

Trinity College: origin of. Dishes Strachan. Class-room note-books of W.O. 9	3;7	Dr. Walter Dundas, introduced (cf. also Chap. VII, p. 1)	23
W.O.'s indecision as to Church or Medicine, 8;15		Specimens to Father Johnson	22;23 24;26 27;30
James Bovall: his story. (cf. also Chap. II, p. 36) reminiscences of, by W.O. 6;34; observations re microscope at Spadina Ave. 9;15 absent-mindedness - 9;22;23 Influence on W.O. 19;24.	4	"James Bovall, M.D. M.R.C.P. etc."	24;33
"Religio Medici": 1862 edition	11	Dr J. H. Richardson -	25
Armour reminiscences	15	Beginning of interest in aneurysm	25
Exam. papers at Trinity; catechism, etc.	16	Trichina spiralis	26;27 27;28
Entozoa beginnings	15;26 27;30 31;34	Biological leanings; attempts at drawings.	30
Toronto Medical School Richard Zimmermann 19;28 Text-books 23. Note-books 24.	17	Recollections of Spadina Ave. office Murder Trial 38	34;37 38
Canadian Fresh-water Polyzoa (cf. also Chap. II, VIII, IX)	17	Beginnings of veterinary interest	38
Prof. Hincks (cf. also Chap. VII, 22, IX, 1)	17	Diatomaceae. (cf. also Chap. II)	32;38
Theology vs. Science controversies (also p. 25)	16	Visits at The Island	31;39
Followers Students' reminiscences: boxing; dissecting-industry 1st appearance in print "Christmas + The Microscope"	21;26 22-2	Johnson + Bovall letters to W.O.	44
Miss Barwick's reminiscences	25	Decision to leave Toronto + enter McGill	44
		Teachers + Students - art of detachment	47

Pictari Pictari Johnson Hayward.

P. 4, 5, 6-7, 12

Chapter III

TRINITY COLLEGE AND THE TORONTO MEDICAL SCHOOL

1867 - 1870

1867
Oct. 18

To W. O. from his mother.

The Parsonage, Dundas.
Oct. 8th.

My dear Willie: - Yesterday we had the pleasure of packing a box for you which the Pater took into Hamilton it contains your coat, 4 prs. of socks, 6 towels pr. of drawers, necktie, photos, pocket-handkerchief, Fur Cap, Mufflers (2 prs.). Dr. Bonod, 2 Books, 5 jars of fruit, one of which is marked for Marion. I hope you'll enjoy it use the apple first as it will not be so likely to keep -- apples, pears, and a canester of grapes if they reach you in order you'll know what to do with the other books, Woolen Vest and Trousers belong to Mr Edwards, in the vest pocket is the Copper-plate for card. I think these are all your belongings that we can find I put in an old shirt and scraps of Eng that I had not time to make up for you into handkfs. We are looking forward to Jenettes return on Saturday and are in a skrimmage of general settling up this week stoves putting up -- only this week have we finished the painting, papering and various alterations the Bath-room is a perfect success. The wet weather will be over I hope before Sunday when the Ordination is to take place. 12 I think are coming up and they are billeted out on the Parish except 3 at the Rectory -- the Bp. and Mr Stennet are to be at Miss Crook's. Nellie will soon be leaving us -- every day she is expecting to hear that the house is ready for occupation but until they begin to move she stays here. Fanny is still here, Mary in London with Amy. Hennie and her three youngest have been up at Staple Hurst some time they return

Oct.
1867

home tomorrow I expect them here to lunch today, the Baby is enormous such a contrast to Mickey who in his exuberance of spring and activity of mind is bent on coming to grief, he has the narrowest escapes possible, a jammed finger, a cut eye, a bruised head is the common thing with him, he always calls B. B. 'Billee', and evidently thinks him you. We all send our love. Will you write and tell us when you get the box also whether you got the second cheque

Ever your loving Mother

ELLEN OSLER

Box sent by the Steamer Algeria from Hamilton, it should have left this morning but had not arrived yesterday when Papa was at the wharf so it may be Friday the 9th when she leaves you must be sure and make enquiries for it. I hope it will not interfere with your time too much I fancy you have begun work in earnest now and do hope you will prosper to your satisfaction.

Forgetful of much of his personal equipment, If one may judge from this letter, the young Osler ^{had gone up to} ~~entered~~ Trinity College, Toronto, in the fall of 1867 ^{but} something more precious than ^{wearing apparel - even the jam of food -} ~~socks and underwear~~ he nevertheless had in his possession - one of the Dixon Prize Scholarships which he had well earned at Weston. Moreover, he apparently had theology still in the

back of his mind. Trinity College, it may suffice to say, was naturally enough regarded

The all influential Bishop Strachan, acting upon an old Royal Charter, had established a Church College - King's - in 1827, to which a medical department was attached. The Provincial Legislature in 1849 repealed the earlier charter and designated the institution The University of Toronto. A firm believe in the union of Church and State, was the Church in control of education. Strachan has long been the uncompromising centre of the fierce battles which have raged over the university question and the clergy reserves. Undaunted by the action of the Legislature he secured in 1850 another Royal Charter for a Church of England University, which became the University of Trinity College. The situation had its counterpart in London where King's College was ^{founded} ~~established~~ as an offset to the non-sectarian University College where, as the Established Church claimed, no moral or religious care was exercised over the students who consequently were apt to become undisciplined & to stray

as a nursery for the divine faculty and most of the teachers in the Arts course were clergymen. From among whom it has been seen the visiting board for the schools at Toronto were chosen. But not a few of these churchmen, like ^{more famous} Huxi, Proby, Stephen Hales, Gilbert White and Joseph Priestley, and as the time made more or less inevitable, ~~doubtless~~ were inclined to dabble in science and ^{with} ~~the~~ Jacki Johnson felt a consuming interest in the phenomena of nature. One of them indeed, the Rev. John Ambler, ~~the~~ Professor of Classics, was sponsor for a school prize for the best collection of Zoological and Entomological specimens.

Ministers with an interest in the natural sciences, particularly in those days when Wilberforce and Huxley represented the antipodes of thought and men's minds were greatly unsettled over original sin and Darwinism and Man's Place in Nature, made dangerous teachers for youths whom they expected to

May
1919*Copied*

cal Association meeting he had written to Adami saying: "Wednesday next at the Historical Section W. F. Smith reads his paper on Rabelais - I hope you will be able to come. Do you know of any special Rabelais students who should be included?" In fact with almost every meeting of this sort he was apt to engage himself to such an extent by inviting others, that he was in duty bound to attend, when otherwise he might well enough have spared himself the effort. It is something of a relief to find him at ^{gathering} a meeting which demanded no ^{preparation} effort on his part, ^{namely} as of the Roxburghe Club on June 3rd, of which he has left this memorandum:

This was the first dinner since the war. Rosebery could not come - ill. Lord Aldenham was in the Chair, and in order round the table Lord Ilchester, John Murray, Churchill, Cockerell, Osler, Kenyon, Hagberg Wright, Hornby, and Yales Thompson. The toast of the club and its founders was drunk, and we toasted Yates Thompson on the success of his sale held to-day, 30 items, £52,000! . . .

But other dinners had to be arranged for - one in ^{Talmer} Madan's honour, for example; and ^{Osler} ~~he~~ seemed to be the one inevitably chosen for such duties, gladly accepted. He writes to D'Arcy Power: "Singer tells me that you

It is quite certain, however, that ^{the boy's} ~~his~~ mind was not fully made up until a year later, and it is probable that ^{his decision in favour of Science} ~~the determination~~ became ~~a~~ fixed ~~one~~ through the unconscious influence of James Bovell who himself, curiously enough, was in the process of changing in the reverse direction from Medicine to the Church. If Johnson's influence over the schoolboy had been considerable, that of "James Bovell, Esq., M.D., M.R.C.P." was to become far more so.

From the first, Bovell, who seems to have been universally beloved, exercised a fascination for the boy which grew into an attachment of most unusual character. The two, ^{had already been brought together in more or less intimacy at Weston} ~~as has been seen, were thrown together at Weston~~ ^{was a frequent visitor} ~~where, in the capacity of medical attendant, Bovell repaired each week, and~~ and it is evident - ^{these} ~~The~~ ^{first} ~~owning~~ ^{the} ~~that~~ ^{first} ~~writer~~ ^{order} ~~plan~~ ^{went} ~~down~~ ^{with} ~~him~~

5
Oct.
1867

it is probable that during the boy's illness they became boon friends. It is probable also that during the following winter they often went down together to Johnson's, where Bovell was apt to spend his week-ends to escape from his patients. ^{There was no let up in the collecting of specimens} At all events, ~~the collection of specimens continues~~ during the year.

James Bovell was born in the Barbadoes in 1817, where his father, an English banker, had long been resident. Possessed of ample means, he went to England in 1834 and after a short stay at Cambridge determined to study medicine and entered Guy's Hospital where he became one of Astley Cooper's dressers and enjoyed the friendship of Bright and Addison. His London University degree ^{could be} ~~was~~ not granted as he was two years under age, ^{and to pass the time} ~~hence~~ he repaired to Edinburgh to study pathology under Dr. Cragie, ~~and~~ While there, it is said, he came into prominence by pointing out to the authorities the cause of Daft Jamie's death, which from the appearance of the body he was convinced had been caused by suffocation, a disclosure ^{that} ~~which~~ ^{those the notorious characters} led to the arrest of Burke and Hare. Bovell subsequently took his first doctor's degree in Glasgow and then for several years studied in Dublin

Oct.
1867

under Stokes and Graves who were at the height of their fame. While in

~~was stricken with~~
Dublin he had ~~a severe attack of~~ typhus fever and on his recovery, instead of

acting on the advice of Stokes who predicted a brilliant career for him in

Great Britain, he returned ^{home} to take up practice ^{at Antigua in the West Indies, whence in 1848} in the ^{Antigua, West Indies.} Barbadoes.

