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Christ's College Magazine,

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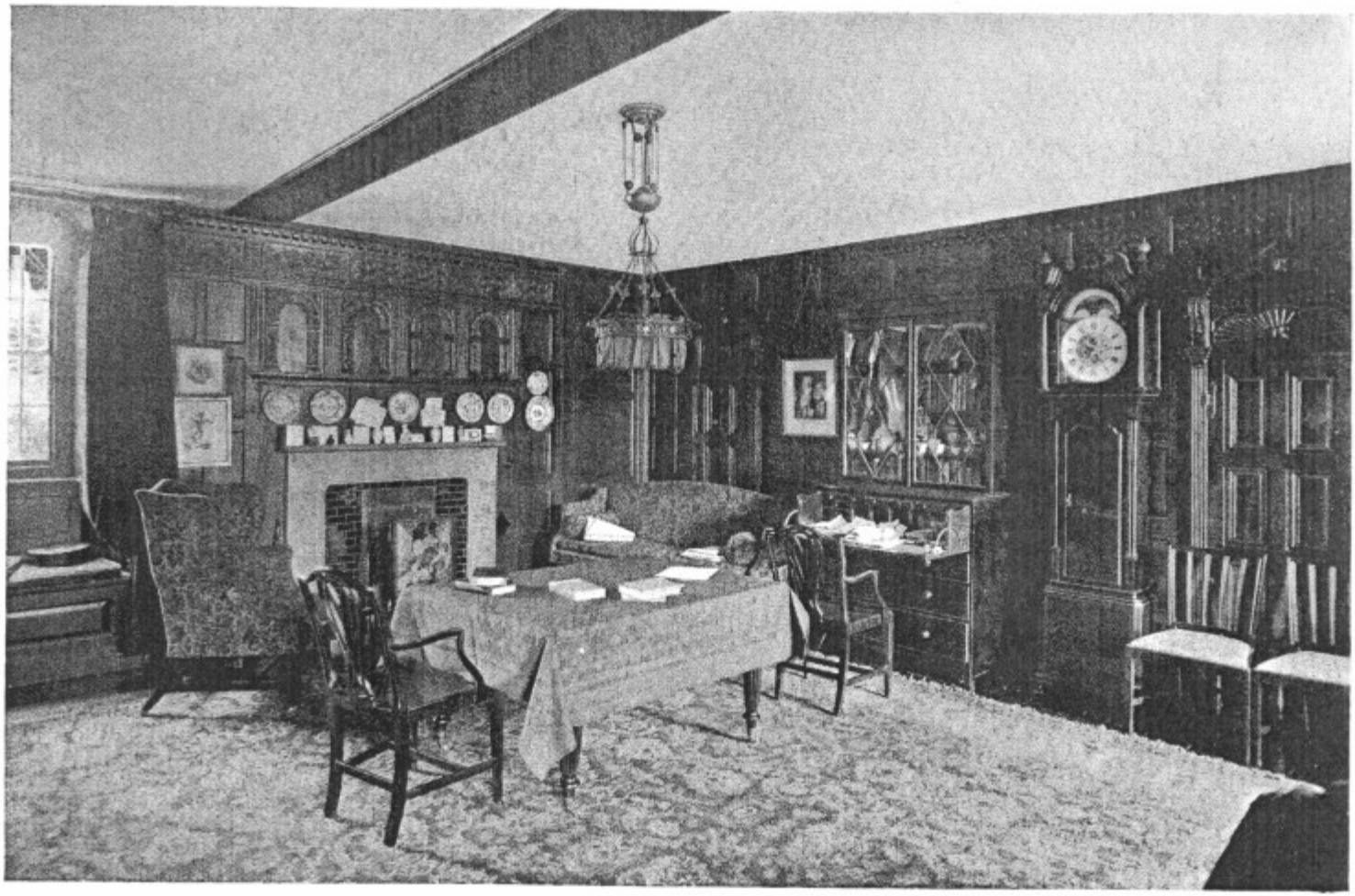

Room occupied by Charles Darwin at Christ's College

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CHARLES ROBERT DARWIN.

SHREWSBURY DAYS, 1809—1825.

OUR knowledge of these years of his life is almost entirely derived from the short autobiography which Darwin wrote for his children in 1876.

He was born on February 12, 1809, at The Mount, Shrewsbury, the son of Robert Waring Darwin, Doctor of Medicine, and his wife Susannah, daughter of Josiah Wedgwood, the potter of Burslem and Etruria. His grandfather was Erasmus Darwin, physician, philanthropist and poet, in whose *Botanic Garden* Horace Walpole found a passage "the most sublime in any author or in any of the few languages with which I am acquainted."

In 1817 Charles Darwin lost his mother and was sent to a day-school in the town kept by the minister of the Unitarian Chapel in High Street, in which Coleridge preached, and which Mrs Darwin attended, although her sons were christened at St Chad's Church. Under date August 10, 1818, his name stands in the Admission Register of Shrewsbury School—Charles Darwin, son of Doctor Darwin of Shrewsbury, II (1) (his form), aged 9. He remained as a boarder at Shrewsbury for seven years, till

Midsummer 1825; in October of that year he went to Edinburgh University.

The curriculum of an English public school in the early years of the nineteenth century was not made to suit the taste of individual students, still less of the heaven-sent genius. All boys were placed in the same literary mill and expected to emerge as scholars of colleges and ultimately Senior Classics. Although Darwin "took an intense delight in Shakespeare, especially in the historical plays," and had "a good collection of old verses, which, by patching together, I could work into any subject," the classic writers did not attract him, with the exception of Horace; he could learn his repetition during the Chapel service, but forget it almost as quickly. Dr Butler looked with disapproval on his hobbies, and one day, to his horror, called him a *poco curante*. We can picture him at any age between nine and sixteen running away from school between Calling-Over and Locking-Up across the Welsh Bridge, up Frankwell, to his home at the top of the hill, where he could read White's *Selborne*, help his brother in the laboratory made out of the garden tool-house, and arrange his collections of shells, seals, franks, coins, minerals and insects. His school nickname *Gas* was given him when it was known that he was a self-taught student of practical chemistry.

The traveller who enters Shrewsbury from the Station passes up the steep street known as Castle Gates; on his right hand is the old School, and in front of the Jacobean stone arch-way is a seated statue of the greatest of all Old-Salopians.

T. E. PICKERING.

CHARLES DARWIN AT THE UNIVERSITIES.

EDINBURGH—CAMBRIDGE.

AFTER leaving Shrewsbury at a somewhat earlier age than boys usually leave their school, Charles Darwin joined the University of Edinburgh in October 1825, with a view to reading for a Degree in Medicine; he remained in Edinburgh two years. At the time he 'came up' his brother was completing his medical studies in the Northern University but during his second year Charles Darwin was in Edinburgh alone. The University teaching at that time was altogether by lectures, and these proved to Darwin to be intolerably dull, with the exception of those on Chemistry by Hope. "Dr Duncan's lectures on Materia Medica at 8 o'clock on a winter's morning are something fearful to remember. Dr ———— made his lectures on Human Anatomy as dull as he was himself, and the subject disgusted me." Later in life he deeply regrets that he did not practise dissection more diligently, and that he did not attempt to develope any capacity for drawing.

At Edinburgh he became acquainted with several young men interested in Natural Science; amongst them may be mentioned Mr Ainsworth, who afterwards travelled in Assyria; Dr Coldstream and Dr Grant, both of whom published sound Zoological Papers. The latter introduced him to the writings of Lamarck, and Darwin thinks it is probable that his hearing early in life philosophical views such as Lamarck's maintained and praised may have favoured his upholding them in a different form in his "Origin o

Species." With Grant and Coldstream he used to collect animals in the tidal pools along the Firth of Forth. He also made friends with the Newhaven fishermen and sometimes accompanied them when they trawled for oysters.

He records that in the year 1826 he read a short Paper before the Plinian Society. His discovery was, that the so-called eggs of *Flustra*, which had the power of independent movement by means of cilia, were in fact larvae. In a second Paper he showed that what at that time was supposed to be the young state of the sea-weed *Fucus loreus* were in fact the egg-cases of the leech of *Pontobdella muricata*. He attended the Royal Medical Society where he heard "much rubbish talked," and the Wernerian Society. He listened to Audubon lecture on the habits of North American birds, "sneering somewhat unjustly at Waterton." It was at Edinburgh that Darwin took his first lessons in stuffing birds, and his preceptor was a negro who at one time had travelled with Waterton.

He records in his autobiography that he once attended a meeting of the Edinburgh Royal Society where Sir Walter Scott took the Chair as President. "I looked at him" he says, "and at the whole scene with some awe and reverence, and I think it was owing to this visit during my youth, and to my having attended the Royal Medical Society, that I felt the honour of being elected a few years ago an Honorary Member of both these Societies more than any other similar honour."

It was during the year 1828 that Dr Robert Waring Darwin—our hero's father—perceived that his second son did not like the thought of being a physician, so he proposed that he should become a clergyman, and with this end in view Charles Darwin left Edinburgh and began to

prepare for entering Cambridge University. He tells us in his autobiography that his father "was very properly vehement against my turning into an idle sporting man, which then seemed my probable destination." "If the phrenologists are to be trusted, I was well fitted in one respect to be a clergyman. A few years ago the secretaries of a German psychological society asked me earnestly by letter for a photograph of myself; and some time afterwards I received the proceedings of one of the meetings, in which it seemed that the shape of my head had been the subject of a public discussion, and one of the speakers declared that I had the bump of reverence developed enough for ten priests."

The Admission Book at Christ's College, which in those days was very negligently kept, contains the following entry:—"Admissi sunt in Collegium Christi a Festo Divi Michaelis 1827 ad Festum eiusdem 1828:

[No. 3.]

Octobris 15. Carolus Darwin admissus est pensionarius minor sub M^ro^ Shaw."

Charles Darwin came into residence in the Lent Term of 1828, and graduated in the Easter Term of 1831. The reason for his not joining the college in the usual month of October was that, although he had been educated at Shrewsbury, one of the best classical schools in England, during the two years he had spent at Edinburgh studying the preliminaries for the medical profession he found to his dismay that he "had actually forgotten, incredible as it may appear, almost everything which he had learnt, even to some few of the Greek letters, so that between October and Christmas he was with a private tutor at Shrewsbury," and, as he records, "I soon recovered my school standard

of knowledge, and could translate easy Greek books such as Homer and the Greek Testament, with moderate facility."

Charles Darwin probably came to Christ's College because his elder brother Erasmus was a student there. Erasmus in fact proceeded to the M.B. Degree in the year Charles Darwin came up. Why Christ's was chosen for this generation of Darwins does not seem clear. Their grandfather Erasmus, of "The Loves of the Plants," was at St John's, a college closely connected with Shrewsbury, but at that period the life of an undergraduate at the sister foundation seems to have been a somewhat troubled one, whereas, to judge from the expressions of contemporaries of Charles Darwin, Christ's was in their day "a pleasant, fairly quiet college, with some tendency towards horsiness." Many of the men made a custom of going to Newmarket during the races, although betting was not a regular practice. In this they were by no means discouraged by the tutor, Mr Shaw, who was himself generally to be seen on the Heath on these occasions. It is in the recollection of those now living that one of the college "gyps" used to recount how when young he had seen a number of students in scarlet coats ride round the first court, as the "History of the College" by Dr Peile, the present master, records. Mr Shaw before his death had held every preferment which it was in the power of the college to confer. At the age of 64 he was elected to the mastership; but the seclusion of the Lodge proved intolerable to one who for 42 years had lived practically in the Combination Room, and he resigned in three weeks. Three years later he accepted the living at Kegworth, but was back in college within two months. He tried no further change until he died in 1859, and after holding a Fellowship for 52 years, he was laid to rest in the ante-chapel. Shaw was evidently, as the manner of the

times was, an easy-going tutor, and there is no indication that he or any of the other authorities did not get on perfectly well with the young naturalist.

Shaw gave up the tutorship in 1829 and was succeeded by John Graham, one of the most brilliant of the *alumni* of the college (fourth Wrangler and Chancellor's Classical Medallist in 1816), who was elected Master of the college in 1830, and was appointed to the Bishopric of Chester in 1848. Graham was one of the small band of Cambridge Liberals in the days of the first Reform Bill, and a strong supporter of the abolition of University tests. He was remarkable also for his eloquence, and was chosen to preach the sermon at the installation of the Duke of Devonshire as Chancellor in 1862. As a disciplinarian in college he is said to have been somewhat too easy-going, a fault which Darwin would probably be very ready to forgive him.

Late in life men are apt to look back upon their college days with a somewhat exaggerated regret for lost opportunities, and Charles Darwin felt that at Cambridge his "time was wasted, as far as his academical studies were concerned, as completely as at Edinburgh and at school." But this must not be taken too literally. He seems to have passed his University examinations with ease, and a letter recording his joy at getting through the "Little-Go" shows that he at any rate took them seriously. With regard to the examiners, he remarks, "they are strict, and ask a wonderful number of questions." In his third year he records that he worked with some earnestness for his final degree of B.A., brushing up his classics, algebra, and Euclid, which later gave him much pleasure as it had at school.

