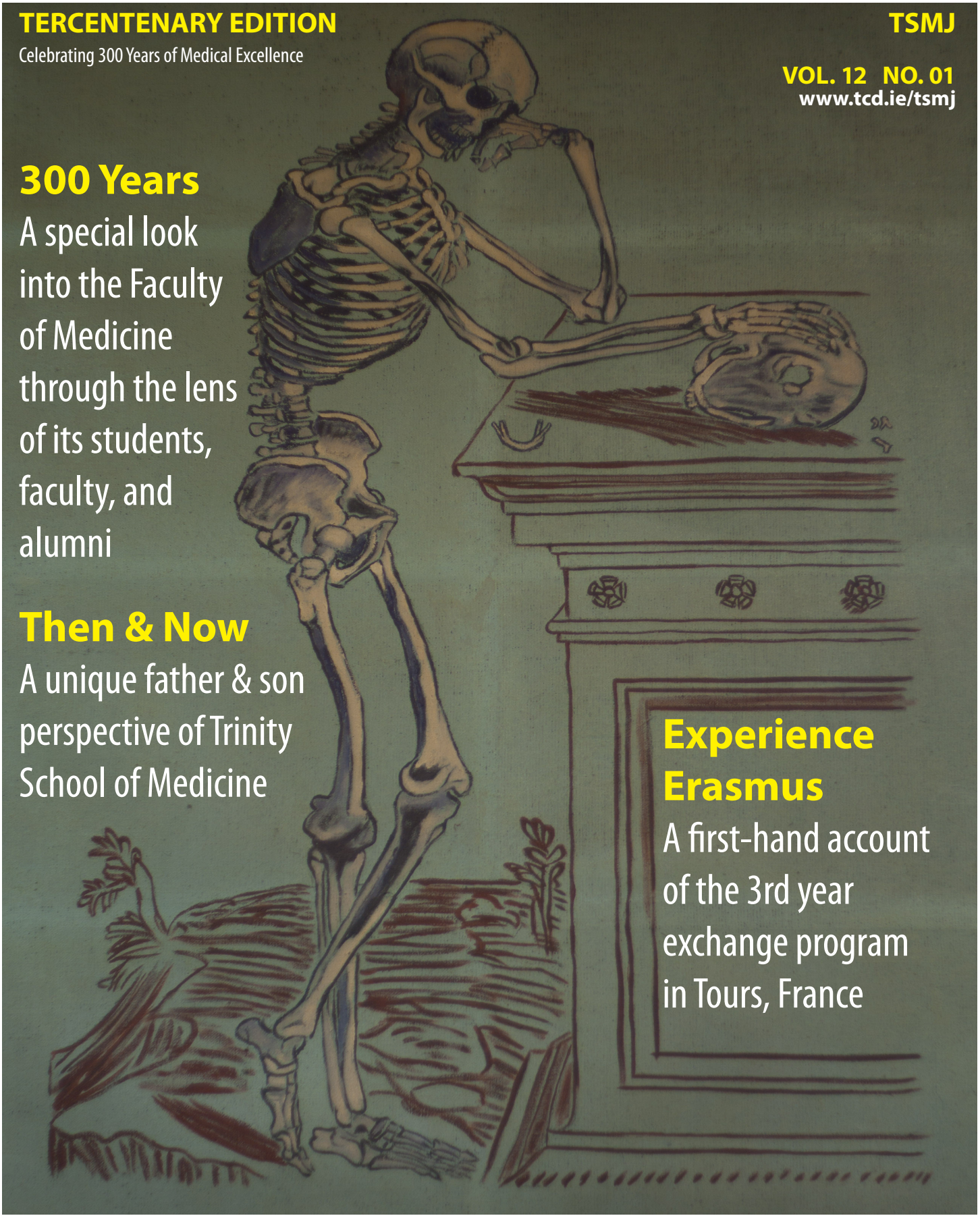
Trinity *Student* Medical Journal

TERCENTENARY EDITION
Celebrating 300 Years of Medical Excellence

TSMJ
VOL. 12 NO. 01
www.tcd.ie/tsmj



300 Years

A special look into the Faculty of Medicine through the lens of its students, faculty, and alumni

Then & Now

A unique father & son perspective of Trinity School of Medicine

Experience Erasmus

A first-hand account of the 3rd year exchange program in Tours, France

The Trinity Student Medical Journal is intended to provide an inclusive vehicle for students to communicate current medical research, opinions and thoughts to other students, faculty members and faculty of affiliated hospitals and institutions. We publish articles relating to many aspects of medicine including scientific research and clinical experience. Articles are accepted from students in medicine and other related fields, as it is our view that medicine is the meeting point of any disciplines. The aim of the Journal is to provide a medium that is responsive to the rapidly changing face of contemporary medicine, and is able to grow and expand as rapidly as the subject.

All correspondence including orders for advertising space should be addressed to:

Director of Publication,
Trinity Student Medical Journal,
Trinity Centre,
St. James's Hospital,
Dublin 8,

Ireland.

Alternatively, email can be sent to tsmj@tcd.ie.
Current and previous volumes can be accessed at http://www.tcd.ie/tsmj
ISSN 1393-9572

Abbreviations
TCD: Trinity College, Dublin
RCSI: The Royal College Of Surgeons, Ireland
UCC: University College, Cork
AMNCH: The Adelaide and Meath Hospital incorporating the National Children's Hospital

Director's Welcome

2011 marks the 300th anniversary of the medical school in Trinity College Dublin; an incredible milestone by any measure. It is humbling for me to consider that it is this very institution I attend which has fostered the minds of William Stokes, Robert Graves, and Denis Burkitt, whose names and contributions are immortalized in medical nomenclature, eponyms, hospital wards, and wings. And while I most certainly will never be associated with the likes of such legends, I am confident that this school will continue to generate many more brilliant individuals destined for greatness.

The TSMJ was founded by a few forward thinking students not for their own benefit, but for the benefit of other students. Since 1999, the TSMJ has shared, acknowledged, and published the outstanding work and ideas of their peers, in a show of appreciation for their initiative, and in hopes of inspiring others.

This year, the tercentenary issue brings the focus not just to the students, but the environment that nurtures them; an institution that has persevered for 300 years and will likely do so for another 300 more. So it is with a spirit of pride, hope, and admiration that we, despite times of austerity, celebrate the tercentenary of Trinity College Dublin's School of Medicine.

As with every celebration of a particular milestone, we pay tribute to the past, cherish the present, and look forward with anticipation to tomorrow. The knowledge of today was developed and discovered at the expense and sacrifice of those before us: who dared, who challenged the status quo, and who triumphed over failure and adversity with their tenacity and determination. Their actions are a testament to the faith and dedication needed for our vocation, and serve as the inspirational motivation that permits us to confront today's medical, ethical, and financial challenges with hope and optimism; to believe we can make a difference, and act not only for us, but for future generations to follow.

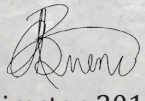
In a similar way, by fate, serendipity, and design, we have formed what I believe (through a brief perusal of previous editions of the TSMJ) to be the smallest (and in my shamelessly biased opinion, the most talented) committee since the inaugural launch of the TSMJ. This was a committee that respected the traditions of the past, but was not afraid to try new things. And more importantly, it was a committee that learned from its mistakes and experiences, resolved conflicts, and vowed to pass on our knowledge and lessons for the benefit of future committees. And despite our limited numbers, we have proudly put together an issue that maintains the high standard of quality established by our predecessors.

It is with their ambition for continous improvement in mind that we've designed this celebratory edition of the TSMJ. We've addressed aesthetics, adopted new technologies, and streamlined the production process. And in a big step towards greater integrity and impartiality, we have freed ourselves from industry sponsorship, as promised to the previous Director of the TSMJ. And while we are eternally grateful to all our sponsors, both past and present, we ultimately understand that this was a necessary step as the journal grows in reach and professionalism.

As my deadline draws near and I run out of both space and time, I would like to take one last opportunity to thank and congratulate my fellow committee members, who have worked tirelessly to create what I believe to be the finest edition of the TSMJ yet. I must thank Tim and all the editors for all the arduous and often thankless work they do; Allan for the amazing photos of the Anatomy Department; Orna and Rebecca for the Erasmus photos; Duncan & Rory for the entertainment page; Peter for being part of the production team; and Syd, Ann-Marie and Gabriella for planning what is sure to be an amazing debate and launch party.

And of course, thank you to our generous donors, who continue to support the voice of the medical students of Trinity through their financial contributions. Thank you to Libby & Mai and all the previous committee members of the TSMJ: the proverbial giants on whose shoulders we stand on today. And finally, thank you to you, our fellow students, for ultimately, the TSMJ is a manifestation of your thoughts, ideas, and hard work. We hope you like what you see!

Antonio Bueno



Director, 2011

Letter from the Editor

The history of Trinity College's medical school is written in the names of the wards of St. James' and Tallaght hospitals. Burkitt, Houston, Stokes, Gogarty, Crampton, Young, Webb, Beckett- these men and women represent leaders in both Irish healthcare and in the advancement of medical science. This legacy of education and discovery is at the heart of the modern medical school at Trinity College.

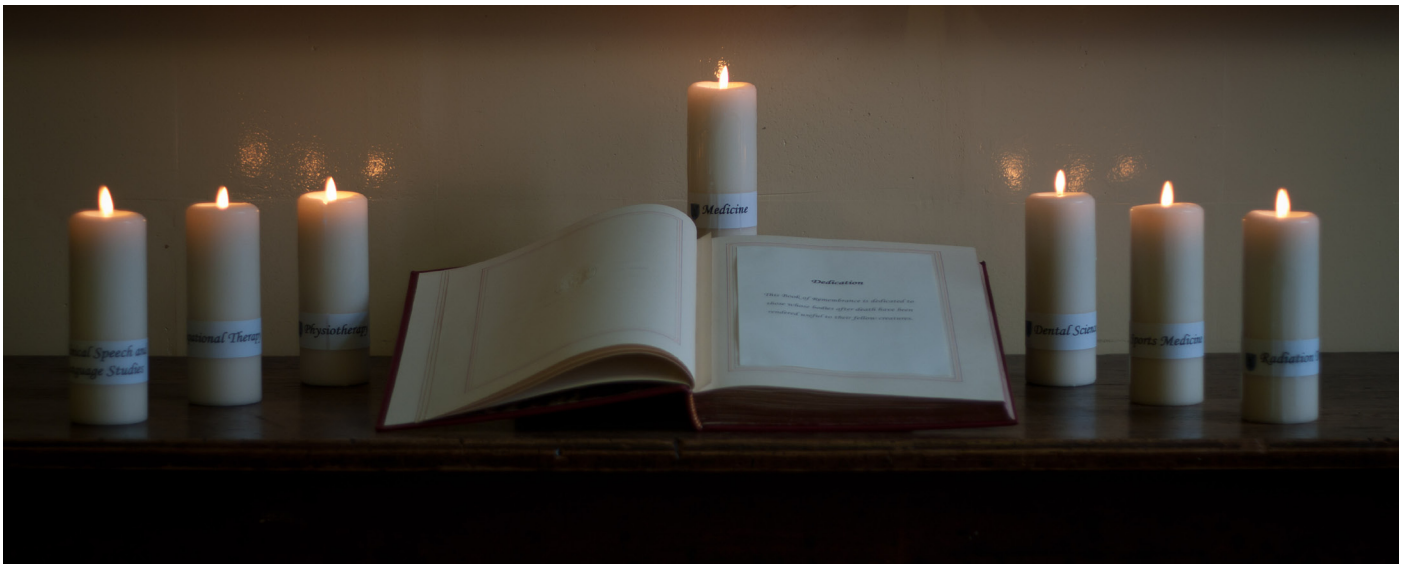
This year we celebrate the 300th year since the foundation of the medical school. This edition of the Trinity Student Medical Journal contains articles that highlight this continued spirit of innovation and excellence. As such, the articles are varied and focus on both individual researchers as well as entire departments that continue to lead the way in innovative medicine. There are also articles that illustrate the evolution of medical education through time, as well as the introduction and place for problem based learning in medicine.