~~he was one of many West Indians who migrated from the West Indies.~~

~~In 1848 there was quite a migration of West Indians to Canada, Bevell~~

~~among them.~~ He settled in Toronto and two years later ^{with Dr. Hodder} helped to organize ~~the a~~

~~short-lived medical department of Trinity College.~~ ^{for Trinity} ~~the Upper Canada School of Medicine.~~ ^{not note must be Bevell}

In many respects ~~he~~ was an exceptional man, and cannot be judged of by ordinary standards. Prominent among his characteristics was a moral nature of unusual delicacy and fineness; vice naturally avoided him, virtue was drawn towards him, and the good side of a man instinctively showed itself in his presence. This, with a frank, kindly disposition, made him exceedingly lovable to his friends and deeply respected in the community. Mentally he had been richly endowed: a strong memory - except in matters of professional business - keen perceptive qualities, a quick wit and considerable fluency of expression. But with all these there was something lacking, and it is this which makes the retrospect of his life in some respects a sad one. There was a want of that dogged persistency of purpose without which a great work can scarcely be accomplished. The contrast between actualities and possibilities in his case was painful; and the work done - though excellent - seemed almost feeble in comparison with what might

Oct.
1867

have been achieved. Much of this arose from attempting too many things. It may be well for a physician to have pursuits outside his own profession, but it is dangerous to let them become too absorbing.

As a young man he was possessed of fair means, and never felt the 'frosty but kindly' influence of RES ANGUSTA DOMI, which, repulsive and injurious in certain cases, has on the whole a beneficial effect, particularly in the formation of business habits. These and the scientific habit of mind are rarely found conjoined, and in many respects Dr. Bovell was a typical example of a class. The exacting details of practice were irksome to him, and too often appointments were neglected and patients forgotten in the absorbing pursuit of a microscopic research, or the seductive pages of Hamilton or Spencer. . . *

internal evidence it would appear that the unsigned appreciation of Bovell
 *From an unsigned obituary notice in the Canadian Journal of Medical Sciences, 1880, v, 114, probably written by William Osler.

* The history of the medical schools of Upper Canada is a long and complicated one, with a succession of institutions which flourished, languished and died.* ~~The all-influential Bishop Strachan, acting upon an old Royal~~

*The story up to 1850 is told in Wm. Canniff's "The Medical Profession in Upper Canada, 1783-1850."

8
Oct.
1867

Charter, had established a Church College - King's - in 1842, to which a medical department was attached. The Provincial legislature in 1849 repealed the earlier charter and designated the institution the University of Toronto. Undaunted, ~~Bishop~~ Strachan secured in 1850 another Royal Charter for a Church of England University, which became the University of Trinity College, receiving the support of loyal churchmen throughout the Province.*

*The situation must have been very similar to what was going on in London at the time, namely the establishment of King's College as an offset to the non-sectarian University College, where, as the Established Church claimed, no moral or religious care was exercised over the medical students, who thereby became undisciplined and often went astray.

In connection with this institution the Upper Canada School of Medicine was organized by Drs. Bovell and Hodder.

In this school, which for the times was an excellent one, requiring an arts degree for entrance, Bovell acted ^{as} Dean, ^{but not} and was Professor of the Institutes of Medicine, but the school had a short life and Bovell was subsequently taken on to the Toronto Medical School Faculty, though he retained the Chair of Natural Theology in Trinity where, until 1875, he lectured on physiology and pathology.* His particular and favourite course, which

Oct.
1867

*Cf. Arthur Jukes Johnson on "The founder of the medical faculty." Trinity University Review, Jubilee No., June-July, 1902, p. 104.

nevertheless he sometimes forgot to attend and which a year later his young friend ^{Osler} when in the medical school occasionally used to conduct ^{ed} for him, was on the subject of physiology as related to theological conceptions!

Dr. Bovell with his four daughters lived ~~at the Hermitage~~ on Spadina Avenue, and ^{after his entrance to Trinity} very soon the young Osler began to frequent the place, 'to keep the aquaria stocked with pond material likely to contain good specimens of algae,' and to gather and study a variety of animals which ^{shall} even overflowed to 112 St. Patrick Street ^{after} when one of the daughters married a Mr. Barwick and moved there to live. ^{Beside this, what engaged him} Just what ^{Osler} he did as a first-year student at the university, if it was other than what ^{engaged} most young men ^{do}, is not ^{recorded, though it is evident} very apparent, except that he repaired to Weston as often as week-ends and vacations permitted, in order to go over with Father Johnson the ^{accessions to} increasing specimens of his collection of algae.

A few classroom note-books of the period have been preserved. One of them starts out bravely, under the date 21/10/67, with "Latin Prose Composition,"

Oct.
1867

and after the first exercise there is written in the teacher's hand, "Very good indeed my boy." But after November the exercises cease to be copied out, and the remainder of the book is filled with notes regarding his fresh-

water polyzoa, "Genus I Epithemia; ~~Kutz Insulae~~^{ac} (2), adherent, quadrilateral; valves circinate furnished with transverse canaliculi, etc., etc.," and

there follow ^{a list of} varieties elaborately described ^{specimen later} from Humber Bay, Grenadier Pond,

the Thames, London [Ontario of course], Desjardin Canal, Burlington Bay,

Sandy Cove, ^{together with} and other geni and species from the same and other places; ~~Nia~~

~~gara Falls, Lake Simcoe,~~ ^{from} the sunken boat in the mouth of the Humber ^{often mentioned} which

~~figured~~ in W. A. Johnson's note-book; Cycloclella Kutzingiana of which

there are myriads in the river at London ~~24/9/62~~ ^{from}; the Northern Railway

wharf where Navicula tumida are common; ~~Kemperfeldt Bay, Landass Farm,~~ ^{from}

~~London,~~ ^{the} Don River, Cedar Swamp, Weston; and ^{finally from} Buckley's water-trough, Dundas,

^{widely found} which ^{at} brings him home ^{for Christmas}.

Reference has been made to the ~~fact that~~ Father Johnson, ^{as long of reaching abroad} used to read to the boys in the parsonage, and ^{to his selection of} that he selected such works as the Religio Medici for their beauty of language. But it must have been more than this.

Insulae?
cf. Lexicon of
medicines -

Oct.
1867

That a high churchman should have cared particularly for Sir Thomas Browne is ^{remarkable enough,} extraordinary, but that he should have been able to transmit this appreciation to a boy of seventeen is truly amazing. It moreover is an important thread which from this point weaves its way through Osler's story to the end; and the 1862 edition of the Religio, his second book purchase*, to which he

*Osler has given the date of this purchase as 1867, but there are reasons to believe that this was a slip of memory. His first book purchase had been the Globe Shakespeare which he said was stolen, and he often invoked "the curses of Bishop Ernulphus on the son of Belial who took it." The Religio was probably purchased in 1868.

referred more than once in his published addresses, was the very volume which lay on his coffin in Christ Church fifty-three years later.

In Osler's library alongside this,
This particular book, handsomely rebound and evidently much read despite the few marks it contains ~~— few for one who read with pencil or pen in hand — is the most precious and intimate book in what came to be a rarely personal library.~~ ^{always} Beside it there stood another volume in its original covers, ~~much read and with broken back,~~ entitled "Varia: Readings from Rare Books" by J. Hain Friswell, London, 1866, ~~and dedicated to G. W. Firth of~~ ^{which} ~~Norwich.~~ It is inscribed in his elder brother's hand: "W^m Osler from F.O."

Oct.
1867

Xmas 1867," ^{and} One of the best of the charming essays ^{this volume} ~~it~~ contains is upon Sir Thomas Browne, and one may imagine a young man destined for the ministry ^{during his Christmas Holidays} reading about the "Religion of a Physician", and how few people ^{there are who know} ~~knew~~ about its author, mistaking him either for the facetious writer of "Laconics" or the Tom Brown of Mr. Hughes's imagination; how he came to practise in Norwich and to write his books; how 'Sir Thomas grew pleasantly old, and died as we have seen, boldly and manfully when his time came'; how he came to be buried there in St. Peter's ^{Manuscript} in 1682; how in 1840 his grave was despoiled and his skull, rescued from private hands, came to adorn the museum of surgery in Norwich, prophetic of ^{certain} ~~those~~ passages in his "Urn Burial."

And these passages of Mr. Friswell's about the book and the man must have been read:

But the "Religio Medici" as it was his first will always be considered his chief work. It jumped suddenly into fame. The Earl of Dorset recommended this book to Sir Kenelm Digby, and Digby in twenty-four hours, part of which were spent in procuring and in reading the book, returned it, not with a letter, but with a book, in which there are "some just remarks, acute censures, and profound speculations." Such a review as that issued by Sir Kenelm Digby and addressed to the Earl of Dorset was enough to sell any work; the public read it

St. Peter's
is the name

Slit on it the
too much
100.