In those days Paley's "Evidences of Christianity," as well as his "Moral Philosophy," were essentials for the B.A. Degree, and Darwin prepared the subject matter of these

works in a very thorough manner. The logic of the "Evidences" gave him, he says—

> "as much delight as did Euclid. The careful study of these works, without attempting to learn any part by rote, was the only part of the academical course which, as I then felt, and as I still believe, was the least use to me in the education of my mind. I did not at that time trouble myself about Paley's premisses, and taking these on trust I was charmed and convinced by the long line of argumentation."

He passed the final examination with success, and indeed gained a good place amongst those who were candidates for the Ordinary Degree. In later years Darwin was not quite sure what place he had taken in his final examination, his memory fluctuating between fifth, tenth, and twelfth. As a matter of fact, a reference to the archives of the University shows that he was placed tenth in the οἱ πολλοὶ, a not uncreditable position out of a class list of 178 successful candidates. In that year the whole number of the Honours candidates was but 86. With reference to his degree he writes to his cousin William Darwin Fox:—"As for Christ's, did you ever see such a College for producing Captains and Apostles? There were no men either at Emmanuel or Christ's plucked." It should perhaps be explained that the "Captain" is at the head of the "Poll": the "Apostles" are the last twelve in the Mathematical Tripos.

Apparently Darwin's experiences at Edinburgh had given him a distaste for lectures, and it is unfortunate that this distaste kept him away from Sedgwick's teaching. He, however, attended the Botanical lectures of Henslow, which were then crowded with students as well as with senior members of the University, and he revelled in the excursions

which Henslow used to conduct, on foot or in coaches, or down the river in barges, "or to some more distant place, as to Gamlingay, to see the wild lily of the valley and to catch on the heath the rare natterjack." He was in fact known to the senior members of the University as "the man who walks with Henslow," and the man who walked with Henslow did not spend three years at Cambridge wholly in vain.

On coming into residence Darwin kept for a couple of terms over the shop of Bacon—Calverley's Bacon—the tobacconist, at that time in Sidney-street. For the rest of his time in Cambridge he had a pleasant panelled set of rooms on the south side of the first court of Christ's, formerly occupied, according to tradition, by Paley, and since Darwin's time by the present Dean of Westminster and successive College Deans.

Darwin, as has been said, came up after Christmas. Some of his contemporaries at Christ's will be found at page 206. Amongst his friends was Whitley, Senior Wrangler in 1830, who inoculated him with a taste for pictures and good engravings, and Darwin records with pleasure his frequent visits to the "Fitzwilliam Gallery," and thinks that his taste for pictures and engravings must have been "fairly good; for I certainly admired the best pictures." His friend J. M. Herbert introduced him to a musical set, and, in spite of his want of ear, he acquired a strong taste for music, "and used very often to time his walks so as to hear on week-days the anthem at King's College Chapel." He says, "this gave me infinite pleasure, so that my backbone would sometimes shiver." Amongst other absorbing pursuits was that of collecting insects, especially beetles. He was first interested in entomology by his cousin W. Darwin Fox, of Christ's, who had kindred tastes, and

with whom he frequently corresponded—in fact, most of the letters written from Christ's College that remain were addressed to him.

Here I interpolate two paragraphs lifted bodily from Mr Francis Darwin's admirable Life of his father:

> "My father formed one of a club for dining once a week, called the Gourmet Club, the members, besides himself and Mr Herbert (from whom I quote), being Whitley of St John's, now Honorary Canon of Durham, Heaviside of Sidney, now Canon of Norwich; Lovett Cameron of Trinity, now vicar of Shoreham; Blane of Trinity, who held a high post during the Crimean War; H. Lowe (now Sherbrooke) of Trinity Hall; and Watkins of Emmanuel, now Archdeacon of York. The origin of the club's name seems already to have become involved in obscurity. Mr Herbert says that it was chosen in derision of another set of men who called themselves by a long Greek name signifying 'fond of dainties,' but who falsified their claim to such a 'designation by their weekly practice of dining at some roadside inn, six miles from Cambridge, on mutton chops or beans and bacon.' Another old member of the club tells me that the name arose because the members were given to making experiments on 'birds and beasts which were before unknown to human palate.' He says that hawk and bittern were tried, and that their zeal broke down over an old brown owl 'which was indescribable.' At any rate, the meetings seem to have been successful, and to have ended with 'a game of mild vingt-et-un.'"[1]

Mr Herbert and Charles Darwin were reading during the Summer Vacation with private tutors at Barmouth and a great friendship seems to have sprung up between them:

> "The intercourse between them practically ceased in 1831, when my father said good-bye to Herbert at Cambridge, on starting on his *Beagle* voyage. I once

[1] *Life and Letters of Charles Darwin*, Vol. I. p. 166.

> met Mr Herbert, then almost an old man, and I was much struck by the evident warmth and freshness of the affection with which he remembered my father. The notes from which I quote end with this warm-hearted eulogium: 'It would be idle for me to speak of his vast intellectual powers...but I cannot end this cursory and rambling sketch without testifying, and I doubt not all his surviving College friends would concur with me, that he was the most genial, warm-hearted, generous, and affectionate of friends; that his sympathies were with all that was good and true; and that he had a cordial hatred for everything false, or vile, or cruel, or mean, or dishonourable. He was not only great, but pre-eminently good, and just, and loveable.'"[1]

After he had passed his final examination Darwin had still to keep one term in order to proceed to his degree, which he received on April 26, 1831, and it was during this term and the subsequent May term when he was still in residence, that, unvexed by the prospect of examinations, Henslow persuaded him to begin the study of geology. There must have been something unusual about the student, for he seems to have made friends with men much older than himself, and some of them, one would imagine, not very approachable. He records how he used to walk home at night with Dr Whewell; and rejoices in his friendship with Leonard Jenyns. He became the friend of Adam Sedgwick, and in August, 1831, he accompanied him on a geological survey in North Wales. It was on returning from this trip that he found a letter from Henslow informing him that Captain Fitzroy was willing to give up part of his cabin to any young man who would volunteer without pay to act as naturalist on the classical voyage of the *Beagle*.

We have seen how Darwin had been influenced by the works of Paley; and it is interesting to record that when,

[1] *Life and Letters of Charles Darwin*, Vol. I. p. 166.

owing to the cramped space in a brig of ten guns, Darwin was restricted to a single volume of general reading he selected the writings of a third great Christ's man, John Milton.

Captain Fitzroy, like Mrs R. Wilfer, was a "disciple of Lavater," and took exception to the shape of Darwin's nose. "He doubted whether any one with my nose could possess sufficient energy and determination for the voyage." But on acquaintance his doubts soon vanished, and the captain and his naturalist became close friends.

Five years later, on December 13, Darwin settled again in Cambridge, but only for three months. He took lodgings in Fitzwilliam-street—which unlovely collection of lodging-houses deserves at least some tablet to record the fact—and spent his time in unpacking and distributing the collections which he had made on his South American voyage. He was apparently a good deal in college, and was evidently made a "Member of the Room," for his name occurs frequently in the Combination Room wine book. This book, which dates back to pre-Napoleonic times, is one of the few records the college retains of the presence of the great naturalist.

From this, at the risk of being fined a bottle of port "for discovering the secrets of the room," I make two extracts, the first recording a fine, the second a bet:

"29 Dec. 1836. Mr Darwin fined for being late in hall."

"23 Feb. 1837. Mr Darwin *v.* Mr Baines. That the Combination Room measures from the ceiling to the floor more than (x) feet.

N.B. Mr Darwin may measure at any part of the room he pleases.

Mr Darwin lost."

His relations to Christ's were always of the most cordial kind, and it has ever been a subject of regret to the governing body that their new statutes did not pass through Parliament in time for them to confer the only honour they could confer upon Darwin, that of an honorary Fellowship.

Whatever feeling Darwin had about the education that he received at Cambridge he had a real love for the place, to which he sent all but one of his sons; and it is good to read the following lines in his autobiography:—"Upon the whole, the three years I spent at Cambridge were the most joyful of my happy life."

A. E. SHIPLEY.

CHRIST'S COLLEGE IN THE YEARS PRECEDING THE ENTRY OF CHARLES DARWIN.

IT might be supposed that it would be easier to get a clear idea of the condition of a College and of its personnel in the first decades of the nineteenth century than it is of the same in the seventeenth. But it is not so. In many respects we can get more information respecting the College in the time of John Milton than in the time of Charles Darwin. The College records of the earlier period are much more ample, and the Admission Book was much

better kept. That book, as has often been noted, tells us only that Charles [not Charles Robert] Darwin was admitted a pensioner under Mr Shaw: and, from about 1790 to about 1840, the entries are as a rule no less inadequately made: so much so that identification is sometimes difficult. In the case of Charles Darwin that difficulty does not exist. We know certainly that the Charles Darwin admitted here 15 Oct. 1827 was the Charles Darwin whose work has so profoundly affected not only scientific investigation but also our conceptions in so many other departments of human thought. I do not propose in this short article to describe Darwin's life, when at Cambridge. I propose only to give the best sketch that I can of the College at the time when he entered it, as it had been shaped during a quarter of a century by its members whether governors or governed.

From the beginning of the century to 1815 the number of students throughout the University was seriously affected by the Napoleonic war. Probably many, who might naturally have come to Cambridge to qualify for Holy Orders, entered the army: probably many families were unable to bear the cost of maintaining their sons at Cambridge: both these causes, it may be remembered, affected (to a smaller extent) the entry at the University in the recent South African war. At Christ's the undergraduates were almost as scanty as in the middle of the eighteenth century—another empty time at Cambridge. During the ten years 1800–9 the average number was nine a year: between 1810 and 1814 the average was under thirteen. But in 1815 the number sprang up to 23: the average for the years 1815–19 was 27; for the nine years down to July 1828 (when Darwin was already a member) it was about

30—much the same as it was thirty years later. But though the number was small there were at least as many men of mark among them as there were in the larger years to follow. In the years 1800–8 Thomas Browne was the tutor—an able man, of pleasant manners, though his history disproves his fitness for so important an office: it was he who was Master 1808 to 1814 and then ejected. Under him (to mention only a few) there were Ralph Bernal, who sat in Parliament from 1818 to 1852, the well-known collector of objects of art which after his death were sold for £71,000: James Thomas Law (the grandson of Edmund Law, Bishop of Carlisle and once a tutor here), Chancellor of Lichfield, and a voluminous writer who compiled, *inter alia*, five volumes of *Ecclesiastical Statutes*: lastly a young man of great name and of unfulfilled promise, Horatio Nelson, son of William, first Earl Nelson (also educated here in earlier days and brother of the Admiral); after residing for a few terms he went in 1806 with Admiral Russell to the Texel, and returned to die at the age of 19. From 1808 to 1814 the College had a tutor of a very different kind, John Kaye, Senior Wrangler, Smith's Prizeman, and Chancellor's Medallist, who succeeded Browne both as tutor and as Master, and was Regius Professor of Divinity (at the age of 32), and was Bishop successively of Bristol and of Lincoln. He was a remarkable man, the restorer of patristic study at Cambridge; and his high attainments and even higher character attracted to the College men of rank and importance. Among these was John Crichton Stuart, then Earl of Dumfries, and afterwards second Marquis of Bute; and a younger brother, Patrick, who was M.P. for the Ayr Boroughs: William, eleventh Baron Petre: George Finch-Hatton, tenth Earl of Winchilsea and sixth of Nottingham,

who sturdily opposed Catholic Relief, and declared that the Duke of Wellington aimed at "introducing popery into every department of state"; the result was a duel in which the Duke missed his assailant, who then fired in the air and apologised for his language. There were also Daniel Finch-Hatton, a younger brother of George, who took Orders and was Chaplain to the Queen: William Mackenzie Dawson, son of Lord Portarlington, and grandson of the third Earl of Bute: Thomas Robert (afterwards fourth Baron) Dimsdale: Robert Smith, who later took the name Carrington, and became second Baron Carrington in 1838; he was a Fellow of the Royal Society and father of the present President of the Board of Agriculture and Fisheries: and John Frauncis Fitzgerald, Knight of Glin. Others rose to eminence in the Church: Charles Butler Clough was Dean of St Asaph: Benjamin Philpot, for a short time a Fellow, was afterwards Archdeacon of Sodor and Man, and died at a great age in 1889: John Ramsden Wollaston was Archdeacon of Albany in West Australia. Noticeable for other reasons were William Harness, the Minister of All Saints, Knightsbridge, who built that church with his own money and with contributions which he obtained from others, a well-known Shakespearean scholar, in whose honour his friends founded after his death the Harness Prize in the University: Thomas Ayre Bromehead, who after a chequered career at Christ's, travelled much in the East, and died at Konieh in Asia Minor in 1825, aged only 32: lastly, William Henry West-Betty, the "young Roscius" who when barely 12 appeared on the stage at Belfast and in the following year acted at Covent Garden; during the next four years he appeared at London and in the provinces, being everywhere received with enthusiasm; the numerous verses in his honour in the

Gentleman's Magazine are amusing to read[1]: in April 1808 he retired from the stage and was educated by Mr Wollaston of the Charterhouse, with whose son (mentioned above) he was entered at Christ's, where he resided more than two years: his reappearance on the stage in 1812 was less successful; at the age of 32 he finally retired to enjoy in obscurity for fifty years the ample fortune which he had made—and not wasted: he died in 1874 aged 82.