Student initiative and innovation is also at the heart of the TSMJ. The journal was founded in 1999 by medical students, for medical students (with the invaluable guidance from Profs. Moira O'Brien and Conleth Feighery). Since then the TSMJ has become a forum for medical students to publish review articles, case reports, and original research. The TSMJ now publishes articles by students, not only from Trinity College, but also from all the medical colleges in Ireland, thereby expanding both the scope of the content and also highlighting the interest in student-lead research.

I must take this opportunity to acknowledge the tireless, and entirely voluntary, work of my co-editors, production team, and conference organisers. I am grateful for their efforts. We hope you enjoy this special edition of the journal.

Yours sincerely,

Tim van Haaften



In Remembrance

The covers of the Tercentenary Edition of the Trinity Student Medical Journal were selected to contrast our storied past from our progressive future through architecture.

Throughout the journal, you will notice photographs of key architectural elements celebrating this building, which has served the Medical School from 1875 to the current day. The front cover represents one of nine canvases that hang in the current Anatomy department. Following a complete redesign of the department, Professor Erskine painted and erected these in 1957 to promote a modern Anatomical teaching environment. These panels were originally printed in *On the Structure of the Human Body* (Vesalius, 1543) which embodied the intricate and scientific dissections that occurred in the Renaissance.

The back cover signifies the Trinity's progress to a modern and integrated medical program with the construction of the Biomedical Science Building. This facility will integrate education, research and training within a multi-disciplinary faculty.

As you read this Tercentenary edition of TSMJ you will progress from symbols of Trinity's distinguished past that have shaped the School for hundred of years, through to the modernity that will undoubtedly shape its next hundred years.

Allan Klompas

Editor & Director of Photography

Special thanks to Claire Murphy and the Anatomy Department staff for helping prepare these historical points and photographs.

TSMJ

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Pure Bliss for Life!

Sinead Ramjit

Having completed one term in Trinity College, I am sure we can all agree on one thing – Trinity College is full of fun activities, and the medical school is no exception! Just look at our version of the amusement park so keenly constructed by the School of Medicine. From a distance, especially during our introduction to the dissecting lab, we all thought, "Wow! What great fun lies ahead!"

But as time passed, we came to realise that the 'Ferris wheel' was actually that deadly 'cell cycle', that those 'roller coasters' were really repeated inhibitory and excitatory curves of membrane potentials and those 'humerus' clowns were colour coded for a reason. What gave us that sigh of relief was stumbling upon the Ice-Cream shop just outside the park with the sign "PBL". There was no mistake about it; this was the best part of the construction, creating no illusion, but a 100% guarantee of "**Pure Bliss for Life!"**

Whether you sat in that room hoping that if you stare enough at the clock- somehow two hours would magically slip by - or if your tutor so selfishly stole 75% of the session, only keeping you there for half an hour; whether you arduously participated in every point or slept with your eyes opened throughout the entire thing; whether you had every idea about what was happening in the class or if you didn't have a clue; whether you were one of those privileged to have a primary degree belting out the Biochemistry that left the others in shock or if you were one of us fresh out of school feeling as dumb as bricks when the aforementioned event occurred; we all were hoping to receive some pure bliss (and knowledge) for life.

Whatever your position during those PBL (Problem Based Learning) sessions, one thing was certain - it definitely added colour to your timetable. Where else could you have found such a laid back setting that kept you continuously cognitively active? A place where learning was made fun, where students taught students (with inept drawings of the NMJ), where everyone moved at a comfortable pace and where we were all on the same page (literally in some cases, when we had all brought 'Sherwoods' as research). No other class would cause our imagination to stretch so far as to find ways to disguise hangovers from Alchemy Mondays or Twenty One's Thursdays.

PBL was one of those sessions that you prepped all your information for, but only got a chance to squeeze in 13.4% of it because you were too shy to say something. Some of us were 'lucky' enough to get more than expected into the session, as the chairperson so kindly drew you into the discussion. It really broke some

"PBL groups were the foundation of many of the close-knitted friendships that exist today within the class of 2015."

of us out of the shells of secondary school that we were accustomed to. PBL taught us how to guide our own discussions and sometimes healthy, luke-warm debates, only being steered back on to the right track by our tutors if we derailed to discuss an interesting movie or amusing real-life situation related to the scenario, still convincing ourselves that we were on target. PBL rooms were where we flourished most. It was where we got the chance to help and be helped by our peers. They were where all the lectures finally made sense and we got to genuinely say "Oh! So THAT'S what Dr. X was trying to explain last Thursday?!"

PBL groups were the foundations of many of the close-knitted friendships that exist today within the class of 2015. These friendships were not only forged among students, but also between the tutors and students. Many tutors made this experience all the more fun with their personalities and patience to sustain two hours of clueless medical students rambling on about everything which we knew nothing about. But have you ever wondered what happens in the life of a tutor outside of those 8 hours? What do you think they're up to? Well, you're about to find out about one tutor in particular, who you voted to be the best PBL tutor – Neil Fleming!

I caught up with Neil and asked him a few questions, both related and unrelated to PBL that I thought would be very interesting to share with the Trinity community. So here goes..."The Neil Deal!" By just looking at him, you would not even remotely guess some of the things that this 'PBL Legend' has been up to in his past. Apart from being the Junior World Champion in Kayaking, did you know that Neil was a member of a band, playing guitar and singing traditional Irish music in pubs around his home county of Kildare? But Mr. Fleming has no limits he says – he listens to all genres of music, but admits going through 'phases' when he was younger, having "hair down to here (pointing to his waist) and listening to nothing but heavy metal." But don't think for a second that his 'wild side' stops there. Neil once "streaked naked through the Physiology department and was caught on security cameras," saying that 'nakedness' was a recurring theme for him on campus back in the day. Believe it or not however, this 'dare devil' with a passion for life also has arachnophobia –attributing his condition to that fateful incident involving a bath tub, an old house, Cork and again, nakedness.

"[Problem Based Learning] promotes group learning and effective communication which is vital [in] the work environment" Neil Fleming, PBL Tutor

Although "late, disorganised and forgetful" are three adjectives, Neil admits, that are most commonly used to refer to him, he claims that these characteristics do not affect his PBL sessions. He takes his role as a tutor very seriously, and had some advice to share with medical students. In essence- "Don't skip PBL; try to look at the bigger picture while you're studying – Link the Anatomy, Physiology and Biochemistry; relax more – But don't have an 'I couldn't care less' attitudle". Neil further emphasises the importance of PBL, admitting that he wished he had PBL while pursuing his course. He went on to say that this aspect of the programme, even if you do not learn anything 'scientific' for the entire year, promotes group learning and effective communication which

is vital for when you actually get into the work environment - as he aptly stated "No doctor knows everything!" (I just might borrow that line for exams once in a while.) PBL also allows you to gauge the academic dynamics of the rest of the class in relation to yourself – if you know enough information, if you're studying the right things, if you need to improve on your research skills or even if you just need that boost in confidence to voice your opinion. All in all, even though you may not realise it, PBL moulds everyone to become a better doctor.

So go forth in good faith Med students! We're all working together to create a better future';';;. You know it's worth it. But don't forget to enjoy life to the fullest, it is full of surprises - Dare I say to all you PBL-ers, "Acute Leukaemia"?!

About the Author:

Hailing to you from the Caribbean is the one and only Sinead Ramjit! In the true spirit of becoming a successful doctor, Sinead is described by her Irish friends as 'literally bringing the warmth of Trinidad & Tobago to Ireland in her smile and laughter' and more often than not 'bringing the smell of the Anatomy Lab to Trinity Halls!' This first year medical student is a talented musician and artist, and the only thing more important to her than oxygen in her alveoli is (ethanol in her veins! I mean...) the love of her friends, family and God.

The Anatomy Lecture Theatre

DUBLIN UNIVERSITY

BIOLOGICAL ASSOCIATION

- 136th Session -

Activities include:

- Freshers' Welcome Talk & Reception
- Book Sales
- Halloween Ball
- Med Cup
- Med Day
- Eid Celebration
- Christmas Pantomime
- Christmas Trip
- TAP Open Day
- Inaugural Meeting
- Medical Ball
- Consultant Debates
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Medicine at Trinity 1972-2012: A Father-Son Story

Paul Stewart & Rory Stewart

DR. PAUL STEWART

1972

Paul Stewart graduated from Trinity College with a degree in Medicine in 1979. He trained as a General Practitioner in Northern Ireland before moving to Donegal in 1983 where he has been practicing as a GP for the last 27 years.

Why Medicine?

I well remember making the decision at the age of 16, after reading a Pelican paperback on a Career in Medicine written by a Professor working in London. He strongly recommended Medicine as providing a great mixture of clinical work, research and teaching. I also wanted to do something useful and in those days, like now, it was important to study something with the probability of a job at the end of it.

Why Trinity?

I had a choice of Queens or Trinity but in the Belfast of 1972 there was only one choice away from "the Troubles" and away from home, always a good idea at third level.

What was needed to get in?

Back in 1972, as a student coming from the North with A Levels, the requirement was to take three science Cs for Pre-Med entry or a B and two Cs to skip Pre-Med and go straight into First Med. I took the second option and spent the extra year doing a B. Mod Physiology after Second Med.

The First Week

Fresher's Week was a real eye opener with all the societies in front square-including the Pipe Smoking Society and the Tidily Winks Club!

We were welcomed to the School of Medicine by the then Dean Prof. James McCormack with a wonderful speech stressing the importance of community, service and scientific questioning. Then, like today, the Anatomy Department in first year was a rite of passage for all medical students. The department was full of great characters like Prof. Erskine, Dr Weeks and the technicians Gerard and "I only know about the soft parts" Edward.

I spent the first year in Trinity hall (T hall) out in Dartry with most of the Northern crowd or 'Norenors' as we were known. At that time, Trinity had a wise policy of insisting that first year students either stayed in digs, rooms or T hall rather than independently in what were then called flats (now apartments).

Teaching

Teaching in first and second year was much the same as it is today with dissecting, lab work and large lectures, which we then shared with Dental students. Every Monday involved "a Spot" or continual assessment test. This meant that we had to study all weekend and Monday was our night on the town, which started off in the Lincoln Inn (The Meds Pub) at back gate and finished off in the Long Hall, Great Georges Street before taking the No 14 bus back out to Dartry. One of the consequences of continual assessment was that I had passed Anatomy by Easter so the anatomy of the arm and leg has always been a bit of a mystery to me.

Socialising

Apart from the Lincoln, the other Trinity College watering hole was the Buttery. The Pavilion (The Pav) only opened up in the mid 70s and at this time it was only open in the summer term. Most days there was a lunch-time concert in the J.C.R. with a local band performing, usually "The Rats". It was only when they moved to London did we realise what we were missing and the rest is history as they say.

The Dublin Bombings

My first year ended very badly. We were at a late evening grind in Histology with Dr Tuffery (still there I believe) when we heard a loud explosion. Having been brought up in Belfast through the early 70s, I immediately recognised the noise as a bomb. We all ran out of the side gate onto Nassau Street where we were met by a truly apocalyptic scene. The remains of a small sports car were on fire in the middle of the street with a number of victims being attended to by passersby. I vividly remember feeling useless as a first year medical student and made up my mind to do a first aid course as soon as possible.

