Philosophy at Cambridge
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and more comprehensive philosophy can arise in the line of Locke than can ever arise in the line of Leibniz; but only on the condition of replacing our narrow psychological horizon by an horizon of true philosophical range. This being done, our psychological and scientific method is at least as necessary to the soundness, as the philosophical to the comprehensiveness, of a complete philosophy.

Briefly, then, to resume the position at which we have now arrived, we may define Philosophy, in contradistinction to Psychological Science, as the ultimate analysis of states of consciousness in connection with their objective aspects, abstracting from their conditions in the organism; and in contradistinction to Science in general, as the subjective analysis of the ultimate notions of the Sciences. In both alike it has the three characteristics of being ultimate, subjective, and analytic. The first characteristic, *ultimate*, belongs to philosophy *ex hypothesi*. That is to say, only such inquiries as are ultimate, which stand nearest to and endeavour to penetrate farther into the unknown, the "dark foundations" of being, do we set apart as search and not as science. The second, *subjective*, rests on a simple fact of experience, the apparent reduplication of objects in subjectivity; consciousness being like light, which reveals itself and the object at once; the object and the object seen are one. The third, *analytic*, is determined by the process of Reflection being made the principle of the method pursued. But this third characteristic is open to the doubt, whether it entirely exhausts the possibilities of philosophy; whether it does not restrict philosophy to too narrow a field; whether philosophy itself may not be synthetic also. It is clear that philosophy, being subjective and ultimate, must be reflective, and therefore analytic of its object-matter; the question is, whether it is analytic only. The remarks which I have to offer on this point must be reserved for the following paper.

SHADWORTH H. HODGSON.

VII.—PHILOSOPHY AT CAMBRIDGE.

IF any one fifty years ago had been called upon to write a paper on Philosophy at Cambridge, he might reasonably have felt that he had been set to the ancient tyrannical task of making bricks without straw.

No doubt at this as at any other time in the history of the University, there were persons reading and reflecting on moral and metaphysical subjects—probably more than at most other

times, when, in Trinity alone, Whewell, Thirlwall and Hare were lecturing, and Maurice and Sterling were undergraduates. But the official recognition of such studies in the academic system had dwindled to the merest shadow of a shade; and there was as yet no resident writer on philosophy to supply such extra-official guidance or stimulus as would in any way impress the stamp of Cambridge upon the philosophical speculation still carried on within the limits of the University. Philosophy had, for all practical purposes, lost its old place in the Cambridge scheme of studies; and a new place had not yet been found for it. The old system of disputations for degrees, which had maintained some knowledge of logical forms and some interest in philosophical matters, had finally decayed into a pure ceremony and was on the point of being formally abolished; while at the same time the share possessed by moral and metaphysical philosophy in the modern system of paper-examinations, which had always been comparatively inconsiderable, was now quite evanescent. There was a little teaching of Locke in one or two colleges, but the life had quite gone out of it. Paley's moral system was still officially prescribed—it was still orthodox to maintain formally in the empty arts' schools that "recte statuit Paleius de utilitate"—but his method had lost all real influence: while yet the reaction against it had not found the definite and reasoned expression that Sedgwick and Whewell were presently to give to it. There was a Professor of Casuistry in existence: but he was still a κωφὸν πρόσωπον in the academic drama. Herschel's *Discourse on Natural Philosophy* had not yet come to break the frost of indifference with which methodology had been treated in the university of Bacon, and to commence a philosophical debate which is still vigorously continued, and in which Cambridge has taken an important, if not the most distinguished, part. The sway of Coleridge over the reflective youth of England was great and steadily growing: but the years he had spent in Cambridge had established no spiritual bond between him and his Alma Mater, and such influence as he exercised there was as essentially foreign as Bentham's at Oxford.

In fact, the educational movement in Cambridge was entirely absorbed in developing and determining the mutual relations of Classics, Mathematics and Physics: and was content to leave Ethics and Metaphysics to the care of Scotland and Germany.

