

THE FOUNTAIN

TRINITY COLLEGE NEWSLETTER

A Nobel Prize

Clock-watching
in Great Court

Compromising
with Apartheid

Restoration
in the Wren

A Trinity Memoir

New Fellows

Ethics and
the Genome

French Cricket



EDITORIAL

Our members will know that the United Kingdom government intends to make deep cuts in the state's provision for university education. We expect a further swing of the axe in the near future, whatever the result of the forthcoming general election. Many of us, especially junior members or their parents, will be especially concerned by the widely forecast rise in student fees.

Cambridge is intent on preserving its global pre-eminence in these hard times. We aim far beyond mere survival. The University must continue to attract and support the best undergraduates, research students, and teachers from all over the world. Only then can we hope to be able to impart to our future leaders a wider wisdom than has been shown in the present.

The University's 800th Anniversary campaign has gone wonderfully well, but is about to end. The University is exploring complementary means, such as a bond issue, to meet its ever-growing need to fund new research and residential facilities. Such funding would need to be repaid from income generated by this capital expenditure.

Thanks to prudent management of our endowment, Trinity can take other steps. Some eyebrows were raised when in late 2009 the College bought, for £24 million, the Greenwich property on which the 'O₂'—the Dome—now stands. The press had a field day, wondering how Trinity might raise the tone of the Dome. Few discussed the College's serious purpose behind the transaction, which was to redeploy a portion of our assets in order to secure another income stream to fund our teaching and research.

Trinity and all other Cambridge colleges already subsidise undergraduate tuition to a considerable extent. If tuition fees do increase we will face the need to offer—with the help of our friends—larger bursaries to assist more students than we do at present. We must also maintain the support we have long given to the University and to less fortunate colleges, through the Isaac Newton Trust and other funds. Without a world-beating University, Trinity cannot remain 'the acme of academe'.

We do not yet know the full scale of the task. It will not be small. The Trinity Campaign will certainly continue into the future, beyond the 800 Campaign. Equally certainly, we shall value the opinion of alumni members on how best to raise our sights.

It is therefore good to be able to welcome new members of the Alumni Advisory Board, that valuable sounding-board of our members' opinions and a loyal ginger-group in our alumni relations programme and fund-raising campaign. The College hopes that all our members will feel able to share their views on such matters with the AAB, whose contact details are given below, perhaps through a board member nearest to their own matriculation year.

This issue of *The Fountain* features, with our warm congratulations, a piece from our thirty-second Nobel Laureate, Venki Ramakrishnan, researcher of the ribosome. While we can all feel a glow of vicarious pride in this achievement by a member of our College, this issue also takes delight in our presidency of French cricket,

thanks a donor for the restoration of precious Persian miniatures in the Wren, welcomes new Fellows, sympathises with the compromises that were necessary under apartheid and, finally, looks forward to new developments in the field of genomics, to undergraduate experiments on the Great Court Clock and to hearing our Master give the BBC's Reith Lectures (details to be announced on the Trinity website when known) in this, the 350th year of the Royal Society, of which he is also the President.

*Professor John Lonsdale (1958), Fellow,
Editor-in-Chief*

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THE STRUCTURE OF THE RIBOSOME

By Venki Ramakrishnan

Proteins carry out most of the many reactions in a cell; they also help to make the cell's various components.



For example, the oxygen in our blood is carried by a protein, haemoglobin. Our eyes sense light thanks to another protein, rhodopsin. A protein, collagen, makes up our skin and gives us form. The antibodies we make to fight off infections are also proteins. Life as we know it would be impossible without proteins. Where do they all come from?

Our genes possess the information needed to make proteins. Our genetic material is made of DNA. This consists of thousands of genes, each of which generally codes for a specific protein (but there are exceptions). A copy of DNA that consists of a single gene or some closely related genes is made in the form of messenger RNA. This mRNA still has the language of our genes, in the sense that it consists of a sequence of four types of building blocks, the bases that make up both DNA and RNA. The order of these building blocks dictates the sequence in which amino acids are linked together to make a protein.

This complex process requires two things. The first is an adaptor molecule called tRNA. This reads the genetic information three bases at a time, and brings along the appropriate amino acid at its other end. But this process requires a complicated machinery, so the second requirement is the ribosome, an enormous

molecular machine. It consists of about $\frac{2}{3}$ RNA and many different proteins. It binds the genetic message together in the form of mRNA; it also has slots for the adaptor tRNA molecules. These different types of RNA may be a reflection of an early RNA-based form of life.

