatians, Third Edition, 8s. 6d.

Ephesians, Third Edition, 8s.6d.

Pastoral Epistles, Second Edition, 10s. 6d.

Philippians, Colossians, and Philemon, Second Edition, 10s. 6d.

Thessalonians, Second Edition, 7s. 6d.

- Historical Lectures on the Life of Our Lord Jesus Christ: being the Hulsean Lectures for 1859. By the same Author. Third Edition. 8vo. 10s. 6d.
- The Destiny of the Creature; and other Sermons preached before the University of Cambridge. By the same. Post 8vo. 5s.
- The Broad and the Narrow Way; Two Sermons preached before the University of Cambridge. By the same. Crown 8vo. 2s.

- Rev. T. H. Horne's Introduction to the Critical Study and Knowledge of the Holy Scriptures. Eleventh Edition, corrected, and extended under careful Editorial revision. With 4 Maps and 22 Woodcuts and Facsimiles. 4 vols. 8vo. £3 13s. 6d.
- Rev. T. H. Horne's Compendious Introduction to the Study of the Bible, being an Analysis of the larger work by the same Author. Re-edited by the Rev. John Ayre, M.A. With Maps, &c. Post 8vo. 9s.
- The Treasury of Bible Knowledge, on the plan of Maunder's Treasuries. By the Rev. John Ayre, M.A. Fcp. 8vo. with Maps and Illustrations. [In the press.
- The Greek Testament; with Notes, Grammatical and Exegetical. By the Rev. W. Webster, M.A. and the Rev. W. F. Wilkinson, M.A. 2 vols. 8vo. £2 4s.

Vol. I. the Gospels and Acts, 20s.

Vol. II. the Epistles and Apocalypse, 24s.

- The Four Experiments in Church and State; and the Conflicts of Churches. By Lord ROBERT MONTAGU, M.P. 8vo. 12s.
- Every-day Scripture Difficulties explained and illustrated; Gospels of St. Matthew and St. Mark. By J. E. Prescorr, M.A. late Fellow of C. C. Coll. Cantab. 8vo. 9s.
- The Pentateuch and Book of Joshua Critically Examined. By J. W. COLENSO, D.D. Lord Bishop of Natal. PART I. the Pentateuch examined as an Historical Narrative. 8vo. 6s. PART II. the Age and Authorship of the Pentateuch Considered, 7s. 6d. PART III. the Book of Deuteronomy, 8s. PART IV. the First 11 Chapters of Genesis examined and separated, with Remarks on the Creation, the Fall, and the Deluge, 10s. 6d.

The Life and Epistles of St. Paul. By W. J. CONYBEARE, M.A. late Fellow of Trin. Coll. Cantab. and J. S. Howson, D.D. Principal of the Collegiate Institution, Liverpool.

LIBRARY EDITION, with all the Original Illustrations, Maps, Landscapes on Steel, Woodcuts, &c. 2 vols. 4to. 48s.

INTERMEDIATE EDITION, with a Selection of Maps, Plates, and Woodcuts. 2 vols. square crown 8vo. 31s. 6d.

PEOPLE'S EDITION, revised and condensed, with 46 Illustrations and Maps. 2 vols. crown 8vo. 12s.

- The Voyage and Shipwreck of St. Paul; with Dissertations on the Ships and Navigation of the Ancients. By James Smith, F.R.S. Crown 8vo. Charts, 8s. 6d.
- Hippolytus and his Age; or, the Beginnings and Prospects of Christianity. By Baron Bunsen, D.D. 2 vols. 8vo. 30s.
- Outlines of the Philosophy of Universal History, applied to Language and Religion: Containing an Account of the Alphabetical Conferences. By the same Author. 2 vols. 8vo. 33s.
- Analecta Ante-Nicæna. By the same Author. 3 vols. 8vo. 42s.
- Theologia Germanica. Translated by Susanna Winkworth: with a Preface by the Rev. C. Kingsley; and a Letter by Baron Bunsen. Fcp. 8vo. 5s.
- Instructions in the Doctrine and Practice of Christianity, as an Introduction to Confirmation. By G. E. L. COTTON, D.D. Lord Bishop of Calcutta. 18mo. 2s. 6d.
- Essays on Religion and Literature. By Cardinal Wiseman, Dr. D. Rock, F. H. Laing, and other Writers. Edited by H. E. Manning, D.D. 8vo.
- Essays and Reviews. By the Rev. W. Temple, D.D. the Rev. R. Williams, B.D. the Rev. B. Powell, M.A. the Rev. H. B. Wilson, B.D. C. W. Goodwin, M.A. the Rev. M. Pattison, B.D. and the Rev. B. Jowett, M.A. 11th Edition. Fcp. 8vo. 5s.
- Mosheim's Ecclesiastical History.

  Murdock and Soames's Translation and
  Notes, re-edited by the Rev. W. Stubbs,
  M.A. 3 vols. 8vo. 45s.