In the half-century that has since elapsed a considerable change has taken place; though even now the position of Philosophy in Cambridge would hardly satisfy an ardent votary

of the study. Before proceeding to characterise this position more particularly, it may be interesting to explain how the university of More and Cudworth and Clarke passed into the state above indicated, and how it emerged out of it again: especially since such a historical sketch will lead us to anticipate the most important peculiarities in the present relation of Cambridge to Philosophy.*

But first it must be observed that in this inquiry it is peculiarly necessary to proceed methodically, and avoid ambiguity in our principal term. Most Cambridge men of the eighteenth century would have been much startled by being told that Philosophy was declining in their university. They would have replied that, on the contrary, sound and exact philosophical knowledge was just what their Alma Mater was exerting herself to maintain and spread. For the use of the general term Philosophy to mean Physics, which continental writers have noticed as an English peculiarity, has been especially at home in Cambridge since the time of Newton. No doubt the qualified term "Natural Philosophy" would always have been considered more proper and precise: but still "Philosophy" without qualification would have been commonly understood to mean Natural Philosophy. We find, for example, that the enlightened Dr. Jebb, describing the examinations of the university as they existed in 1772, speaks of the "transition from the elements of Mathematics to the four branches of philosophy, viz. Mechanics, Hydrostatics, Apparent Astromony and Optics. . . . The Moderator," he goes on to say, "having closed the philosophical examination sometimes asks a few questions in Locke's *Essay on the Human Understanding*, Butler's *Analogy*, or Clarke's *Attributes*." Many similar passages might be quoted, even from writers so recent as the late Dean Peacock.

I have drawn attention to this usage, not merely to prevent any confusion of thought, but because it takes us back to the right point of view for understanding the process by which Mathematics and Mathematical Physics became the peculiar study of Cambridge. The antithesis between Mathematics and Philosophy as educational instruments, which was defined and sharpened about forty years ago by the controversy between Whewell and Hamilton, was as far as possible from the minds of Barrow or Sanderson or the other active and enlightened teachers who were the chief agents in bringing about this change. It was no desertion of the study of

* My thanks are due to several Cambridge residents, with older or better-stored memories than mine, who have kindly supplied me with some of the facts mentioned in this sketch.

Things in General for the narrower though exacter study of Quantity Discrete and Continuous, that they had in view. It was rather the bringing into due prominence of the new kind of philosophy which Galileo and Descartes and afterwards Newton had developed to such striking results: by the side of which the older metaphysical studies must be allowed to contrast somewhat unfavourably. Of this new philosophy mathematics was clearly the indispensable organon. The accomplished Barrow, whose academic activity coincided with and partly constituted the first stage of this process, tells the students of his time that they show their love of true Philosophy in not wasting their time on disputations concerning "entia rationis, materia prima and such like scholastic chimeras" but in turning ardently to Mathematics instead. "Jam tandem vos serio Philosophiæ operam daturos bona spes est, Veritatis inquisitionem non tantum a dialecticis argutiis sed, quod antiquis philosophiis solemne erat, ab iis nobilissimis scientiis auspicantes" (*Oratio ad Academicos in Comitiis*, 1659). This ardour would naturally be much intensified, in both teachers and pupils, by the Newtonian discoveries. From one point of view these might fairly be regarded as a triumph for academic studies. A university professor, by the recognised academic method of syllogistic demonstration from abstract principles, had attained a grasp of reality which no mere observers or experimenters could have reached. It was not surprising that in the age immediately succeeding Newton the active and progressive portion of the university should be especially concerned with the development of these studies: nor that the sustained effort to spread the new truths and impart the method by which they had been won should have reinvigorated the educational functions of the university and restored life and reality to the exercises imposed as a condition of obtaining the first degree. In the final examination, reformed and raised in importance during this period, they thus naturally occupied the chief place; and even in the preliminary acts or disputations in the schools (which for a long time after the development of the modern system of paper-examinations continued to have considerable influence on the award of academic honours), physical questions from Descartes or Newton were discussed with more zest than the old scholastic topics could arouse.