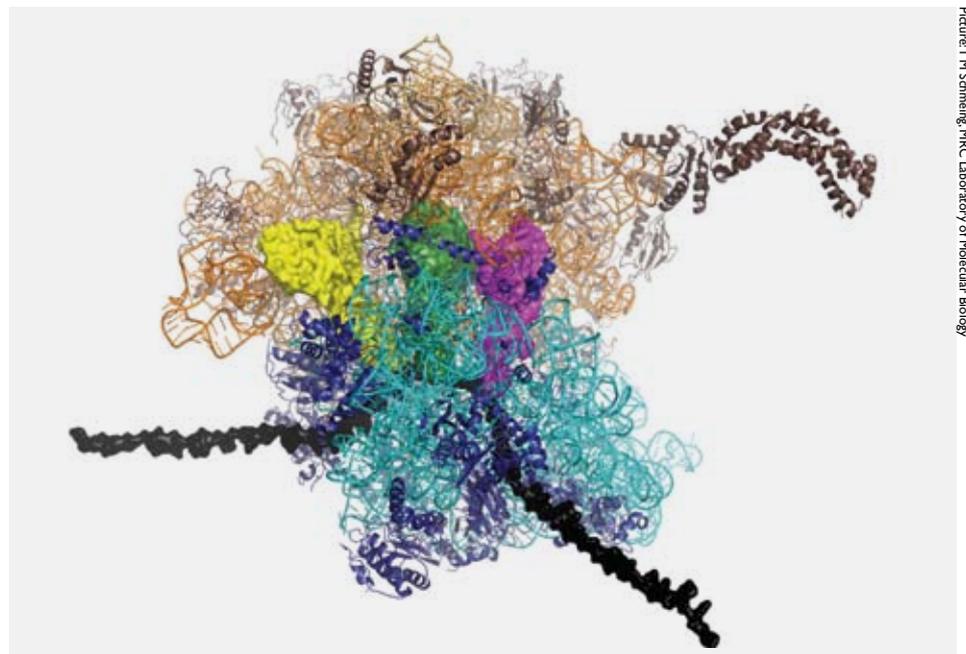
The ribosome can be thought of as a machine that first threads the mRNA through itself and then reads along it, bringing in the appropriate tRNAs and linking amino acids together to make a protein. A film of this process can be seen in <http://tinyurl.com/b4fqmk>

The ribosome is also important because it is very ancient. This means that human and bacterial ribosomes are slightly different. Many useful antibiotics are therefore able to work by binding to bacterial ribosomes in a way

that prevents them from functioning, while not binding to human ribosomes equally efficiently. Finally, because ribosomes probably pre-date today's life with proteins, they are interesting for evolutionary reasons. It is now believed that primordial ribosomes at first consisted only of RNA. Then, as proteins began to be made, some proteins attached to the ribosome itself in order to make it function better.

Venki Ramakrishnan
elected Title B Senior Research Fellow 2008

Venki Ramakrishnan shared the 2009 Nobel Prize in Chemistry with Ada Yonath of the Weizman Institute of Science, Israel, and Thomas Steitz of Yale University, for their studies on the structure and function of the ribosome.



Picture: T M Schmeing, MRC Laboratory of Molecular Biology

The structure of the ribosome. The large subunit is on top in gold, the small subunit below in turquoise. The mRNA containing the genetic message threads around the small subunit in dark grey. The adapter tRNA molecules that bring in the amino acids are shown in magenta, green and yellow.

SPIDERS AND PIGEONS: ON THE GREAT COURT

By Hugh Hunt

This is a double anniversary year for the Great Court Clock. It was 400 years ago in 1610 that the clock was first installed. Its dial was small and modest, but in 1726 our masterful master Bentley had it replaced by something grander. The 1610 clock is still running in the tower of Orwell's village church.

As Graham Chinner reported in *The Fountain of Autumn* 2009, the Bentley clock mechanism was coincidentally replaced a century ago, in 1910, thanks to a bequest from Lord Grimthorpe. His "double three-legged gravity escapement" was made famous in 1859 when installed in the Great Clock in Westminster ("Big Ben"). In the 50 years that followed, the design was adopted and perfected by all the best turret-clock makers.