- The Gentile and the Jew in the Courts of the Temple of Christ: an Introduction to the History of Christianity. From the German of Prof. Döllinger, by the Rev. N. DARNELL, M.A. 2 vols. 8vo. 21s.
- Physico-Prophetical Essays, on the Locality of the Eternal Inheritance, its Nature and Character; the Resurrection Body; and the Mutual Recognition of Glorified Saints. By the Rev. W. LISTER, F.G.S. Crown 8vo. 6s.
- Bishop Jeremy Taylor's Entire Works: With Life by BISHOP HEBER. Revised and corrected by the Rev. C. P. EDEN, 10 vols. 8vo. £5 5s.
- Passing Thoughts on Religion. By the Author of 'Amy Herbert.' 8th Edition. Fcp. 8vo. 5s.
- Thoughts for the Holy Week, for Young Persons. By the same Author. 2d Edition. Fcp. 8vo. 2s.
- Night Lessons from Scripture. By the same Author. 2d Edition. 32mo. 3s.
- Self-examination before Confirmation. By the same Author. 32mo. 1s. 6d.
- Readings for a Month Preparatory to Confirmation from Writers of the Early and English Church. By the same. Fcp. 4s.
- Readings for Every Day in Lent, compiled from the Writings of Bishop JEREMY TAYLOR. By the same. Fcp. 8vo. 5s.
- Preparation for the Holy Communion; the Devotions chiefly from the works of JEREMY TAYLOR. By the same. 32mo. 3s.
- Morning Clouds. Second Edition. Fcp. 8vo. 5s.
- The Afternoon of Life. By the same Author. Second Edition. Fcp. 5s.
- Problems in Human Nature. By the same. Post 8vo. 5s.
- The Wife's Manual; or, Prayers, Thoughts, and Songs on Several Occasions of a Matron's Life. By the Rev. W. Cal-VERT, M.A. Crown 8vo. 10s. 6d.
- Spiritual Songs for the Sundays and Holidays throughout the Year. By J. S. B. Monsell, LL.D. Vicar of Egham. Third Edition. Fcp. 8vo.

- Hymnologia Christiana; or, Psalms and Hymns selected and arranged in the order of the Christian Seasons. By B. H. Kennedy, D.D. Prebendary of Lichfield. Crown 8vo. 7s. 6d.
- Lyra Domestica; Christian Songs for Domestic Edification. Translated from the *Psaltery and Harp* of C. J. P. SPITTA, and from other sources, by RICHARD MASSIE. FIRST and SECOND SERIES, fcp. 4s. 6d. each.
- Lyra Sacra; Hymns, Ancient and Modern, Odes, and Fragments of Sacred Poetry. Edited by the Rev. B. W. SAVILE, M.A. Fcp. 8vo. 5s.
- Lyra Germanica, translated from the German by Miss C. Winkworth. First Series, Hymns for the Sundays and Chief Festivals; Second Series, the Christian Life. Fcp. 8vo. 5s. each Series.

Hymns from Lyra Germanica, 18mo. 1s.

- Lyra Eucharistica; Hymns and Verses on the Holy Communion, Ancient and Modern; with other Poems. Edited by the Rev. Orby Shipley, M.A. Second Edition, revised and enlarged. Fcp. 8vo.

  [Just ready.
- Lyra Messianica; Hymns and Verses on the Life of Christ, Ancient and Modern; with other Poems. By the same Editor. Fcp. 8vo. 7s. 6d.
- Lyra Mystica; Hymns and Verses on Sacred Subjects, Ancient and Modern. Forming a companion-volume to the above, by the same Editor. Fcp. 8vo. [Nearly ready.
- The Chorale Book for England; a complete Hymn-Book in accordance with the Services and Festivals of the Church of England: the Hymns translated by Miss C. WINKWORTH; the Tunes arranged by Prof. W. S. BENNETT and OTTO GOLDSCHMIDT. Fep. 4to. 10s. 6d.

Congregational Edition. Fcp. 1s. 6d.

#### Travels, Voyages, &c.

- Eastern Europe and Western Asia.

  Political and Social Sketches on Russia,
  Greece, and Syria. By HENRY A. TILLEY.

  With 6 Illustrations. Post 8vo. 10s. 6d. !
- Explorations in South west
  Africa, from Walvisch Bay to Lake Ngami.
  By THOMAS BAINES. 8vo. with Map and
  Illustrations. [In October.
- South American Sketches; or, a Visit to Rio Janeiro, the Organ Mountains, La Plata, and the Paranà. By THOMAS W. HINCHLIFF, M.A. F.R.G.S. Post 8vo. with Illustrations, 12s. 6d.
- Explorations in Labrador. By HENRY Y. HIND, M.A. F.R.G.S. With Maps and Illustrations. 2 vols. 8vo. 32s.
- The Canadian Red River and Assinniboine and Saskatchewan Exploring Expeditions. By the same Author. With Maps and Illustrations. 2 vols. 8vo. 42s.

- The Capital of the Tycoon; a Narrative of a 3 Years' Residence in Japan. By Sir RUTHERFORD ALCOCK, K.C.B. 2 vols. 8vo. with numerous Illustrations, 42s.
- Last Winter in Rome and other Italian Cities. By C. R. Weld, Author of 'The Pyrenees, West and East,' &c. 1 vol. post 8vo. with a Portrait of 'Stella,' and Engravings on Wood from Sketches by the Author.

  [In the Autumn.]
- Autumn Rambles in North
  Africa, including Excursions in Algeria and
  Tunis. By JOHN ORMSEY, Author of the
  'Ascent of the Grivola,' in 'Peaks, Passes,
  and Glaciers.' With 9 Vignettes and 4 fullpage Illustrations on Wood from Sketches
  by the Author. Post 8vo.
- The Dolomite Mountains. Excursions through Tyrol, Carinthia, Carniola, and Friuli in 1861, 1862, and 1863. By J. GILBERT and G. C. CHURCHILL, F.R.G.S. With numerous Illustrations. Square crown 8vo. 21s.

- Peaks, Passes, and Glaciers; a Series of Excursions by Members of the Alpine Club. Edited by J. BALL, M.R.I.A. Fourth Edition; Maps, Illustrations, Woodcuts. Square crown 8vo. 21s .- TRAVELLERS' EDITION, condensed, 16mo. 5s. 6d.
- Second Series, edited by E. S. KENNEDY, M.A. F.R.G.S. With many Maps and Illustrations. 2 vols. square crown 8vo. 42s.
- Nineteen Maps of the Alpine Districts, from the First and Second Series of Peaks, Passes, and Glaciers. Price 7s. 6d.
- Mountaineering in 1861; a Vacation Tour. By Prof. J. TYNDALL, F.R.S. Square crown 8vo. with 2 Views, 7s. 6d.
- A Summer Tour in the Grisons and Italian Valleys of the Bernina. By Mrs. HENRY FRESHFIELD. With 2 Coloured Maps and 4 Views. Post 8vo. 10s. 6d.
- Alpine Byways; or, Light Leaves gathered in 1859 and 1860. By the same Authoress. Post 8vo. with Illustrations, 10s. 6d.
- A Lady's Tour Round Monte Rosa; including Visits to the Italian Valleys. With Map and Illustrations. Post 8vo. 14s.