Bishop Kaye was Master of the College till October 1830. While Bishop of Bristol he needed not (by the standard of those days) to reside in his small diocese except in the Long Vacation: for three years he was both Master and Bishop of Lincoln, a diocese which then contained Lincolnshire, Leicestershire, Huntingdonshire, Bedfordshire and Berkshire—stretching from the Humber to the Thames: but the Bishop had a palace at Buckden, near Huntingdon, which was convenient for Cambridge, and Dr Kaye probably divided his time between the two places. He was therefore Master during the greater part of Charles Darwin's residence: I do not know that Darwin ever mentions him (or, for that matter, any College officer): but I think that he must have both respected and loved him.

Darwin came into residence in February 1828 under Joseph Shaw. But Darwin had not much experience

[1] The following may be given as a fair specimen of these poetic outbursts. Roscius (the ancient) speaks:

A youth by name West Henry Betty called
My peaceful rest has in the grave appalled:
His action elegant, his diction fine,
His manners easy and his form benign.
O dangerous rival! why my spirit haunt?
Gods! shall a Briton thus my name supplant?

and much more of the same sort.

of Shaw as a tutor: for Shaw resigned the tutorship in July 1828, having been guide, philosopher (?) and friend (in a way) to 400 undergraduates; among whom were a few noblemen and fellow-commoners, a few were sizars; nearly all were pensioners, with no desire for the student life, probably for the most part men in easy circumstances destined to a useful career as country-gentlemen or to country livings. He did not guide them to distinction in the Schools; during his tutorship he cannot be credited with more than 9 wranglers: but he guided them to the hunting-field—and also to Newmarket—at some distance; he had five minutes start of them at the end of a lecture, and tradition says they never caught him up. His reputation may have appealed to those who came to Cambridge after the war, *e.g.* Will. Jardine Purchas, Capt. R.N. who joined the College "castris relictis": as did also John Neville son of the Earl of Abergavenny; who was ordained and became third Earl. Shaw was a gentleman, of fine presence[1]: a liberal both in University and in College

[1] Shaw was still alive during my first three years in the College: and it is to me a pleasant memory that in Feb. 1859, when he was already bed-ridden, he sent for me to his rooms (where Mr C. R. Fay now keeps) to congratulate me on some credit which I had gained for the College in the University. Six months later he died, aged 73, having been a Fellow for 52 years. I may record (if age may excuse talking of myself) how in the August of that year, when the coffin according to custom was being carried from the Hall round the First Court to the Chapel, I was one of the bearers of the pall, the number of Fellows in residence at the time being insufficient; during the procession I thought of what seemed the lonely end of a life passed far from the active work of the outer world; and I determined that my life should never be such. Alas for the vanity of human intentions: in July of next year, if I live so long, I shall have spent in College 50 years since my election as a Fellow.

politics: he supported the attempt of Dr Graham (when Master) to obtain new Statutes for the College: but like Graham he was perhaps hardly energetic enough for such a work. He taught mathematics: he had been 3rd senior optime: but he had able assistants—John Graham, 4th Wrangler and Chancellor's Medallist, and later Edward Baines, 4th in the first Classical Tripos, an old Shrewsburian, a good scholar and a very attractive man. Others of his pupils, besides Baines, call for some mention. There is a small group closely connected with Charles Darwin. One of these was Erasmus Alvey Darwin, his elder brother; like him, he suffered all his life from weak health, but he impressed all who approached him by his charm of manner and sense of humour: "I remember his being called a universal solvent" wrote Miss Julia Wedgwood of him. Another was Hensleigh Wedgwood, Darwin's cousin and brother-in-law, one of the founders of the London Philological Society in 1842, and author in 1857 of a *Dictionary of English Etymology*; the merits of this book (in which he attacks Max Müller's theory that roots are ultimate elements of language) were obscured for a time by the popularity of his antagonist. The admission, first of Erasmus, then of Charles Darwin at this College, may be explained by Wedgwood's membership of it: he graduated in 1824 and was a Fellow till 1830. A third was William Darwin Fox, another cousin, and afterwards rector of Delamere in Cheshire: Charles and he caught beetles together at Cambridge, and their subsequent correspondence, which extended over fifty years, will shortly be deposited in the Library of the College by the wish of Mr Fox's family.

Other Fellows of the College who had been Shaw's pupils, men of higher mathematical ability than their degree

would indicate, were Louis Charles d'Arblay, Fanny Burney's son, an original member of the Analytical Society to which Peacock, Babbage and Herschel belonged; and Charles Lesingham Smith, rector of Little Canfield, a great collector of books on art, classics and mathematics: the latter (largely French books which illustrate the history of mathematical science) were left to the College at his death. His bust stands in the Library. Men of note in Natural Science were Miles Joseph Berkeley, rector of Sibbertoft, the "father of British fungology" and one of our first Honorary Fellows in 1883: and Richard Thomas Lowe, author of a *Manual of the Flora of Madeira*, where he was Chaplain; the collection of fishes formed by him at Madeira is in the University Museum of Zoology; and his letters to Sir William Hooker are preserved in the Herbarium of Kew: C. B. Clarke, of Kew, was engaged on an appendix to the book (of which he thought highly) and on a life of its author, when the work was interrupted by his sudden death in 1906. Two men, unlike in character, were alike cut off by a violent death in India: Robert Salusbury Trevor, Captain of the 3rd Bengal Cavalry, sent by Lord Auckland in 1839 on a semi-political mission to Afghanistan, and killed there with Macnaghten in 1841: and Midgley John Jennings, Fellow of the College, and a founder of the first Delhi Mission, who fell with other members of it in the Mutiny of 1857. Three members of the Bute family were here under Shaw—one being Dudley Coutts Stuart, son of the 1st Marquis by his second wife Frances Coutts, who joined the College later than his two nephews already mentioned: he was M.P. from 1830 to 1854 and was well known for his enthusiastic support of the Polish cause, for which he obtained large grants from Parliament, and gave

annual balls at the Mansion House: he died in 1854 at Stockholm while endeavouring to win over the king of Sweden to a scheme for the reconstruction of Poland.

Contemporary with Darwin was Arthur Todd Holroyd, who was M.B. in 1832. He determined to travel: and in 1836 he went by routes then unfamiliar up the Nile and across the desert to Khartum; up the Blue Nile to Sennaar, and across the desert to the White Nile and Kordofan: he made a (useless) protest to the Egyptian Government against slave-trading. In 1838 he explored Mount Sinai, Palestine and Syria; "Holroyd's tracks" used to appear on the maps of the district. He emigrated to New Zealand, and thence to Sydney where he practised at the Bar: was a Member of Parliament and Chairman of Committees: held various judicial posts—Master in Equity 1866, and in Lunacy 1879. For many years before his death in 1887 he gave an annual dinner to all old Christ's men in or about Sydney. Another contemporary was George Henry Moore of Moore Hall in Ireland. Member for many years for county Mayo: leader in the tenant-right movement with C. Gavan Daffy; who commemorated him as "a charming companion, frank, cordial and winning, in intellectual and rhetorical gifts little inferior to Shiel." Of the same year was William Aubrey de Vere Beauclerk, ninth Duke of St Albans. Lastly may be added (out of a considerable list of men of note in Darwin's time) James Hildyard, Fellow of Christ's, and well known both in the University and the College for his somewhat overbearing character: an opponent of Graham's proposed statutes, but not merely obstructive: he was an active assailant of the system of private tuition then flourishing at Cambridge: the battle caused strong feeling for many years. He was an ardent supporter of liturgical reform:

numerous letters on this subject were published by him, when he had retired to a quiet Lincolnshire living, under the title *Ingoldsby Letters*; they went through three editions in five years.

Darwin's tutor for most of his course here was John Graham, already mentioned: who resigned his tutorship in 1830 on his election as Master, November 8, in succession to Kaye. Like Kaye he won exceptional academic distinction—as 4th Wrangler and Chancellor's Medallist. No man could be less like his predecessor Shaw, though in politics they agreed: not possessing Shaw's peculiar qualities he could not keep up the numbers in a "non-reading College," which Shaw had allowed it to become. A valuable notice of him published in this *Magazine* (Michaelmas, 1893) by one who knew and loved him, E. T. Vaughan, tells of his oddities of manner, unusual in a Head of a House; of "his real kindness, large knowledge, clearness of thought and felicity of expression, his sound and independent judgment": but also of his impatience of opposition to his proposals for reform in the College during the troubled days of his mastership; and of the "constitutional indolence and dilatoriness which prevented him from taking the leading position which his ability fitted him to hold." It may be noted that as Bishop of Chester (1848–65) he was conciliatory in his administration of the diocese: and that he lived to see the changes which he desired both in the College and in the University carried out in 1860 by the University Commission of which he was a member.

Darwin's third tutor, in his last year, was Edward John Ash, who "cared for his men and willingly took a great deal of trouble for them in every thing but the preparation of his lectures" (E. T. V.).

I have thus tried to give an idea of the character of the College as it had been fashioned by those who went before, when Darwin entered it at the beginning of 1828. On the amount of the debt which he owed it I do not intend to enter. It has been estimated by himself in his Autobiographical sketch; by his son Francis in his fascinating Life of his father. It may have been small: "as far as the academic studies were concerned, my time was wasted," he wrote (*Autobiography*, in the *Life*, I. 46). It may be that the teachers under whom he was placed therein, able as some of them were, were unable to give him stimulus; and it is stimulus, more than instruction, that a strong young man needs. Such stimulus he did get in the University from Professor Henslow, and to some extent from Adam Sedgwick. He carried out the kind of study which he desired not the less profitably because it seemed to him a recreation, not part of any recognised course: each day in the fens and waste places about Cambridge was a holiday, but the outcome of all these days was the acquisition of a true scientific method: and he had sufficient, if unofficial, guidance, without being shown at every step the place where his feet should be placed. The result was that immediately after graduating in 1831 he was fit to be appointed naturalist to a scientific expedition. A young man selected for such a task in these days would be deemed to have employed his University time well.

I end with quoting the impression which he made on one who joined the College in 1830—the same E. T. Vaughan (afterwards a Fellow of the College) from whom I have quoted before: it may have been somewhat coloured by his knowledge of Darwin's later history, but it seems to me on the whole trustworthy. "Among the men of higher

years who were still to be seen in College in my first term one even now stands out clear and sharp in my remembrance:—Charles Darwin. The rugged form, as kindly as it was full of intellectual power, could never be forgotten. It was even then the same essentially as the striking photograph [by Elliot and Fry] shows it to have been in old age. His mastery of Botany and of Natural History generally was even then acknowledged: and we knew that he was going on a scientific expedition round the world in the *Beagle*." Is there any one now in College of whom a freshman of 1908–9 will write in a like strain, sixty years hence?

JOHN PEILE.

DARWIN AND THE LINNEAN SOCIETY.

AT a special meeting of the Linnean Society of London held on the 1st of July, 1908, to celebrate the fiftieth anniversary of the reading of the joint papers on evolution by Charles Robert Darwin and Alfred Russel Wallace, the following striking words were spoken by Mr Francis Darwin:—

"I wish to say a few words in my private capacity, as to my father's relations with this Society. I think the Linnean was the only Society except the Geological for which he had a personal feeling. He had of course that loyalty and respect for the Royal Society which all her Fellows feel. But with the Linnean there was a closer bond. It is a melancholy

fact that he sent only one paper to the Royal Society for publication, while the volumes of the Linnean Society are full of some of his very best work, such things as the papers on Orchids, on Dimorphic Plants, Climbing Plants and so on. It was in the course of this long series of publications that the mutually pleasant relationship with this Society grew up, which was to my father a source of real satisfaction."

Mr Darwin's connection with the Linnean Society began in 1853 when he was proposed, his election taking place early in the following year. Looking over the list of his published papers, one is struck by the fact that so many of his earlier contributions to biological literature appeared in the publications of the Geological Society, of which he was a Secretary for three years; and whilst occupied with the subjects specially cultivated by that Society, it was natural that his essays should be printed by it.

The long period spent in collecting material for his epoch-making "Origin of Species," seems to have led him in an increasing measure to work with some of the more prominent and active members of the Linnean Society. Robert Brown, "princeps botanicorum," was not only a stimulating friend, but gave invaluable help to the young and inexperienced naturalist who was about to sail in the *Beagle*. From his encyclopaedic knowledge, his vast experience, and his amiable character, Brown was for the latter part of his life a dominating factor in the corporate existence of the Society. John Stevens Henslow, and his brother-in-law, Leonard Jenyns (afterwards Blomefield) were likewise Fellows; and the latter lived to be the Father of the Society, dying at the age of 92 years, 71 years after his election in 1822. Of a later generation, and contemporaries of Darwin,

we may mention Dr (now Sir) Joseph Dalton Hooker, who was so intimately associated with him in his enquiries, and of the most essential help in all questions relating to botanic subjects; Thomas Bell, the zoologist; Sylvanus Hanley, the conchologist; Edward Forbes; and John Joseph Bennett, the colleague and successor to Robert Brown at the British Museum.