Feb.
1868

with avidity, and booksellers showed an equal eagerness in pirating, with hack authors in imitating it. So that, in 1682, the year of his death, it had reached the eighth edition. * * *

~~The occasion of the open avowal of Browne's faith was to refute the general scandal of his profession, which asserts that where there are three physicians two are Atheists; ubi tres medici duo Athei, ^{xxxx and he} and as he nobly says, that ^{nobly writes} "I dare without usurpation assume the honourable style of a Christian" and such reverential sentences as ^{this} these: "Thus there are two Books from which I collect my Divinity; besides that written one of God, another of his servant Nature, that universal and publick manuscript, that lies expans'd unto the eyes of all, those that never saw him in the one have discovered him in the other;"~~

~~It must have been the next year, that the 1862 Ticknor and Fields~~
Shortly after this Christmas vacation

edition of the Completed Works, dedicated to the author, of "The Autocrat

of the Breakfast Table" and of "Rab and his Friends", was purchased at

W. C. Chitwell's bookstore in Toronto. ^{Here is,} ~~Written~~, at least, on the fly-

leaf is "W. Osler. Coll. S.S. Trin. Lent Term 28/2/'68,"; and on another

leaf in the handwriting of Mary Thorne, a cousin, ^{to} ~~with~~ whom he was greatly

^{attached} ~~in love as a boy~~ and to whom he must have loaned the book, there is ^{here} ~~his~~

Feb.
1868

name and the date "August 28, 1868." In the book itself there are but

three marked passages.* Few marks were needed, for only one other book,

*There are one or two corrections. Thus, on p. 137 of "The Urn Burial" where Browne says 'Plato's historian of the other world lies twelve days uncorrupted, &c.,' W. O. has changed 'twelve' to 'ten', with marginal reference to the "Republic," Bk. X (4).

the Bible, did he come to know more nearly by heart. One of the marked ~~pages~~

paragraphs is dated "Dec. 6 1919" and will come later in this story. The

first passage in the Religio is marked by stars, and ^{another similarly starred} ~~the other paragraph~~

(Section III, p. 10) is the following: ~~one~~.

For my religion, though there be several circumstances that might persuade the world I have none at all, as the general scandal of my profession, the natural course of my studies, the indifferency of my behaviour and discourse in matters of religion, neither violently defending one, nor with that common ardour and contention opposing another; yet in despite hereof I dare, without usurpation, assume the honourable style of a Christian.

The two men living who fundamentally influenced William Osler's life, and the one man, long dead, have been introduced. There will be one other.

The spring term of 1868 passed by without any definite decision as to

check up with
my notes.
HC.

Feb.
1868

his future though there are abundant straws to indicate the direction in which he was tending. Early in the year he had written his cousin

Jennette, "I attend the Medical School every afternoon and I have been grinding at Lyell's "Principles of Geology" in vacation, hoping to get through it before term begins. I am at Dr. Bovell's every Saturday and we put up preparations for the microscope . . . Mrs. W. was here this morning and told me about a ^{thin} strata in the mountain which was full of fossils; but for the deep snow I would go up and get some for I have none from Dundas and they are difficult to find." Moreover, he had begun to make a collection of entozoa, the earliest entry in the list bearing the date Feb'y 7th, 1868, and on these matters he probably consulted Father Johnson, doubtless taking advantage of ^{his visits} ~~these~~ visits to engage in the school sports. As Mr. E. Douglas Armour of Toronto recalls:

He had left the school in the summer of 1867, and I went there in the autumn term. When the cricket season opened in 1868, he used to come out to Weston where the school was then situate, to play cricket with us, and that was when I first saw him. He was a lithe, swarthy, athletic, keen-eyed boy. I don't think I ever saw

anyone with such piercing black eyes. He deserved the encomium bestowed by Horace on Lycus in Book I, Ode XXXII, both for his jet-black hair and beautiful black eyes. He had a peculiar forward inclination of the body as he walked, which caused his arms to hang slightly forward and gave them an appearance of being always ready to use. He was an excellent round-arm bowler, and a batter became distinctly conscious of the strength of his lithe arm, which seemed to acquire a great part of it from his determined and piercing glance as he delivered the ball. You may think it strange that I should enlarge upon this; but the fact that it is as distinctly impressed upon my mind after a lapse of fifty-three years as if I had seen it yesterday will indicate the strong personality that a boy of eighteen or nineteen possessed.

Whether his college ~~work~~ ^{standing} suffered because of these pastimes does not appear: probably not, for he acquired knowledge readily.
~~He did not neglect his college work, however,~~ The examination papers

of the next June are preserved, and very stiff examinations they were, held on successive days in Algebra, Euclid, Greek (Medea and Hippolytus), the Catechism, Trigonometry, Latin Prose, Roman History, Pass Latin (Terance), Classics (Honours). How he got through the trigonometry with his dislike for mathematics is difficult to conceive. And certainly the Catechism test was searching enough without the enchantment of the polyzoas to have

June
1868

affected his choice of a career. There were eighteen questions, including such as:

11. Show that the Holy Spirit is both a person and divine.
12. Eternal life is distinguished as being initial, partial, and perfectional. Explain and illustrate under each head from Scripture.

It is difficult for those of a later generation to imagine the struggle and turmoil which in those days engaged men's minds, particularly the minds of churchmen and more especially those like W. A. Johnson, the prototypes of Stephen Hales and Gilbert White, who had a scientific interest in the phenomena of nature. Following Cuvier and Owen, the doctrines and theories of Lyall, Darwin, Wallace and Huxley threatened to split the very church asunder. Some, like Wilberforce in the church attacked them; some, like Gosse in science did likewise, and one may imagine, it being but nine years since "The Origin of Species," that in discussion with his favourite pupil Johnson faced the controversy fearlessly and that his attitude was not an ambiguous one.

In those days moreover, it was still expected that the Anglican Church would absorb one at least of a family of children in holy orders, but the youth of the day were graduating from Butler's "Analogy" which failed to satisfy them as it had satisfied Newman. Indeed they were eagerly lapping ^{up} subjects more appetizing than theological revelation, in an anonymous volume, "The Vestiges of Creation," in Lyell's "Antiquity of Man," in Herbert Spencer's "First Principles," in Huxley's "Lay Sermons and Addresses," which appeared anti-theological to a degree. Indeed many of them had come to feel with Huxley that extinguished theologians lie about the cradle of every science like the strangled snakes about that of Hercules.

Oct. 1868,
aet. 19.The Toronto Medical School

gain of 4 pages
so far in this chapter.

3-space

In what ~~surroundings~~ ^{he passed} the summer of 1868 ~~is not apparent,~~
~~but like as not his pastime was~~ ^{evidently was passed} in gathering further samples of algae
 from the waterways in and about Dundas. Concerning ~~some~~ ^{one} of these spe-
 - a man of Pectinatella found in an old submerged barge near the mouth of the Humber -
 cimens, in August he consults ^{ed} the Rev. Mr. Hincks, his botany teacher
 at Trinity and the father of the Rev. Thomas Hincks, F.R.S., the autho-
 rity on the British polyzoa into whose hands ~~one of his~~ ^{the} rare findings
 seems thereby to have fallen;* and in September he sends some diatomas

Foot-note

*"I have received from the Rev. Thomas Hincks, the distinguished authority on British Polyzoa, a reprint from the Annals and Magazine of Natural History for March, 1880, entitled "On a supposed Pterobranchiate Polyzoan from Canada." It is based on a communication from his father, the late Professor Hincks of Toronto University, in which a short account is given of a polyzoan found on a sunken boat in the Humber river near Toronto. According to the description, 'the tentacles, instead of being disposed in a horse-shoe figure and forming a continuous series, as in the ordinary fresh-water species, are borne on two distinct erect lobes, which are separated at the base,' the arrangement met with in the Pterobranchiate Polyzoa. At the date of Professor Hincks' letter, December 1868, I was a student in his Natural History classes, and during the autumn of '68 had often ^{sent} him specimens of various sorts, and among them a mass of Pectinatella, which I had found in an old submerged barge near the mouth of the Humber. I remember the fact very distinctly, as it was the first specimen of Pectinatella which I had found near Toronto, and Professor Hincks took a great interest in it, as he had not met with any fresh-water Polyzoa in Canada. Could this have been the specimen? It is a curious coincidence, to say the least, and perhaps in a look through the Museum of the University the specimen might be found, and the statoblasts would be sufficient to decide the question. Professor Hincks gives a sketch of the lophophore and it is hard to think he would have been mistaken as he was an unusually skilful observer. The submerged barge was for many years a favourite collecting-ground, and in some seasons Pectinatella was very abundant in the quiet water inside of it."

*. Foot-note to Osler's "Canadian Fresh-Water Polyzoa." Canadian Naturalist, 1883, new series, x, 406.

from London to Father Johnson.

18 - 19

^{Osler} returned to Trinity for his second year in Arts, ^{but} and after enduring it for ^{a few days} ~~one week~~ announced to his parents and to the Provost his determination to go into Medicine. ~~This decision was his own, for as father of the man he had come to learn his own mind and it appears to have been the only momentous decision of his life - and there were many to make - over which he ^{long} wavered.~~ It must have caused some disappointment at home, but if so his parents were not ones to bring undue pressure to bear in influencing the choice of ^{career} ~~for~~ of one of their sons. Even had they been so inclined, Johnson and Bovell unconsciously drew him in another direction, and ~~Sir Thomas Browne had interpreted for him the physician's religion.~~ Another environment, an earlier decade, would almost certainly have seen him enter the Church.