- Guide to the Pyrenees, for the use of Mountaineers. By CHARLES PACKE. With Maps, &c. and a new Appendix. Fcp. 6s.
- Guide to the Central Alps, including the Bernese Oberland, Eastern Switzerland, Lombardy, and Western Tyrol. By John Ball, M.R.I.A. Post 8vo. with Maps. In June.
- Guide to the Western Alps. By the same Author. With an Article on the Geology of the Alps by M. E. Desor. Post 8vo. with Maps, &c. 7s. 6d.
- A Week at the Land's End. By J. T. BLIGHT; assisted by E. H. Rodd, R. Q. Couch, and J. RALFS. With Map and 96 Woodcuts. Fcp. 8vo. 6s. 6d.
- Visits to Remarkable Places: Old Halls, Battle-Fields, and Scenes illustrative of Striking Passages in English History and Poetry. By WILLIAM HOWITT. 2 vols. square crown 8vo. with Wood Engravings, 25s.
- he Rural Life of England. By the same Author. With Woodcuts by The Bewick and Williams. Medium 8vo. 12s. 6d.

#### Works of Fiction.

- Late Laurels: a Tale. By the Author of 'Wheat and Tares.' 2 vols. post 8vo. 15s.
- Gryll Grange. By the Author of 'Headlong Hall.' Post 8vo. 7s. 6d.
- A First Friendship. [Reprinted from Fraser's Magazine. ] Crown 8vo. 7s. 6d.
- Thalatta; or, the Great Commoner: a Political Romance. Crown 8vo. 9s.
- Atherstone Priory. By L. N. Comyn. 2 vols. post 8vo.
- Ellice: a Tale. By the same. Post 8vo. 9s. 6d.
- The Last of the Old Squires. By the Rev. J. W. WARTER, B.D. Second Edition. Fcp. 8vo. 4s. 6d.

Tales and Stories by the Author of 'Amy Herbert,' uniform Edition, each Story or Tale in a single volume.

AMY HERBERT, 2s. 6d. | KATHARINE ASHTON, GERTRUDE, 2s. 6d. EARL'S DAUGHTER, 2s. 6d.EXPERIENCE OF LIFE, 2s. 6d. CLEVE HALL, 3s. 6d.

Ivors, 3s. 6d.

3s. 6d. MARGARET PERCI-VAL. 5s. LANETON PAR-SONAGE, 4s. 6d. URSULA, 4s. 6d.

- A Glimpse of the World. By the Author of 'Amy Herbert.' Fcp. 8vo. 7s. 6d.
- Essays on Fiction; comprising Articles on Sir W. Scott, Sir E. B. LYTTON, Colonel Senior, Mr. Thackeray, and Mrs. Beecher Stowe. Reprinted chiefly from the Edinburgh, Quarterly, and Westminster Reviews ; with large Additions. By NASSAU W. SENIOR. Post 8vo. 10s. 6d.

- The Gladiators: a Tale of Rome and Judæa. By G. J. Whyte Melville. Crown 8vo. 5s.
- Digby Grand, an Autobiography. By the same Author. 1 vol. 5s.
- Kate Coventry, an Autobiography. By the same, 1 vol. 5s.
- General Bounce, or the Lady and the Locusts. By the same. 1 vol. 5s.
- Holmby House, a Tale of Old Northamptonshire. 1 vol. 5s.
- Good for Nothing, or All Down Hill. By the same. 1 vol. 6s.
- The Queen's Maries, a Romance of Holyrood. 1 vol. 6s.
- The Interpreter, a Tale of the War. By the same. 1 vol. 5s.

- Tales from Greek Mythology.

  By the Rev. G. W. Cox, M.A. late Scholar of Trin. Coll. Oxon. Second Edition. Square 16mo. 3s. 6d.
- Tales of the Gods and Heroes. By the same Author. Second Edition. Fcp. 8vo. 5s.
- Tales of Thebes and Argos. By the same Author. Fcp. 8vo. 4s. 6d.
- The Warden: a Novel. By Anthony Trollope, Crown 8vo. 3s. 6d.
- Barchester Towers: a Sequel to 'The Warden.' By the same Author. Crown 8vo.5s.
- The Six Sisters of the Valleys: an Historical Romance. By W. Bramley-Moore, M.A. Incumbent of Gerrard's Cross, Bucks. With 14 Illustrations on Wood. Crown 8vo. 5s.

#### Poetry and the Drama.

- Moore's Poetical Works, Cheapest Editions complete in 1 vol. including the Autobiographical Prefaces and Author's last Notes, which are still copyright. Crown 8vo. ruby type, with Portrait, 7s. 6d. or People's Edition, in larger type, 12s. 6d.
- Moore's Poetical Works, as above, Library Edition, medium 8vo. with Portrait and Vignette, 21s. or in 10 vols. fcp. 3s. 6d. each.
- Tenniel's Edition of Moore's

  Lalla Rookh, with 68 Wood Engravings
  from Original Drawings and other Illustrations. Fcp. 4to. 21s.
- Moore's Lalla Rookh. 32mo. Plate, 1s. 16mo. Vignette, 2s. 6d. Square crown 8vo. with 13 Plates, 15s.
- Maclise's Edition of Moore's Irish Melodies, with 161 Steel Plates from Original Drawings. Super-royal 8vo. 31s. 6d.
- Moore's Irish Melodies, 32mo. Portrait, 1s. 16mo. Vignette, 2s. 6d. Square crown 8vo. with 13 Plates, 21s.