With these friends, Darwin was in the happiest relationship, and as these were largely responsible for the shaping of the conduct of the Linnean Society, it is not surprising that the atmosphere of that Society became increasingly sympathetic. The special points on which Darwin laboured during the part of his life immediately after the issue of his most famous book were precisely those within the sphere of the activities of the Linnean Society, and each reacted upon the other. Whilst the author communicated his successive memoirs to the Society, the latter welcomed each additional contribution as an important step onward, not merely as a mere record of observation, but of generalisation, and the foreshadowing of natural laws.

Darwin's first paper read before the Society was printed in 1857. It was entitled "On the action of Sea-water on the germination of Seeds," and appeared in the new form of the octavo journal, then recently adopted.

The next item was the memorable joint communication on the 1st July, 1858. So great was the veneration in which Robert Brown was held, that when he died on the 16th June, 1858, the next meeting of the Society was abandoned, and the papers on the agenda were postponed. Brown had been a Vice-President, and the vacancy on the Council caused by his death had to be filled within three months. Instead, therefore, of summoning a General

Meeting in the middle of the recess, the Council determined to prolong the current session; and filling the vacancy in the Council, to take up the business which had been adjourned from the 17th June and place it on the agenda paper for the 1st July, 1858. There was however one very important addition, the celebrated joint essay of Darwin and Wallace; and this prepared the biological world for the "Origin" which was published in the succeeding year.

This supremely important communication has been recently reprinted (in the official account of the celebration already mentioned). Suffice it to say, that the twenty years that Darwin had spent in persistent enquiry, in sifting of evidence and correlation of facts, seemed likely to be forestalled by a letter from Dr A. R. Wallace, in which he embodied his views in practically the same form as Darwin had done in the laboriously evolved memoir which he did not even then think ripe for publication. The friendly efforts of Dr J. D. Hooker and Sir C. Lyell were not in vain, and the twin essays were duly laid before the Society four months earlier than they would have been, had the papers been read at the first meeting of the following session. There was no discussion; the subject was too novel for the old school of naturalists to encounter without time for thought and preparation, and it is not too much to say that at no meeting during the existence of the Society has any paper been brought forward of equally great and far-reaching significance.

Dimorphism was the subject of the next paper printed in the Journal of the Society. It was entitled "On the two forms, or dimorphic condition, in the species of *Primula*, and on their remarkable sexual relations," and was issued

in 1862. Primarily devoted to the primrose and cowslip, this paper contains observations, and foreshadows research in other genera besides *Primula*.

It was followed almost immediately by another paper "On the three remarkable sexual forms of *Catasetum tridentatum*, an Orchid in the possession of the Linnean Society." The special feature was the production of flowers belonging apparently to three different genera on the same spike, the explanation being that these dissimilar flowers were merely sexual forms of the same species.

The paper "On the existence of two forms, and on their reciprocal sexual relations, in several species of the genus *Linum*," published in 1864, was read in 1863, and followed the lines of previous research, details being given of the pollination experiments which had been carried out by the author.

"On the sexual relations of the three forms of *Lythrum salicaria*" succeeded a few months later, giving tabular details concerning results of the pollination of this trimorphic plant.

The next paper "On the movement and habits of Climbing Plants," was read in 1865. It was the longest memoir (from Darwin's pen) which appeared in the Society's publications, and extended to 118 pages, forming the first edition of the independent volume with the same title which came out in 1875.

A short paragraph was printed in a paper by the Rev. George Henslow, in the same volume of the Journal, at page 358, which is enumerated in the "Life and Letters of Charles Darwin," as, "Note on the Common Broom (*Cytisus scoparius*)"; it refers to insect pollination, by means of the shorter and longer stamens.

Next in order came "On the Character and Hybrid-

like Nature of the Offspring from the illegitimate unions of Dimorphic and Trimorphic plants." It was read in 1868 for the author by George Busk, and is memorable to the writer as the first paper by Darwin read at the Society in his hearing.

Four weeks later was read a second paper, this time by Frederick Currey, the secretary for Botany, "On the specific difference between *Primula veris*, Brit. Fl. (var. *officinalis*, of Linn.), *P. vulgaris*, Brit. Fl. (var. *acaulis*, Linn.), and *P. elatior*, Jacq., and on the Hybrid nature of the common Oxlip. With supplementary remarks on naturally-produced Hybrids in the genus *Verbascum*," and was printed in immediate succession to the previous paper.

Several years passed, signalised by many brief notes in "Nature," "The Gardeners' Chronicle," and other Journals, and then came the last two contributions to the Linnean Society, both read on the same evening, March 16th, 1882, by the author's son, Francis Darwin. They dealt with "The Action of Carbonate of Ammonia on the Roots of certain Plants," and "The Action of Carbonate of Ammonia on Chlorophyll bodies." One of these had been transcribed; whilst the other was in the handwriting of the author himself, but was reclaimed, and fair-copied for the printers.

Mr Darwin's reluctance to attend evening meetings in London was well-known, and to that reluctance no doubt is due the fact that the present writer only once saw Darwin in the rooms of the Linnean Society; his visits were usually paid between the meetings.

That Darwin entertained so friendly a feeling toward the Linnean Society, as evidenced by his contributions to our pages, and his gifts to the Library, is intensely gratifying to the Fellows of the Society by whom he was universally honoured and esteemed. The last portrait

painted from life, in 1881, by the Hon. John Collier now adorns the Meeting Room of the Society, and will be on view in the rooms of his old College during the month of June.

B. DAYDON JACKSON.

SOME LETTERS FROM CHARLES DARWIN TO ALFRED RUSSEL WALLACE.

[The thanks of the Editors are due to Dr Wallace for kindly placing these letters at their disposal. They are also greatly indebted to Mr Francis Darwin for the correction of the proofs and for the notes. The fifth and eighth letters are now published for the first time.]

[MOOR PARK, FARNHAM.]
May 1, 1857.

MY DEAR SIR,

I am much obliged for your letter of Oct. 10 from Celebes received a few days ago: in a laborious undertaking sympathy is a valuable and real encouragement. By your letter and even still more by your paper[1] in Annals, a year or more ago, I can plainly see that we have thought much alike and to a certain extent have come to similar conclusions. In regard to the Paper in Annals, I agree to

[1] The paper referred to is "On the Law that has regulated the Introduction of New Species" (*Ann. and Mag. Nat. Hist.*, 1855). The Law is "Every species has come into existence coincident both in space and time with a pre-existing closely allied species." Mr Wallace remarks (*My Life*, Vol. I. p. 335) "This clearly pointed to some kind of evolution...but the *how* was still a secret."

Mr Huxley has said of this "powerful essay":—"On reading it afresh I have been astonished to recollect how small was the impression it made." (*Life and Letters of C. Darwin*, Vol. II. p. 185.)

the truth of almost every word of your paper; and I daresay that you will agree with me that it is very rare to find oneself agreeing pretty closely with any theoretical paper; for it is lamentable how each man draws his own different conclusions from the very same fact. This summer will make the 20th year (!) since I opened my first note-book[1] on the question how and in what way do species and varieties differ from each other. I am now preparing my work for publication, but I find the subject so very large, that though I have written many chapters, I do not suppose I shall go to press for two years.—I have never heard how long you intend staying in the Malay Archipelago; I wish I might profit by the publication of your Travels there before my work appears, for no doubt you will reap a large harvest of facts: I have acted already in accordance with your advice of keeping domestic varieties and those appearing in a state of nature, distinct; but I have sometimes doubted of the wisdom of this, and therefore I am glad to be backed by your opinion. I must confess, however, I rather doubt the truth of the now very prevalent doctrine of all our domestic animals having descended from several wild stocks; though I do not doubt that it is so in some cases. I think there is rather better evidence on the sterility of Hybrid animals than you seem to admit: and in regard to Plants the collection of carefully recorded facts by Kölreuter and Gaertner (and Herbert) is *enormous*. I most entirely agree with you on the little effects

[1] Darwin's first note-book is dated July 1837: extracts from it are published in *Life and Letters*, Vol. II. p. 5, and show that he was at this date a convinced evolutionist. In 1842 he wrote out a sketch of his "species theory" in 35 pp. of MS., which was enlarged in 1844 to a very complete statement in 231 pp. of MS. In 1857, the date of this letter, he was engaged on a much fuller book on the subject, which was however destined to remain unfinished, and was finally condensed in 1858-9 into the *Origin of Species*.

of "climatal conditions," which one sees referred to ad nauseam in all books; I suppose some very little effect must be attributed to such influences, but I fully believe that they are very slight. It is really *impossible* to explain my views in the compass of a letter on the causes and means of variation in a state of nature; but I have slowly adopted a distinct and tangible idea,—whether true or false others must judge; for the firmest conviction of the truth of a doctrine by its author, seems, alas, not to be slightest guarantee of truth.

I have been rather disappointed at my results in the Poultry line; but if you should after receiving this stumble on any curious domestic breed, I should be very glad to have it; but I can plainly see that the result will not be at all worth the trouble which I have taken. The case is different with the domestic Pigeon; from its study I have learned much[1]. The Rajah has sent me some of his Pigeons and Fowls and Cats' skins from interior of Borneo and from Singapore. Can you tell me positively that Black Jaguars or Leopards are believed generally or always to pair with Black? I do not think colour of offspring good evidence. Is the case of parrots fed on fat of fish turning colour mentioned in your Travels? I remember case of Parrot with (*I think*) poison from some Toad put into hollow whence primaries had been removed[2]. One of the subjects on which I have been experimentising and which cost me much trouble, is the means of distribution of all organic beings found on Oceanic islands; and any facts on this

[1] His observations on pigeons are effectively used in the *Origin*, and are published in detail in his *Variation of Animals and Plants under Domestication*.

[2] See *Descent of Man* (Edit. II, in one vol.), p. 60.

subject would be most gratefully received: Land-molluscs are a great perplexity to me. This is a very dull letter, but I am a good deal out of health, and am writing this, not from my home, as dated, but from a water-cure establishment.

With most sincere good wishes for your success in every way

I remain, my dear Sir,
Yours Sincerely,
CH. DARWIN.

DOWN, BROMLEY KENT.
Dec. 22, 1857.

MY DEAR SIR,

I thank you for your letter of Sept. 27. I am extremely glad to hear that you are attending to distribution in accordance with theoretical ideas. I am a firm believer that without speculation there is no good and original observation. Few travellers have attended to such points as you are now at work on; and indeed the whole subject of distribution of animals is dreadfully behind that of Plants. You say that you have been somewhat surprised at no notice having been taken of your paper in the Annals[1]: I cannot say that I am; for so very few naturalists care for anything beyond the mere description of species. But you must not suppose that your paper has not been attended to: two very good men, Sir C. Lyell and Mr E. Blyth at Calcutta, specially called my attention to it. Though agreeing with you on your conclusions in that paper, I believe I go much further than you; but it is too long a subject to enter on

[1] The paper referred to in the previous letter.

my speculative notions. I have not yet seen your paper on distribution of animals in the Arru Islands: I shall read it with the UTMOST interest; for I think that the most interesting quarter of the whole globe in respect to distribution; and I have long been very imperfectly trying to collect data from the Malay Archipelago. I shall be quite prepared to subscribe to your doctrine of subsidence: indeed from the quite independent evidence of the Coral Reefs I coloured my original map in my Coral volume of the Arru Island as one of subsidence, but got frightened and left it uncoloured. But I can see that you are inclined to go *much* further than I am in regard to the former connection of oceanic islands with continents. Ever since poor E. Forbes propounded the doctrine, it has been eagerly followed; and Hooker elaborately discusses the former connection of all the Antarctic islands and New Zealand and S. America. About a year ago I discussed the subject much with Lyell and Hooker (for I shall have to treat of it) and wrote out my arguments in opposition; but you will be glad to hear that neither Lyell or Hooker thought much of my arguments: nevertheless for once in my life I dare withstand the almost preternatural sagacity of Lyell. You ask about Land-shells on islands far distant from continents: Madeira has a few identical with those of Europe, and here the evidence is really good as some of them are sub-fossil. In the Pacific islands there are cases of identity, which I cannot at present persuade myself to account for by introduction through man's agency; although Dr Aug. Gould has conclusively shown that many land-shells have thus been distributed over the Pacific by man's agency. These cases of introduction are most plaguing. Have you not found it so in the Malay Archipelago? It has seemed to me in the lists of Mammals of Timor and other Islands, that *several* in all

probability have been naturalised. Since writing before I have experimented[1] a little on some land-mollusca and have found sea-water not quite so deadly as I anticipated. You ask whether I shall discuss 'man'; I think I shall avoid whole subject, as so surrounded with prejudices, though I fully admit that it is the highest and most interesting problem for the naturalist[2]. My work, on which I have now been at work more or less for 20 years, will *not* fix or settle anything; but I hope it will aid by giving a large collection of facts with one definite end: I get on very slowly, partly from ill-health, partly from being a very slow worker. I have got about half written; but I do not suppose I shall publish under a couple of years. I have now been three whole months on one chapter on Hybridism!

I am astonished to see that you expect to remain out 3 or 4 years more: what a wonderful deal you will have seen; and what interesting areas, the grand Malay Archipelago and the richest parts of S. America! I infinitely admire and honour your zeal and courage in the good cause of Natural Science; and you have my very sincere and cordial good wishes for success of all kinds; and may all your theories succeed, except that on oceanic islands, on which subject I will do battle to the death.