Rooms in College

Because the medical degree was six years, twice as long as an arts degree, we got to stay in rooms for two years. It was right in the centre of Dublin and we had a '*skip*' to get us out of bed and tidy our room every morning, it didn't get any better. We also had free entry to the Trinity ball for our mates and ourselves.

Hospitals

Back in 1975, we were allowed to pick our Federated hospital. This was in the pre Tallaght days. The hospitals included Dr Steevens, St. James's, the Meath, Paddy Dun's, the Adelaide and Mercers or 'Messers', as it was known. I choose the later. Mercers is now the Primary Care Surgery and Department of General Practice RCSI at the top of Grafton Street, but in my day it was a small friendly hospital full of great characters. The surgeons were Prof. Cooligan, Mr. Matthews and Mr. Brennan, while the physicians included Dr Peter Daly and Prof. Lyons. We had a great Medical Registrar for finals called Shane O'Neill. Mercers was the sort of hospital that took in 'old ones' who lived alone over Christmas. On Saturday nights, after a few pints in Peter's Pub across from Mercers, we used to cycle up to Dr Steevens and get in a bit of practice stitching up the drunks.

General Practice Rotation

We did five days of GP attachments in five different practices around Dublin in fourth Med. I have very fond memories of spending a day with Mane Berber out in Churchtown and being very impressed at a senior Doctor who took the trouble to syringe out the wax from an elderly patient's ears. I also remember another GP, Dr Angus O'Rourke, who told us that when he was in final Med they had four tutorials on Coarctation of the Aorta and it was ten years in General Practice before he came across a case, and he missed it! It was experiences like these that got me thinking about a career in General Practice.

In Conclusion

Looking back over the years now, what I enjoyed most while at Trinity were the great friends I made and what I appreciated most were the teachers who encouraged me to question what we read and to empathise with my patients but most of all to listen to them.

RORY STEWART

2012

Rory Stewart is a 4th year Medical Student from Donegal and son of Doctor Paul Stewart. He entered Medicine as a Mature Student in 2006 and is hoping to graduate as part of the class of 2012.

Getting in

Like many of my fellow classmates I was forced to take the 'scenic route' into Medicine. I studied for my leaving certificate in 2000-2002. Aside from study I had a penchant for sport, socialising, art and many other extracurricular activities, which may not have been conducive to achieving the fantastical points required for entry into Medicine. So when results day arrived I wasn't overly surprised to find I had done extremely poorly. So poorly in fact that I received no first round offers, and it took until the third round to furnish me with any options at all. It was at this point the University of Ulster; Jordanstown offered me a place on their Applied Psychology programme. I spent four years studying psychology in Belfast, which included a yearlong clinical placement in psychiatry and an additional 6 months of work at the same facility.

During that time I reapplied to Medicine twice. I had explored the avenues of both the UK and Ireland and had expanded my search to include Graduate Entry Programmes and Medical Schools in Prague and Budapest. At one stage I even considered going to Grenada to get my Medical Education.

After three failed attempts to be admitted to Medicine I made the tough decision to go back to school to repeat my Leaving Certificate. Not unique in this regard, a quick survey of my class would suggest that almost one third of the Irish students have repeated. However, going back to school in your twenties after four years of university is a very different animal to repeating at eighteen.

During this year I worked hard on building my CV, taking night classes in physiology and anatomy while studying for the leaving cert. On top of this, I was studying for the GAMSAT exam for Graduate Entry Medicine, the HPAT aptitude test, exams for entry to medical school abroad while preparing for a lot of interviews that were to follow. One of these interviews was for the mature entry programme at Trinity College.

I had heard that Trinity was somewhat unique in opting not to adopt a Graduate Entry Programme, but instead reserved a small number of places for dedicated mature applicants. Despite the fact that the applications were hugely competitive, I decided to throw my hat in the ring. Having interviewed well at Aberdeen and Norwich during the previous month I was confident that I knew what to expect. I didn't!

On entering the interview room a wave of insecurity broke over me. Past deans peered at me from their huge gilded portraits, and across a fifteen-foot mahogany table there was a seven-strong panel of interviewers. The only time I had encountered something similar in the past was being brought in front of the school disciplinary board in Castleknock College and as I recall, that incident did not end well! Regardless, in an obvious attempt to put me at ease, Prof. McCann opened with what he must have perceived as an easy question: "*What do you know about the campus here in Trinity*?" All I knew was that I had been sneaking into the library with a friend's student card to study and that I sauntered down to the Pav most Fridays for a couple of ales. In blind panic I settled for the latter. The interview panel chuckled and from then on the interview went well.

Three weeks later, standing on Leeson Street, I received a phone call from the Medical School Office. Like a movie cliché I dropped to my knees. Seven years was all it took for me to get in!

In the Beginning

To ease us back into university life Trinity puts on a mature student week before the other students arrive, a chance to familiarise oneself with the computer systems and the libraries. It was at one of the computer tutorials (where some budding Bill Gates groans at having to explain to you the difference between your username and password) that I met my first friends of this new chapter in my life. I heard them before I could see them and as I rose from my seat I was greeted by two hysterical girls delighted to have found the mysterious 'other mature med student'. Admittedly, I was completely taken aback by such friendliness having just come from Belfast where I struggled to recall the names of more than a half dozen classmates with whom I spent four long years. Later that evening, we met for a few drinks in the Lincoln Inn and we have remained friends ever since.

On the first day of lectures we all assembled in the Hamilton building for the inspiring "*Welcome to Trinity Medicine, you guys are the best of the best, the future of medicine"* speeches. Everyone was standing around nervously, doing their best to look cool and aloof while trying to make eye contact in an attempt to initiate a conversation and possibly make a friend! At the time, one of the maxims my father gave to me from his time in Trinity was echoing in my head: *"Remember you'll spend the first day of medical school trying to make friends and the next five years trying to get rid of them.*"

We settled into the lecture theatre to be greeted by what seemed like every single academic in the University. Prof. McCann finished his speech by telling us how he had met his wife at medical school, as had many of his colleagues – so we should take a good look at the person to our left and our right as they could well become our future partner. Boxed in by two burly men I thought to myself that this Prof. was not so wise when it comes to matters of matchmaking! However four years on it is interesting to notice how many couples have grown out of the class.

Studying Medicine is full of memorable firsts; your first day, the first time you interview a patient, the first time you draw blood or insert a catheter. In particular my first visit to the anatomy theatre stands out. Here medicine became real. No longer was it size 12 font with the occasional gory picture. These were human beings, albeit dead ones, up close and personal.

"Welcome to Trinity Medicine; you guys are the best of the best, the future of medicine"

The Anatomy building has an immense sense of historical significance; you feel that by just being there that you are somehow part of Trinity folklore. On entering the dissection room you are overwhelmed by the smell of formaldehyde, a smell that I have never become accustomed to. When we were brought to meet our cadaver many of my fellow students appeared uneasy. My own thoughts were on a conversation I had had with my mother just before my interviews. She told me that she would donate her body as a cadaver to any Medical School that would take me, on condition she could keep her favourite red shoes on! She had suggested if things were going badly in any of the interviews that I pull this ace out of my sleeve in a last gasp attempt to swing the interview in my favour. Luckily things never came to that. However, when confronted by the draped cadaver I couldn't help but wonder if under the sheet would be a pair of patent red shoes! We spent the next two or so hours methodically dissecting out an arm and asking the demonstrators, "*What's this? What's that?*" to be repeatedly told "*Fascia!*"

"What's this? What's that?"

"Fascia!"

I was struck by the ethnic diversity within the class. Coming from the University of Ulster where diversity extended to someone from 'down south', this was completely different. With Irish, Northern Irish, English, Malaysians, Middle Easterns, Swedes, Portuguese, Canadians, Americans, a Slovenian, even someone from Cork, it really was a culture soup, and all the more interesting for it.

While the days were still long enough and warm enough we spent many of the evenings in the first weeks outside the Pav. Trinity is a university built on tradition and there are few traditions more ingrained in the class than going to the Pav after a mentally taxing day of lectures to erase some of the hard learned facts of the day. I would imagine that hazy memories of long warm evenings basking in the sun in front of the Pav with a cool can of one's favourite beverage will live in the memory long after the biochemistry of the *Krebs Cycle* has faded to black.

Socialising

It's All About Balls.

In first year, I was struck by how many formal social events appear on the Trinity ENTS calendar: Arts Ball, Hall Ball, Bess Ball, MOVE Ball, Inaugural Ball, Med Ball and of course the Legendary Trinity Ball. As a result, I decided it would be prudent to buy a tux; it was the best investment I ever made. There is occasion to dust off the tux on a monthly basis in Trinity if you wish. In this the year of our Tercentenary, there certainly are several more occasions that could be added to the list.

For medics, Med Ball is the highlight of the social calendar. It might have been appropriate for Prof. McCann to mention at our introductory lecture that we should beware of Med Ball; you may meet your future significant other there!

Trinity Ball is now a huge festival of music sold as the biggest private party in Europe. On entering campus one is greeted by a wave of music and an eye-popping spectacle of flashing lights, tents, bars and '*stocious*' students rolling around the cobbles. The sheer size of the crowds makes it difficult to see everything and you inevitably can't keep track of friends and end up making new ones! All part of what makes Trinity ball so special.

Pre-Clinical Years

My pre-clinical years or, more accurately, my survival years encompassed all facets of Pathology, Microbiology, Pharmacology, Anatomy, Biochemistry and Physiology. I call them the survival years as we spent each of the first three years being told that should we survive until next year we would be home and dry. I'm astounded by how much I covered in those years and even more astounded by how much I've since forgotten. For me the pre-clinical years were about getting by. My father would always say, "*the bright sparks always burn out; you want to be the guy with the ball who gets carried over in the scrum".*

I was struck by the ethnic diversity within the class... it really was a culture soup, and all the more interesting for it.

Until recently, biochemistry was a complete mystery to me. I remember spending a whole day in first year memorising the *Michaelis-Menten* model of enzyme kinetics while not having the faintest idea what it meant. In truth, I only passed the final exam by virtue of seven intense fifteen minute grinds over coffee with a friend who has a knack for all things science. Forever in his debt, he managed to simplify complex topics such as bio-genetics into a series of basic shapes and arrows enough to gain a solid 51% in the Biochemistry final at the end of second med.

Exams

I have often felt that education is ruined by exams and that there is really nothing I hate more than being assessed. Strange when you consider that by the time I'm finished my 'scenic route', I will have been in education for well over 20 years and sat more exams than most! However, they are a necessary evil and a significant part of life in Trinity Medical School.

In my opinion medical students can be subdivided into 3 types: '*the machine*', '*the slow plodder*' and '*the frantic last minute crammer*'. I believe the majority of us fall into the latter category, myself included.

The '*machine*' can be described as academically gifted, highly motivated, incredibly focused, ruthless and driven by one goal: to be better than everyone else. The '*slow plodder*' on the other hand is clever, clever enough to get themselves to the library every afternoon for an hour and stoically chip away at the vast expanse of course material. The '*frantic last minute crammer*' starts each term with good intentions of keeping on top of the work but is quickly distracted by the bright lights of the city, parties, and social engagements.

When exams approach, each type proceeds in a particular manner. When '*frantic last minute crammer*' has an earth shattering realisation that they have their pathology final in ten days and that memorising '*Kumar and Clark*' in its entirety is now somewhat ambitious, they enter isolation mode. Isolation mode is similar to the default setting of *'the machine'*. Not unlike the machine, the crammer adopts an incredible clarity of focus, albeit with a slightly

less ambitious goal: to pass the exams. While in isolation, energy drinks, Berocca and high carb pre-prepared foods from the local convenience store sustain the crammer for up to 15 hours a day in the library writing and rewriting lists in a vain hope that condensing the information will make it easier to learn.