And what of ^{this} ~~these~~ friends and preceptors? Johnson had left the Army for the Church. His two sons entered Medicine, though one of them subsequently took Holy Orders. And Bovell in a few years came to do likewise; but at this time as soon as he heard of his young friend's decision he exclaimed, "That's splendid, come along with me." This the boy literally did, and during the next two years the two lived more like father and son than as teacher and pupil.

There were three particularly able and promising students who entered the Toronto Medical School this fall of 1868 - Fred Grassett, Richard Zimmermann and William Osler. Grassett completed his course in Edinburgh, served as one of Lister's dressers and in time became a leader in surgery in Toronto. Zimmermann the son of a railway magnate of Niagara Falls met an untimely death in 1888, at which time Osler sent the following note to

~~an arbitrary note~~

9
From the first

Oct.
1868

the Journal of which his friend was long one of the editors.

Some of my most pleasant recollections as a student are associated with Richard Zimmermann, whose death took place last week in Toronto. At the Toronto School of Medicine, which we entered together, his zeal was always a stimulus, but his capabilities, as tested at the examinations, were far beyond my reach. In London, though at different hospitals, we saw much of each other. His brilliant career at St. Thomas' where he secured the prize of a house physicianship under Murchison and Bristowe, gave him exceptional facilities, and he returned to Canada in 1874 one of the most thoroughly trained men it has been my pleasure to know. Success came rapidly, and in the enjoyment of the esteem of his colleagues, the confidence of the public, and the love of his students, how bright seemed the outlook! But the shadow of an hereditary ailment fell and deepened - and the end has come. To me there remains the memory of a bright, unselfish, loving friend.*

*Notes & Comments, Canada Medical & Surgical Journal, Mar., 1888, 511.

On leaving Trinity it is probable that he resided with his sister Ellen who had married a Mr. Williamson the year before and was living in Toronto near the head of Simcoe Street, but this is not certain and, even if true, he apparently spent most of his odd hours at the Bovell's. From the first he ^{evidently} ~~must have~~ entered into his medical

Fall
1868

Studied
 work with the industry and enthusiasm which characterized his relation to his choice of profession to the end. A number of letters from his surviving classmates are unanimous in stating that he was exceptionally studious and faithful in attendance at lectures; that he spent most of his ^{hours} ~~time~~ in the dissecting-room ^{and when not so engaged} ~~'working a good part of the time in his own way by himself;'~~ that when he was not dissecting he was "always to be found looking through a microscope at Bevell's cells;" that he was a general favourite not only with the class but with their preceptors, of whom Hodder, Richardson, H. H. Wright and of course Bovell are chiefly mentioned; and that, when 'grinding' the class, the teachers were apt to turn to Osler when others could not answer their questions. *These letters, too, uniformly testify to his*
~~He is said to have been social and companionable,~~ ^{very} ~~and~~ ^{State that he was} always ready for a frolic and bit of fun.

"One of the sports indulged in to a very limited extent was boxing, the champion being big long John Standish who could box all day. He had the strength of a giant with a kindly gentle heart and took care never to hurt anyone. The students were amused one day to see little Osler tackle the giant and quite surprised to find that the little one was almost the only ^{member} ~~one~~ of the crowd who could strike Standish."

likewise
 Of Bovell many tales survive - tales which emphasize his absent-mindedness - of his putting some blisters on a patient and forgetting

Fall
1868

them until three weeks later; of losing his horse and buggy which were found standing before a house where he had called the previous day. Dr. R. H. Robinson a fellow-student of Osler's writes that on one occasion he felt ill, and having consulted Bovell at the Medical Building, Bovell ^{had in} told ~~him~~ to go to his boarding-house, ^{to} ~~to go to bed~~ and remain there until ^{Bovell} ~~he~~ called on ^{morning} ~~him~~ the next day. Bovell forgot about it until the third day and then took Osler with him, to look for the patient somewhere on Grosvenor Street at a number he could not remember. Robinson, who meanwhile had recovered, was out walking and saw Bovell standing in the street in evident distress while Osler was running from door to door enquiring whether there was a sick man in the house.

It is not easy to trace the ~~varied~~ activities of a medical student of fifty years ago, particularly of one who was habitually reticent about himself, so that even were the letters of the time preserved they would tell little. ~~The fall is taken up with anatomy, and Gray's second American edition was followed, whereas Roscoe's "Elementary Chemistry" was the text-book on that subject.~~

A visit must have been made to Weston both at the beginning and end of the Christmas recess, for under the dates 19/XII/68 and 9/I/69 Johnson records a number of microscopic specimens such as "Trachea of a mouse given me by W. Osler. Gly. beautifully stained." Inasmuch as there was no course in histology ^{in these days} these specimens evidently were prepared on his own initiative by Osler himself; and Johnson in return inscribed ^{to him} as a Christmas gift

Dec.
1868

Alpheus Hyatt's "Observations on Polyzoa, Sub Order Phylactolaemata" which had just appeared in the Proceedings of the Essex Institute. Osler's first appearance in print describes^s an episode of this particular holiday season, possibly under the influence of a morning's perusal of Johnson's present. It was a short sketch entitled "Christmas and the Microscope" which he sent to a semi-popular and now extinct English journal devoted to nature study.* As he said years later, this was the beginning

*Hardwicke's Science-Gossip, London, 1870, v,44 (Feb'y 1, 1869). Edited by M. C. Cooke.

of his inkpot career and showed his fondness, even at the very start, for tags of quotations; this one from Horace then a familiar friend."

Nec jam sustineant onus,
Sylvae laborantes, geluque
Flumina constiterint acuto,

might well be said of the Canadian woods and streams at this season of the year. The earth has put on her winter robes, and under them she hides most of those objects which in summer please and delight us so much. A cheerless prospect for microscopists, one would think. So I thought, as on Christmas afternoon I sallied forth with bottles and stick in search of diatoms, infusoria, snow-peas, &c., though I did not expect to be very successful. After wandering about for some time, searching vainly for an unfrozen stream, I was about to return home with empty bottles, when I suddenly bethought myself of an old spring which supplied several families with water, and which I knew therefore would be unfrozen. In this country, wherever there is a

Dec.
1868

good spring some kind individual sinks a barrel for the benefit of the community at large, and thereby benefits microscopists in no small degree, for in these you are generally sure to find a good supply of microscopic objects. When I got to the spring the first thing that greeted my sight was a piece of algae floating on the top of the water, and on a closer examination of the barrel I saw that the sides had a dark-brown coating, in which I knew diatoms and infusoria would be found. Scraping some of this off, I placed it in a bottle and retraced my steps homeward, well satisfied with my afternoon's walk. Getting home at that unfavourable time for working, just as the light is beginning to fail, I had to exercise my patience and wait till evening to see what my bottle contained. I had not long to wait, as darkness soon succeeds the light here; so when I had got a lamp lighted I proceeded to examine my spoils. A short account of the things I found may not be uninteresting to English readers of the Science-Gossip as it will give them some idea of what lovers of science meet with in this country.

And the young microscopist of nineteen goes on to enumerate the living 'things' he was able to identify in his bottle of water.

Thus his holidays were passed, and the Easter recess likewise found him collecting specimens in the region around Lake Simcoe, a goodly number of which he ^{forwarded}~~sends~~ to Johnson from Sandy Cove and Kemperfeldt Bay; and

Apr. July
1869

Oct. 20

a week later on his way home, this from a horse-trough.

"28/IV/69. Alga? Tindyredia etc in gathering from a horse-trough on the road and hillside between Hamilton and Dundas, sent me by post from W. Osler to see water bears; did not find any. In Hantz fluid and sealed immediately."

In spare hours during all this first year he and Bovell were doubtless much together, and the latter's granddaughter writes:

"He was about twenty in those days and literally lived at our house. He adored Grandfather and the latter loved him like a son - and they were both crazy about the microscope. Mother ^[Mrs. Barwick] says her life was a perfect burden to her with weird parcels arriving which might contain a rattlesnake, a few frogs, toads or dormice. She found quite a large snake meandering around the study one afternoon, and when she protested violently, the two told her she should not have been in there. * * *

(Dr. A. F. Walker, Chap. II p. 1) During ^{was caught at home and} the summer vacation passed in Dundas he must have attached himself to the family physician Dr. ^{A.} Holford Walker, for ~~he refers to him as his pre-~~ ^{written}ceptor: and in a paper on appendicitis, twenty years later, shortly after this malady received its baptism, ^{he} recalls having seen with ^{Dr. Walker} him during this year of 1869 two cases in which the abscess had formed and discharged in the groin. But he devoted himself chiefly to his zoölogical collection, and ^{from time to time} ~~by the end of~~ July ^{forwarded to Dr. Walker} is able to send Johnson some new species from Niagara Falls and elsewhere. ^{Not only does Father} ~~what are daily entered~~ Johnson's specimen book, ^{and record their receipt} and it is clear also that he again joined his ^{in Dundas} disciples during September for a series of ^{excursions} ~~expeditions~~ in and about their favorite hunting grounds where ^{especially} ~~supplied~~ ^{the 'Garden'} ~~the~~ ^{was} material for study for some months to come. Among ^{several} ~~Osler's~~ ^{specimens} ~~which~~ ^{have} been preserved is one bearing the date

24 July 1869
Oct. 20

#1260. 30/VII/69. Diatomes taken on weeds at mouth of Desjardin Canal by W. Osler and boiled by him, showing among other good diatomes the "Coscinodiscus armatus."