Pray believe me,

My dear Sir,

Yours very sincerely,

C. DARWIN.

[1] He had also observed that fresh water mollusca when just hatched adhere to a duck's foot and withstand 24 hours out of water, so that a migratory bird might carry them great distances.

[2] In the *Origin* however he made it plain that Man was included in his scheme of evolution.

DOWN, BROMLEY KENT.
Jan. 25. [1859.]

MY DEAR SIR,

I was extremely much pleased at receiving three days ago your letter to me and that to Dr Hooker. Permit me to say how heartily I admire the spirit in which they are written. Though I had absolutely nothing whatever to do in leading Lyell and Hooker to what they thought a fair course of action, yet I naturally could not but feel anxious to hear what your impression would be[1]. I owe indirectly much to you and them; for I almost think that Lyell would have proved right and I should never have completed my larger work, for I have found my abstract hard enough with my poor health, but now thank God I am in my last chapter but one. My abstract[2] will make a small vol. of 400 or 500 pages. Whenever published, I will of course send you a copy, and then you will see what I mean about the part which I believe selection has played with domestic productions. It is a very different part, as you suppose, from that played by "natural selection." I sent off, by same address as this note, a copy of *Journal of Linnean Society* and subsequently I have sent some ½ dozen copies of the Paper. I have many other copies at your disposal; and

[1] The facts referred to are well known, and are to be found in *Life and Letters*, vol. II, p. 115. In 1858 Darwin received from Wallace, for transmission to Lyell, a MS. containing a complete though brief statement of the origin of species by means of natural selection. Together with Sir Joseph Hooker, Lyell arranged that this Essay should be published simultaneously with extracts from Darwin's MS. of an earlier date. This was the celebrated paper read before the Linnean Society on July 1st, 1858.

[2] That is the abstract of his larger book, which abstract was afterwards called the *Origin of Species*.

I sent two to your friend Dr Davies (?) author of works on mens' skulls.

I am glad to hear that you have been attending to Bird's nest; I have done so, though almost exclusively under one point of view, viz. to show that instincts vary, so that selection could work on and improve them. Few other instincts, so to speak, can be preserved in a museum.

Many thanks for your offer to look after Horses' stripes; if there are any Donkeys pray add them.

I am delighted to hear that you have collected Bees' combs: when next in London I will enquire of F. Smith and Mr Saunders. This is an especial hobby of mine, and I think I can throw light on subject. If you can collect duplicates at no very great expense, I should be glad of specimens for myself with some Bees of each kind. Young growing and irregular combs, and those which have not had pupæ are most valuable for measurements and examination: their edges should be well protected against abrasion.

Everyone whom I have seen has thought your paper very well written and interesting. It puts my extracts (written in 1839 now just 20 years ago!)[1], which I must say in apology were never for an instant intended for publication, in the shade.

You ask about Lyell's frame of mind. I think he is somewhat staggered, but does not give in, and speaks with horror often to me, of what a thing it would be and what a job it would be for the next Edition of Principles, if he were "*per*verted." But he is most candid and honest and I think will end by being *per*verted. Dr Hooker has

[1] This is an accountable slip on Darwin's part. The earlier of the extracts which make up his share of the joint paper is from the MS. of 1844.

become almost as heterodox as you or I—and I look at Hooker as *by far* the most capable judge in Europe.

Most cordially do I wish you health and entire success in all your pursuits, and God knows if admirable zeal and energy deserve success, most amply do you deserve it. I look at my own career as nearly run out: if I can publish my abstract and perhaps my greater work on same subject, I shall look at my course as done.

Believe me, my dear Sir,

Yours very sincerely,

C. DARWIN.

DOWN, BROMLEY KENT.
April 6, 1859.

MY DEAR MR WALLACE,

I this morning received your pleasant and friendly note of Nov. 30. The first part of my MS. is in Murray's hands to see if he likes to publish it. There is no preface, but a short Introduction, which must be read by everyone who reads my Book. The second Paragraph in the Introduction I have had copied *verbatim* from my foul copy[1], and you will, I hope, think that I have fairly noticed your paper in *Linnean Transactions*—you must remember that I am now publishing only an abstract and I give no references. I shall of course allude to your paper on

[1] Darwin enclosed a copy of the paragraph in the Introduction to the *Origin of Species* which refers to Wallace's share in the Linnean paper of July 1st "On the Tendency of Species to form Varieties, &c." By a slip of the pen Darwin described it as being published in the *Transactions* instead of the *Journal* of the Society.

Distribution: and I have added that I know from correspondence that your explanation of your law is the same as that which I offer. You are right that I came to conclusion that Selection was the principle of change from study of domesticated productions; and then reading Malthus I saw at once how to apply this principle. Geographical Distribution and Geological relations of extinct to recent inhabitants of S. America first led me to subject. Especially case of Galapagos Islands. I hope to go to press in early part of next month. It will be small volume of about 500 pages or so. I will of course send you a copy. I forget whether I told you that Hooker, who is our best British Botanist and perhaps best in World, is a *full* convert, and is now going immediately to publish his Confession of Faith; and I expect daily to see the proof-sheets[1]. Huxley is changed and believes in mutation of species: whether a *convert* to us, I do not quite know. We shall live to see all the *younger* men converts. My neighbour and excellent naturalist J. Lubbock is enthusiastic convert. I see by Natural History notices that you are doing great work in the Archipelago; and most heartily do I sympathise with you. For God's sake take care of your health. There have been few such noble labourers in the cause of Natural Science as you are. Farewell, with every good wish

Yours sincerely,

C. DARWIN.

P.S. You cannot tell how I admire your spirit, in the manner in which you have taken all that was done about publishing our papers. I had actually written a letter to

[1] Of Sir J. D. Hooker's *The Flora of Australia, an Introductory Essay to the Flora of Tasmania*, 1859.

you, stating that I would *not* publish anything before you had published. I had not sent that letter to the Post when I received one from Lyell and Hooker, *urging* me to send some MS. to them, and allow them to act as they thought fair and honourably to both of us.—I did so.

DOWN, BROMLEY KENT.
Aug. 9, 1859.

MY DEAR MR WALLACE,

I received your letter and memoir on the 7th and will forward it tomorrow to Linnean Society[1]. But you will be aware that there is no meeting till beginning of November. Your paper seems to me *admirable* in matter, style and reasoning; and I thank you for allowing me to read it. Had I read it some months ago I should have profited by it for my forthcoming volume. But my two chapters on this subject are in type; and though not yet corrected, I am so wearied out and weak in health, that I am fully resolved not to add one word, and merely improve style. So you will see that my views are nearly the same with yours, and you may rely on it that not one word shall be altered owing to my having read your ideas. Are you aware that Mr W. Earl published several years ago the view of distribution of animals in Malay Archipelago in relation to the depth of the sea between the islands? I was much struck with this and have been in habit of noting all facts on distribution in the Archipelago and elsewhere in this relation. I have been led to conclude that there has been a good deal of naturalisation in the different Malay islands

[1] "On the Zoological Geography of the Malay Archipelago." *Linn. Soc. Journal* IV, 1860 (Zoology).

and which I have thought to certain extent would account for anomalies. Timor has been my greatest puzzle. What do you say to the peculiar Felis there? I wish that you had visited Timor: it has been asserted that fossil Mastodon or Elephant's tooth (I forget which) has been found there, which would be grand fact. I was aware that Celebes was very peculiar; but the relation to Africa is quite new to me and marvellous and almost passes belief. It is as anomalous as relation of *plants* in S. W. Australia to Cape of Good Hope. I differ *wholly* from you on colonisation of *oceanic* islands, but you will have EVERYONE else on your side. I quite agree with respect to all islands not situated far in ocean. I quite agree on little occasional intermigration between lands when once pretty well stocked with inhabitants, but think this does not apply to rising and ill-stocked islands.

Are you aware that *annually* birds are blown to Madeira, to Azores (and to Bermuda from America). I wish I had given fuller abstract of my reasons for not believing in Forbes' great continental extensions; but it is too late, for I will alter nothing; I am worn out and must have rest. Owen, I do not doubt, will bitterly oppose us; but I regard this very little; as he is a poor reasoner and deeply considers the good opinion of the world, especially the aristocratic world. Hooker is publishing a grand Introduction to Flora of Australia and goes the whole length. I have seen proofs of about half. With every good wish,

Believe me,

Yours very sincerely,

C. DARWIN.

Excuse this brief note, but I am far from well.

[ILKLEY, YORKSHIRE.]
Nov. 13, 1859.

MY DEAR SIR,

I have told Murray to send you by Post (if possible) a copy of my Book[1] and I hope that you will receive it at nearly same time with this note. (N.B. I have got a bad finger which makes me write extra badly.) If you are so inclined, I should very much like to hear your general impression of the Book, as you have thought so profoundly on subject and in so nearly same channel with myself. I hope there will be some little new to you, but I fear not much. Remember it is only an abstract and very much condensed, God knows what the public will think. No one has read it, except Lyell, with whom I have had much correspondence. Hooker thinks him a complete convert, but he does not seem so in his letters to me; but he is evidently deeply interested in subject. I do not think your share in the theory will be overlooked by the real judges as Hooker, Lyell, Asa Gray &c. I have heard from Mr Sclater that your paper on Malay Archipelago has been read at Linnean Society, and that he was *extremely* much interested by it. I have not seen one naturalist for 6 or 9 months owing to the state of my health, and therefore I really have no news to tell you. I am writing this at Ilkley Wells, where I have been with my family for the last six weeks and shall stay for some few weeks longer. As yet I have profited very little. God knows when I shall have strength for my bigger book.

[1] The first edition of the *Origin of Species* consisted of 1250 copies and was published in November 1859. Darwin notes in his diary "all copies sold first day."

I sincerely hope that you keep your health: I suppose that you will be thinking of returning soon with your magnificent collections and still grander mental materials. You will be puzzled how to publish. The Royal Society fund will be worth your consideration.

With every good wish, pray believe me,

Yours very sincerely,

CHARLES DARWIN.

I think that I told you before that Hooker is a complete convert. If I can convert Huxley I shall be content.

DOWN, BROMLEY KENT.
May 18, 1860.

MY DEAR MR WALLACE,

I received this morning your letter from Amboyna dated Feb. 16, containing some remarks and your too high approbation of my book. Your letter has pleased me very much, and I most completely agree with you on the parts which are strongest and which are weakest. The imperfection of Geological Record is, as you say, the weakest of all; but yet I am pleased to find that there are almost more Geological converts than of pursuers of other branches of Natural Science. I may mention Lyell, Ramsay, Jukes, Rogers, Keyserling, all good men and true—Pictet of Geneva is not a convert, but is evidently staggered (as I think is Bronn of Heidelberg) and he has written a perfectly fair review in the Bib. Universelle of Geneva—Old Bronn has translated my book, well-done also, into German

and his well-known name will give it circulation. I think geologists are more converted than simple naturalists because more accustomed to reasoning. Before telling you about progress of opinion on subject, you must let me say how I admire the generous manner in which you speak of my Book: most persons would in your position have felt some envy or jealousy. How nobly free you seem to be of this common failing of mankind. But you speak far too modestly of yourself; you would, if you had had my leisure [have] done the work just as well, perhaps better, than I have done it. Talking of envy, you never read anything more envious and spiteful (with numerous misrepresentations) than Owen is in the Edinburgh Review[1]. I must give one instance, he throws doubts and sneers at my saying that the ovigerous frena of cirripedes have been converted into Branchiæ, because I have not proved to be Branchiæ; whereas *he himself* admits, before I wrote on cirripedes, without the least hesitation that these organs are Branchiæ. The attacks have been heavy and incessant of late. Sedgwick and Prof. Clarke[2] attacked me savagely at Cambridge Philosophical Society, but Henslow defended me well, though not a convert. Phillips has since attacked me in Lecture at Cambridge. Sir W. Jardine in Edinburgh New Philosophical Journal. Wollaston in Annals of Natural History. A. Murray before Royal Society of Edinburgh. Haughton at Geological Society of Dublin. Dawson in Canadian

[1] This hostile review was undoubtedly written by Owen, but was, as then usual, unsigned.

[2] This is apparently intended for William Clark, who was then Professor of Anatomy in this University: but we have the authority of his son, Mr J. W. Clark, for saying that Professor Clark did not support Sedgwick in this attack.

Naturalist's Magazine and *many others*. But I am got case-hardened, and all these attacks will make me only more determinately fight. Agassiz sends me personal civil message, but incessantly attacks me; but Asa Gray fights like a hero in defence.—Lyell keeps as firm as a tower, and this autumn will publish on Geological History of Man, and will then declare his conversion, which now is universally known. I hope that you have received Hooker's splendid Essay. So far is bigotry carried, that I can name 3 Botanists who will not even read Hooker's Essay !! Here is a curious thing, a Mr Pat. Matthew, a Scotchman, published in 1830 a work on Naval Timber and Arboriculture and in Appendix to this, he gives *most clearly* but very briefly in half-dozen paragraphs our view of natural selection[1]. It is most complete case of anticipation. He published extracts in Gardener's Chronicle [April 7, 1860]. I got Book and have since published letter, acknowledging that I am fairly forestalled. Yesterday I heard from Lyell that a German Dr Schaffhausen has sent him a pamphlet published some years ago, in which same view is nearly anticipated, but I have not yet seen this pamphlet. My Brother[2], who is very sagacious man, always said "You will find that some one will have been before you." I am at work at my larger work which I shall publish in separate volume. But for ill-health and swarms of letters I get on very very slowly.