During this time, the '*frantic last minute crammer*' goes through something similar to *Kubler and Ross's* stages of dealing with grief. First, denial: you deny the exam is actually happening and put off thinking about it. Then, anger: everyone in the library is so loud and annoying, everything goes wrong, the library toilets are a disgrace and people are just so bloody rude! Then, bargaining: begin the day with the plan to do ten hours study; end up saying if you learn a particular set of five topics, that it should be enough to pass the exam, even though there are six questions on the paper. Then, depression: that horrible moment where everything seems black, you can't stomach getting out of bed to go to the library, you're going to fail anyway, maybe medicine wasn't for you. And finally you reach acceptance: the exam is in two days, whether you like it or not you simply have to sit down and study or you'll be out on your ear. If you aren't the '*frantic last minute crammer*' you'll spot him on the day of the exam. By then he is broken, only kept upright by a cocktail of Red Bull, quadruple espresso, Proplus and Lucozade (or their cheap equivalents). Zombielike, incapable of conversation, a simple "*Good morning, how are you set for the exam?*" will be greeted by a recitation of the carpal bones or 26 side effects of lithium toxicity! At this point the '*frantic last minute crammer*' has caught up to the rest of the pack on the home straight, all that is left is to see if he can hold on (stay awake) till the finish. I have seen fellow students set alarms and take tactical naps mid-exam in an attempt to pull through. The '*frantic last minute crammer*' is not a myth, he exists, I've seen him.

Despite the intensity of studying for written exams, nothing instils more fear in medical students than OSCEs and viva exams. I think when confronted with a written exam medical students feel they can hide behind the paper, put down what they know without having to worry about further questions exposing their relative lack of depth of knowledge. In written papers, no one is watching you think while you are trying to construct a well worded paragraph of information out of two miserly facts. I recall sitting on the '*anatomy bus*'; a series of rows of chairs lined up in the layout of a bus waiting to enter the dissecting room where one of the lecturers would be waiting to dissect what you had and hadn't learned during the year. A bell would ring every fifteen minutes and you would move one row closer to the chopping board. Rumours would circulate that certain seats equated to getting certain lecturers and that everyone who had ended up with a particular lecturer had failed and left in tears. With the last name 'Stewart', I was left waiting in the 'holding room' for most of the day. By the time my turn came, I was wound as tight as a drum. In the end Prof. Glacken steered me through the viva with ease. He has a knack for making you feel clever even when you are getting things wrong. While scary, these things never seem to go as badly as you imagine.

In Conclusion

For me, life in its most simple form is a medley of relationships; relationships with friends, family, colleagues, and even with institutions. It is these relationships that form our perspectives on life and define how we approach life on a daily basis. My relationship with Trinity Medical School has been a good one; one that will fundamentally change how I see and embrace the world in the future. The chapter of my life spent as a student at Trinity College has been a significant experience; an experience that defines me as a person and one that I am proud to be defined by.

The Undergraduate Postgraduate Degree

Ru-Ik Chee, 4th Year Medicine

Originating in 2007, the Intercalated Masters in Biomedical Sciences has been offered to Trinity College Dublin medical students who have completed three years of the medical curriculum[1]. This relatively new initiative hinges on the fact that each of the three Masters tracks – Molecular Medicine, Neuroscience and Bioengineering, have existed as well-structured and established stand alone postgraduate degrees; long before the inception of the Intercalated Program. With the Intercalated Masters programme, Trinity medical students are offered the opportunity to complete a fully recognized postgraduate degree as an undergraduate.

The 'Undergraduate Postgraduate Degree' is designed to allow the early acquisition of fundamental skills that are of quintessential importance in the world of research-oriented and evidence-based medicine; where there exists an ever-increasing need for investment in academic credentials as capital.

The Intercalated Masters from a student's perspective

A healthy number of students embark on Medical Overseas Voluntary Electives (MOVE), a program for volunteer medical electives occurring in the summer of third year. MOVE electives are a wonderful part of the global experience that Trinity encourages her students to pursue, and it is an opportunity many do not want to miss out on. However, a MOVE elective commitment is usually synonymous with limiting the time an individual has to undertake 'academic' electives to just the summer of fourth year. This might initially seem trivial, but electives are a great chance to experience the working environment of a country where one might consider working in the future or, for international students, a chance to spend time in the clinical environment at home. The Intercalated Masters program begins in late September and ends in July, which creates two additional summer months (one before the start, and one after the end of the Masters program) for electives, travel, or a simple respite.

The first two terms (September-December, January-March) of the Molecular Medicine masters involves: 1.) lectures that are examined through written tests at the end of each term, 2.) assignments that include journal club presentations on topical research articles as well as literature reviews, and 3.) a compulsory Research Skills module. Students are also privi-

leged with access to the world's first academic course on the use of High Content Screening Analysis (HCSA) machines, which are cutting edge high-throughput automated imaging devices. These machines, purchased in 2008, are a first among European academic institutions. The course schedule finds the student in lectures on Wednesdays and Thursdays every week, with the exception of one week of daily laboratory practical sessions in each term. As a result, there is plenty of time for the completion of course assignments as well as partaking in activities outside of the Intercalated Masters curriculum.

The third term (April-July) sees the completion of a research project that culminates in a dissertation in biomedical science. Students can choose to complete their project at the Institute of Molecular Medicine (IMM) at St James's Hospital, or apply for an exchange program to Scotland, England, Spain, Germany, France, Sweden, or the Netherlands under the Eurolife initiative. An interesting research project is arguably the most important contributor to the personal appreciation and enjoyment of the Intercalated Masters program, and there is a healthy abundance of topics and academic institutions to select from.

It is important to note that although the Intercalated MSc. was initially conceived as a two-year part-time course, it has since been revised to a one-year full-time degree. The switch to a one-year full-time course permits medical students to complete the MSc. within a single predestined 'year out' and re-enter the 4th year of medical school, fully able to focus on the demands of their clinical education.

Advancing careers

Medical research, article-writing and presenting skills that are attained during the Intercalated MSc. do not go unnoticed, or unappreciated, when the practicalities of job and specialist program applications are considered. In the UK system for assessing an applicant's competitiveness, individuals are scored out of a total of 100 marks, of which, up to 10% can be secured from 'additional degrees' and 'other educational achievements'. The official foundation applicant's handbook of 2011 states that fewer than 50% of medical students score points in these sections[2]. Thus, a Masters degree enables an applicant to garner additional points compared to a primary medical certification alone. Similar considerations of higher education degrees are taken into account when applying for postgraduate specialization posts, as early as Senior House Officer (SHO) level in Ireland[3].

Across the Atlantic, North American medical schools exclusively enroll students on a postgraduate basis. Thus, all medical school graduates from Northern American schools have basic undergraduate degrees, which entails additional educational wisdom superimposed on a primary medical degree. Having an additional MSc. qualification will no doubt aid in making an applicant more marketable; although it must also be said that the job application process anywhere worldwide will inevitably involve many other factors and variables.

The Intercalated MSc. and the Trinity College School of Medicine

The last few years have seen the Trinity College School of Medicine make numerous changes to its curriculum, aiming to improve the overall education of her medical students. The first intake of students into the medical school's 5-year program, five years ago, has produced the current batch of outstanding medical interns, providing justification that the reduction of a year's curriculum has in no way compromised the quality of doctors that Trinity produces. The original intention for this change was to evolve the medical course to bear greater resemblance to other medical curricula in the UK and Europe[1]. Considering the additional year spent in completing the Intercalated MSc., it would then take the total years spent in college to six, alike what it used to be a not-too-distant time ago. Thus, for the

same level of time commitment that past centuries of classes have invested, Trinity's Intercalated MSc. students will now be equipped with an additional masters degree as they enter the workforce.

Trinity College currently assumes a chairing role in the Eurolife Network of European Universities that was founded in 2006. The Eurolife initiative includes the famed Karolinska Institutet, the Swedish university whose committee appoints the laureates for the annual Nobel Prize in Physiology or Medicine; and top universities from a number of other European countries, namely: University of Edinburgh (Scotland), University of Leeds (England), Universitat de Barcelona (Spain), University Medicine Goettingen (Germany), Leiden University Medical Centre (the Netherlands) and the University of Strasbourg (France). The Eurolife initiative has a 'mission of advancing research and education in the life sciences through strategic partnership and collaboration[4]'. Large EU-funded research projects have been, and are currently being, completed by the Eurolife initiative, illustrating how prudent cooperation may increase the competitiveness of research. The Eurolife Joint Programme in Translational and Experimental Medicine (JPTEM) allows for exchange of postgraduates between participating institutions[5]. Trinity's Intercalated MSc. students have the opportunity to perform their research project at any of the partnered institutions, enriching themselves and their experience with solid foundations and skills to enable them to become future pioneers in the field of medical research. The two-pronged combination of nurturing medical graduates' appreciation of the evidence-based world of medicine, along with enhancing the impact of published research from within, will both allow the college's reputation to burgeon, and continue to attract the best students worldwide.

A world-class education system that attracts and produces talented individuals will not function without necessary infrastructure. Trinity is the leading recipient of financial investment nationally[6], and the college has historically channeled these funds into the strategic acquisition of technology. This year will mark the completion of the new Biosciences Development on Pearse Street, one of the largest developments Trinity has seen to date. The director of the Trinity Foundation, Nick Sparrow, partly attributes the multidisciplinary nature of teaching, education and research in Trinity to the 'tight' and close-knit campus in the city centre[6]. The new Biosciences Development aims to continue this tradition of facilitating the continuous flow of information between various departments by keeping academics from many disciplines working in close proximity.

It is apt that the formative years of this exciting new programme have come at a time when the Trinity College School of Medicine celebrates her tercentenary anniversary. The Intercalated MSc. will play a substantial role as Trinity seeks to further enhance her excellent international recognition and cement her status as one of the top medical schools internationally. Three hundred years and counting, this is just the beginning.

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A Little Canadian Content

Mai Nguyen, 4th Year Medicine

It's the end of a long week of early morning wake-ups. That all important morning cup of java is interrupted by a stream of long-winded 'ehs' and animated talk about last night's hockey game. This time the same mistake won't be made again by asking the individuals if they are from America. At this point it has been established—if they're Canadian, and studying in Ireland, you are about 90% correct in guessing that they are in Medicine! That's because Ireland is home to over 650 Canadian Medical students and we are spread all over the Emerald Isle.[1] We are a unique and growing community that certainly does not go unnoticed.

Canadian students frequently reflect on their decision to study at Trinity—in fact, we can't step foot into a taxi without being asked the million euro question, "So, why Ireland?" This question elicits many different responses but, after acknowledging how magical Ireland is and how much better the Guinness tastes here, the consensus stems from the inability in securing a spot in Medicine on Canadian soil.

While the desire to avidly pursue Medicine may bring us to Ireland in the first place, after experiencing Irish medical education it is clear why we remain here for as long as possible and why Irish graduates are highly sought after to fill residency spots back in North America. After five years of an Irish education, we return back to Canada as life-long adaptive learners with finesse in history taking and clinical examination, well above our Canadian peers.

Furthermore, the style of teaching is rooted with traditions of self-directed learning that ultimately produce physicians that are self-starters and who rely on their own drive to succeed.

Ireland becomes a second home to many of us, but the connection we feel with the country and community will not carry us past graduation as there are simply not enough internship spots for non-EU students. Therefore, short of holding an EU passport or marrying an Irish classmate, returning to North America appears to be the only option. Thinking that getting *into* medical school would be the hardest part, we quickly realize that it's only the beginning!

The preparation to becoming a good candidate for residency in North America can be exhaustive and stressful, but it is comforting to know that we have not been left alone to fend for ourselves. Trinity's Medical program has responded to the increasing proportion of international students by providing a number

of resources and dedicated staff for those unique students. However, despite these efforts, there was still a growing concern by Canadian students that the resources available did not specifically address our needs; North American students still lacked information about time-lines and career planning. The hope to rectify the shortage of resources in these areas became the underlying motivation for the formation of CIMSA, an organization that would help Canadian Medical students pave their own way home.