At the same time, it must not be thought that the movement I am describing was in any sense intentionally directed against moral and metaphysical speculations generally. It was, no doubt, in conscious antagonism to the "dull, crabbed system of Aristotle's Logic;" but such antagonism found a welcome

ally in the modern psychology. In fact, it appears that Locke became naturalised at Cambridge about the same time as Newton; just as in the preceding century the study of Descartes had been encouraged by the Platonists. The same wave of reform that succeeded in enthroning the *Principia*, also established the *Essay on the Human Understanding* as the recognised storehouse of "quæstiones metaphysicæ." While Clarke, again—perhaps the most genuinely metaphysical genius that England has produced since the middle ages—was an ardent disciple of Newton, and took a prominent part in introducing the Newtonian physics into the educational course of Cambridge; at the same time that he was endeavouring to develop his master's views, on their theologico-metaphysical side, into a completely reasoned system of the universe, and to place the science of ethics on a footing as closely analogous as possible to that of mathematics. For a time Clarke's moral and metaphysical speculations seem to have had much currency in his university; and his *Attributes* kept till the end of the century a regular place in philosophical lectures and disputations by the side of Locke's *Essay*. But when the air of cogency worn by Clarke's demonstrations was well ascertained to be illusory, and it became plain that his system would end in argumentation as sterile as that of any scholastic metaphysician, the very comparison that it courted with mathematical and physical studies would probably tend to enhance the superior attractions of the clear, certain, progressive knowledge attainable by the latter.* At any rate, we find that, owing partly to the greater intrinsic interest of these latter subjects, partly to their greater fitness for the paper-examinations of which the influence seems to have steadily increased from the time of their first institution, and partly to the more sustained and concentrated labour gradually required from undergraduates if they would reach the ever-rising level of mathematical attainment, such ethical and metaphysical study as was still kept up occupied a gradually decreasing share of attention. So that in 1772 we have the state of things described by Dr. Jebb in the passage already quoted, when "a very superficial knowledge in morality and metaphysics" was held to suffice, as the highest academical honours were invariably given to "the best proficients in mathematics and natural philosophy."

A certain reaction, however, seems to have been taking place at the very time that Dr. Jebb wrote; at least, an attempt was made a few years after by the university authorities to

* Some effect of this kind is asserted by Law—an old Cambridge man—in his notes to King's *Origin of Evil;* but I am not sure that he is an impartial witness.

arrest the decline of the older studies. In 1779 a grace was passed, adding a fourth day to the examination, in order that one of the four days might be devoted to questions in "Natural Religion, Moral Philosophy, and Locke." This movement was probably due to the influence, if not of the energetic agitator himself from whose pamphlet I have quoted, at least of the set of ecclesiastical and academic Liberals of which he was a prominent member. This set included, we must observe, the one really influential writer on moral philosophy that Cambridge had produced since the beginning of the century, William Paley. Turning, with the prestige which even then attached to the position of Senior Wrangler, from the mathematico-physical studies which had gained him this distinction, Paley devoted himself during the years (from 1767 to 1776) in which he was lecturing at Christ's to the metaphysical and moral department of the instruction. It was not till 1785 that the substance of his lectures on moral and political philosophy appeared in the treatise since so well known; but we find that this book almost immediately on its appearance was introduced into the academic curriculum, and kept its place there till very recent times,—together with his other treatise on the *Evidences of Christianity*, which has not even yet been superseded. For half a century "Locke and Paley" figured as the inseparable pair of thinkers appointed by Cambridge as her philosophical representatives, much as "Aristotle and Butler" were at Oxford; and for some time, at least, the study of their systems, along with a few other works, formed a substantive part of a reading man's course. It seems that about this period it became customary, in "keeping an act" for the first degree, to select a moral or metaphysical thesis for actual disputation; and there is a tradition of men obtaining honours on the strength of their "Locke" as late as 1804.* But a really deep and widespread interest in the writings of Locke and Paley could not be maintained without fresh thought on their subjects; and as no indigenous thinker appeared to stimulate this, they were gradually "crowded out" of the course, partly by the irresistible development of mathematics, partly by the movement in favour of classical studies which led to the establishment of the Classical Tripos in 1822. The ancient system of disputations—for which "quæstiones ethicæ" and "metaphysicæ" had a natural affinity—and the ethical and metaphysical element in the paper-examination were destined to nearly simultaneous