[1] It is remarkable that Matthew uses the term "natural process of selection."

[2] Erasmus Alvey Darwin was a member of Christ's College: he took the degree of M.B. but did not practise medicine. The written part of the examination for the M.B. consisted in being left alone with a paper of questions in the Regius Professor's library while that official went to see a patient at some distance from Cambridge.

I hope that I shall not have wearied you with these details. With sincere thanks for your letter, and with most deeply-felt wishes for your success in science and in every way, believe me,

Your sincere well-wisher,

C. DARWIN.

DOWN, BROMLEY KENT.

Mar. 7. [1867?]

MY DEAR WALLACE,

The addresses which you have sent me are capital, especially that to the Rajah; and I have despatched two sets of queries[1]. I now enclose a copy to you and should be very glad of any answers; you must not suppose the P.S. about memory has lately been inserted; please return these queries as it is my standard copy. The subject is a curious one, I fancy I shall make a rather interesting appendix to my Essay on Man.

I fully admit the probability of "protective adaptation" having come into play with female butterflies as well as

[1] The "queries" consisted of a number of questions on the expression of the emotions which Darwin sent out to missionaries and others having opportunities of studying savage or primitive peoples. The following is No. 1: "Is astonishment expressed by the eyes and mouth being opened wide, and by the eyebrows being raised?" The complete set is published in *The Expression of the Emotions*, p. 15.

The essay on man (mentioned a few lines below) was afterwards known as the *Descent of Man*, while the appendix grew into the *Expression of the Emotions*.

with female birds. I have a good many facts which make me believe in sexual selection as applied to man, but whether I shall convince any one else is very doubtful.

Dear Wallace,

Yours very sincerely,

CH. DARWIN.

PRESENT-DAY DARWINISM.

THE centenary of the birth of Charles Darwin and the jubilee of the "Origin of Species" has naturally led biologists to take stock of the present position of the Darwinian theory, and to consider how far the ideas put before the world in 1859 may still be accepted after 50 years of discussion and research. In discussing this question it must be remembered that under the name Darwinism two very different conceptions have been included. Popularly, Darwinism has generally been regarded as synonymous with the theory of organic evolution, and it may be said at once, without fear of contradiction, that our reasons for believing in evolution have become continuously stronger and more convincing every year since the "Origin" was published. Fifty years ago, to be an evolutionist was to be a heretic; now it is the orthodox belief, and a man who is not an evolutionist is regarded as a crank.

But, strictly speaking, Darwinism is not evolution; there were evolutionists before Darwin, and his theory only supported an idea already widely though not generally held. Darwin's great contribution to science was his explanation

of the means by which evolution has taken place in the organic world,—the theory of Natural Selection which he published contemporaneously with Mr A. R. Wallace in 1858, and set forth with a wealth of illustration and argument in "The Origin of Species" in the following year.

Now although at the present time we are all evolutionists we hear it frequently said that Darwinism has had its day, and that Natural Selection is insufficient to account for the facts. It is true that very many of the greatest living naturalists are ardent advocates of Darwin's theory, but the voice of the doubter is still heard in spite of their efforts to convert him to the orthodox faith. It is therefore the object of the present article to examine the reason for these doubts about the truth of Darwinism, and to see whether they are justified.

The grounds of unbelief are mainly three, but they grade into one another so as to be really inseparable. They are (1) the alleged insufficiency of Natural Selection, acting on "chance variations," to produce the amazingly perfect adaptations with which we are familiar; (2) the existence of useless structures which could not be produced by Natural Selection; (3) the existence of large variations or "mutations" which may give origin to new species without the instrumentality of Natural Selection. We will take these objections in order. The first is not new; the difficulty of believing that such an organ as the eye has arisen by selection of small accidental variations is no greater now than 50 years ago, and was discussed in the "Origin" itself. But when we find for example an insect which resembles a flower or a piece of bark so closely as to be almost identical with it in appearance, and at the same time are unable to find that it is more successful in the struggle for existence than another

which has no such protective resemblance, it is justifiable to ask "can Natural Selection be responsible for this?" But if no other suggestion is offered to account for it, we may at least accept the one we have until a better is given us, especially when after all we know almost nothing of the conditions under which even the commonest species really live in Nature.

The second objection is more serious, although we always remember that our ignorance precludes our saying definitely that a structure is useless. But the objection rests largely on a misunderstanding. The theory of Natural Selection does not demand that every character in every species must be useful. As long as it is perfectly harmless it may continue to exist, and doubtless many characters have arisen which are useless in themselves, but are associated with some useful character which has led to the preservation of the species. For example, black varieties of many moths have arisen and increased surprisingly in parts of England during the last half-century. Here we see evolution taking place in Nature, but as to the usefulness of the dark forms we can only guess. But it is possible that while the change of colour is useless in itself, it is associated with increased constitutional vigour or some other advantage of the kind, and that it is the associated improvement which has caused the varieties to increase, not the colour-change itself.

This leads us on to the third, and perhaps the most frequent objection in recent years. Darwin supposed that the origin of one species from another took place by infinitesimal steps, which very gradually led to the results which we see. He was aware of the existence of occasional larger "sports," but supposed that they would be "swamped" by crossing back with the type. In recent years much evi-

dence has been collected showing the comparative frequency of such sports or mutations in some species of animals and plants, and it has further been proved that when crossed with the type they are not swamped, but reappear often unaltered in the children or grandchildren of the cross. The moths referred to above are a case in point; in some at least the darkening was not gradual but sudden and complete, and the offspring of dark and light mated together are either all dark or half are dark and the rest light. In some cases several characters vary together, so that the mutation differs from the parent species in more than one character. Now if one such character was of advantage to the variety, and the others were neutral, the variety would be preserved by Natural Selection and a new race would rapidly appear, some at least of whose characters would be useless in themselves. And if all the new characters were useless, but were not "swamped" when crossed with the type, the variety would still continue to exist. So it appears that new forms may arise and persist which are not due to the agency of Natural Selection, as long as their characters are neutral. But if any one of the characters is advantageous, Natural Selection will cause the form possessing it to increase; if harmful, will kill it off.

We arrive then at the following conclusions. Adaptation has been brought about by the natural selection of chance variations, but not all characters existing in a species are necessarily adaptive. The variations by which species have arisen are not necessarily very small, but may at times be so considerable as to deserve the name of mutation. If such a mutation is advantageous, it will be favoured by Natural Selection; if neutral, it may persist; if harmful, it will be eliminated.

If I have at all succeeded in a short space in doing justice to the many very divergent views on the subject, it will be seen that after 50 years of research and controversy the theory of Natural Selection is still very far from being consigned to the limbo of discredited hypotheses.

LEONARD DONCASTER.

DARWIN'S "ANIMALS AND PLANTS."

OF all the books that Darwin wrote, perhaps none is more remarkable than that in which he deals with "The Variation of Animals and Plants under Domestication." In this work he succeeds in showing with a marvellous fullness of illustration how great is the plasticity of life, even within the range of human experience. The wide limits within which organisms ordinarily regarded as belonging to the same species and proved historically to have had a common origin are able to vary, partly through the influence of the environment, and partly under the directing hand of man, had been recognised by the older naturalists, but Darwin was the first to appreciate the significance of the phenomena upon which little stress had hitherto been laid. For he proceeded to argue that since domesticated animals and cultivated plants can scarcely have been exposed to greater environmental changes than many other organisms throughout the varying conditions to which life has been subjected in past times, and since there are no reasons for supposing that man selected for his own purposes forms of life which were particularly liable to vary, it may legitimately be inferred

that a considerable degree of latent variability is a primary characteristic of all living things. This fundamental conclusion, as is well known, forms one of the basal principles upon which rests the selection theory.

No one had ever before accumulated such a vast body of data bearing on this subject. Facts were adduced illustrating the influence of climate and food supply, the effects of use and disuse, and of correlation of growth, and the amount of change to which animals and plants in a state of domestication are subject. Of especial interest, not merely from the purely scientific but also from the economic standpoint, is the evidence relating to the subject of fertility, and the factors which control it, and "that sterility which often supervenes when organic beings are removed from their natural conditions of life, and likewise when they are too closely interbred." It had long been known to breeders and others that the power to produce offspring is peculiarly liable to be influenced by changed conditions of existence. Aristotle, for example, noted long ago that such animals as the sheep are readily affected by the conditions of life to which they are exposed, for he remarks that "in some places where the weather is warm and fine and food is abundant, sheep will have young twice a year." Buffon also commented on the fact that the domesticated animals not only produce larger litters than wild ones belonging to the same kind, but they breed oftener in the year, and sometimes at an earlier age. Darwin was disposed to ascribe this increase in fertility to a long habituation to a copious food supply without the labour of seeking it out, and there can be little doubt that this conclusion is in the main correct. But just as the power of responding to a more luxurious environment varies much in different

organisms, so also the factors which conduce towards fertility differ widely according to the species or variety; many of these factors still remain to be determined experimentally, but further investigation is ever yielding fresh knowledge and experience. Nevertheless, the power which is thus being placed in the hands of the breeder is perhaps too little recognised even yet.

No less interesting are the effects of the environment upon structure and conformation. We may again take the sheep as an example. Great heat seems to act directly upon the fleece, causing the wool to disappear, but this is by no means invariable. There are several breeds of sheep which produce fine and valuable fleeces in their native district, but when removed to other quarters show a deterioration. On the other hand a difference in climate or pasture may sometimes improve the fleece, as is shown by some of the wool imported from Australia. But Darwin is careful to point out that this tendency towards change may often be counteracted by methodical selection, and he instances the Merino sheep, which is said to be preserved in complete purity amid diverse conditions in various parts of the world. The changes effected by climate upon the forms of dogs are almost as remarkable as those presented by sheep. European breeds imported into Asia or Africa are known frequently to deteriorate, although crossing with native animals is prevented. Such cases are interpreted by Darwin as reversions to a primordial condition, which many animals exhibit when their constitutions are in any way disturbed. With respect to the modifications shown by horses, it would appear that here also the surrounding conditions have produced a considerable effect. Darwin refers to the horses of Spain and those of South America,

pointing out that the horses of Chile which remained under the same conditions as their ancestors in Andalusia continued unchanged, whereas the Pampas horses are considerably altered. These and many similar facts had long since been known to individual breeders in different parts of the world, but Darwin was the first to co-ordinate them on a scientific basis, so that observations which were previously disconnected, acquired an increased significance in the light of the new teaching. Moreover, many of the facts chronicled by Darwin may be said, in a certain sense, to have been the starting points of subsequent investigations, e.g. on such questions as wool production and fertility, the solutions of which are of the utmost importance to the stock raiser and the practical agriculturist.

In the second volume of the "Animals and Plants," Darwin discusses the phenomena of inheritance, the effects of crossing and of inbreeding, and the nature of hybridism. The conception of evolution by "mutations" or discontinuous variations is often regarded as an exclusively post-Darwinian doctrine. Yet the possibility of such modes of transmutation was clearly apparent to Darwin's mind, for how otherwise can we interpret such passages as that wherein he refers to the Ancon sheep? The paragraph is so interesting in this connection that I venture to quote it almost entire.

"In 1791 a ram lamb was born in Massachusetts having short crooked legs and a long back like a Turnspit dog. From this one lamb the *otter* or *ancon* semi-monstrous breed was raised; as these sheep could not leap over the fences it was thought that they would be valuable; but they have been supplanted by Merinos, and thus exterminated. The sheep are remarkable from transmitting their character so

truly that Colonel Humphreys never heard of 'but one questionable case' of an ancon ram and ewe not producing ancon offspring. When they are crossed with other breeds, the offspring with rare exceptions, instead of being intermediate in character, perfectly resemble either parent; even one of the twins has resembled one parent and the second the other."

Darwin records further that when Turnspit dogs (which also have dwarfed limbs) are crossed with dogs belonging to other breeds, the offspring are not intermediate in conformation, but take after either parent. Similar statements are made about the hairless dogs of Paraguay, about various tailless and hornless animals, and about certain breeds of rabbits, mice, and game fowls. Analogous facts are recorded from among plants, including stocks and sweet peas, which, as is well known, have since formed the subject of systematic investigation on Mendelian lines. Thus Darwin describes the effects of crossing "the little glabrous-leaved annual stock (*Mathiola*) with pollen of a large, red-flowered, rough-leaved, biennial stock, called *cocardeau* by the French.... The result was that half the seedlings had glabrous and the other half rough leaves, but none had leaves in an intermediate state. That the glabrous seedlings were the product of the rough-leaved variety and not accidentally of the mother plant's own pollen, was shown by their tall and strong habit of growth. In the succeeding generations raised from the rough-leaved crossed seedlings, some glabrous plants appeared showing that the glabrous character, though incapable of blending with and modifying the rough leaves was all the time latent in this family of plants."

Such cases, in the light of present knowledge, clearly

admit of a Mendelian interpretation. But it is interesting to note that although the theory of gametic segregation, as formulated by Mendel, was unknown to Darwin, yet the occurrence of mutations and the phenomena of exclusive inheritance, were not ignored by him. That Darwin should have laid comparatively little stress upon such cases was not to be wondered at, since the experimental evidence upon which Mendel constructed the theory that has since become so famous never came to Darwin's notice. But even now it cannot be contended that the Mendelian investigations, vastly important though these be to the student of heredity and the experimental breeder, have contributed much, at any rate as yet, towards the elucidation of the central problem which Darwin set out to solve, namely, the origin of species.