- Southey's Poetical Works, with the Author's last Corrections and copyright Additions. Library Edition, in 1 vol. medium 8vo. with Portrait and Vignette, 14s. or in 10 vols. fcp. 3s. 6d. each.
- Lays of Ancient Rome; with Ivry and the Armada. By the Right Hon. LORD MACAULAY. 16mo. 4s. 6d.
- Lord Macaulay's Lays of Ancient Rome. With 90 Illustrations on Wood, Original and from the Antique, from Drawings by G. Schare. Fcp. 4to. 21s.
- Poems. By Jean Ingelow. Sixth Edition. Fcp. 8vo. 5s.
- Poetical Works of Letitia Elizabeth Landon (L.E.L.) 2 vols. 16mo. 10s.
- Playtime with the Poets: a Selection of the best English Poetry for the use of Children. By a LADY. Crown 8vo. 5s.
- The Revolutionary Epick. By the Rt. Hon. Benjamin Disraeli .Fcp. 8vo. 5s.

- Bowdler's Family Shakspeare, cheaper Genuine Edition, complete in 1 vol. large type, with 36 Woodcut Illustrations, price 14s. or, with the same ILLUSTRATIONS, in 6 pocket vols. 5s. each.
- An English Tragedy; Mary Stuart, from Schiller; and Mdlle. De Belle Isle, from A. Dumas,—each a Play in 5 Acts, by Frances Anne Kemble. Post 8vo. 12s.

#### Rural Sports, &c.

- Encyclopædia of Rural Sports; a Complete Account, Historical, Practical, and Descriptive, of Hunting, Shooting, Fishing, Racing, &c. By D. P. BLAINE. With above 600 Woodcuts (20 from Designs by JOHN LEECH). 8vo. 42s.
- Col. Hawker's Instructions to Young Sportsmen in all that relates to Guns and Shooting. Revised by the Author's Son. Square crown 8vo. with Illustrations, 18s.
- Notes on Rifle Shooting. By Captain Heaton, Adjutant of the Third Manchester Rifle Volunteer Corps. Fcp. 8vo. 2s.6d.
- The Dead Shot, or Sportsman's Complete Guide; a Treatise on the Use of the Gun, Dog-breaking, Pigeon-shooting, &c. By MARKSMAN. Fcp. 8vo. with Plates, 5s.
- The Chase of the Wild Red Deer in Devon and Somerset. By C. P. COLLYNS. With Map and Illustrations. Square crown 8vo. 16s.
- The Fly-Fisher's Entomology.

  Ry ALFRED RONALDS. With coloured Representations of the Natural and Artificial Insect. 6th Edition; with 20 coloured Plates. 8vo. 14s.
- Hand-book of Angling: Teaching Fly-fishing, Trolling, Bottom-fishing, Salmon-fishing; with the Natural History of River Fish, and the best modes of Catching them. By EPHEMERA. Fcp. Woodcuts, 5s.

- The Cricket Field; or, the History and the Science of the Game of Cricket. By J. Pycroff, B.A. Trin. Coll. Oxon. 4th Edition. Fcp. 8vo. 5s.
- The Cricket Tutor; a Treatise exclusively Practical. By the same. 18:no. 1s.
- The Horse's Foot, and how to keep it Sound. By W. Miles, Esq. 9th Edition, with Illustrations. Imp. 8vo. 12s. 6d.
- A Plain Treatise on Horse-shoeing. By the same Author. Post 8vo. with Illustrations, 2s.
- General Remarks on Stables, and Examples of Stable Fittings. By the same. Imp. 8vo. with 13 Plates, 15s.
- The Horse: with a Treatise on Draught. By WILLIAM YOUATT. New Edition, revised and enlarged. 8vo. with numerous Woodcuts, 10s. 6d.
- The Dog. By the same Author. 8vo. with numerous Woodcuts, 6s.
- The Dog in Health and Disease.

  By Stonehenge. With 70 Wood Engravings. Square crown 8vo. 15s.
- The Greyhound. By the same. With many Illustrations. Square crown 8vo. 21s.
- The Ox; his Diseases and their Treatment: with an Essay on Parturition in the Cow. By J. R. Dobson, M.R.C.V.S. Post 8vo. with Illustrations.

  [Just ready.]

#### Commerce, Navigation, and Mercantile Affairs.

- The Law of Nations Considered as Independent Political Communities. By TRAYERS TWISS, D.C.L. Regius Professor of Civil Law in the University of Oxford. 2 vols. 8vo. 30s. or separately, Part I. Peace, 12s. Part II. War, 18s.
- A Dictionary, Practical, Theoretical, and Historical, of Commerce and Commercial Navigation. By J. R. M'Culloch, Esq. 8vo. with Maps and Plans, 50s.
- The Study of Steam and the Marine Engine, for Young Sea Officers. By S. M. SAXBY, R.N. Post 8vo. with 87 Diagrams, 5s. 6d.
- A Nautical Dictionary, defining the Technical Language relative to the Building and Equipment of Sailing Vessels and Steamers, &c. By ARTHUR YOUNG. Second Edition; with Plates and 150 Woodcuts. 8vo. 18s.
- A Manual for Naval Cadets. By J. M'NEIL BOYD, late Captain R.N. Third Edition; with 240 Woodcuts, and 11 coloured Plates. Post 8vo. 12s. 6d.
- \*\*\* Every Cadet in the Royal Navy is required by the Regulations of the Admiralty to have a copy of this work on his entry into the Navy.