* Archdeacon Hollingworth, Norrisian Professor of Divinity, was supposed to have gained his place in the Tripos by this part of his work. It should be observed, however, that his was an exceptional case, and that he was only a "Junior Optime."

extinction. In 1839 the last Act was kept; and about ten years before the traditional papers on "Locke and Paley" were, for the first time, avowedly constructed for the πολλοὶ only: whose brains not being burdened with mathematics were supposed to have room for a modicum of moral reflection. There were, as I have said, not a few residents in Cambridge at the time who were earnestly concerned for philosophy: but no one came forward to plead for this meagre remnant of the old system. It was probably felt that by the establishment of the Classical Tripos Cambridge had taken a finally decisive step in the direction of specialising studies. The old single course of education in what every well-educated man ought to know had been gradually compressed, by force of circumstances rather than the deliberate intention of anybody, into a somewhat narrow road to what had now to be acknowledged as a purely "Mathematical" Tripos: by the side of which another equally straight path had been opened to academic distinction, in the study of Greek and Latin. And since the distribution of the Fellowships had now come to depend, in the great majority of colleges, almost entirely on the university examinations, it would seem that if any other studies besides classics and mathematics were to gain the attention of the *alumni* of Cambridge, they must establish a claim to a Tripos of their own.

The ultimate achievement of this result, in the case of the Moral Sciences, may be traced to a combination of causes: but it is primarily to be viewed as part of a general reaction against the narrowness of the traditional Cambridge curriculum, which in some respects had only been made more apparent by the institution of the Classical Tripos. Very early in the career of this new Tripos it began to be felt that Greek philosophy deserved more distinct recognition in the classical course.* In Trinity College a succession of remarkable lecturers—Julius Hare, Thirlwall and Thompson—laboured to secure in their own college a somewhat more intelligent study of the works of Plato and Aristotle. Meanwhile on the other, mathematico-physical, side of Cambridge studies some general philosophic interest was aroused by the appearance of Herschel's *Discourse on Natural Philosophy* in 1831. A couple of years afterwards, Sedgwick's *Discourse on the Studies of Cambridge* and the controversy which followed it, still further stirred the waters. But it is to Whewell more than to any other single

* Whewell's book on *Liberal Education* shows that the change actually made in this direction in the recent reorganisation of the Classical Tripos was loudly demanded a generation before; *cf.* also Julius Hare's remarks in his *Life of Sterling*, pp. xii., xiii.