The Canadian Irish Medical Students' Association, better known as CIMSA, is a student-run organization that was originally founded by students of the Royal College of Surgeons Ireland in 2007. CIMSA Trinity Chapter was established in 2009 and joined our colleagues at RCSI in an attempt to provide similar services, support, and helpful information to those studying at Trinity. Since its inception, the society as a whole has grown substantially, and now represents all Canadian students studying at the six Irish Medical colleges: National University of Ireland Galway, Royal College of Surgeons in Ireland, Trinity College Dublin, University College Cork, University College Dublin, and University of Limerick.

As each year passes and studying in Ireland becomes more popular, the proportion of Canadian students in the medical classes grows. As such, pertinent information on how to return to North America as a physician is an issue that grows with the Canadian community. CIMSA Trinity Chapter aims to make these resources available, while also liaising with the school of Medicine. Several projects have been initiated this academic year, with hopes that the Chapter will collect enough momentum to garner its own right as a College society. Our recent efforts have been very successful, with visits and presentations from representatives from Canadian programs, past alumni, and fellow students who are currently going through the process. Another big undertaking this year is 'Canuck Connect'. This initiative hopes to address the needs of a growing number of students studying at Trinity. The objectives of this peer-based support programme are:

1. To connect Canadian (and American) students with other North American students in all academic years.

2. To provide information related to Canadian-specific issues—advice on observerships, electives, the matching process, and residency programs in North America.

3. To provide an opportunity to have questions answered by senior students who have been through the process.

4. To bring Canadian Trinity students together in a non-academic atmosphere, to share resources, and to network.

Now, you may ask, why has studying abroad, and specifically in Ireland, grown to be so popular in the last 5 years? According to a survey conducted in 2010, the majority (77.6%) choose to study abroad because they are unable to obtain a place in a Canadian Medical school and on average, apply 3 times before finally getting accepted.[1] Entering Medicine in Canada has always been a longstanding challenge, with an average of four qualified students per one spot at the 17 Canadian universities.[1] Deciding to obtain a medical degree abroad becomes very attractive, especially with the uncertainty that lies in Canada.

However, choosing Ireland is not simply for the love of the Irish rain. A number of factors contribute to the school/country choice including: reputation, likelihood of obtaining clerkship experiences in Canada, and the ability to enter Medicine from secondary school are listed as the top reasons for studying in Ireland.[1] Having recently spoken to Peter Nealon of the Atlantic Bridge Program (an application service for North Americans to the six Medical schools in Ireland), there is an increasing number of applicants for a growing number of spots, as new programs are being offered in Limerick and Galway. Currently, Irish

Medical schools offer either a four year graduate entry program or a five/six year program that can be entered straight from secondary school. These options are respected Medical school programs that have inspired an increasing number of students to choose to study Medicine at Trinity and other schools abroad.

Although CIMSA's main focus is the population of Canadians studying Medicine in Ireland, the total number of Canadians Studying Abroad (CSA) could potentially play a role in returning home. The CSA count has doubled since the last survey in 2006 and it is approximated that there are 3500 Canadians studying at over 80 schools in 30 countries.[1] It is our hope that recognition of the ever-growing pool of competitive applicants studying in countries such as Ireland, the UK, and Australia will push Canada to address its present physician shortage, a problem that manifests as a doctor-patient ratio that is one of the lowest among industrialized nations. CIMSA can only hope that its efforts and growing number in the CSA community will help to resolve this Canadian problem.

Canadian graduates from Ireland are not the only students competing for a chance to work in Canada. Once we leave the country, Canadians applying for a training spot in Canada are placed in a much larger pool of International Medical Graduates (IMGs) that include CSAs and immigrant applicants. Even though residency programs in Canada offer a small percentage of their training seats to IMGs, the pool has grown substantially over the last few years, and will continue to do so in the years to come. In 2009, 52.5% of IMGs were successful in gaining a residency spot in Canada. Out of this pool, 22% were Canadian[1]. This percentage will hopefully rise in subsequent years as more Canadians are graduating from schools abroad. There is an estimated 230% rise in CSA graduates from 2011 to 2012 alone. [1]

Not all CSAs have the desire to return to Canada. While >90% hope to return to the land of poutine and maple syrup, a small percentage hope to train in the country they studied, and another large percentage aim to train in the USA and Australia. Main reasons for not immediately going back to Canada are the 'Return of Service' clauses that are often attached to IMG contracts. This is a large deterrent for returning graduates as it requires the individual to live and practice in a certain area for a specified amount of time following their training program. This clause places one in an area (often under-serviced) designated by their province, for a term equal and in addition to the duration of their training (2-5 years). Furthermore, many choose to train elsewhere due to the competitive nature of obtaining their desired residency program in Canada, whether it is Family Medicine, Internal Medicine, or Paediatrics (the top choices for residency in a recent survey).[1]

So where does this leave Canadian, Irish Medical school graduates? After exhaustive analysis, there is a light at the end of the tunnel! Sandra Banner, Executive Director and CEO of the Canadian Residency Matching Service (CaRMS) visited Dublin in January 2010 to speak to and address the questions and concerns of the CIMSA community. She informed us that from previous matching data, the majority (>65%) of the IMG residency spots are filled by Irish grads, followed by Australian (>25%) and the Caribbean graduates.[1] With the help of people like Sandra Banner and the resources provided by CIMSA, Canadian Medical students studying around Ireland can experience the wonders of studying abroad while having a solid network that will help them succeed in acquiring their desired position in Medicine after life on the Emerald Isle.

For those interested in joining CIMSA or getting information pertinent to training in North America, please visit www.cimsa.ie or email us directly at cimsa.tcd@gmail.com.

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The Erasmus Experience of La Touraine

Lucy Dockrell and Clea Machold

Part of the European Union's 'Lifelong Learning Programme', the Erasmus exchange has been in place since 1987, allowing students to spend part of their degree studying or working abroad. Last year, we were fortunate to receive places and spend a year studying at Université François Rabelais in the Loire Valley, France, which added further variation to our five-year course at Trinity College.

Photographs by Rebecca Weedle and Orna Grant

The Erasmus programme was a fantastic opportunity to live and study in another country. There were many exciting challenges in the year for us. Erasmus encourages students to meet other international students. Over 115 different countries are represented in University François Rabelais. There is, therefore, a mosaic of cultures and languages. La Touraine is known for its pure, unaccented spoken French. The university organizes a language course before lectures commence in September. In addition to refreshing our French, this was a great way to meet other exchange students. We also gathered in the 'Café des Langues' on Monday evenings with other internationals and local residents. There was a very friendly and warm atmosphere; on arrival we were invited to sit with five or six others and conduct a conversation *en français*. A Tourangeau (local person from la Touraine) facilitated the discussion and gave us local guidance about Tours and the region. In return, we shared the English language and Irish culture. We quickly made friends with other students from Germany, Australia, Peru, Costa Rica, USA, UK, Spain and of course France. We organized dinner parties amongst ourselves to compare our national dishes and sample the famous Vouvray wine of the Loire Valley.

A beautiful city in which to live and study, Tours has a lively atmosphere for students. Being the largest city in the Loire Valley, Tours has a population of nearly 150,000. There is one main university, Université François Rabelais, founded in 1969, which is named after the French writer François Rabelais. The university is distributed over five campuses across the city. These multiple faculties allow for plenty of opportunities to meet other students. The Loire Valley boasts some of the most beautiful châteaux in France, including Chenonceau, Chinon and the Jardins de Villandry, which we visited. Incredibly well situated, Tours is a fantastic location from which to visit other European cities, both within and outside France. We travelled to La Rochelle, Nantes, and Paris, as well as fitting in weekend visits to Germany and skiing in Austria.

We found the French... to be quite relaxed and somewhat less formal... which was exemplified by the casual dress

The university's systematic approach to teaching was very impressive and the exams followed the lecture material very closely. The Corpo, the student medical society, comparable to BioSoc in Trinity, organizes a rota by which students attend lectures and prepare notes for their peers. These notes were fundamental in guiding our studies, because they were concise and reliable. As Erasmus students, we were exempt from the rota, probably for the best! A number of the French medical students were very helpful when we arrived, making us feel welcome and taking the time to show us around the university.

Our rotations were really interesting: we each spent six weeks in medicine, five in surgery, two studying anaesthesia and two in radiology. The anaesthesia and radiology will be of great benefit to our future studies, as these subjects are not covered in the same manner in Trinity. The oncology and radiology modules emphasized cancer diagnosis and treatment, and were clinically focused, which has sparked our interest in these fields. From a medical student's point of view, the hospital system in France was run very differently compared to Ireland. We found the French doctors and healthcare staff to be quite relaxed and somewhat less formal towards patients, visitors, staff and students in the hospitals, which was exemplified by the casual dress code. As is part of French culture, every single member of the team is greeted each morning.

As the year progressed, placements in hospital and communicating *en français* with doctors, patients, and fellow students became much more natural. During each rotation students were individually attached to specific doctors, and there was a focus on particular specialties including geriatrics, orthopaedics, gynaecology and paediatrics. Medical students were given an active role in the hospital through a paired system by which final year students are assigned as mentors to third years. We found this gave us good structure while on clinical rotation, and an opportunity to ask questions and discuss cases informally. This system encourages teaching and a teamwork approach very early in the medical career.

The Erasmus experience was incredible and one that will stand to us. Studying Medicine in France was definitely challenging at times, but also worthwhile and rewarding. It gave us the opportunity to broaden our horizons socially and culturally, and to immerse ourselves in a foreign language. Along with other exceptional reminiscences, we will have many splendid memories of nights out together on Place Pluméreau, especially during the lovely autumn and spring weather.

Role Models in Medical Education

Andre Madaleno

Teaching ethics is a difficult challenge for medical schools. When the urge to produce more doctors at lower costs, rushed curricula and a multicultural student body meet the need for personal reflection, small group learning and a wide variety of belief systems, it is not surprising that some loose ends remain. This becomes more and more evident as what needs to be taught becomes less and less clear: values, attitudes, communication skills, character?[1]

In this essay, I argue that part of the solution is a refocus on the importance of role models to medical education and therefore on the role of medical school as a true apprenticeship period – not only of facts and techniques but also of life skills and values that make up what a *good doctor* should be[2].

Solving such a complex jigsaw as the role of ethics in medical education, implies finding the best methods to teach this type of *course*. Inherent to any curriculum is the need to formalize, rationalize, and assess it: lectures, problem-based learning and written assignments are probably complementary but certainly incomplete ways of medical ethics education[3]. It also includes the challenge of presenting conflicting ethical stances without falling in to an "everything goes" mindset – which is something that might be difficult to a teaching staff more used to relaying facts and figures and techniques. However, medical schools have to face the plurality of opinions straight on; thereby motivating medical students to make responsible ethical decisions, building on what they believe, and not falling into the cynic's fallacious assertion that "*My conviction is of very little use, if I can't know anything as true*"[4].

Furthermore, a focus on the bridge between studying the ethical principles and putting them into practice needs to be established early on. As Aristotle wrote in the *Nicomachean Ethics*: "*With regard to excellence, it is not enough to know, but we must try to have and use it*"[5]. With this in mind, most medical schools acknowledge the need for medical role models, but unfortunately this need is commonly overlooked in practice. Thus, this crucial teaching component is left to the roulette game of rotations, a process reliant on the mood and teaching skills of each individual consultant or junior doctor. A recent Swedish study has suggested that the attitude of medical students to the medical ethics programme is highly influenced by their experience with medical role models. Good experience was linked to an increased interest in ethics, and (sadly) vice-versa[6].