#### Works of Utility and General Information.

- Modern Cookery for Private
  Families, reduced to a System of Easy
  Practice in a Series of carefully-tested
  Receipts. By ELIZA ACTON. Newly revised and enlarged; with 8 Plates, Figures,
  and 150 Woodcuts. Fcp. 8vo. 7s. 6d.
- On Food and its Digestion; an Introduction to Dietetics. By W. Brinton, M.D. Physician to St. Thomas's Hospital, &c. With 48 Woodcuts. Post 8vo. 12s.
- Adulterations Detected; or, Plain Instructions for the Discovery of Frauds in Food and Medicine. By A. H. HASSALL, M.D. Crown 8vo. with Woodcuts, 17s. 6d.
- The Vine and its Fruit, in relation to the Production of Wine. By JAMES L. DENMAN. Crown 8vo. 8s. 6d.
- Wine, the Vine, and the Cellar. By Thomas G. Shaw. With 28 Illustrations on Wood. 8vo. 16s.
- A Practical Treatise on Brewing; with Formulæ for Public Brewers, and Instructions for Private Families. By W BLACK. 8vo. 10s. 6d.

- Short Whist; its Rise, Progress, and Laws: with the Laws of Piquet, Cassino, Ecarté, Cribbage, and Backgammon. By Major A. Fep. 8vo. 3s.
- Hints on Etiquette and the Usages of Society; with a Glance at Bad Habits. Revised, with Additions, by a LADY of RANK. Fcp. 8vo. 2s. 6d.
- The Cabinet Lawyer; a Popular Digest of the Laws of England, Civil and Criminal. 19th Edition, extended by the Author; including the Acts of the Sessions 1862 and 1863. Fcp. 8vo. 10s. 6d.
- The Philosophy of Health; or, an Exposition of the Physiological and Sanitary Conditions conducive to Human Longevity and Happiness. By SOUTHWOOD SMITH, M.D. Eleventh Edition, revised and enlarged; with New Plates. 8vo. [Just ready.
- Hints to Mothers on the Management of their Health during the Period of Pregnancy and in the Lying-in Room. By T. Bull, M.D. Fcp. 8vo. 5s.
- The Maternal Management of Children in Health and Disease, By the same Author, Fcp. 8vo. 5s.

- Notes on Hospitals. By Florence Nightingale. Third Edition, enlarged; with 13 Plans. Post 4to, 18s.
- C. M. Willich's Popular Tables for Ascertaining the Value of Lifehold, Leasehold, and Church Property, Renewal Fines, &c.; the Public Funds; Annual Average Price and Interest on Consols from 1731 to 1861; Chemical, Geographical, Astronomical, Trigonometrical Tables, &c. Post 8vo. 10s.
- Thomson's Tables of Interest, at Three, Four, Four and a Half, and Five per Cent., from One Pound to Ten Thousand and from 1 to 365 Days. 12mo. 3s. 6d.
- Maunder's Treasury of Knowledge and Library of Reference: comprising an English Dictionary and Grammar, a Universal Gazetteer, a Classical Dictionary, a Chronology, a Law Dictionary, a Synopsis of the Peerage, useful Tables, &c. Fcp. 8vo. 10s.

#### General and School Atlases.

- An Elementary Atlas of History and Geography, from the commencement of the Christian Era to the Present Time, in 16 coloured Maps, chronologically arranged, with illustrative Memoirs. By the Rev. J. S. Brewer, M.A. Royal 8vo. 12s. 6d.
- Bishop Butler's Atlas of Modern Geography, in a Series of 33 full-coloured Maps, accompanied by a complete Alphabetical Index. New Edition, corrected and enlarged. Royal 8vo. 10s. 6d.
- Bishop Butler's Atlas of Ancient Geography, in a Series of 24 full-coloured Maps, accompanied by a complete Accentuated Index. New Edition, corrected and enlarged. Royal 8vo. 12s.

- School Atlas of Physical, Political, and Commercial Geography, in 17 full-coloured Maps, accompanied by descriptive Letterpress. By E. Hughes, F.R.A.S. Royal 8vo. 10s. 6d.
- Middle-Class Atlas of General Geography, in a Series of 29 full-coloured Maps, containing the most recent Territorial Changes and Discoveries. ByWALTER M'LEOD, F.R.G.S. 4to.5s.
- Physical Atlas of Great Britain and Ireland; comprising 30 full-coloured Maps, with illustrative Letterpress, forming a concise Synopsis of British Physical Geography. By WALTER M\*LEOD, F.R.G.S. Fep. 4to. 7s. 6d.

#### Periodical Publications.

- The Edinburgh Review, or Critical Journal, published Quarterly in January, April, July, and October. 8vo. price 6s. each No.
- The Geological Magazine, or Monthly Journal of Geology, edited by T. RUPERT JONES, F.G.S. assisted by HENRY WOODWARD, F.G.S. 8vo. price 1s. 6d. each No.
- Fraser's Magazine for Town and Country, published on the 1st of each Month. 8vo. price 2s. 6d. each No.
- The Alpine Journal: a Record of Mountain Adventure and Scientific Observation. By Members of the Alpine Club. Edited by H. B. GEORGE, M.A. Published Quarterly, May 31, Aug. 31, Nov. 30, Feb. 28. 8vo. price 1s. 6d, each No.