J. Smith of Derby built our own precision timepiece. For its 100th anniversary we have set up a web page at www.trin.cam.ac.uk/clock so that anyone can monitor its accuracy. We have also devised an engineering-student project to see if we can help

Smith's mechanism to attain still greater accuracy.

At the heart of the monitoring system is a tiny infrared beam that is interrupted every 1½ seconds by the swing of the pendulum—once per "tick". The signal is recorded by a PC which also records the one-pulse-per-second output of a GPS receiver—accurate to 10 nanoseconds, so they say. A computer compares the ticks with the GPS to compute the drift of the clock and the amplitude of the pendulum's swing, producing a new data point every three seconds.

A weather station also records temperature, barometric pressure and humidity. Data is uploaded to the website every three hours.

This system, which has been running since April 2009, has given invaluable help in regulating the clock and recording much interesting data.

For example, you can watch how the clock is regulated day by day. This is done by placing small brass weights on a platform halfway up the pendulum. The regulation constant

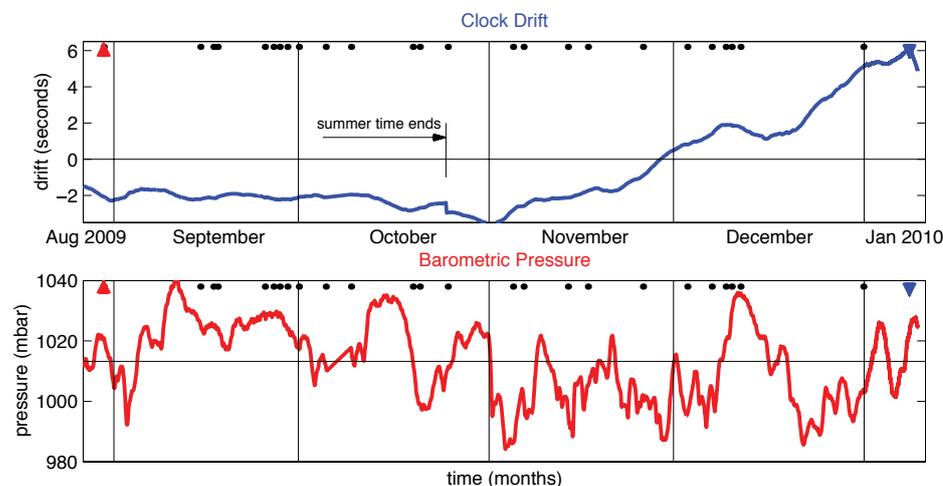


is 104 milliseconds per day per gram. Our smallest regulation weight, at 5ms/day, is 50mg—not much heavier than a grain of rice.

Data for the months of April – July 2009 are shown in the graph below. The red diamond indicates that a regulating mass was added to the pendulum in early September. For the next three months the clock kept time with remarkable accuracy, to within one second (most wrist watches will not keep time to better than one second per week).

Unfortunately, the regulation didn't stay perfect for long. Something clearly happened late in November and December, causing the clock to gain several seconds in less than two months.

One might suppose that low winter temperatures were the likely cause, but our clock is fitted with a temperature compensated pendulum—as has been common practice for three centuries. Barometric pressure is a less obvious influence. Close inspection, however, shows that the clock slows down during



THE PRESSURES CLOCK

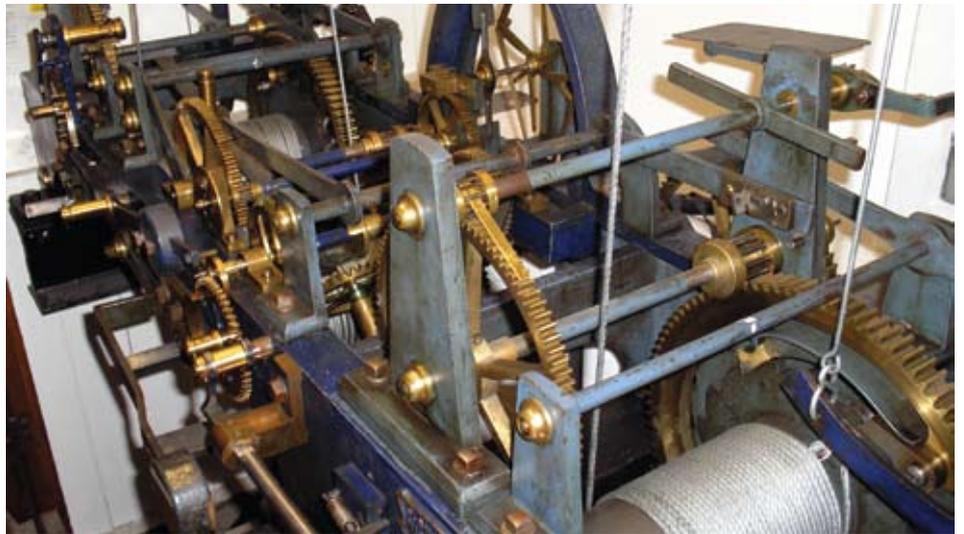
periods of high pressure, and that it was an extended period of low pressure that had caused the acceleration.