Hippocrates Refusing the Gifts of Artaxerxes I

In this painting by Anne Louis Girodet de Roucy-Trioson (1792), Hippocrates does the "right thing" (once again) and refuses gifts to treat the Persian troops, enemies of the Greeks, showing himself a true patriot. While refusing treatment to dying patients due to their nationality is now considered unethical, this shows how much medical ethics is a product of its time. Though apocryphal, this legend also conveys how much Hippocrates' personal integrity (as a Greek of his time) was linked to his prestige as the father of Medicine. In his legend, medical knowledge, medical ethics and personal integrity are intertwined to form western medicine's prototypical role model.

While the results of this study were considered to be a surprise, this concept is not novel and this research has simply confirmed what we all acknowledge in our daily life: we get our values and attitudes to morality from the society around us and in particular to those closer to us. The idea that most people can relate some of their core beliefs and attitudes to a "relevant someone", family, friends, etc[7], is an insight recognized in the original Hippocratic Oath, (though phrased in a strange and impractical way to our modern ears) "*I swear...to consider dear to me, as my parents, him who taught me this art; to live in common with him and, if necessary, to share my goods with him*". Hence, while this reverential attitude would now imply an undesirable closed-shop mentality for the medical profession, there is an aspect of passing on a way of life to the next generation which I believe should not be lost. However, we can no longer assume that just because someone is a doctor, they will have what it takes to be inspirational and exemplary to their younger peers. So, what makes a physician a role model?

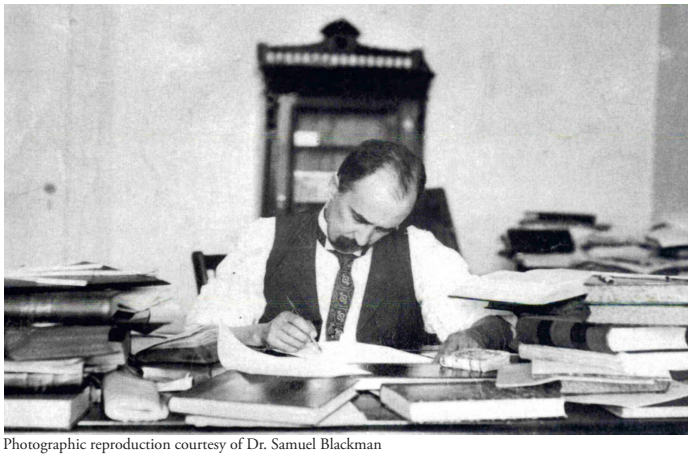
It seems straightforward that a talent for teaching, which comes with experience, and a certain social *savoir-être,* are some of the key factors involved in being a good role model. Less obvious are other "traits" such as stressing the importance of the doctor-patient relationship and highlighting psychosocial aspects of medicine in one's teaching; a trait occasionally linked to an interest in the medical humanities[6]. Sir William Osler's statement "*The wider and freer a man's general education, the better practioner he is likely to be*"[9] has until now stood the test of association studies, but it is errone-

ous to assume this is a simple fancy for polite conversation rather than a need for students to develop crucial interpersonal skills and a practical mastery of key health psychology concepts[10].

In a world of deontological demands that seem often daunting, abstract, and contrasting with fast-paced clinical practice and learning, medical ethics is often regarded as too aerial to be meaningful or practical. Following the example of experienced and able clinicians is often the answer to the question "*How* should *I do this?*" and provides the encouragement and reassurance so often needed by medical students and junior doctors alike. Personally, I always felt that while ethics lectures provided the questions, it is in the ward rounds that you find the practical answers to how to respect such keys ethical principles as justice, beneficience, non-maleficience and autonomy. Carrying this perspective into practice, a revaluation of the role of apprenticeship both from the medical schools', clinicians' and medical students' points of view seems to be the most promising challenge for the future of medical education.

Sir William Osler (1849-1919)

In this photograph we find Sir William Osler doing what educated Victorians where taught to do: working hard. The selfless personal commitment to professional excellence and continuous improvement are part of what patients expect from doctors. But don't let this picture fool you, Sir William Osler while committed to innovation on medical education, was also a notorious prankster and a very witty public speaker.



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Television

The influence of fictional characters as role models is widely recognized, especially in the teenage public. However, to what extent does this apply to medical ethics or to the perceptions of students who desire to do Medicine? Is this a desirable influence? The list of medical dramas has grown into a genre in itself: *ER*, *House M.D.*, *Grey's Anatomy*, *Scrubs*, and *The Clinic*.

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Of Grave Importance / A Grave Detection

Alanna Kalyniuk

For most medical students, the name Graves conjures pathology of autoimmune hyperthyroidism, eponymously known as Graves' disease. Many may not know, however, that Robert James Graves was perhaps one of the most remarkable Irish physicians of his time. Born in Dublin in 1796[1], Graves received his medical degree from Trinity College in 1818, where he graduated first in his class and was awarded the gold medal for scholastic excellence[2].

During three years of postgraduate training at various medical centers in Europe, Graves was impressed by the method of bedside clinical teaching he experienced: students examined patients, presented histories, and reviewed physical findings with their professor at the bedside of the patient[2]. This teaching method was a stark contrast to Ireland's medical training at the time where medical students could qualify without ever having examined patients[1]. When Graves returned to Dublin in 1821 and was appointed chief physician at the Meath Hospital, he reformed the Irish system of medical education and introduced the method of bedside teaching with which we are familiar today[2].

Graves was an avid clinician and teacher who was appointed professor at the institute of medicine at Trinity College[3] and presided over the Royal College of Physicians of Ireland[1]. Moreover, Graves was a pioneering doctor for his time in that he placed great emphasis on the importance of medical research. Having published more than 45 journal articles[3], Graves believed that every physician should "learn the duty, as well as taste the pleasure of original work.[4]" In 1832, in line with his passion for research, Graves founded the Dublin Journal of Medical and Chemical science with Sir Robert Kane. The journal persists today as the Irish Journal of Medical Science and is published quarterly by the Royal Academy of Medicine in Ireland[4].

To commemorate Robert Graves, each spring the Academy and the Health and Research board of Ireland sponsor the Annual Graves Lecture. The aim of the lecture is to support, encourage, and promote research in Ireland. The lecturer who is nominated must prepare a lecture topic encompassing original research that is of clinical interest and, in addition, is awarded the Academy's silver medal and Honorarium. Last year's winner was Professor Colm O'Morain, Consultant Gastroenterologist, at the Adelaide and Meath Hospital incorporating the National Children's Hospital (AMNCH), Dean of Health Sciences and Professor of Medicine at Trinity College Dublin, for his research on the development of a screening programme for the early detection of colorectal cancer in Ireland[5].

Colorectal cancer is the second most common cause of death from cancer in Ireland following lung cancer, claiming more than 900 lives each year. Furthermore, the incidence of colorectal cancer in Ireland ranks among the highest in Western Europe for both men and women. Since the incidence of colorectal cancer increases with age, the number of cases diagnosed in Ireland is only expected to increase as the population ages[6].

Currently, more than 50% of patients in Ireland who receive a diagnosis of colorectal cancer are diagnosed with stage 3 or 4: the most advanced stages of colorectal cancer. Fewer than 5% of patients who are diagnosed with stage 4 survive longer than 5 years[7].

At the moment, a simple screening test for colorectal cancer, which is able to detect occult blood in stool samples exists. Subsequently, organized screening programmes have been implemented, or are in the process of being implemented, in many countries around the world. In the EU, 13 member states have some form of a screening programme in place, although the modality of screening (direct colonoscopy, or guaiac-based faecal occult blood testing followed by colonoscopy) differs between nations[8].

In 2008, with Professor O'Morain as the lead clinician, the first comprehensive bowel-screening programme in Ireland, which was designed to determine the feasibility of national screening for colorectal cancer, was initiated. The programme used the Faecal Immunochemical Test (FIT), a newer alternative to the guaiac-based faecal occult blood test (g-FOBT), which specifically detects colonic blood loss[8]. 10,000 people in the Tallaght community aged 50-74 were offered bowel screening, of which 5,063 participated. Of these, 514 people had positive FIT tests, 419 went on to have a colonoscopy and 137 were found to have cancer or advanced neoplasia, the majority of which were early stage diseases[7].

Colorectal cancer is a highly curable disease if detected early and there is now overwhelming evidence to suggest that the use of a faecal occult blood test as a screening tool reduces mortality[9,10,11]. The results obtained from the Tallaght Hospital-Trinity College Dublin Colorectal Cancer Screening programme provide convincing evidence for the success and feasibility of screening for colorectal cancer within Ireland, and will undoubtedly be invaluable in the future development of a national screening programme.

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Quiz Page

Duncan Fortescue-Webb & Rory Stewart

Identify the following alumni:

#	Question	Answer
1.	The uncredited inventor of the second hand on watches, whose talent for languages led to ten days in an Austrian prison on suspicion of being a German spy. His self-suggested epitaph was "He fed fevers".	
2.	Trained in Edinburgh, he wrote 'An introduction to the use of the stethoscope'. An honorary M.D. from Trinity qualified him to succeed his father as Regius Professor of Medicine where he emphasised ward-based student learning. His son was surgeon in ordinary to Queen Victoria.	
3.	Lost his right eye in a fight aged 11, and initially studied Engineering before an evangelical calling led him to become a surgeon and spend many years in Uganda. His advocacy of high-fibre diets earned him the nicknamed 'the bran man'.	
4.	Spurred by an anatomy book he recovered from a field after the local physician's house was flooded, he was elected President of the Royal College of Surgeons in Ireland aged 28.	
5.	Having come bottom of his Theology & Law class at Trinity, he studied Medicine in Edinburgh and Leiden before busking with a flute through Europe. His dissolute lifestyle led Horace Walpole to dub him 'an inspired idiot'. Nevertheless, he wrote 'The Vicar of Wakefield' and, probably, 'The History of Little Goody Two-Shoes'; and is honoured with a statue at Front Arch.	
6.	Enthusiastic footballer, cyclist and composer of bawdy verse, he failed eight of his ten exams at the Royal University of Ireland before switching to Medicine at Trinity. He wrote 'Tumbling in the Hay' about medical students in Dublin, became a Free State Senator, aviator, and owner of a buttercup-yellow Rolls-Royce.	
7.	A tuberculosis orphan and sufferer, after graduating in Medicine he decided politics was the only way to tackle TB in Ireland. He went on to be a TD for five different parties, becoming Minister for Health six years after graduating. He successfully introduced mass free TB screening, but his Mother and Child Scheme, which was to provide free maternity and child healthcare, drew fierce opposition from the Church and doctors.	
8.	Studied French, Italian and English at Trinity, which he described as containing "the cream of Ireland: rich and thick." He is the only Nobel laureate with an entry in Wisden Cricketers' Almanack thanks to his Modernist writing and skill as a left-handed batsman. During WWII he joined the French Resistance and volunteered as a hospital orderly.	
9.	A character from Patrick O'Brien's novels: he studied pre-med at Trinity and became a naturalist, linguist, musician, secret-agent and opium addict; he was ship's surgeon and companion to Captain Jack Aubrey.	