# INDEX.

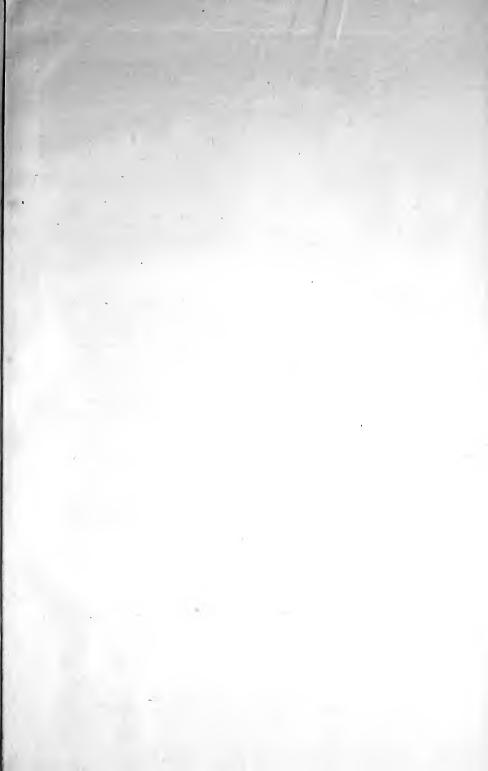
Acton's Modern Cookery	19	Bunsen's Philosophy of Universal History	14
Afternoon of Life	14	BUNYAN'S Pilgrim's Progress, illustrated by	
ALCOCK'S Residence in Japan	15	Bennett	11
Alpine Guide (The)	16	Burke's Vicissitudes of Families	4
Journal (The)	20	BUTLER'S Atlas of Ancient Geography	20
APJOHN'S Manual of the Metalloids	8	Modern Geography	20
Arago's Biographies of Scientific Men	4		
Popular Astronomy	7	Colinet Lemmon	19
Meteorological Essays	7	Cabinet Lawyer	19
ARNOLD'S Manual of English Literature	5		11
ARNOTT'S Elements of Physics	8	Chorale Book for England	15
Atherstone Priory	16	Colenso (Bishop) on Pentateuch and Book	13
ATKINSON'S Papinian	4		13
AYRE'S Treasury of Bible Knowledge	13	of Joshua	10
		Somerset	18
BACON'S Essays, by WHATELY	4	Commonplace Philosopher in Town and	10
Life and Letters by Spenning	3	Country	6
Works by First Spenning and		Companions of my Solitude	6
Life and Letters, by Spending Works, by Ellis, Spending, and Heath	4	Coningron's Handbook of Chemical Ana-	U
BAIN on the Emotions and Will	6		9
	6	lysis	0
on the Senses and Intellect on the Study of Character	6.	Dictionary	5
BAINES'S Explorations in S.W. Africa	15	Practical ditto	
BALL's Guide to the Central Alps	16	CONYBEARE and Howson's Life and Epistles	
Guide to the Western Alps	16	of St. Paul	14
BAYLDON'S Rents and Tillages	13	COPLAND'S Dictionary of Practical Medicine	10
Berlepsch's Life and Nature in the Alps.	8	Abridgment of ditto	10
BLACK's Treatise on Brewing	19	Corron's Introduction to Confirmation	14
BLACKLEY and FRIEDLANDER'S German		Cox's Tales of the Great Persian War	2
and English Dictionary	5	Tales from Greek Mythology	17
BLAINE'S Rural Sports	18	Tales of the Gods and Heroes	17
BLIGHT's Week at the Land's End	16	——— Tales of Thebes and Argos	17
BOURNE'S Catechism of the Steam Engine.	12	CRESY'S Encyclopædia of Civil Engineering	12
Treatise on the Steam Engine	12	CROWE'S History of France	2
BOWDLER'S Family SHAKSPEARE	18		
BOYD's Manual for Naval Cadets	19	Diagram and History of the Reformation in	
BRAMLEY-MOORE'S Six Sisters of the Valleys	17	D'AUBIGNE'S History of the Reformation in the time of CALVIN	2
BRANDE'S Dictionary of Science, Literature,		Dead Shot (The), by MARKSMAN	18
and Art	9	DE LA RIVE'S Treatise on Electricity	8
BRAY'S (C.) Education of the Feelings	7	DENMAN'S Vine and its Fruit	19
Philosophy of Necessity	7	DE TOCQUEVILLE'S Democracy in America	2
——— (Mrs.) British Empire	7	Diaries of a Lady of Quality	3
BREWER'S Atlas of History and Geography	20	Disraeli's Revolutionary Epick	17
BRINTON on Food and Digestion	19	Dixon's Fasti Eboracenses	3
BBISTOW'S Glossary of Mineralogy	8	Dobson on the Ox	18
BRODIE's (Sir C. B.) Psychological Inquiries	7	DÖLLINGER'S Introduction to History of	
Works	11	Christianity	14
Brown's Demonstrations of Microscopic		Dove's Law of Storms	7
Anatomy'	10	DOYLE's Chronicle of England	ì
Browne's Exposition of the 39 Articles	13	DOTAL CONTOURS OF LINGSHAM INVESTIGATION	
Pentateuch and Elohistic Psalms	13		
BUCKLE's History of Civilization	2	Edinburgh Review (The)	20
Bull's Hints to Mothers	19	Ellice, a Tale	16
- Maternal Management of Children	19	ELLICOTT'S Broad and Narrow Way	13
Bunsen's Analecta Ante-Nicæna	14	Commentary on Ephesians	13
	2	Destiny of the Creature	13
Hippolytus and his Age	14	Lectures on Life of Christ	13