Three effects are at work here. The biggest is buoyancy, because the pendulum bob displaces air whose density depends on air pressure. The weight of the displaced air reduces the apparent value of the gravity constant g and therefore the period of the pendulum's swing. For more than a century we have known that pendulum clocks lose time at a rate of around 10ms/day for every millibar rise in barometric pressure.

Two other effects to consider are the aerodynamic drag on the pendulum as it swings, and the mass of the boundary layer of air that the pendulum carries along with it.

The little black dots in the graph indicate other interesting events. For instance, in October the clock had to be put back an hour at the end of Summer Time. The pendulum continued to swing during this adjustment but it was not driven. The change in the breadth of the pendulum's swing caused the recorded drift to shift by about half a second. A similar "glitch" came in March, as will happen in March and October of every year.

But what of the flurry of black dots in late September and early December? These glitches seemed inexplicable. It appeared that they always occurred around quarter-to-the-hour. The minute hand is horizontal then and rising. We also noticed that pigeons gather in large numbers around the clock dial, especially when the sun shines. The black-painted south-facing dial must be a warm place to sit. The glitches



occurred only in daylight hours.

Is it therefore possible for pigeons to stop the clock by sitting on the minute hand? A quick calculation of power balance can help us decide. Suppose a pigeon weighing 1 kg is sitting on the minute hand at a distance of 50 cm from the pivot. The hand would be rising at about 1 mm/sec and would therefore require about 5mW (milliWatts) of power to lift it. The clock is driven by an 80kg weight which falls 9 metres in 7 days, equivalent to 12mW of power. It seems that there is only just enough power to lift a single pigeon. A couple of pigeons could easily stop the clock.

Three consecutive pigeon-events occurred around 10.45am, stopping the clock for a total of 4 minutes on 8 December. This was in the middle of the Admissions Interview season. Already nervous candidates might have thought that their punctuality was being tested as a fiendish new admissions test!

There are other events that can only be understood if you go to the website

to see the graphs. I am convinced, for instance, that a spider spinning its web around the pendulum rod caused the clock to gain 300 milliseconds overnight on 3–4 May 2009. During this "spider" incident, a scatter plot of "going" vs "amplitude" shows a beautiful straight line with a gradient of -580ms/day for every 1mm change in the amplitude of pendulum swing. This agrees perfectly with small-amplitude pendulum theory.

What of the future? The original motive for setting up all this instrumentation was to try to detect the tidal variations in gravity due to the moon and the sun. To do this it looks as if we need to devise a barometric compensator for the pendulum, and this will be part of a new student project in 2010–11. Look out for our results in the Autumn issue of *The Fountain!*

But perhaps we should sort out the pigeons and spiders first...

Dr Hugh Hunt (e1990) Fellow, Engineering

A PRIEST IN SOUTH AFRICA CONFLICT AND RECONCILIATION

By Tim Bravington

I was the curate of Caledon, some 70 miles East of Cape Town.

My father, part of the Royal Navy intake, Trinity, April to August 1922, decided the family would move from the Thames Valley to the Cape in 1946. I received a clear call to ordination while still at school in South Africa and my father wanted me to go to Cambridge. Trinity kindly obliged. Add two years at Cuddesdon Theological College and I returned to the Cape in 1958, to be ordained by Archbishop Joost de Blank.

Caledon is a small market town, surrounded by farms, growing wheat then, sown with sub-clover. In alternate years the sheep would graze the reaped lands. It was also famous for Caledon onions.

People of different races owned property in the town and lived next door to each other. In 1958 apartheid began to bite. As the Group Areas Act took hold, the best part of the town centre was kept exclusively for people classified 'white'. Others had their property expropriated and had to move into the 'coloured group area', on the edge of town. Our objections made no difference. In the one hospital the wards were segregated. Whatever you did you had to compromise.