And other entries follow. Later in the summer Father Johnson pays a visit to Dundas and the note-books record excursions to their favourite hunting grounds. Johnson indeed gathers things to keep him busy well into the fall, for in November, thus:

#1272. Upper and Lower surfaces of leaf of Deutzia Scabia: picked while at Mr Osler's, Dundas, in September last, put up 5/XI/69.

And so ^{soon} after this visit from Father Johnson ^{Osler may have} he returned to his ^(the arm of Burke) other friend and father in Toronto, and to his second year in the medical school. A note-book of the period is extant, dated October 1, 1869, which is of no great significance except for one thing. It contains a few pages of ^{notes on} chemistry and ~~cal~~ notes as well as ^{some} notes on materia medica (Nov. 3, '69 to Feb'y 9, '70), but it is largely filled with the next year's lectures on obstetrics, chemistry and pathology taken at McGill. In pencil on the fly-leaf in W.O.'s hand is "James Bovell, M.D. M.R.C.P. Prof. Nat. Theology in Trinity College Toronto Lecturer on Institutes of Medicine Toronto School of Med. Consulting Physician to Toronto General Hospital. Physician to Lying in Hospital. Lay secretary to Provincial Synod Author of Outline of Natural Theology, etc. etc. etc. James Bovell." And throughout the book the name is scribbled whenever ^{appears to have occurred} there appears to have been a lapse in the lecture or the student's mind wandered - "James Bovell M.D. M.R.C.P.;" "James Bovell M.D.." ^{Exercise} The man must have come to influence an extraordinary influence over the boy, and to his last days, as will be seen, in moments of absentmindedness or when trying a pen it was the name of James Bovell that came first to paper, not his own.

July
1869*special*

In those days, before the multitudinous *special* subdivisions of clinical medicine which have bid fair to crowd the fundamentals out of the curriculum, the course of anatomy extended over two years, and as the dissecting-room represented the only laboratory to which a student had access the abler ones revelled in it. The teachers of the pre-clinical branches, moreover, were at the same time practitioners; and in a ^{*lecture*} paper on aneurysm ^{*delivered*} written years later Osler wrote that:

International Clinics, Phila. 1903.

When a student in Toronto I occasionally visited the jail with our teacher of Anatomy, Dr. J. H. Richardson, and among the prisoners was an old soldier who had been discharged from the army after the Crimean War for aneurysm of the aorta, so his papers said, and, considering the large experience of the army surgeons with the disease, it is not likely there could have been any mistake. *

~~*Clinical lecture at the Johns Hopkins Hospital, Baltimore, 1903. "Aneurysm of the descending thoracic aorta." International Clinics, Philadelphia, J.B. Lippincott, 1903, 40 pp. 82. James Henry Richardson, 1823-1910, was Professor of Anatomy for fifty-two years in the Toronto schools, from 1850 to 1902, and for the same period Surgeon to the Toronto Gaol. He was a famous rifle-shot and fisherman, and is said to have chosen the maple-leaf as the national emblem of Canada.~~ *use.*

He goes on to say that the old man died in 1885, thirty years after the Crimean War, and Dr. J. E. Graham gave him the specimen to be drawn and described - a healed saccular aneurysm at the junction of the arch and descending aorta. ^{*visit with his lecture of anatomy aroused*} It is quite likely that ~~this early visit started~~ ^{*special*} the inquisitive boy's interest in aneurysm, which was so evident in his Montreal days; but this is anticipating. *

stat.

Richardson as well as his other
*To his various teachers in the school Osler paid tribute in ~~his~~ ^{*his*} Toronto address, "The Master Word in Medicine" given in 1903, on the occasion of the amalgamation of the Toronto and Trinity Schools of Medicine.

Winter
1869-70

As has been stated, the outstanding recollection of him on the part of his surviving fellow-students is that he was always dissecting. Dr. Albert MacDonald who was prosector in anatomy, recalls that he "spent more time in the dissecting-room than any other student, frequently bringing his lunch with him in order to get some extra time ^{There.} ~~for dissecting.~~ He did much of this work alone, working out problems of his own in his own way, without the aid of a demonstrator. Thus he pointed out the presence of the trichina spiralis in the muscles of one of the bodies, which no one else had observed."

This, ^{Episode V} ~~happening in~~ the winter of 1870, ^{Sufficiently} ~~possibly~~ illustrates his characteristics, ~~as well as any other example might,~~ not so much in that it shows unusually acute powers of observation ^{for a student} ~~but~~ rather ⁱⁿ that it evidences his wide-awakedness and his ability to use acquired knowledge, for he had already seen the trichina under the microscope as is apparent from two sources. ^{from Foster} ~~The first is Johnson's note-book,~~ ^{Specimen - course or from} ~~in which occurs this entry:~~

29/III/68. Trichina spi: from Hampden Illinois U.S. Human, occasioning death given me by Arthur. (Gly).

and a few weeks later another specimen mounted and recorded on the same day with some 'diatoms given me by W. Osler who drew my attention to them.' The other source of evidence is in ^{kept} a remarkable note-book of this period started by Osler himself, in which occur lists of entozoa from all possible sources, and of which more will be said in its proper sequence.

Another event, in this first year's study, which had some influence on my later life, was the discovery of the Trichina spiralis. Dr. Cobbold has told the story of the several steps leading to the discovery and following it, in his latest work on the Entozoa. My share was the detection of the 'worm' in its capsule; and I may justly ascribe it to the habit of looking-out, and observing, and wishing to find new things, which I had acquired in my previous studies of botany. All the men in the dissecting-rooms, teachers included, 'saw' the little specks in the muscles: but I believe that I alone 'looked-at' and observed them: no one trained in natural history could have failed to do so.

This paragraph was not written by William Osler but occurs in the short autobiography of Sir James Paget.* The circumstances, however, were much the

*Cf. "Memoirs and Letters of Sir James Paget." Longman & Co., London 1901.

same, and Osler with his instincts as a naturalist also 'looked at' as well as 'saw' the specks ^{in his own turn}. Indeed Dr. Jukes Johnson says they cut ^{and studied} literally thousands of sections ~~and studied them~~. Specimens ^{were} ~~are~~ sent to Father Johnson; Bovell doubtless ^{was} ~~became~~ interested, and innumerable feeding experiments ^{were} ~~are~~ performed (Cf. fig. p. 30) in the attempt to infect ^{other} ~~the~~ animals, for at the time but little was known of the disease in America. Some six years later, in his first paper on trichina spiralis, he wrote:

DeLustig - This is just as it was in the manuscript draft in the files.
(this p. 15)

Feb.
1870

When a student with Prof. Bovell, of Toronto, I had several opportunities of studying these parasites. In the month of February, 1870, while dissecting a subject with Dr. Zimmermann in the Toronto School of Medicine, we discovered numerous trichinae throughout the whole muscular system, all of which were densely encysted, many having become calcified. From a single drachm of one of the muscles of the arm I obtained 159 cysts, the greater number of which enclosed healthy-looking worms. This man was a German, and had been janitor at the hospital, where I had known him for over two years. *

*"Trichina spiralis." Canadian Journal of Medical Sciences, May, 1876, i, 175.

It is interesting that he says 'a student with Prof. Bovell' rather than a student at the Toronto Medical School. and it is characteristic also that he links Zimmermann's name with his own, for it is evident from the personal notes ^{accompanying} in his list of entozoa that the discovery was his own.

22/II/70, No. IV. While dissecting the arm of a man who died in the Toronto General Hospital I found numerous Trichinae in the Biceps muscle, and further examination showed them to be scattered freely throughout the muscles. From 31 of the muscles, from the long head of Biceps I obtained 150 cysts, the greater number of them containing healthy-looking Trichinae.

29/III/70, No. V. In the subject following the one above, and also brought from the Toronto General Hospital, numberless cysts were found

Spring
1870

in all parts of the body. The parasites in this case are not as old, none of them beginning to undergo degeneration.

This man and consuming
~~An~~ interest in the entozoa had been awakened some time before — Indeed, when he was still at Trinity, the earliest specimen which he records being under the date "7/II/68;" but it was not until Jan. 1st of 1870 that he began systematically to ^{make a list of his} record the specimens in a blank-book and to give detailed explanatory notes. It was quite consistent with what was still under way in ^{his} the study of the diatomaciae and fresh-water polyzoa but it illustrates the formative stage of his habit of observing, collecting, recording and tabulating specimens or cases, and thus preparing material for future publications. *makes such entries as the "1315 Entozoa from the mucous stomach of a bat given me by W. Osler and put up by him" Johnson*

Many of the specimens are ^{indeed} carried or sent to Johnson, whose interest in this new subject is obviously aroused, though the preparations all appear to have been mounted by his young friend, who is rapidly forging ahead of him. *Even when Osler's*

8/XII/69. #1314. *Trichina spiralis* (Encysted) From a subject (on the table) in New York: shows the calcareous deposit.

#1315. Entozoa from mucous stomach of a bat. Both given me by W. Osler; put up by him Nov^r 1869.

Jan. 5/70. #1316. *Taenia*; ova bearing segment taken from a dog. Given me by W. Osler. Balsam.

22/IV/70. #1390-1. [Easter recess]. *Trichina spiralis* from man at Toronto G. H. from Osler. Gly.

#1392. *Taenia elliptica* head protruded. from W. Osler. Gly.

name is not mentioned in the source of many of Johnson's specimens; even the brief traces of them;

Spring
1870

6/June/70. #1403. Echinorhynchus? [Johnson had trouble with his spelling] from the Catfish both male and female. Given me by W. Osler. Glycerine. (See Cobbold).