man that the revival of Philosophy in Cambridge is to be attributed. Although (as I have noticed), in his controversy with Hamilton and elsewhere, he maintained the superiority of mathematics and classics over all other studies, as the main instruments of university education, this conviction did not prevent him from making sincere and sustained efforts to secure for other sciences that place in the academic system which he conceived to be their due. For this end he worked not only in the modern external fashion by constructing examinations, but also by the older, more spiritual, method of teaching and speculating earnestly and effectively on philosophical subjects. In 1839, from the long silent chair of Casuistry, he began to deliver lectures on Moral Philosophy; of which at least the earlier, historical, courses were found highly attractive. Some years previously he had transformed the traditional paper on philosophy in the fellowship-examination of his own college, and made it an effective instrument for inducing the abler candidates for Trinity fellowships to undertake a systematic course of philosophical reading after their first degree. Meanwhile his own elaborate investigation of the methods of modern science was being prosecuted to fruitful and stimulating results. In 1840 his *Philosophy of the Inductive Sciences* appeared. Ten years later he took a chief part in constructing the first Moral Sciences Tripos. The scheme of this examination, however, was quite inadequate, being in fact formed by a combination, not of the different divisions or aspects in which philosophy is commonly studied, but of certain subjects in which the university happened to possess professors: thus it did not include Logic or Metaphysics, or even Psychology, except under the head of Moral Philosophy. But from the point of view of the students whom it was intended to attract this Tripos had the graver defect that it did not confer a degree: for the badge of inferiority thus attached to moral sciences, in comparison with mathematics and classics, rendered it difficult for them even to aspire to the substantial rewards which the colleges had to bestow. In 1860 this badge was removed, and at the same time a more complete scheme of examinations constructed; of which, though it has since been twice modified, the main features still remain. This final stage of development was reached with Whewell's consent and co-operation; but the most active part in effecting it was taken by the Rev. J. B. Mayor of St. John's—the college which about this time assumed the lead in promoting the study of philosophy, not only by instituting lectures, but by the still more important step of admitting this line of study to the crowning honours of a fellowship. The first fellow elected in Cambridge, for attainments in Moral

Sciences only, was the senior in the Moral Sciences Tripos of 1863, a member of St. John's. Three other fellowships have since been similarly awarded, and in the case of one or two more it is understood that considerable weight has been attached to distinction in this subject, though it has not been the sole ground of election. Scholarships are also given in St. John's, Trinity and occasionally in Downing for proficiency in this study. Thus, though the pursuit of Philosophy is as yet far from being on a level, in the general estimation of Cambridge, with Mathematics and Classics, it is no longer separated from this position by any definite and impassable interval. Until, however, this level is more nearly reached, it is difficult to say precisely how far the present paucity of the students who follow this pursuit—about twelve or fifteen each year—is due to the rarity of rewards hitherto obtained by it, or to the absence of prestige or of direct professional utility in the knowledge acquired, or to the intrinsic unattractiveness of the studies for most English minds, or to their want of affinity with the traditional habits and tendencies of Cambridge. Probably each of these causes co-operates to a certain extent. For some time after the second, more complete, examination was instituted, there was a want of teaching officially provided in the subjects: but no deficiency now exists in this respect, at least as far as quantity is concerned; as there are, in different colleges taken together, about five lecturers wholly or chiefly employed in this work. These lecturers are not for the most part appointed to teach any special subjects, but generally to prepare students for the Moral Sciences Tripos. For some years, however, a tolerably complete distribution among the lecturers of the subjects of Moral and Political Philosophy, Mental Philosophy, Logic, and Political Economy, has been attained by mutual arrangement: and it seems probable that this distribution will before very long be established on a more recognised and permanent footing.

In this historical sketch I have chiefly paid attention to the place of Philosophy in the university or college examinations and other prescribed exercises. Under the present system of elaborate and careful examinations, by success in which very large pecuniary prizes are obtained, this consideration is naturally prominent. In the Cambridge of 1876 it would be difficult for Aristotle himself to obtain a serious audience of undergraduates, unless his teaching was understood to "pay" in some Tripos. But in the earlier part of the history that I have briefly traced this was not so much the case: and even now, since Philosophy is eminently a subject for mature study, there seems no reason why a school of philosophical thought