ELLICOTT'S Commentary on Galatians	13	Howson's Hulsean Lectures on St. Paul	13
Pastoral Epist. Philippians,&c. Thessalonians	13	Hughes's (E.) Atlas of Physical, Political,	
Philippians,&c.	13	and Commercial Geography	20
	13	(W.) Geography of British His-	
Essays and Reviews	14	tory Manual of Geography	7
Essays on Religion and Literature, edited by		HULLAH'S History of Modern Music	3
MANNING	14	Hymns from Lyra Germanica	15
Essays written in the Intervals of Business	. 0	Hymnis Hom Dyra Germanica	13
FAIRBAIRN'S Application of Cast and		Ingelow's Poems	17
Wrought Iron to Building	12		
Information for Engineers Treatise on Mills & Millwork	12	Towns of Towns 2 of the Column and Man	
	12	Jameson's Legends of the Saints and Mar-	
First Friendship	16	tyrs	11
FITZ Roy's Weather Book	7		11
FORSTER'S Life of Sir John Eliot	3	JAMESON and EASTLAKE'S History of Our	1.
FowLer's Collieries and Colliers	12 20	Lord	11
Fraser's Magazine	16	JOHNS'S Home Walks and Holiday Rambles	9
Tour in the Grisons	16	JOHNSON'S Patentee's Manual	12
Friends in Council	6	Practical Draughtsman	12
From Matter to Spirit	6	JOHNSTON'S Gazetteer, or Geographical Dic-	
FROUDE'S History of England	1	tionary	7
		Jones's Christianity and Common Sense	7
	_		
GARRATT'S Marvels and Mysteries of Instinct	9	KALISCH'S Commentary on the Old Testa-	
Geological Magazine	20	ment	5
GILBERT and CHURCHILL'S Dolomite Moun-	15	Hebrew Grammar	5
tains	11	Kemble's Plays	18
GORLE'S Questions on Browne's Exposition	11	KENNEDY'S Hymnologia Christiana	15
of the 39 Articles	13	KIRBY and Spence's Entomology	9
Gray's Anatomy	10		
GREENE'S Manual of Coelenterata	8		
Manual of Protozoa	8	Lady's Tour round Monte Rosa	16
GROVE on Correlation of Physical Forces	8	LANDON'S (L. E. L.) Poetical Works	17
Gryll Grange	16	Late Laurels	16
Gwilt's Encyclopædia of Architecture	11	LATHAM'S Comparative Philology	5
		English Dictionary  Handbook of the English Lan-	5
Handbook of Angling, by EPHEMERA	18		=
HARTWIO'S Sea and its Living Wonders	9	guage Work on the English Language	5
Tropical World	9	Leisure Hours in Town	6
HASSALL'S Adulterations Detected	19	Lewes's Biographical History of Philosophy	2
British Freshwater Algæ	9	Lewis on the Astronomy of the Ancients	4
HAWKER'S Instructions to Young Sports-		on the Credibility of Early Roman	
men	18	History	4
HEATON'S Notes on Rifle Shooting	18	Dialogue on Government	4
Helps's Spanish Conquest in America	2	on Egyptological Method	4
HERSCHEL'S Essays from the Edinburgh and		Essays on Administrations	4
Quarterly Reviews	9	Fables of Babrius	4
Ontlines of Astronomy	7	on Foreign Jurisdiction	4
HEWITT on the Diseases of Women HINCHLIFF'S South American Sketches	10 15	on Irish Disturbances on Observation and Reasoning in	4
HIND'S Canadian Exploring Expeditions	15	Politics	4
	15	— on Political Terms	4
Hints on Etiquette	19	on the Romance Languages	4
HOLLAND'S Chapters on Mental Physiology	6	LIDDELLandScort's Greek-English Lexicon	5
Essays on Scientific Subjects	9		5
	11	LINDLEY and MOORE'S Treasury of Botany.	9
Holmes's System of Surgery	10	LISTER'S Physico-Prophetical Essays	14
HOOKER and WALKER-ARNOTT'S British		LONGMAN'S Lectures on the History of Eng-	
Flora	9	land	1
Hooper's Medical Dictionary	11	Loudon's Encyclopædia of Agriculture	12
HORNE'S Introduction to the Scriptures	13	Cottage, Farm,	10
Hoskyns's Talpa	13 12	and Villa Architecture	12
Howitt's History of the Supernatural	6	Plants	9
	16	Gardening Plants Trees and Shrubs	9
Visits to Remarkable Places	16	LOWNDES'S Engineer's Handbook	11

Lyra Domestica	15	Moore's Poetical Works	17
Eucharistica		Morell's Elements of Psychology	
— Germanica11,		Mental Philosophy	6
Messianica	15	Morring Clouds	14
— Mystica	15	Farm Labour	12
Ducta !!!!!		Prince Consort's Farms	12
		Mosheim's Ecclesiastical History	14
MACAULAY'S (Lord) Essays	2	MULLER'S (Max) Lectures on the Science of	
History of England	ī	Language	5
History of England  Lays of Ancient Rome	17	(K. O.) Literature of Ancient	
Miscellaneous Writings	6	Greece	2
Speeches	-5	MURCHISON on Continued Fevers MURE'S Language and Literature of Greece	10
Speeches on Parliamentary	_	MORE & Language and Literature of Greece	4
Reform	5		
MACBRAIR'S Africans at Home MACDOUGALL'S Theory of War	8 12	New Testament illustrated with Wood En-	
McLeop's Middle-Class Atlas of General	12	gravings from the Old Masters	11
Geography	20	NEWMAN'S Apologia pro Vitâ Suâ Nightingale's Notes on Hospitals	3 20
Physical Atlas of Great Britain		WIGHTINGALE S NOTES OIL HOSPITAIS	20
and Ireland	20		
McCulloch's Dictionary of Commerce	19	ODLING'S Course of Practical Chemistry	10
Geographical Dictionary	7		10
MAGUIRE'S Life of Father Mathew	3	ORMSBY'S Rambles in Algeria and Tunis	15
Rome and its Rulers	.3	Owen's Comparative Anatomy and Physio-	0
MALING'S Indoor Gardener	9	logy of Vertebrate Animals	8
Marshall's History of Christian Missions	2		
MASSEY'S History of England	ī	PACKE'S Guide to the Pyrenees	16
MAUNORD's Ricoraphical Treasury	4	PAGET'S Lectures on Surgical Pathology	10
Geographical Treasury Historical Treasury Scientific and Literary Treasury	8	PARKER'S (Theodore) Life, by WEISS	3
	2	Peaks, Passes, and Glaciers, 2 Series	16
Scientific and Literary Treasury	9	Pereira's Elements of Materia Medica	11
Treasury of Knowledge	20	PERKINS'S Tuscan Sculpture	11
Treasury of Natural History	9	PHILLIPS'S Guide to Geology	11 8
MAURY'S Physical Geography	7	Introduction to Mineralogy	8
MAY'S Constitutional History of England MELVILLE'S Digby Grand	1 17	Piesse's Art of Perfumery	12
General Rounce	17	Chemical, Natural, and Physical	
General Bounce	17		12
Good for Nothing	17	Magic Laboratory of Chemical Wonders	12
Good for Nothing	17	Playtime with the Poets	17
Interpreter	17	Practical Mechanic's Journal	12
Kate Coventry	17	PRESCOTT'S Scripture Difficulties Problems in Human Nature	13
Queen's Maries	17	Pycroft's Course of English Reading	14 5
MENDELSSOHN'S Letters	3	Cricket Field	18
MENZIES' Windsor Great Park	13	Cricket Tutor	18
(C.) Fall of the Roman Republic	2		_
Romans under the Empire	2	P 4 4 6 1 P 6	
MERYON'S History of Medicine	3	Recreations of a Country Parson, Second	
MILES on Horse's Foot	18	SERIES RIDDLE'S Diamond Latin-English Dictionary	6 5
on Horse Shoeing	18	RIVERS'S Rose Amateur's Guide	9
on Stables	18	Rogers's Correspondence of Greyson	6
MILL on Liberty	4	Eclipse of Faith	6
on Representative Government	4		6
——on Utilitarianism	4	Essays from the Edinburgh Review	6
Political Economy	4	Fulleriana	6
System of Logic	4	Reason and Faith	6
MILLER'S Elements of Chemistry	10	ROGET'S Thesaurus of English Words and	-
Monsell's Spiritual Songs	14	Phrases Ronalds's Fly-Fisher's Entomology	5
Montagu's Experiments in Church and		ROWTON'S Debater	18 5
State	13	20.1.2011 5 2004001 11	J
MONTGOMERY on the Signs and Symptoms			
of Pregnancy	10	SAXBY'S Study of Steam	19
MOOKE'S ITISH Melodies	17	Weather System	7
———Lalla Rookh  Memoirs, Journal, and Correspon-	17	Scorr's Handbook of Volumetrical Analysis	
dence	3	SCROPE on Volcanos	8
	9	SENIOR'S Biographical Sketches	4