~~It is easy to trace the source of these and other entries in Johnson's~~
~~note-book.~~ ^{Specimen} Thus:

22/IV/70. #1388. Parasites on fins, body &c of little fish in my aquarium. They seem to have a chelinous horse-shoe-shaped piece inside, & are large brown looking things with powers of locomotion & short cilia all round the edges. ~~Gelatinous mass~~ destroyed by drying (Boil)

Whereas in Osler's ^{records occur} ~~note-book~~ are the following three ^{corresponding} entries: ~~ON THE~~ ^{on this same subject}

FINNS OF CHUB: ^{the first of which reads:}

21/IV/70. On the finns of chub in the Rev. W. A. Johnson's aquarium were noticed several round white spots. These on examination proved to be some sort of Entozoa. In addition to these, some yellow spots were seen which seem to be a more advanced condition of the parasite. (see slide 'x' 'x' 'x')

2/ V/70. Numerous Flukes attached to the intestine of a small chub.
(see slide no. x x x)

12/VI/70. Examined three chub: from the intestine of one two Echinorhynchus were obtained, a male and female.

This April ^{sojourner went} ~~visit to~~ Johnson must have been ⁱⁿ ~~during~~ the Easter recess,

Spring
1870

during which, it appears, he subsequently visited ^{his} his relatives^{at} at their summer home on the Island and later goes to Dundas, if one may judge from the ^{Succession} first two of these following entries on the ^{in his house on the "Entozoa in Pike" Mus.} ENTOZOA IN PIKE.

23/IV/70. In a pike 2 ft. 7 in. long caught at the Island, I obtained 68 specimens of Taenia and two or three small Ascarid^{***}ae. This tape-worm is about a foot long, and exhibited curious undulatory movements which continued for more than twenty-four hours after removal from the intestines. It is very extensible and may be stretched to almost double its ordinary length. The head is flattened, club-shaped when the worm is dead, but during life is generally extended, giving it the shape of a flint arrow-head. Five suctorial disks are plainly seen but no hooklets. The segments taper very gradually, being exceedingly small at the neck, larger towards the end of the body; they are about twice as broad as they are long. The Water vascular system is most distinctly seen in this worm, consisting of four channels, two on each side. At the head and for a considerable distance down the neck these tubes connect by means of inosculating branches; these about the head form a dense net-work. (see sketch).

30/IV/70. From a pike caught in the canal basin at Dundas I obtained 28 Taenia and numerous small Ascaridae. In the stomach of this fish were 52 smaller ones, principally little bass and perch.

30/VI/70. From the intestines of two pike obtained at the Fish-market, Toronto. In one 84 Taenia were found and in the other 53 not

and he goes on to describe in detail the microscopic characters of his findings. In no sense a Waltonian, as his son came to be, older nevertheless could endure fishing when it brought ^{furnished side interests} ~~some pleasure~~ ^{in the whole} ~~pleasure~~ ^{in his} ~~it brought~~ ^{specimens} ~~specimens~~ from the fish market.

It there can be ~~pass~~

Spring
1870

counting numerous small undeveloped ones, - looked like freshly eaten scolices. A few Ascaridae were found in the stomach of one.

23/VI/70. From intestine of a pike obtained in Fish-market, Toronto, 56 Taenia; most of these were of a large size and longer than the usual ones from this fish.

Despite this new and consuming interest in ^{the}Entozoa, he is not forgetting the diatomaciae as is apparent from these entries in the special note-book devoted to them:

March 20, '70. Went out to Humber Bay with Rev. W.A.J. and obtained gathering from Grenadier Pond and its outlet.

Mar. 23. Humber Pond eight varieties. Grenadier Pond nineteen.

Mar. 24. Went out again and obtained another gathering from the same place. The Diatoms were all alive and moving freely, Many types of Ocellatoria were mingled with them and gave the gathering a rather greenish appearance. From the pond on the right hand side of the bridge the following Diatoms were obtained, . . .

and there follows a list of twenty-five varieties, some of which are described and pictured.

April 2. [he is evidently devoting to the microscope] The endochrome in this [drawing of specimen] is rolled up into four balls the middle ones the largest. While watching it the two centre ones co-

Spring
1870

alesced and spread themselves throughout the cell pressing the smaller ones against the apices. This was in Nav. affines and seen with 1/20.

April 21st. Out at Weston. In a gathering from the G. T. Railway numbers of Nitzschia amphioxys and Mendion cureulare??

There can be little doubt ~~but~~ that had William Osler at this time come under the influence of Huxley or Agassiz or possibly of Leidy, he would have gone on with his biological studies and abandoned medicine. Aside from his opportunities in the dissecting-room it would appear that the school was not proving a great success, and his lecture notes, with their "James Bovell M.R.C.P." scribblings, would indicate that his mind was not captured by the lecturers. There is possibly one thing that might have deterred him, his ineffectiveness with his pencil, for though many of ^{the sketches of his specimens} his drawings are probably accurate enough they are lacking in any artistic quality. ^{the only accomplishment in which Father Johnson excelled his pupil.} Years later, ^{or will be seen,} when he finally came in contact with Joseph Leidy at the Biological Club in Philadelphia, it was Leidy's superb drawings that especially provoked his enthusiasm. ~~This was shown as late as 1915 when, on adding to his library a copy of Leidy's great quarto on Rhizopods, he wrote to Joseph Leidy Jr., to ask for one of his father's sketches to insert in the volume, where it may be found.~~

However this may be, he persisted in sketching what he saw under the microscope as best he could, and ^{his opinion} the notes given above, with their accompanying illustrations, are comparable to those accompanying the notes ~~on the entozoa~~ ^(of diatoms, polyzoa and entozoa) and, later, ~~on, these made in Montreal and London when he was poring over~~ ^{in later years}

1870

blood specimens; those made in Philadelphia when absorbed in the malarial parasite; and those made during the first year in Baltimore on the amoebae of dysentery which practically ended his days with the microscope. The method of the pursuit in each instance was the same, and though occasionally he ventured to reproduce some of his own sketches in his early papers, the art of illustration was not his long suit.

In all these extra-curricular pursuits, though his name ^{appears less} frequently ^{than that of Johnson,} appears, Bovell probably figured largely for they were much together. ^{Nearly fifty years later} ~~the~~

Allen wrote:

It has been remarked that for a young man the privilege of browsing in a large and varied library is the best introduction to a general education. My opportunity came in the winter of '69-'70. Having sent his family to the West Indies, Dr. Bovell took consulting rooms in Spadina Avenue, not far away from his daughter, Mrs. Barwick, with whom he lived. He gave me a bedroom in the house, and my duties were to help him to keep appointments - an impossible job! - and to cut sections and prepare specimens. Having catholic and extravagant tastes he had filled the rooms with a choice and varied collection of books. After a review of the work of the day came the long evening for browsing, and that winter ^[1869-70] gave me a good first-hand acquaintance with the original works of many of the great masters. After fifty years the position in those rooms of special books is fixed in my mind. Morton's Crania Americana, Annesley's Diseases of India, with the fine plates, the three volumes of Bright, the big folios of Dana, the monographs of Agassiz. Dr. Bovell had a passion for the great physician naturalists, and it was difficult for him to give a

lecture without a reference to John Hunter. The diet was too rich and varied, and contributed possibly to the development of my somewhat "splintery" and illogical mind; but the experience was valuable and aroused an enduring interest in books. In such a decade of mental tumult as the sixties, really devout students, of whom Dr. Bovell was one, were sore let and hindered, not to say bewildered, in attempts to reconcile Genesis and Geology. It seems scarcely credible, but I heard a long debate on Phillip Henry Gosse's (of, to me, blessed memory) Omphalos, an attempt to untie the Geological Knot. A dear old parson, Canon Read, stoutly maintained the possibility of the truth of Gosse's view that the strata and the fossils had been created by the Almighty to test our faith! A few years ago, reading Father and Son which appeared anonymously, the mention of this extraordinary Omphalos work revealed the identity and, alas! to my intense regret, the personality of the father as Philip Henry Gosse.

Of this mental struggle the students reaped the benefit - for Dr. Bovell was much more likely to lecture on what was in his mind than on the schedule, and a new monograph on Darwin or a recent controversial pamphlet would occupy the allotted hour. One corner of the library was avoided. With an extraordinary affection for mental and moral philosophy he had collected the works of Locke and Berkeley, Kant and Hegel, Spinoza and Descartes, as well as those of the moderns. He would joke upon the impossibility of getting me to read any of the works

1870

of these men, but at Trinity, in '67-'68, I attended ^{his} the lectures on Natural Theology, and he really did get us interested in Cousin and Jouffroy and others of the French School. Three years of association with Dr. Bovell were most helpful. Books and the Man! - the best the human mind has afforded was on his shelves, and in him all that one could desire in a teacher - a clear head and a loving heart. Infected with the Aesculapian spirit he made me realize the truth of those memorable words in the Hippocratic oath, 'I will honour as my father the man who teaches me the Art.'*

*Bibliotheca Osleriana.