It has recently been observed that although the evolution theory exerted so great an influence upon anatomy and kindred branches of biology, the science of physiology has always remained comparatively unaffected, since in the history of the latter there is no marked contrast between the methods followed previous to Darwin's time, and those adopted in the post-Darwinian period. When we consider how so many of Darwin's works, and notably his "Animals and Plants," deal with problems which are in their essential nature physiological, this criticism seems at first sight to be a little remarkable, but it must be admitted that it contains much truth. For physiology, as ordinarily understood, still tends to signify that science as applied to man, and there can be no doubt that its preoccupation with the study of a single species, resulting from its intimate connection with the science of medicine, has limited the scope of Darwin's teaching as applied to the study of function. For where

physiology has been allowed to develop upon comparative lines, the influence of Darwin's ideas is just as apparent as it is in the domain of anatomy or embryology. Modern researches upon the comparative physiology of the organs of internal secretion afford abundant testimony to the truth of this statement. Moreover, there is a growing tendency amongst scientific men to believe that if the great unsolved problems of biology are ever to be unravelled, this can only be effected by the comparative study of function. There is every indication, therefore, that the Darwinian philosophy, so far from its effects being exhausted, will extend its illuminating influence over a still wider field.

Darwin's works are remarkable alike for the extent to which he pushed inductive reasoning, and for his power of co-ordinating phenomena, and in these two features lies the secret of his extraordinary influence. Biologists will continue to differ as to the precise factors which have contributed to bring about that organic diversity which has found such endless expression. But however this may be, it will ever stand to Darwin's credit that he did more than any other man to extend to the field of biology that great unifying principle of evolution, the recognition of which made it possible for an English bishop to write, "All that lives, lives with one life. If we know that we share in this, we can wait for the revelation of its action."

F. H. A. MARSHALL.

PLANTS NAMED AFTER DARWIN.

The following list of plants dedicated to Darwin has been kindly compiled by Dr B. Daydon Jackson, General Secretary to the Linnean Society.

Phanerogams.

Abutilon Darwini, Hook. f.—Bras.
Baccharis Darwinii, Hook. & Arn.—Patagon.
Berberis Darwinii, Hook.—Chile.
Bonatea Darwinii, Weale = Habenaria cassidea, Reichb. f.
Calceolaria Darwinii, Benth.—Reg. Magell.
Catasetum Darwinianum, Rolfe—Guiana.
Carex Darwinii, Boott.—Reg. Magell.
Chiliotrichum Darwinii, Hook. f. = Nardophyllum Darwinii, A. Gray.
Clinopodium Darwinii, Kuntze = Micromeria Darwinii, Benth.
Coldenia Darwini, Gürke = C. dichotoma, Lehm.
Eugenia Darwinii, Hook. f.—Chile.
Fagelia Darwinii, Kuntze = Calceolaria Darwinii, Benth.
Galapagoa Darwinii, Hook. f. = Coldenia dichotoma, Lehm.
Laelio-Cattleya Darwiniana × hort.
Lippia Darwinii, Speg. = Neosparton Darwinii, Benth. & Hook. f.
Micromeria Darwinii, Benth.—Patagon.
Myrtus Darwinii, Barn.—Chile.
Nardophyllum Darwinii, A. Gray.—Patagon.
Nassauvia Darwinii, O. Hoffm. & Dusén.—Reg. Magell.

Neosparton Darwinii, Benth. & Hook. f.—Bras.
Opuntia Darwinii, Hensl.—Patagon.
Oxalis Darwinii, Ball.—Patagon.
Panargyrus Darwinii, Hook. & Arn. = Nassauvia Darwinii, O. Hoffm. & Dusén.
Pisonia Darwinii, Hemsl.—Ins. Fernando Noronha.
Pleuropetalum Darwinii, Hook. f.—Ins. Galapag.
Polygala Darwinii, A. W. Benn.—Patagon.
Satureia Darwinii, Briq. = Micromeria Darwinii, Benth.
Scalesia Darwinii, Hook. f.—Ins. Galapag.
Senecio Darwinii, Hook. & Arn.—Patagon.
Urtica Darwinii, Hook. f. = U. magellanica, Juss.
Veronica Darwiniana, Colenso.—N. Zel.
Zinnia Darwiniana, Haage & Schmidt = Glossogyne pinnatifida, DC.

Cryptogams.

Ferns, none noted.

Moss.

Ulota Darwinii, Mitt.—Patagon.
syn. Orthotrichum Darwinii, Mitt.

Algae.

Asteromphalus Darwinii, Ehrenb.—Calif.; Reg. antarct.
syn. Asterolampra Darwinii, Grev.
Aulacodiscus Darwinii, Pant.—Russia (fossil).
Chaetomorpha Darwinii, Kuetz.—Patagon.
syn. Conferva clavata var. Darwinii, Hook. f. & Harv.
Cheilosporum Darwinii, De Toni.—Chile.
syn. Amphiroa Darwinii, Harv.
,, Arthrocardia Darwinii, Harv.

Lithophyllum Darwinii, Fosl.—S. Australia.
syn. Lithothamnion Darwini, Aresch.
,, Melobesia Darwini, Harv.
Lichens, none noted.
Fungi.
Asterina Darwinii, Berk.—Patagon.
Cortinarius Darwinii, Speg.—Patagon.
Cyttaria Darwinii, Berk.—Reg. magell.
Hypocopra Darwinii, Speg.—Patagon.
Lalboulbenia Darwinii, Thaxt.—Bras.
Torula Darwinii, Speg.—Reg. Magell.

OBITUARY.

11 Feb. Rev. Walter Howse, M.A. (B.A. 1850), aged 82.
17 ,, Joseph Pugh Benskin, B.A. (1906), aged 24.
7 March. Gerald Christobel Kidd, B.A. (1906), aged 23.
22 ,, Sir Rowland Blennerhassett, aged 70.
11 April. Edward Nettlefold, aged 54.
13 ,, Rev. J. Padmore Noble, M.A. (B.A. 1887).
11 May. Rev. Francis Henry Paley, M.A. (B.A. 1848), aged 82.
11 ,, R. Cunningham Glen, M.A. (B.A. 1879), aged 55.

COLLEGE NOTES AND NEWS.

(*The Editors request that old members of the College will send them news of appointments, publications, or other matters of interest relating to themselves or other Christ's men, for insertion among these notes.*)

General:—N. L. Ingle (B.A. 1907), late scholar of the College has been elected to a Junior Fellowship. Mr Ingle was placed in Cl. I. Div. 2 in the Classical Tripos, Part I. 1907, and in Cl. I. with distinction in History in the Classical Tripos, Part II. 1908. He is a Classical Lecturer in Manchester University.

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A. J. Wyatt, M.A., has been elected to the office of External Examiner in English Language and Literature in the University of London.

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The President of Queens' has been appointed to be a Governor of Harrow School.

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W. H. H. Elliott, M.A. (B.A. 1904), has been appointed to be Head of Cambridge House, Camberwell, the University Settlement in South London, in succession to the Rev. W. J. Conybeare, who has resigned on being appointed Rector of Newington. Mr Elliott has therefore resigned his position as head of the Christ's College Working Boys' Home, which he has held for the five years since the home was started. We hope to give some account of his valuable work there in our next number.

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N. B. Kent (B.A. 1907) has been appointed to be Head of Christ's College Working Boys' Home in succession to the Rev. W. H. H. Elliott. Mr Kent is at present at Ripon Theological College.

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W. H. Humphreys (B.A. 1908) has been bracketed for the 2nd Winchester Reading Prize.

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Professor J. Graham Kerr, M.A. (B.A. 1896), of Glasgow University, formerly Fellow of the College, has been elected a Fellow of the Royal Society.

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Dr G. A. Auden, M.D., M.A. (B.A. 1893) has recently become a member of the Royal College of Physicians, and has been elected a Fellow of the Society of Antiquaries.

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G. F. Clucas (B.A. 1891) has been elected a member of the House of Keys in the Isle of Man.

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Rev. F. W. Burbidge, M.A. (B.A. 1862), Hon. Canon of Birmingham, formerly Fellow of the College, is retiring from the Principalship of Saltley Diocesan Training College, Birmingham, after 37 years of service.

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General J. C. Smuts (B.A. 1894), Colonial Secretary of the Transvaal, was a member of the South African National Convention.

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T. Hancock Nunn, M.A. (B.A. 1884) signed the Majority Report of the Royal Commission to enquire into the administration of the Poor Laws.

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Rev. H. E. Savage, B.D. (B.A. 1877), Hon. Canon of Durham, has been appointed to be Dean of Lichfield.

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Francis Darwin, M.A. (B.A. 1870), has been created Doctor of Science of Liverpool University.

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Lord Justice Moulton, M.A. (B.A. 1868), has been appointed a Vice-President and one of the Managers of the Royal Institution for the ensuing year, and has also been elected to the Senate of London University.

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Professor A. Liversidge, M.A., has been elected a member of the Royal Institution.

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J. Austen Cartmell, M.A. (B.A. 1884), has been elected to serve upon the General Council of the Bar.

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Edward Morten (B.A. 1867), has been appointed one of His Majesty's Counsel.

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S. Skinner, M.A. (B.A. 1886), has been elected Vice-President of the Physical Society.

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Mr Shipley has been appointed by the Secretary for India to be editor of the series of volumes on the Fauna of India.

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Rev. W. G. Rodgers, M.A. (B.A. 1879), formerly Headmaster of St John's School, Montreal, has been appointed Warden of St Stephen's College, New York.

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W. A. L. Elmslie (B.A. 1907), has been bracketed for the Tyrwhitt Hebrew Scholarship.

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J. G. Simpson, advanced student, has been awarded the Skeat Prize.

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A. J. Gardiner was a member of the Cambridge University Officers' Training Corps Team, which won the tug-of-war against Oxford in the military tournament on May 15.

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W. H. Humphreys (B.A. 1908) and F. J. Saunders represented the University in the Chess Match against Oxford. Humphreys was captain of the Cambridge team, and also represented Oxford and Cambridge against the American Universities.

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University Appointments:—W. W. Walker, M.A., to be an Adjudicator of the prize offered by the representatives of the University in Parliament for a Latin Essay; A. J. Wyatt, M.A., to be an Examiner for the Special Examination in Modern Languages, also to be a Governor of Cheshunt College for a period of three years; F. H. A. Marshall, M.A., and K. J. J. Mackenzie, M.A., to be Examiners for the Special Examination in Agricultural Science, and for Parts I and II of the Examination for the Diploma in Agriculture; C. Warburton, M.A., to be Examiner for Part II of the Examination for the Diploma in Agriculture, and to be Examiner for the Diploma in Forestry; J. L. Wyatt, M.A., to be Teacher in Tamil; W. H. D. Rouse, Litt.D., to be Teacher of Sanskrit for the Special Board of Indian Civil Service Studies.

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Ecclesiastical. Preferments and Appointments:—Rev. R. R. N. Baron, M.A. (B.A. 1895), to be Chaplain at Aske Hall, Richmond, Yorks.; Rev. P. R. Bartley, M.A. (B.A. 1896), appointed Surrogate for the Diocese of Lichfield; Rev. J. Beanland, M.A. (B.A. 1889), to be Vicar of Wilsden, Bradford; Rev. F. H. Burrows, M.A. (B.A. 1878), to be Rural Dean of Ashton-under-Lyne; Rev. T. J. Chapman, B.A. (1890), to be Rector of Alcester with Weethley; Rev. A. Clover, M.A. (B.A. 1895), to be Vicar of Antony, Torpoint; Rev. J. J. Gay, B.A. (1894), to be Chaplain to H.M.S. *Racer*; Rev. C. H. Hamilton, M.A. (B.A. 1898), to be Perpetual Curate of St George's, Portsea; Rev. W. B. Handford, M.A. (B.A. 1884), to be Chaplain at Amritsar; Rev. W. T. Hindley, M.A. (B.A. 1902), to be Vicar of St John the Evangelist,

Hull; Rev. F. G. Hunt, M.A. (B.A. 1899), to be Incumbent of Christ Church, Callowland, Walford; Rev. E. Marshall, M.A. (B.A. 1893), to be Vicar of Thorley, I.W.; Rev. H. F. Mercer, to be Chaplain to the Archbishop of Melbourne for men's work in the Diocese; Rev. F. M. Plummer, M.A. (B.A. 1884), to Incumbency of St Hilda, Sunderland; Rev. B. C. Pownall, M.A. (B.A. 1902), to Curacy of St John's, Newcastle-on-Tyne; Rev. W. A. Shilcock, M.A. (B.A. 1879), to be Vicar of St Stephen's, Walworth; Rev. G. C. Wilton, M.A. (B.A. 1889), to be Surrogate for Diocese of London.

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Legal:—J. Aitken (B.A. 1906) and C. T. te Water (B.A. 1908) have passed the Final Examination of the Council of Legal Education. The former was called to the bar on May 5.