Already the schools were segregated. The Anglican Church owned a number of Primary Schools for 'coloureds'. We decided to continue to manage them and contribute to the education of the community in this way. I was fortunate to inherit £1000. I lent it to the parish interest-free. We were able to build two classrooms and I was repaid within the year.

All Ministers of Religion had to be registered as Marriage Officers if they were to officiate at legally recognised marriages. We decided we could best serve our congregations by registering ourselves. It would still have been illegal to marry a couple if the parties were classified as of different races but I was never approached by a couple of different race. What some of us did was to solemnise a marriage between two such people. While the church recognised their marriage we had to point out that the state did not. If they lived together they could be prosecuted under the Immorality Act. They usually decided to leave the country.

Two families owned general stores in the town centre. Both were classified as 'coloured' but happened to be pale skinned. They asked my Rector to support their efforts to be reclassified 'white' so they could retain their property and their businesses. This he did, but I don't remember if the appeal was successful. In another parish I met a teenager who was classified 'coloured' but was also pale skinned. We explored the possibility of her going to a Private (Independent) school but this didn't work out either. Elsewhere I met a teenage boy with a dark complexion but 'white' parents. He attended a private school. Unfortunately he was not very bright and later left. He was also teased about his colour. These were all compromises.

We also challenged the government through synod resolutions and a poster campaign. A group of us 'angry young men' produced two posters



Photo by St. Corn

which were put up in all churches in the Diocese of Cape Town. One was of a barbed-wire fence running through the body of Christ on the cross with the word 'Apartheid' strung along the fence. People of different race were paid different rates for the same job. We challenged the government on that. Eric Louw, the Foreign Minister, pointed out our hypocrisy as the Anglican Church did the same. So we campaigned for equal pay for all clergy of whatever race. This was resolved at a synod of the Diocese of Cape Town in, I think, 1960. It took about ten years for all the other Anglican dioceses in Southern Africa to follow suit.

When establishing a new parish we were faced with the question where to build the church and rectory. In urban areas people had become settled in different Group Areas. In the country there would be one church building



AFRICA: COMPROMISE, RECONCILIATION

for everyone but in towns there were all sorts of complications about in which Group Area the building would be in. The Government also classified the Diocesan Trustees according to the race of the majority serving on the Board. It was a nightmare and wasted time, money and energy. More compromise.

In another parish I was asked to make a speech at a twenty-first birthday party. The father of the family, which was classified 'coloured', skippered a fishing boat. He was a quiet man so I agreed to speak on behalf of the family. It was a dinner dance and, of course, I danced. The next time I visited the town I was immediately summoned to the Chief of Police. 'I hear you have been dancing with coloured girls against their will. I wouldn't like to have a case under the Immorality Act in my district'. This was no idle threat. Under apartheid, doing the normal thing was too often illegal. We assumed that our telephones were being tapped. Indeed, much later, in the 1980s, two men rang the rectory door bell at about eleven at night. They had a Kruger Rand, the gold coin, in their gloved hand and wanted me to take it. I was suspicious and angry at the late night call. We spoke to a detective we had met. He thought our visitors might have been after my fingerprints and told us to phone him if anything similar happened but on our neighbour's phone, not our own.

A leading academic at Stellenbosch University – I was then rector of the Anglican parish in the town – publicly announced that he could no longer

support the National Party. It was a courageous thing to do. I phoned him to say, for what it was worth, that I supported his stand. He was pleased. I tentatively asked if he would be interested in meeting my Archbishop, Desmond Tutu. He said he would. Five or six academics came with us to Bishops court and I watched and listened. For about twenty minutes first the Archbishop, then the Stellenbosch academics, told each other what they thought the other party stood for. Every time the reply was along the lines, 'No, that is what you think, but this is what I think'. Eventually they discovered that there was far more common ground than they had imagined and had a really fruitful discussion.

Come the first real General Election in 1994, we were in a country parish. We only had to stand in the queue for about two hours to vote. It was wonderful. All races, all ages, all the local language groups standing together to vote together. No compromise here.