The 'consulting rooms' referred to in the foregoing were located on Spadina Avenue near Queen Street, and tradition has it that the venture was entered upon at Osler's suggestion with the object of starting a consulting practice for Bovell and of obliging him thereby to collect his fees. The partnership is said to have continued for about a year and apparently the business methods, or lack of them, of the senior partner, in the end prevailed. Dr. R. B. Nevitt who entered Trinity as one of Osler's contemporaries, writes that 'he brought there no marked reputation

1870

except that he was a good fellow and held the distance record for throwing a cricket-ball.' He says further:

~~Bovell's office was on Spadina Avenue.~~ One afternoon I had some engagement with W. O. and called for him at ^{Bovell's} the office. The room was a large ^{and} bare ~~room~~ with a few chairs and a small deal table - like a kitchen table. Osler opened the drawer of the table - Dr. B. had gone out - and said "Look here! This drawer has been filled to overflowing with bills two or three times this afternoon and now look." One solitary bill lay in the drawer. As the patients paid their fees Osler placed them in the drawer. A needy patient came along, and Dr. B. reversed the process and handed money out so that the sick man might get his medicine and the food and other things required.

~~There are~~ ^{other} Many like stories of Bovell, ^{some he told -} many of them probably ~~more or less~~ true and many of them having Osler as an appendage. The older man was adored by all the students, though it could never be told whether ^{the topic of} his lecture was going to be medical or theological, or indeed whether he would remember to come at all; and on a ~~few~~ occasions, both at Trinity and the Medical school, ^{it devolved upon} Osler ^{to give} gave his lecture for him. just before Osler's entry to the school The row of ^{charming} houses on John Street and St. George's Square where Bovell had lived, were burned down and he had built the house called

Spring
1870

"The Hermitage" on Dennison Square; and "it was here that he and W. O. kept all their rabbits, mice and other animals, including alas!, to the scandal

of the community, an occasional neighbour's cat that had ventured afield." *Here that*

in their own way they worked together on the microscope and it is related that the two

The two ~~together~~ were concerned in a famous murder trial of the day,

for medico-legal jurisprudence was one of Bovell's many interests, aroused

in all likelihood
~~possibly~~ by his earlier relation to the arrest of Burke and Hare. With

the aid of the microscope they proved before the court that certain stains

on a discovered coat were human blood, and on this evidence the criminal

was hanged.

It was during the spring of 1870, too, despite all of ^{*his*} ~~these~~ accumulat-

Calver began
ing interests, that ~~he~~ begins visiting the veterinary hospital, possibly

drawn there in the first place ^{*by him*} through interest in comparative parasitology

and in the expectation of adding to his growing collection of entozoa - an

expectation fully realized. ^{*or*} ^{*it*} Quite consistent with this were his subsequent

associations with the veterinarians at McGill.

Nevertheless
~~But with all this~~ he found

time to prepare for publication the results of his studies on the diatomaciae

Spring
1870

and to forward the manuscript to Principal Dawson of McGill who was at

the same time President of the Natural History Society of Montreal. [#] This,

The paper was not presented before the Society until the October meet-

ing, ^{here 2} ~~but~~ was published in the June volume of the Transactions. It con-

~~tain~~ contains, as W. T. Councilman has said, "an admirable description of the

~~structure, mode of division, and propagation of the diatom, which is evi-~~

~~dently based upon observation.~~" He introduces ~~this~~, his second appear-

ance in print, ^{only introduced with this paragraph:} as follows.

Among the many beautiful objects which the microscope has revealed to us, none, perhaps, are such general favourites (especially with the younger microscopists) as the Diatomaceae. Their almost universal distribution - the number of species - and above all, the singular beauty and regularity of their markings - have all tended to make them objects of special interest and study. In the following paper I propose to give, briefly, the principal points connected with their life, history, and structure, together with a list of those species I have met with in Canada. . . .

^{The article} ~~this paper~~ as W. T. Councilman has said contains "an admirable description of the ^{personal} structure, mode of division, and propagation of the diatom, evidently based on observation" ~~the~~ ^{there is mention of}

Dec.
1919

more, and whispered: "That's enough. Isaac and I have read that every

Christmas Eve for years."

*If the days of our age are three score years and ten ... so soon it
possess away and we are gone. The end came at 4.30 on the afternoon of December 24th after a hemorrhage from
his wound as it had with many soldiers in the war - quietly and without pain. Dr. Francis writes that:*

"The night before he died," Dr. Francis writes, "I read to him for

the night - before I read to him for

quite a long time, things he called for out of the Anthology, and we

ended with the last verses of the "Ancient Mariner." I thought at the

time how well it fitted him, and, afterwards, what an appropriate vale-

dictory for this lover of men and books:

He prayeth best who loveth best
All things both great and small . . .

When I kissed him, he said to me, as though I were a child: "Goody-night,

a-darling!"

29/V/70. From the intestines of a Cat-fish speared at the Island 3
Taenia, very small, and 4 Echinorychidae (see slide) accessory
claspers of the male - well seen in this species.

6/VI/70. From a specimen of the above *Menobranhus lateralis* caught at
the Island I obtained numerous Polystomes, some of which were at-
tached to the branchiae others to the upper surface of the mouth. . . .
This Nematode presents four disks, two at each extremity. Of these
the smaller one situated about the middle of the upper fourth of
the body, is the mouth, which leads directly into the intestines.
These consist of two simple tubes, which unite about the middle of
the lower fourth of the body. The water vascular system is well
developed. It appears to commence in a ramification of vessels
about the anterior disk, these unite to form two vessels, which run
the whole length of the body, join below and open somewhere between
the posterior disks. Cilia ^{are} is to be seen distinctly in the water
vascular system, especially at the junction of the tubes below. At
the upper third of the body on a level with the generative opening, on
each side is seen a curious pulsating organ which is undoubtedly con-
nected with the water vascular system. The pulsations occur about
every minute and a half. . . .

15/VI/70. From a large male skunk, about 30 Taeniae and 13 Ascaridae.
Numerous small cysts were observed in the liver and spleen but nothing
found in them. The Tape worms are small, from 1/2 an inch to 2 inches
in length, broad in proportion, exhibiting very slight movements. A
slight enlargement seems to exist about the neck, which disappears
when the worm is much elongated. The segments seem but loosely joined

Summer
1870
Oct. 21

together, breaking very easily. Four larger sucking disks exist at the head, no hooklets seen. The calcareous corpuscles are more numerous in the Cestode than in any I have yet examined. The water-vascular system is not easily seen on account of the dense layer of calc.

The Ascaridae are from $\frac{3}{4}$ of an inch to one inch in length. They move freely. Most of them were in the stomach, not in the intestines.

1/VII/70. Examined one of these birds [a kingfisher], and much to my surprise found no Entozoa in it.

4/VII/70. Examined ten Sun-fish caught in the Canal; in all numerous Distomes were found. This fluke is probably in an immature condition, being encysted and not having its internal organs completely developed. The heart, liver and kidneys presented a swollen appearance from the numbers in them. They seemed only to be attached to the heart, while in the liver and kidneys they occupied the substance of those organs.

7/VII/70. Examined a large black Bass caught in Burlington Bay. A solitary scolex of some tape worm was found in the peritoneal cavity.

13/VIII/70. Shot a King-fisher. A few small Distomes were found in the liver. The small fish which constitute the food of this bird seem not to share the common fate of fish, inasmuch as few or immature Entozoons are found in them.

13/VIII/70. Shot a Hawk; a single large Ascaris found in the duodenum.

9/IX/70. Examined the intestines of three fowls, one a two-years' old rooster, the others this year's chickens. In the duodenum of the rooster numerous Taenia, from 2-6 inches long, were found; in the younger fowls a few smaller ones of the same kind occurred. The smaller ones were deeply imbedded in the mucous membrane, the larger ones not at all so.

Aug.
1870

Though the ^{occasion} ~~visit~~ is not to be indetified in his ^{Journal} ~~note-book~~, Father

Johnson evidently paid another visit to Dundas during the summer, for he writes:

To W.O. from Rev. W.A. Johnson.

The Parsonage, Weston, Ont.,
16th Aug^t 1870.

My dear Osler,

I am inclined to think the story about Dr. Bovell & his mission about confederation, likely as it seemed, & told both to Mr. Checkley & myself by ~~the Browns~~, is all nonsense. From all I can find out he wishes to return & both Barwick & I have written very strongly to him to do so. He has not left Nevis at all: & I trust will be here by October. In my haste to pick up my thin boots on leaving your house the other day I took one of my boots & one of some other persons rubbers. You had laid them in the corner under that sharp nosed marine alga man, & being rather dark in the corner I did not notice my error until I got home. Take a turn-over if you can. I found on returning that J. C. Morgan is starting school for himself at Barrie & seems to have been soliciting our boys. Some letters I have on the subject put him in a bad light & Mr. Checkley is treated badly by him. I would like to go to your uncle's with you if you are here his boy is supposed to be going to Morgan, & though I would on no account solicit his return still I would like to know what has influenced him. I intended to have sent Keble's letter of spiritual counsel for your Sister to read but Miss Boulton* is here & has it in her hand devouring it, so it must wait a

*Old Toronto family.

Aug.
1870*Shoe*

day or so. Bring my unhappy ~~shoe~~, unhappy it ought to be at losing its partner & if any one goes your way I will remember the lost condition of the rubber. Remember me most kindly to your affectionate Father & Mother & dear Sister. Thanks to their kind hospitality I had a very pleasant trip & find myself selfish enough to enjoy the recollection of that quiet room & ever fresh A Kempis & all the kind faces of the household

Believe me

Yours very faithfully

W. A. Johnson

And again a few days later he writes:

To W.O. from Rev. W.A. Johnson.The Parsonage, Weston, Ont.,
23 Aug^t 1870.