should not be formed in Cambridge through the mutual communication of disinterested students and the general influence of some eminent teachers, whether officially established or not. In fact, however, since the 17th century, no such phenomenon has presented itself: and the element of personal influence has been conspicuously absent from the development of thought in Cambridge. Since Whewell converted the Professorship of Casuistry into a chair of Moral Philosophy, it has always been held by thinkers of decided intellectual force and productiveness: but it cannot be said that the teaching of any of the series has had any tendency to form a school. Whewell's lectures were at first largely attended; but when his own system of morality began to be developed, the interest seems to have fallen off. Perhaps the peculiar intellectual excellences of John Grote, subtle and balanced criticism, varied and versatile sympathy, were hardly such as qualified him—original as he was—to be the founder of a school. The case of Maurice affords a striking illustration of my remark, as his influence was at one time considerable in Cambridge, where his *History of Moral and Metaphysical Philosophy* found many readers; but it had ceased to be a real force, in the sphere of philosophic thought at least, before he became professor, and all the impressiveness and spiritual charm of his personal presence and conversation failed to revive it. I should be disposed to think that no indigenous thinker, for 150 years, has had an influence in Cambridge at all equal to that recently exercised from a distance, by John Stuart Mill. Hence, whatever is characteristic of philosophy in Cambridge must be referred rather to the general intellectual tendencies produced by her favourite studies and by the peculiar organisation of her academic system, than to any tradition of teaching, or any agreement in opinions due to the mutual influence of persons living in the same place and intent on the same inquiries. Since the time of the Platonists the history of Cambridge shows no philosophical school or sect, and scarcely any philosophical coterie: at least one observes no ideas or manners of thought going about the world which can be definitely traced to such a coterie. Still one may notice different degrees of receptiveness in the Cambridge mind to the thought produced elsewhere: certain departments or aspects of philosophy seem to have more attraction for Cambridge men than others. For example, a training in mathematics and physics is a natural preparation for taking part in methodological controversy. I have already spoken of the work of Herschel and Whewell in this department: and it is not out of place to notice the great literary monument which three Cambridge men

have recently raised to Bacon: since nothing that has been written about the *Novum Organum* can be compared for explanatory efficacy with Mr. Ellis's *Introduction*. Again the study of Natural Philosophy disposes the mind to be interested in hypothetical extensions of physical explanations to psychical phenomona: thus we find Hartley in Coleridge's time, and Herbert Spencer at the present day, exercising considerable influence at Cambridge. On the other hand, the university of Newton has been always averse to admit the claims of "Hegel and Schelling who could not understand that Newton went farther than Kepler had gone in physical astronomy, and despised Newton's optical doctrines in comparison with the vague Aristotelian dogmas of Göthe respecting colours" (Whewell on *University Education*). And, apart from the offence given by these scientific vagaries, the preference that the traditional training of Cambridge naturally generates for exactness of method and certainty of results in comparison with breadth and completeness of view is unfavourable to the ambitious constructions of post-Kantian metaphysics. Again, a mathematically trained mind commonly finds much affinity in Political Economy, especially as treated in the abstract deductive manner which has prevailed in England since Ricardo: accordingly this branch of Moral Sciences has found especial favour with Cambridge men. These characteristics appear to some extent in the scheme of the Moral Sciences Tripos: where exceptional stress is laid on Logic (including Methodology) and Political Economy, which are made departments co-ordinate with the larger but vaguer subjects of Mental Philosophy (Psychology and Metaphysics), and Moral and Political Philosophy; and where again the historical study of metaphysics is limited so as to exclude the post-Kantian developments in Germany. But how far these peculiarities are likely to appear in any school of philosophy, that may hereafter be formed at Cambridge, is hard to say: since the general tendencies of thought in England and the influence of any widely read treatises may easily prevail over the bias given by any particular educational system. However, to discuss the *future* of Philosophy in Cambridge is beyond the scope of the present paper. Of all the mistakes that men commit, as a distinguished humourist has observed, "prophecy is the most gratuitous."

HENRY SIDGWICK.

The following is the present scheme of examination for the Moral Sciences Tripos, omitting the fourth head, *Political Economy*.