,	
SENIOR'S Essays on Fiction	16
SEWELL'S Amy Herbert	16
Ancient History	2
Cleve Hall	16
Earl's Daughter	16
Experience of Life	16
	16
	2
Ivors	16
	16
Laneton Parsonage	16
	16
	14
Preparation for Communion	14
	14
	14
Self-Examination before Confir-	
mation	14
Stories and Tales	16
Thoughts for the Holy Week	14
Ursula	16
SHAW'S Work on Wine	19 5
Short Whist	19
SIEVEKING'S (AMELIA) Life, by WINK-	••
WORTH	3
SMITH'S (SOUTHWOOD) Philosophy of Health	19
(J.) Voyage and Shipwreck of St.	
Paul	14
——— (Sydney) Memoir and Letters'	2
Miscellaneous Works	6
Miscellaneous Works Sketches of Moral Philo-	•
sophy Wit and Wisdom	6
	6
SOUTHEY'S (Doctor)	5
Poetical Works	17
STEBBING'S Analysis of MILL'S Logic STEPHENSON'S (R.) Life by JEAFFRESON	5
and Pole	3
STEPHEN'S Essays in Ecclesiastical Bio-	٠
graphy	4
Lectures on the History of	
France	2
STONEHENGE on the Dog	18
STRICKLAND'S Queens of England	18
STRICKLAND'S Queens of England	1
TAYLOR'S (Jeremy) Works, edited by EDEN	14
TENNENT'S Ceylon	9
Natural History of Ceylon Story of the Guns	9 12
Thalatta	16
Theologia Germanica	14
THIRLWALL'S History of Greece	2
THOMSON'S (Archbishop) Laws of Thought	4

THOMSON'S (J.) Tables of Interest TILLEY'S Eastern Europe and Western Asia	20 15
Todd's Cyclopædia of Anatomy and Physiology	10
and Bowman's Anatomy and Phy-	
siology of Man	10
TROLLOPE'S Barchester Towers	17
Twiss's Law of Nations	17
Tyndall's Lectures on Heat	8
— Mountaineering in 1861	16
· · · · · · · · · · · · · · · · · · ·	
URE's Dictionary of Arts, Manufactures, and	
Mines	13
VAN DER HOEVEN'S Handbook of Zoology	8
VAUGHAN'S (R.) Revolutions in English	0
History	1
(R. A.) Hours with the Mystics	7
WARBURTON'S Life, by WATSON	3
WARTER'S Last of the Old Squires	16
WATSON'S Principles and Practice of Physic WATTS'S Dictionary of Chemistry	10
WEBB's Celestial Objects for Common Tele-	9
scopes	7
WEBSTER & WILKINSON'S Greek Testament WELD'S Last Winter in Rome	13 15
WELLINGTON'S Life, by BRIALMONT and	
GLEIG	3
WESLEY'S Life, by SOUTHEY	3
West on the Diseases of Infancy and Child-	3
hood	10.
WHATELY'S English Synonymes	4
Logic	4
Remains	4
WHEWELL'S History of the Inductive Sci-	4
ences	2
tionary	5
WILBERFORCE (W.) Recollections of, by	
HARFORD	3
WILLICH's Popular Tables	20
Wilson's Bryologia Britannica	9
Wood's Homes without Hands	8
Woodward's Historical and Chronological	0
Encyclopædia	2
Yongk's English-Greek Lexicon	5
Abridged ditto	5
Young's Nautical Dictionary	19
YOUATT on the Dog	18
on the Horse	18





## PLEASE DO NOT REMOVE CARDS OR SLIPS FROM THIS POCKET

#### **UNIVERSITY OF TORONTO LIBRARY**

BF 111 B35 v.2 c.1 ROBA