My dear Osler

The cows & round us are all afflicted & several dying from what appears to be the bite of the little fly that teazes horses so much just now. I went out yesterday & captured 8 or 10 on the fences & sides of an old horse & by the time I got into the house from Holley's field there were 8 small maggots in the clean bit of paper. These were extruded from one of the flies. Question. Is this little fly know~~n~~ to be a vivipositor? If so, are these Maggots adapted to live in the skin of a living animal. The sores on the cows legs bags & would shew this. Could not you inspect them. The country would be benefited by knowing, because the papers are writing about a disease? Come over & have a look. In the mean time I will drop a line to Bethune & Hincks & find out (if they can tell me) whether said fly is a vivipositor

Yours Sincerely

W. A. Johnson

Aug-Sept.
1870

Yet sent one. Frank Checkley is going up for his Exam: in a few days & is going With Cha^s. Miles* on a Survey Up to or near Parry Sound. When

*J. B. Johnson's sister Maggie later married Chas. Miles.

are you Going to Montreal? Come over before you go. I'm Nearly Sure Papa wont go to England.

Believe Me

Yours Sincerely

J. B. Johnson.

W.O.
The single letter from Bovell which ~~he~~ had preserved must have reached him ~~at~~
about this time.

OK
To W.O. from James Bovell.

Spring-Well near Charles Town
Nevis West Indies.
August 11th [1870].

My dear Osler,

My last will have given you some general idea of the outline of Nevis and its gorges. This will not add much local news as I am not yet settled and cant yet get myself used to the idea that I may not get back to Canada this year. I now write to beg you to see that all ~~my~~ Microscopical Apparatus is very carefully packed - all the things being taken out of the very large binocular case and ~~made~~ to fit the smaller binocular. All the object glasses carefully put in the cases and a case made for the instrument in the Cabinet - The Specimens looked over and packed. I have nearly ~~re-~~written the first part but cant finish till October. You are to have my instruments surgical and Stethoscopes but send my Clinical Thermometer. I dont want to keep the monster microscope stand and Eye pieces so if you like

Aug.-Sept.
1870

to pack carefully all the rest of the apparatus up, you can have as a pre-
-sent the stand and Eye-pieces. I will next mail write you the ^usame of the
Merchant at Halifax who ships goods out to this place and if the Express
will take the things down to Halifax they can come out here to me - but
any thing must be put up and packed in book-binders shavings papers. I am
going into the large Star-fishes of which they are many to be had out here
and I am watching repair in Lizards and ^{tubercle} in Guinea pigs the last are
only now breeding so I shall not (have) enough to begin with before October,
but it is an advantage to have them. The Lizards here are very large and
I hope for some good results. [Toronto] The School paid very little this year so I
am not sorry to leave it although I do care a great deal leaving Richardson
~~and~~ / my old friends of years - I can't think of Johnson without a choking for
we are brothers of years affection and not even you can know how deeply I
love him. I am however not acting from choice but from necessity and duty.
I have made a purchase which if watched and cared will be a fortune to my
children and however little I may benefit it is to them every thing that I
should be here to see after its development. I hope to be in Toronto in
June unless Mrs Barwick comes this way to avoid a Canadian Summer. I have
not a bit of thin glass to see anything with. The 1/8th was done for by
its fall and cannot could do nothing with it. It got a crack right through
it - I do hope you will work on for I have quite made up my mind that you
are to get a first Class for the East India Comp^y. Write me all the news
and fully - Do look after my Microscopes and see to them - Give my love
to your good Father and to all who ask for me. I write you again by next
mail - Love for you dear boy.

Y^{rs}. affect!

J Bovell

1919

The three-day special meeting of the B. M. A. which Lady Osler despairingly mentioned in her letter, was held ^{in London} April 10-12 ^{under the presidency of} ~~and pre-~~ sided over by his brother Regius of Cambridge, and for this reason Osler would have attended if for no other. It was arranged purposely for ^{and the U.S.A.} the medical officers of the Dominions who were in England and still in khaki and they made an enthusiastic gathering. There were special sessions on a number of questions which the war had brought to the fore; on influenza, presided over by Colonel Haven Emerson, U.S.A.; on public health measures relating to venereal disease, presided over by Osler; on cardiovascular affections, presided over by James Mackenzie; on malaria, with Ronald Ross in the chair; and so on. And there were demonstrations of many ^{Sorts such as} (of the Air Force tests ^{and} of the reconstruction work at the military hospitals ^{like that at} ~~as at~~ Shepard's Bush. ^{At this meeting also a protest was made} ~~And it was time for a protest~~ against 'the Dogs' Bill' which the antivivisectionists, now that the war was over, had reintroduced into Parliament, and Osler had some cogent remarks to

1870

It is apparent that in this last year at Toronto Osler laid the foundations of what were to be his subsequent habits of life. The cornerstone of the foundation was work and the finding of this a pleasure. To this were added three qualities of which he speaks in a later address* to medical

*Teacher and Student. (Privately printed) Balt., 1892, J. Murphy & Co., 22 p. 8°. Also J. Am. M. Ass., 1893.

students: the Art of Detachment, the Virtue of Method, the Quality of Thoroughness; and to these he adds a fourth as essential to permanence - the Grace of Humility. He commends them to do what obviously he had by this time learned himself:

In the first place, acquire early the Art of Detachment, by which I mean the faculty of isolating yourselves from the pursuits and pleasures incident to youth. By nature man is the incarnation of idleness, which quality alone, amid the ruined remnants of Edenic characters, remains in all its primitive intensity. Occasionally we do find an individual who takes to toil as others to pleasure, but the majority of us have to wrestle hard with the original Adam, and find it no easy matter to scorn delights and live laborious days. Of special importance is this gift to those of you who reside for the first time in a large city, the many attractions of which offer a serious obstacle to its acquisition. The discipline necessary to secure this art brings in its train habits of self-control and forms a valuable introduction to the sterner realities of life."

1870

A good deal of this was undoubtedly due to Bovell and twenty-three years later in ^{an} ~~his~~ ^{to} address ^{to} ~~entitled~~ "The Master Word in Medicine" ¹⁹⁰³ given ~~at~~ ⁱⁿ Toronto ^{on the occasion of the amalgamation of the Toronto and the Trinity School of Medicine} the University of Toronto, Osler paid ^(the following) ~~this~~ tribute to the man from whom ^{filial affection} ~~he had learned much~~ from now on he was to be separated in the summer of 1870 to become separated.

~~To one of my teachers I must pay in passing the tribute of~~
~~filial affection.~~ There are men here to-day who feel as I do about Dr. James Bovell - that he was of those finer spirits, not uncommon in life, touched to finer issues only in a suitable environment. Would the Paul of evolution have been Thomas Henry Huxley had the Senate elected the young naturalist to a chair in this university in 1851? Only men of a certain metal rise superior to their surroundings, and while Dr. Bovell had that all-important combination of boundless ambition with energy and industry, he had that fatal fault of diffuseness, in which even genius is strangled. With a quadrilateral mind, which he kept spinning like a teetotum, one side was never kept uppermost for long at a time. Caught in a storm which shook the scientific world with the publication of the "Origin of Species", instead of sailing before the wind, even were it with bare poles, he put about and sought a harbour of refuge in writing a work on Natural Theology, which you will find on the shelves of second-hand book shops in a company made respectable at least by the presence of Paley. He was an omniverous reader and transmutor, he could talk pleasantly, even at times transcendently, upon anything in the

science of the day, from protoplasm to evolution; but he lacked concentration and that scientific accuracy which only comes with a long training (sometimes, indeed, never comes) and which is the ballast of the boat. But the bent of his mind was devotional, and early swept into the Tractarian movement, he became an advanced Churchman, a good Anglican Catholic. As he chaffingly remarked one day to his friend, the Rev. Mr. Darling, he was like the waterman in "Pilgrim's Progress," rowing one way towards Rome, but looking steadfastly in the other direction towards Lambeth. His "Steps to the Altar" and his "Lectures on the Advent" attest the earnestness of his convictions; and later in life, following the example of Linacre, he took orders and became another illustration of what Cotton Mather calls the angelic conjunction of medicine with divinity. Then, how well I recall the keen love with which he would engage in metaphysical discussions, and the ardour with which he studied Kant, Hamilton, Reed and Mill. At that day, to the Rev. Prof. Bevan was intrusted the rare privilege of directing the minds of the thinking youths at the Provincial University into proper philosophical channels. It was rumoured that the hungry sheep looked up and were not fed. I thought so at least, for certain of them, led by T. Wesley Mills, came over daily after Dr. Bovell's four-o'clock lecture to reason high and long with him

On Providence, Foreknowledge, Will and Fate,
Fixed Fate, Freewill, Foreknowledge absolute.

Yet withal, his main business in life was as a physician, much sought after for his skill in diagnosis, and much beloved for his loving

1870

heart. He had been brought up in the very best practical schools. A pupil of Bright and of Addison, a warm personal friend of Stokes and of Graves, he maintained loyally the traditions of Guy's, and taught us to reverence his great masters. As a teacher he had grasped the fundamental truth announced by John Hunter of the unity of physiological and pathological processes, and, as became the occupant of the Chair of the Institutes of Medicine, he would discourse on pathological processes in lectures on physiology, and illustrate the physiology of bioplasm in lectures on the pathology of tumours, to the bewilderment of the students. When in September, 1870, he wrote to me that he did not intend to return from the West Indies I felt that I had lost a father and a friend; but in Robert Palmer Howard, of Montreal, I found a noble step-father, and to these two men, and to my first teacher, the Rev. W. A. Johnson, of Weston, I owe my success in life - if success means getting what you want and being satisfied with it.