Identify the medical condition associated with these public figures:

#	Question	Answer
10.	Terry Pratchett	
11.	Stephen Hawking	
12.	Michael J Fox	
13.	Al Capone	
14.	Pamela Anderson	
15.	Bob Marley	
16.	John F Kennedy	
17.	Magic Johnson	
18.	Jonathan Swift	
19.	John Forbes Nash	

Describe the following medical eponyms:

#	Question	Answer
20.	Hesselbach's triangle	
21.	Tinel's sign	
22.	Argyll Robertson pupils	
23.	Darwin's tubercle	
24.	Coopernail's sign	
25.	Prehn's sign	
26.	Hippocratic fingers	
27.	John Thomas sign	
28.	Bier block	
29.	Hamburger shift	
30.	Jumping Frenchmen of Maine	

Rate your score:

0-5: Neither a medic nor an alumnus

6-10: Medical Student

11-15: Intern

16-20: SHO

21-25: Registrar

26-30: Consultant

Answers:

1. Robert Graves (1895-1985)
2. William Stokes (1804-1878)
3. Denis Parsons Burkitt (1911-1993)
4. Abraham Colles (1773-1843)
5. Oliver Goldsmith (1730-1774)
6. Oliver St. John Gogarty (1878-1957)
7. Noël Christopher Browne (1915-1997)
8. Samuel Barclay Beckett (1906-1989)
9. Stephen Maturin
10. Posterior cortical atrophy (Benson's syndrome)
11. Amyotrophic lateral sclerosis (Lou Gehrig's Disease)
12. Parkinson's disease
13. Syphilis
14. Hepatitis C
15. Acral letiginous melanoma
16. Addison's disease
17. HIV
18. Ménière's disease
19. Paranoid schizophrenia
20. The site of direct inguinal hernia: bounded by the inguinal ligament, inferior epigastric artery and rectus abdominus muscle.
21. Distal tingling on percussion over an injured nerve.
22. Small irregular pupils that 'accommodate but do not react' [to bright light]. Formerly known as prostitute's pupils, the sign is specific for tertiary syphilis.
23. Completely benign congenital nodule located near the superior aspect of the auricle.
24. Ecchymosis of the perineum and scrotum or labia, indicating pelvic fracture
25. Positively where elevation of a painful testicle decreases pain, indicating epididymitis; the negative sign suggests testicular torsion.
26. Nail clubbing.
27. Radiographic humour for when the penis is inclined to side of a unilateral disorder such as a fractured bone.
28. Regional anaesthesia of an extremity by placing a tourniquet and infusing local anaesthetic.
29. The exchange of bicarbonate and chloride ions across the membrane of a red blood cell.
30. Unusually extreme startle reaction which may include echolalia and echopraxia..

Every Branch of Biology: The Dublin University Biological Association and its Predecessors

Gabriel Beecham, SS Medicine, BioSoc Treasurer, 2010-2011

The Dublin University Biological Association – popularly known as Biosoc, or, more traditionally, the Bi – has played an important role in the life of medical students at Trinity College, Dublin since the latter half of the nineteenth century, and continues a centuries-old tradition of Trinity medical students coming together for learning, entertainment and scholarship. This article discusses the history of the Association and the societies that came before it, and gives an account of its activities up to the present day.

In his 1912 history of medical education at Trinity, Percy Kirkpatrick mentions a minute in the Register of the Board of Trinity College on 2 May, 1801, stating "that a medical society under the control of the Board may be permitted to meet in College."[1] However, no other records remain regarding the proceedings or constitution of this early society, so we do not know how long its activities continued. Some years later, the Board once again granted permission for a medical society to meet in College, shortly after Trinity's Professor of Anatomy and Surgery, the celebrated anatomist James Macartney, had been appointed to the Board. A minute in the Register dated 26 November, 1814, reports, "A Society for Medical Students (under the sanction of the Professor) having applied for permission to hold their meetings in the Lecture Room in No. 22. The Terms were granted to them during pleasure."[1] For some reason, the Board withdrew this permission 18 January, 1822, and no further mention of the society is made in the Register. According to Prof. Alexander Macalister's biography of Macartney, it continued to meet for some eight years thereafter – only gradually coming to an end as quarrels with the authorities came to beset the later years of Macartney's professorship.[1]

In January 1853, a zoological society was founded by Robert Ball, curator of the College's zoological museum. Its scope was later broadened to include Botany, and it was titled the "Dublin University Zoological and Botanical Association", with its aim being "the advancement and diffusion of Zoological and Botanical Science in general, and to encourage and promote the study of Natural History among the Students of the University."[1] It was open to graduates of Dublin, Oxford or Cambridge, and undergraduates at Trinity College. However, its

membership was in practice mostly limited to graduates, with only a minority of physicians or medical students. No records exist for the society after 1862; its demise, and that of the Dublin Natural History Society, left a gap for a society catering for students of natural sciences at Trinity.

In November 1867, the Rev. Dr Samuel Haughton, who was then Registrar of the School of Physic (as Trinity's medical school was then known), a Fellow of the Royal Society and Vice-President of the Royal Irish Academy, recommended to the Board that they "accede to the request of the Medical Students to be permitted to meet for the discussion of Medical Questions".[1] The Board agreed to this, on the proviso that "the regulations of such meetings [be] previously submitted to the Board for their approbation", and it appears from extant records that the first meeting of this body, duly constituted as the "Dublin University Medico-Chirurgical Society", was held in late 1867 or early 1868.[2] The name of the Society's first president is lost, but the second and third were the Regius Professor of Surgery, Robert Adams, and the Regius Professor of Physic, William Stokes, respectively, which may illustrate the high regard in which this society was held by its contemporaries. The Auditor of the Society's third session, Francis C. Crosslé, delivered an address on "Quacks and Quackery" at the inaugural meeting on 26 November 1869, and commented on the Society's role and aspirations in College life:

"There is [...] a further advantage to be derived from thus meeting annually together; *viz.* that we, the junior members of the profession, are here afforded an opportunity of assuring our seniors and the public that as a scientific and corporate body, we are determined to uphold the status of the calling we have adopted; nor can I look upon the spirit that animated the founders of this Society as aught else than the legitimate offspring of such a determination."[2]

The Society seems to have been well supported, with 14 Vice-Presidents and 136 ordinary members by 1869, but, curiously, no further records or papers exist after this time. It is unclear why the society disappeared. A clue may come from another comment made by Crosslé, that the medical nature of the Society's activities meant that, "unlike our elder sisters, the College Historical, the Undergraduate Philosophical and the Theological Societies," discussions and meetings needed to be kept closed within the academic medical fraternity, and the Society's council resolved that "our annual meeting should, in future, be divested of that public character which is now naturally associated with the opening meeting of the different societies which are annually held in the Dining Hall." Stephen P.J. Reid commented in 1974: "This forms an interesting contrast with the practice of today, just over one hundred years later. While the ordinary meetings of the year maintain their specific and in some cases specialised approach, the current trend is for the opening meeting of the "Bi" to be based on subjects of more than just medical interest. This has resulted in audiences being more variegated, which must be better for a society than an isolationist policy. The role of such a policy in the [Medico-Chirurgical] Society's disappearance remains unknown."[2]

The current Association was established in 1874, under the guidance of Professor of Zoology Alexander Macalister, and the other Professors of Natural Science.[1] From the very beginning this was essentially a students' society, unlike formations that had come and gone before. (A separate group, the Biological Club, had been founded in the interim in 1872, with its membership limited to graduates. It soon moved its meeting-place from No. 30, Rotten Row [a now-demolished range of buildings on the site of the present Graduates' Memorial Building] to rooms on Brunswick Street, and then in 1881 to the Royal College of Physicians on Kildare Street.)[3] Macalister was largely responsible for placing the society on a firm foundation, and in his inaugural address as President he stressed the potential for undergraduates to conduct worthwhile original scientific research, and exhibited some specimens of abnormally sutured skulls. He went on to read papers and show specimens at nearly every meeting.[3] Interestingly, in 1877 Macalister was made head of anatomy in Trinity, the same role that James Macartney had occupied six decades previously. Macalister had a great knowledge and interest in all areas of science, contributing several articles to the *Encyclopaedia Britannica* and writing a classic textbook of anatomy. In 1883, he was elected a Fellow of the Royal Society and made Chair of Anatomy at the University of Cambridge.[3] His obituary in the *Journal of Anatomy* goes some way to illustrate his talents:

"Consequent on special recommendation he was allowed to commence his medical studies at the Royal College of Surgeons of Ireland at the incredibly early age of 14. From this point his progress was meteoric. He was appointed Demonstrator of Anatomy at the College at 16 and at 17 obtained the double qualification. Entering Trinity College Dublin, he was elected Professor of Zoology at the University of Dublin while still an undergraduate, and was precluded from proceeding to an honours degree in Science, the would-be examinee being an examiner. Could anyone imagine a more Gilbertian situation?"[4]

The earliest hand-written records of the Association were lost in 1895,[1] but were rediscovered in the 1920s and given to Henry Horatio Dixon, the eminent Professor of Botany and co-formulator (with John Joly) of the cohesion-tension theory, who took a keen interest in the Association from his student days onwards.[3] Extracts follow:

"At a meeting of students of the University of Dublin held on Tuesday, January the 27th, 1874, in No. 5, T.C.D., Professor Macalister in the Chair, it was proposed and resolved that a Society be formed for the encouragement of original investigations in every branch of Biology. The term 'original' to mean what has been observed and studied by the speaker himself, and that the Society be called the Dublin University Biological Association." [3]

"The Council consisted of a President, Vice-President, Hon. Sec., Treasurer and a Committee of three. The annual subscription was five shillings [32 cents in modern currency]. Meetings were to be held on the first Tuesday evening in each month from November to June inclusive, tea to be had at seven-thirty, and the chair to be taken at eight. The Annual Meeting was to be held on the first Tuesday of November, and Doctor Macalister, Professor of Zoology and Comparative Anatomy, and Doctor E. Percival Wright, were to be asked to act as President and Vice-President respectively."[3]

The Association became popularly known as "the Bi", mirroring the clipped nicknames of some of Trinity's other societies, the Histori-

cal (Hist), Philosophical (Phil) and Theological (Theo). It duly met for the first time on 3. March 1874 at No. 5 in Parliament Square, with Prof. Macalister giving an inaugural address on "The Proper Objects of a Students' Biological Association, with Notes on the Work of some Contemporary Societies."[3] Although the Association, in fact, continued to meet at the same location in subsequent months, it appears that on 14. March 1874 the Board granted it permission to meet on alternate Wednesdays in one of the lecture-rooms at the science end of the College, "provided that Dr [Edward Hallaran] Bennett becomes responsible for the proper use of the room." 20 members were elected, among them the Rev. Dr Haughton, and Professor Sinclair, King's Professor of Midwifery. Throughout the early sessions, papers were read on various topics relating to natural science, such as "Do Fishes Hear?" and "Is the Appendix in Man an Argument in Favour of Evolution?"[3]

By 1876, membership had increased to 56, and at the opening meeting on 7 November that year, held at No. 40 in New Square and once again presided over by Macalister, it was decided that medical and psychological subjects were "suitable". Papers and exhibits dealing with topics of medical interest came to predominate over the next few sessions, the first being a paper on "Anatomical Irregularities", followed by reports of clinical cases. Quite possibly, this shift in focus may explain and parallel the decline of the Medico-Chirurgical Society. It was also decided that a cheaper brand of tea should be sourced for meetings, on account of the Association's ailing finances.[3]

Macalister was again President in 1877 and 1878. The meeting day changed to the second Wednesday of every month, to avoid scheduling conflicts with the meeting-night of the graduates' Biological Club. The Association was steadily growing in membership, and in 1878 it successfully lobbied the Board for use of a larger room in the "New Buildings" (the natural science and medical buildings to the east of College Park). The University Philosophical Society suggested at this time that it and the Biological Association should merge, but nothing came of this initiative.[3] The following year, the rules of the society were amended to emphasise how the society had become much more focused on medical topics, with the word "Biology" taken to cover "pathology, therapeutics and all the allied sciences". After this date, scarcely any botanical or zoological papers were delivered – but there were some exceptions, such as an account in 1883 of a post-mortem examination of a camel which had died in Dublin Zoo, and a paper on "Hypnotism", where it is recorded that the speaker attempted (unsuccessfully) to hypnotise a rabbit during the meeting.[3] In 1880, it was decided to begin awarding a medal for the best paper delivered to the society. The following year, in 1881, Dr Charles Ball was President, and proposed at the opening meeting that "the Dublin University Biological Association is worthy of the support of all Students of Medicine and Natural Science."[3] This same motion has been proposed every year since, most recently by the President of the 136th Session, John J. O'Leary.