I. *Moral and Political Philosophy*.—1. The different sources, occasions or determining causes of human action and their mutual relations;

pleasure, pain, desire, aversion and their varieties; will, freedom of will, practical reason; conscience, moral sentiments, moral perception or judgment, moral reasoning; theories of the origin of the moral faculty. 2. The Good or ultimate end of rational action; happiness, right and wrong, moral obligations, moral excellence; rules and sanctions. 3. Exposition and classification of particular duties and virtues. 4. Relation of Ethics to Psychology, Law, Politics, Theology. 5. The general principles of Jurisprudence, civil and penal; rights to property and services, and modes of acquiring them; contracts; rights and obligations attached to different private conditions; theory of punishment. 6. The general principles of Politics; the different functions of government and the modes of their distribution; mutual rights and obligations of governors and governed; general limits of governmental interference. 7. The History of ethical and political opinions.—Books recommended: Plato (*Protag., Gorg., Phileb., Repub.*); Aristotle (*Ethics*); Cicero (*De Fin.*); Hobbes (*Leviath.* cc. 6-11, 13-15); Clarke (*Nat. Religion*, props. 1-4); Shaftesbury (*Inquiry*); Butler (Sermons, 1-3, 5, 8, 11); Smith (*Mor. Sentiments*); Hume (*Prin. of Morals*); Kant (*Metaph. of Ethics*); Paley (*Mor. Phil.*, b. 6); Bentham (*Prin. of Mor.* and *Legislation*, except c. 18, and *Prin. of Civil Code*); Whewell (*System. Morality* and *Hist. of Mor. Phil.*); Mill (*Utilit.* and *Rep. Gov.*); J. Grote (*Exam. of Utilit.*).

II. *Mental Philosophy.*—1. Analysis and classification of mental powers and mental phenomena, and determination of their mutual relations; consciousness, sensation, emotion, volition, perception, memory, imagination, conception, judgment, reasoning. 2. Laws of mental development and association of mental phenomena. 3. Subject, object and their relation in cognition; the origin and extent of knowledge; the criteria of truth and certainty. 4. The Categories or fundamental forms of the object of knowledge, their origin and mutual relations; space, time, substance, quantity, quality, relation, cause and effect. 5. The principal modes of Being and their relations; mind, matter and their different modes or qualities. 6. Physiological concomitants of mental phenomena; organs of sense and nervous system. 7. The History of Metaphysical opinions.—Books recommended: Descartes (*Meth.* and *Meditations*); Locke (*Essay*); Berkeley (*Three Dialogues*); Hume (*Hum. Nature*, bk. 1); Reid (*Intel. Powers*); Kant (*Kritik der reinen Vernunft*); Hamilton (*Metaphysics*); Ferrier (*Institutes*); Bain (*Handbook of Ment. Science*); J. Grote (*Exploratio Philosophica*); Spencer (*Psychology*); Calderwood (*Phil. of the Infinite*).

III. *Logic.*—1. Province of Logic, formal and material. 2. Functions of Language; names and their kinds; definition, division and classification; predicables and categories; scientific nomenclature and terminology; abstraction, conception and generalisation. 3. Propositions and their import; opposition and conversion of propositions. 4. Analysis and laws of Syllogism. 5. The fundamental laws of Thought and their application to logical processes. 6. The nature of the Inductive process; ground of induction; connection between induction and deduction; analogy. 7. Uniformities of nature and their combinations; their analysis and the methods of discovering and proving them; observation and experiment; scientific explanation; the nature and uses of hypothesis. 8. Doctrine of Chance. 9. Error, its nature and causes and the safeguards against it; classification of logical fallacies. 10. Relation of Logic to Psychology, Metaphysics, Grammar; methods of different sciences.—Books recommended: Aldrich (Mansel's ed.); Kant (*Logic*); Whately; Hamilton; Mansel (*Prolegomena*); De Morgan; Boole; Bacon (*Nov. Org.*); Whewell (*Nov. Org. Ren.*); Mill; Venn (*Logic of Chance*).