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Indian and Colonial:—J. S. Hooker was in January gazetted Captain in the Indian Army; R. D. Anstead, M.A. (B.A. 1899), Agricultural Superintendent, Grenada, West Indies, has received an appointment in the Indian Agricultural Service; A. K. Peck (B.A. 1898) is acting as magistrate at Tanjong, Malim, Federated Malay States; P. T. Allen (B.A. 1900) is acting as Assistant Protector of Chinese in the Penang Straits Settlements.

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Medical:—F. J. Gordon (B.A. 1903) has been admitted M.R.C.S.; E. D. Whitehead-Reid (B.A. 1905) has been admitted L.R.C.P.

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Marriages:—

Rev. H. Wynne (B.A. 1886), Vicar of Yapton, and eldest son of the late Bishop of Killaloe, on April 14, at St Mary Abbott's, Kensington, to Constance, youngest daughter of the late Rev. W. P. Crawley, and step-daughter of Mrs Crawley, of 22, Argyll Road, Kensington, W.

Rev. F. G. Saint (B.A. 1885), Rector of Wapping, on April 29, at St Matthew's Church, Willesden, to Frances Turle Evans, M.D., youngest daughter of the late Evan Evans, M.D.

H. J. Beddows (B.A. 1900), on May 19, at St Thomas's, Portman Square, W., to Dora, eldest daughter of Arthur Sparks, Esq., of 16, Great Dover Street, E.C.

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Publications:—

The Lord Bishop of Sodor and Man (Dr T. W. Drury), *Elevation in the Eucharist* (Camb. Univ. Press).

The Dean of Westminster (Dr J. A. Robinson), *St Paul's Epistle to the Ephesians* (Macmillan), 2*s.* 6*d.*; *Flete's History of Westminster Abbey* (Camb. Univ. Press), 5*s.*; *The Manuscripts of Westminster Abbey*, in collaboration with Dr M. R. James (Camb. Univ. Press), 5*s.*

Dr Solomon Schechter, *Some Aspects of Rabbinic Theology* (Black).

Mr Norman McLean in collaboration with Rev. A. E. Brooke, *The Old Testament in Greek*, vol. I. The Octateuch, Part II. Exodus and Leviticus (Camb. Univ. Press), 12*s.* 6*d.*

Dr J. Holland Rose, *The Reign of Queen Victoria*, 1*s.* 9*d.*

Mr Edgecumbe Staley, *Famous Women of Florence* (Constable); *The Tragedies of the Medici* (Werner Laurie).

Mr A. E. Munby, *Introduction to the Chemistry and Physics of Building Materials* (Constable), 6*s.*

Rev. Charles Kent, *The Land of the Babes in the Wood, or The Breckland of Norfolk* (Jarrold and Sons), 12*s.* 6*d.*

C. F. G. Masterman, M.P., *The Condition of England* (Methuen), 6*s.*

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Entrance Scholarships and Exhibitions have been awarded to:—

Scholarships:

Jacob, L. G., Clifton College, £80 for Mathematics.

Butterwick, J. C., Malvern College, £60 for Classics.

Lumby, A. F. R., Rugby School, £60 for Classics.

Roseway, G. D., Merchant Taylor's School, £60 for Natural Science.

Grove, O. H., Sutton Coldfield Grammar School, £40 for Mathematics.

Walker, F. C., Wolverhampton Grammar School, £40 for Classics.

Martin, R. G., Hackney Downs School, £40 for Natural Science.

Exhibitions:

Willis, A. G. F., St Olave's School, £30 for Mathematics.

Blyth, A. C., Aldenham School, £30 for Classics.

Sale, H. M., Aldenham School, £30 for Mathematics and Natural Science.

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Degrees:—

B.D.

J. A. F. Gregg.

M.A.

H. G. Abel.
E. E. Burlend.
A. H. Crook.
E. O. Daughtry.
G. B. Ehrenborg.
A. Hamilton.
C. H. Swann.
A. Thompson.

M.B., B.C.

J. R. C. Canney.

BOAT CLUB.

Report for Lent Term, 1909.

The Committee have to report the results of a term's work which was attended with only partial success. The two bumps gained by the 1st Boat were somewhat marred by the failure of the 2nd and 3rd, which however had been handicapped by illness during the term.

The 1st Boat was got out on Jan. 12th with Mr C. F. Wood as Coach, but did not prove very satisfactory. Finally Mr Wood kindly offered to stroke the boat, while Mr Bristow undertook the coaching. The advantages of the change were immediately apparent.

The final order was:—

		st.	*lbs.*
Bow.	A. D. Ager	9	12
2.	R. B. Whitehead	9	12
3.	E. B. Furmston	11	7
4.	M. Todd	11	2
5.	J. S. Hoyland	12	1
6.	S. J. Wilkinson	11	9
7.	F. E. Francillon	12	0
Stroke.	C. F. Wood	11	0
Cox.	C. J. Smith	8	4

On the first night of the races we had Pembroke I in front. Getting away well we were within a length at 1st Post and still nearer at Grassy. Here some bad coxing lost us a lot of ground, which we were unable

fully to make up, though there was scarcely daylight between the two boats at the finish.

On the second night Groves coxed, and although the steering was better, Pembroke was just too good and we rowed over again.

The crew were feeling the effects of their previous hard races on the third night, but getting away well and rowing with splendid determination, we slowly crept up the whole way, and at the Glass Houses Groves, with excellent judgment, effected a bump.

On the last night we had Clare I in front of us. Although we got away well, we gained little before Grassy, but at Ditton we were within ¾ length. Up the Reach we soon overhauled them and made our bump at the Willows.

The Committee desire to express the gratitude which the Club again owes to Mr C. F. Wood. Although he had not rowed on fixed seats for more than three years, he kindly offered to stroke a boat which at the time looked anything but promising, and it is not too much to say that it was largely owing to his admirable stroking that success was attained. The thanks of the Club are also due to Mr C. H. Bristow for the able way in which he coached the boat, and for the good judgment with which he brought them to the post absolutely fit.

The 2nd Boat went out for the first time on Jan. 13th with Mr C. H. Bristow as Coach. Owing to changes in the 1st Boat, Mr D. F. Buckley took over the coaching later in the term. After some changes the crew was made up as follows:—

		st.	lbs.
Bow.	A. C. Williams	9	11
2.	J. A. H. Bell	10	3
3.	O. J. W. Napier	11	0
4.	A. H. Blencowe	10	6
5.	W. Dennes	10	12
6.	J. J. O. Bevan	10	3
7.	G. B. Ashburner	9	4
Stroke.	V. Clough	10	12
Cox.	H. Dawes	8	9

On the first night they overlapped Peterhouse at Grassy, but owing to bad coxing they just missed their bump, and before they could recover he lost ground Pembroke IV were into them.

Mr S. M. Wheeler coxed on the second night, but the previous reverse had shaken the confidence of the crew, and they were unable to keep away from Trinity Hall III, who bumped them in the Gut.

On the third night they were caught by Queens' II at Grassy, and on the last, in spite of the efforts of Mr O. G. Gardiner, who rowed '6' as substitute, Jesus III ran into them in the Gut.

The crew were very unfortunate in not making their bump the first night, as they would almost certainly have made another on Thursday.

The 3rd Boat went out on Jan. 14th with Mr A. J. G. Simpson as Coach. After many changes the order was:—

		st.	*lbs.*
Bow.	L. Phillips	10	4
2.	T. T. B. Watson.....	10	7
3.	A. Varain.....	13	9
4.	E. G. A. Gardener.....	11	3
5.	J. J. Wolffson	13	9
6.	R. M. Gibson	12	8
7.	A. G. J. Hawkins	10	3
Stroke.	G. B. G. Simpson	9	0
Cox.	H. G. Dillon	8	8

On the first night they were caught by Magdalene II in the Gut; on the second night 1st Trinity V ran into them on 1st Post; on the third night Clare III caught them at Grassy; and finally they rowed over comfortably in front of 1st Trinity VI.

The race for the Phillips Pairs was rowed on March 10th. There were three entries:—

1st Pair: J. S. Hoyland, *bow*; E. W. Blyth, *stroke*.
2nd Pair: C. H. Bristow, *bow*; S. J. Wilkinson, *stroke*.
3rd Pair: E. B. Furmston, *bow*; A. J. Gardiner, *stroke*.

The last-named pair capsized directly after leaving the boat-house, and the race was rowed between the first two. J. S. Hoyland and E. W. Blyth won in good form by 1½ lengths.

The Brundrit Sculls were rowed on March 12th by G. B. G. Simpson (front station), C. H. Bristow (second station), and A. J. G. Simpson (back station). It was a good race as far as Ditton, but up the Long Reach C. H. Bristow drew away and won easily.

ASSOCIATION FOOTBALL CLUB.

The Association Football Club cannot be said to have enjoyed a wholly successful season, but the performances of the 1st XI were at least more encouraging than during last season, while the 2nd XI recorded a very fair proportion of victories. The College finished in the middle of the clubs in the Second Division of the League, their defeats slightly outnumbering their wins. We were again most unfortunate in not receiving much new talent from among the freshmen, only one of whom succeeded in gaining his colours. However, we must hope for better luck in this direction next year; and with the mainstays of last year's side still in residence, the College should have better results to show next season.

HOCKEY CLUB.

The past season cannot be called a successful one, chiefly owing to the bad weather; only eleven out of twenty-six fixtures were played. Four were won, five were lost and two were drawn. The team was handicapped by the absence of G. M. Bottome, who is to be congratulated on obtaining his Blue. Of the rest of the team, C. H. Harper and J. T. M. Mee were invaluable in the half-back line.

MUSICAL SOCIETY.

A successful Smoking Concert was held in the Hall (by kind permission of the Master and Fellows) on Saturday, March 6th. The programme contained several familiar numbers with which a large audience was much pleased, the Selections from Gilbert and Sullivan Operas (which were performed through the courtesy of Mrs D'Oyly Carte) proving very acceptable. Two of Sir Charles Stanford's "Songs of the Sea" were sung with an extremely pleasing tone by M. W. Peters, C. R. Wright scored a success with "The Sorcerer's Song" and "The Lay of the *very* last Minstrel," and S. M. Wheeler was in his old form in "I'll Sing thee Songs of Araby" and "Would you know?" J. F. Chubb and R. R. Broome were excellent in the ever-popular "March Militaire" as a piano-duet, and F. E. Francillon contributed a seasonable item in Sinding's "Rustle of Spring." Altogether a most successful concert, showing that the Society realises that its first duty is to provide good smoking concerts for the benefit of the College.

OFFICERS OF COLLEGE CLUBS, Etc.

Boat Club. President, Rev. J. W. Cartmell; 1st Boat Captain, C. H. Bristow; 2nd Boat Captain, A. J. Gardiner; 3rd Boat Captain, D. F. Buckley; Hon. Sec., A. J. G. Simpson; additional members of the Committee, E. W. Blyth and S. J. Wilkinson.

Rugby Football. President, J. Greaves, Esq.; Captain, R. S. Kennedy; Hon. Sec., J. Ll. Rogers; Committee, C. A. Rose, A. E. Beecroft.

Association Football. President, J. Greaves, Esq.; Captain, R. Snowdon-Smith; Hon. Sec., L. J. Reid; Committee, H. Minson, G. M. Bottome, A. M. Zamora.

Cricket. President, N. M'Lean, Esq.; Captain, D. J. Glenister; Hon. Sec., M. W. Peters.

Hockey. President, Rev. A. W. Valentine-Richards; Captain, G. M. Bottome; Hon. Sec., S. Davenport; Committee, C. H. Harper, W. A. Martin.

Athletics. President, G. A. Ewart; Hon. Sec., A. C. L. O'S. Bilderbeck.

Lawn Tennis. President, N. M'Lean, Esq.; Captain, E. S. Gandy; Hon. Sec., E. S. Langerman; Committee, A. E. Beecroft, A. M. Zamora.

Finance Committee. President, A. E. Shipley, Esq.; Treasurer, Rev. J. W. Cartmell; Hon. Sec., D. F. Buckley, assisted by H. D. Liley; Committee, all Secretaries named above.

Musical Society. President, H. Rackham, Esq.; Vice-President, A. J. G. Simpson; Conductor, J. F. Chubb; Hon. Sec., G. A. Collins; Committee, J. B. Trend, M. W. Peters.

Debating Society. President, G. R. Harding Wood; Vice-President, L. J. Reid; Hon. Sec., F. Rönnfeldt; Committee, R. Snowdon-Smith, E. L. Turnbull.

Historical Society. President, C. R. Fay, Esq.; Vice-President, A. D. Ager; Hon. Sec., C. M. Sing.

Ridout Society. President, N. M'Lean, Esq.; Vice-President, S. M. Wheeler; Hon. Sec., E. W. Blyth; Committee, R. Snowdon-Smith.

Magazine. President, H. Rackham, Esq.; Manager, S. L. Caiger; Editors, J. B. Trend, A. E. Clarence Smith.

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CONTRIBUTIONS for the Magazine from old members of the College, as well as from those now in residence, will be always gladly received by the Editor; those for the next number are due on November 1st, 1909.

Any news of interest concerning past and present members of the College not now in residence will be welcomed by the Editor.

Copies of the Magazine can always be obtained from the Manager. During vacation time applications should be addressed to the Library, Christ's College.

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