It seems that the Association entered a period of decline at this point, and by 1892, it was nearly doomed to extinction by money difficulties.[1] Rescue came in the form of Professor Edward P Wright, the noted ophthalmic surgeon, botanist and zoologist, who was elected President and paid off the accounts from his own funds. By 1894 the Bi was once again financially secure, and in the words of

Dr (later Sir) Kendal Franks, it seemed to have risen from the ashes, as if it had "discovered the antitoxin that destroyed the microbe that destroyed societies".[3] Around this time the Bi acquired a very high-quality battery-powered electric lantern, which cost £144 and was used at meetings when electricity was not available; this lantern later acquired a home for many decades in the lecture theatre where the Association held its meetings.[3]

Topics discussed at meetings moved with the times, and papers were delivered on the latest technologies and treatments. Specimens of X-ray images were exhibited just months after Wilhelm Roentgen had discovered X-rays, and details were given on new forms of hernia and prostate surgery. In 1897, the Bi started a public health campaign for clean milk, which continued for several decades thereafter, on account of "the danger to public health arising from the prevalence of tuberculosis in dairy cattle in Dublin".[3,5] The opening meeting of the 1914-1915 session noted the impact that the Great War was having on the medical profession. Professor Dixon noted that, of the 69 students who entered the medical school in 1909 and 1910, 65 had accepted commissions with the Royal Army Medical Corps, and in total 750 present or former students of the school were on active service.[5]

Women were first admitted to the society in 1929, by a vote of 29 to 16. It was pointed out at the meeting, however, that entreaties would need to be made to the Provost and Board to facilitate the participation of female medical students at the Association's meetings, as women were at that time required to leave College entirely by 6.00pm every day.[7]

By the 1930s, the Association was known for its social events as well as its paper-readings. The 1939 annual dance was held in the Metropole ballroom on Monday, 11. December and was eagerly anticipated not just by medical students but by many from across College, with *The Irish Times* deeming the annual event "the best attended of all College dances".[8]

The meetings of the Association grew broader in their exploration of the wider impact of medicine on society. A 1967 debate organised jointly with the Law and Theological Societies, and University College Dublin's medical society, saw a substantial majority vote in favour of a motion supporting termination of pregnancy

under certain circumstances.[9] The centenary of the Association was celebrated in 1974, with speakers at the opening meeting stressing the need to examine the attitudes as well as the knowledge of would-be doctors in medical school examinations.[10]

At present, the opening meeting of the Association is referred to as the "Inaugural Ball", and is held at the start of Hilary term. In his presidential address to the 136th session, Prof. John J O'Leary took the opportunity to compare Ireland's financial crisis of the late 2000s to an illness that needs treatment. The association now has only joint use of rooms in College on the top floor of No. 6 in Parliament Square, meaning space is at a premium. In addition to talks and seminars on medical matters, other regular events include: a booksale in Michaelmas term, held in the foyer of the Moyne Institute; a round-robin football tournament, Med Cup, at Trinity's sports grounds in Santry; a Christmas pantomime, staged at the Trinity Centre for Health Sciences in St James's Hospital; a Christmas trip; and a celebration of either Eid-al-Adha or Eid-ul-Fitr (depending on the Islamic calendar). The annual dance is now known as "Med Ball", and in 2011 was held at the Crowne Plaza Hotel, Northwood, with a record attendance of over 500 students. It is joined by a Hallowe'en fancy-dress ball, normally held in a Dublin nightclub. Recent increases in the number of Canadian students attending Irish medical schools have prompted the establishment of the Canadian Irish Medical Students' Association (CIMSA), whose Trinity chapter organises social events and seminars.

Since 2002, the Association has run a city-wide fundraising and public health event, entitled "Med Day", on an annual basis. The event is held on a Friday in Michaelmas term, and is the fruit of months of planning by a sub-committee of 4th year medical students. They liaise with College authorities, the Garda and the media to send hundreds of students out across Dublin collecting money on the streets, as well as organising events like a charity auction, talent show and raffle around College on the same day. Publicity is raised for a worthy issue concerning public health, and thousands of euros are raised for under-resourced services at Trinity's two main teaching hospitals, St James's Hospital and the Adelaide and Meath Hospital, Dublin incorporating the National Children's Hospital; in 2010, the total came to €56,000, beating the previous year's figure (despite economic recession) by €6,000. Some of the proceeds also fund a medical scholarship under the aegis of the Trinity Access Programme (TAP), and the Med Day committee works with the TAP office to organise an annual open day for pupils in disadvantaged local secondary schools enabling them to experience a "crash course" in the medical student experience.

It seems fitting to finish with the words of S.B. Sachs, written on the same theme 75 years ago: "I have chosen to terminate this history at that point; to leave their minutes resting in their tomes, so that at some future date, someone else may have the pleasure of comparing our modern ideas with the ideas of the future."[3]

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The Institute of Molecular Medicine

Mark Ng

When thinking of premier centres of medical research, investigators from countries such as the United States of America and United Kingdom spring to mind. However, one might forget that there is a centre of research excellence close to home. The Institute of Molecular Medicine (IMM), a venture initiated by Trinity College in partnership with University College Dublin and the Royal College of Surgeons in Ireland, is the premier research facility for molecular medicine in Ireland and has gained a worldwide reputation as a leader in molecular medicine research.

The IMM has the advantage of housing almost 40 top molecular medicine researchers, with specialized fields of interest, but they also work collaboratively to solve complex interdisciplinary problems. Since its opening in 2003, the IMM has focused much of its efforts on cancer, immunology, neuroscience and genomics. The researchers have all published studies in high impact journals such as Nature and Science. Much of the IMM's success is working towards the understanding of genomics and their cellular significance, and translating that information to clinical practice. In this article, four principle investigators are featured to highlight how Trinity College is spearheading research for the advancement of medicine.

The traditional approach of molecular medicine was based on the idea of an underlying genetic abnormality that interacts with the environment to cause disease. Although this basic premise is largely true, according to Dr. Ross McManus, recent research in the genomics of inflammatory disease reveals that normal genetic variants in certain combinations may cause susceptibility to disease. Prof. Michael Gill supports this argument, stating that neuropsychiatric disorders have complex genetic signatures that include genes that were previously thought to be unrelated to the disorder. Thus, elucidation of a patient's genome may allow clinicians to correctly diagnose and individually tailor a therapeutic regime. At first glance, decoding the genome of patients sounds labour intensive and costly. Indeed, Prof. Padraic Fallon predicts that genetic profiles will be useful in the next 5-10 years, but may not be feasible due to cost. Consider the human genome project, which decoded the first genome for the astronomical sum of 2.7 billion US dollars. However, genome sequencing is now possible for only 10,000 US dollars through automated machines. Should this trend to cheaper and faster genome sequencing continue, we might find the use of genetic profiling as a widespread investigation. Prof. Orla Sheils is convinced that the sequencing

will be available for as little as a few hundred Euro, and yield results in hours rather than days.

Medicine will likely change drastically when genomic testing becomes the norm. The mantra for pharmaceutical therapy has always been the use of the "correct drug at the correct dose administered at the correct time." The introduction of widespread genomics will aid in confirming diagnosis, especially those patients with multiple chronic diseases. Correct diagnosis allows the possibility of implementation of a correct treatment regimen. Furthermore, as pharmacokinetics and pharmacodynamics vary widely among patients depending on genotype, phenotype and environment, genomic testing may prove valuable in predicting effectiveness of treatment and tolerability. For instance, essential hypertension is not classified by aetiology and, as such, treatment may include a combination of angiotensin converting enzyme inhibitors, calcium channel blockers, thiazide diuretics, etc. Should a new diagnostic classification system be possible, such as one through genomics, then a more precise diagnosis may be made and targeted pharmaceutical intervention against the most pertinent pathways may be started.

In addition to improving current pharmacological intervention, genetic profiling may provide clues to new pharmaceutical drugs targeting direct genetic expression, suppression, or enhancement in cancer therapy. Pharmaceutical companies have realized that targeted therapy is the future of pharmaceuticals, as haphazard or random drug discovery is immensely expensive and laborious. Although this idea sounds like a pipedream, gene therapy has already seen some early results. Prof. O'Leary and Prof. Sheils' group, in collaboration with the Ear, Nose and Throat clinical teams at St. James's Hospital, have tested a BRAF gene suppressor on a patient with an aggressive form of thyroid carcinoma. The tumour had invaded to the local area, affecting breathing and swallowing and the expected survival was weeks. This gene suppressor counteracts the overexpression of the BRAF gene, which is one of the primary causes of tumourigenesis. After starting the novel treatment a year ago, the tumour shrunk and the patient's quality of life improved.

Indeed, research towards the endpoints labelled here involves more investigators than any single institution can employ. Thus, Trinity College School of Medicine has recently announced that their strategic plan is focused specifically in fields on cancer, immunology, neuroscience, genomics and population health.

Cancer

Prof. Orla Sheils and her group's main focus is the molecular basis of the development and progression of cancer. The group has been involved with elucidation of critical genetic markers in cancer that might aid in diagnosis, prognosis and treatment. Recently, the group was involved in development of molecular diagnosis of cervical abnormalities found during cervical cancer screening. Her group plan to continue uncovering more genetic markers that might be used by clinicians to improve clinical outcomes. Prof. Sheils remarks, "In 20 years, there will likely be effective treatment for many cancers, which will render cancer a chronic disease rather than a lethal one."

Immunology

Dr. Ross McManus and his group investigate genomics of inflammatory diseases, such as coeliac disease and inflammatory bowel disease. In the last several years, his group has assisted in identifying multiple candidate genes, some of which are critical to the pathogenesis to coeliac disease. The future for his group will include exploring the function of genes that are dysfunctional and further differentiating critical genes from trivial ones, allowing the prospect of novel treatments. Dr. McManus believes that in 20 years, there will be effective treatments for coeliac disease and

inflammatory bowel disease, as well as other inflammatory diseases, based on targeted genetic-based therapy.

Prof. Padraic Fallon and his group examine the fundamental mechanisms underlying deranged immune function that lead to diseases such as asthma. To date, his group has provided critical findings that helped unraveled some the processes behind immune function. The future for his group includes further elucidation of mechanisms, so that these processes can be targeted. Prof. Fallon postulates that the future of immunology will improve immensely due to genetic testing, thus enhancing the sensitivity of diagnosis and allowing tailored treatment to be commenced.

Neuroscience

Prof. Michael Gill and his group explore the genomics of neuropsychiatric disorders, such as psychosis and autism spectrum disorders. The group has been involved in multinational research consortiums, where genes have been identified and the functions of some of these genes illuminated. The future of the group focuses on continuing its current course of identifying genes and their functions, as well as creation of cell models that might help demystify the interaction amongst genes and how these genes bring risk. Prof. Gill says, "the future of medicine in neuropsychiatric disorders includes improving diagnosis so that therapies can be applied properly."

Although the next generation of investigations will streamline medicine, a good clinician possesses the basic cornerstones of medicine including examination, communication skills and intuition. As clinicians, we must remember that disease is a complex interplay of pathology, psychology and social circumstance, resulting in diverse presentations of similar medical problems. Medical technologies will aid in differentiating diagnoses and mitigating the effects of disease, but may not improve the psychological issues or access for marginalized populations. Thus, it is necessary that we continue advocating for our future patients and for our community.

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Trinity Student Medical Journal | Vol. 12 No. 1 | 2011