I was naive enough to think that things would be easier after this but it didn't seem to be so. We were in a different world. Before, the Anglican Church had been in conflict with the government. Now we had to learn to cooperate. We were fortunate in having the Institute for Reconciliation at the University of Cape Town come and run weekly seminars for a small group of us. This was fascinating, particularly when people from other parts of the world came to visit. We found that their stories were so similar to ours that, after a few minutes, we

were looking at each other and asking, 'Are they talking about their country or ours?' Another new thing we had to learn about was AIDS. I didn't know what to do when a couple came to see me and slapped a paper from Groote Schuur Hospital on my desk with 'AIDS' stamped on it. I was both ignorant and lacked the funds to help them. The parish rallied round and provided a small discretionary fund which was helpful. I also went on a training course to learn about AIDS. To my delight and surprise it was run by a teacher I had met when we worked in Natal.

The great prophets among us boldly enunciated the principles. The parish pastors tried to minister and witness where we could.

Tim Bravington (1953)

AMELIA AND DAN TO THE NORTH POLE

Dan Darley (1994) and Amelia Russell (2000) are planning an unsupported expedition to the North Pole which, from Christopher Robin's College, ought perhaps to be an Expedition. All being well they will have set out from Canada on 27th February for the 60 day trip.

If successful Amelia will be the first British woman (and only the third woman ever) to complete this journey unsupported. You can follow their progress on their website www.northpolechallenge.co.uk; they will post daily updates from the ice during the expedition and *The Fountain* hopes to celebrate their success in our September issue.

RESCUING A PERSI

By David McKitterick

Many of the Wren Library's treasures will be well remembered: Newton's own copy of the first edition of the *Principia*, the thirteenth-century *Apocalypse*, the manuscript of *Winnie-the-Pooh*, and the papers of Ludwig Wittgenstein, to name just some. Others are less well known, but are no less valued. Amongst these is a collection of Persian illuminated manuscripts given by various benefactors since the eighteenth century. One of the finest of these has recently been repaired thanks to the generosity of Mrs Minouche Severis, wife of Denis Severis (1955).

Some years ago, a vandal cut out the pictures from this manuscript along with several others. Most of them, sold by him to various leading

London firms, were quickly recovered. But the volumes were wrecks, with their leaves removed and their bindings damaged. At the time, it proved possible to repair most of the volumes, but one in particular posed much greater problems, as neither the right materials nor the technical skills seemed to be available. So, the fragments sat waiting for a better opportunity. That opportunity came recently, and by a happy chance coincided with a visit to the Library by Mrs Severis and her husband.

This volume dates from 1531 AD, and consists of five works by the Persian poet Jami, including perhaps his best-known poem concerning the love affair between Joseph and Potiphar's wife Zulaykha. It contains



many full-page illuminations, of exceptional quality and full of detail. They include pictures of polo, lion hunts, bathing, music-making, and other domestic scenes.

Unfortunately, the pictures were cut out with a sharp blade, so that there was little purchase for any repair tissue on the edges of the cuts. One of the challenges was to find a paper not just of the right colour and texture, but also with sufficiently long fibres to bear the weight of the detached parts. Persian paper, with its characteristic fibres and burnished surface, could not be found. But during the last few years a much greater variety of repair papers has become available. In the end, two different papers made in Nepal, using Japanese plant fibres, gampi and mitsumata, were chosen. But even these had to be toned with acrylic paint, and polished so as to fit in with the originals. One of the most difficult tasks of all was to rejoin miniatures that had lost all their margins. For



AN BOOK

this, narrow joining strips of Japanese handmade tengujo paper were used.

At the same time, the opportunity has been taken to consolidate the pigment where it was working loose from the leaves. This is a very delicate task, that can only be done under a microscope with the finest of brushes.

The thief had torn off the binding. So, finally, there was the original flap-over cover, decorated with pictures and a lavish use of gold both on the

outside and on the insides of the flaps. This had been repaired at some point in the past, but had lost none of its glory. Fortunately this proved a relatively straightforward part to reassemble, and the book is now safely back in one piece. In connection with this autumn's exhibition about the Shahnameh of Ferdowsi in the Fitzwilliam Museum, the restored manuscript will be displayed in the Wren Library.

None of this would have been possible without the third element besides a benefactor and the right materials. Without the exceptional skills of Elizabeth Bradshaw, Melvin Jefferson and Edward Cheese, of the Cambridge Colleges Conservation Consortium, the manuscript would have had to wait even longer to be restored.

*Professor David McKitterick FBA (e1986)
Fellow, College Librarian and Tutor*



THE EVER-FLOWING

By Wesley Kerr

Mother Teresa smiled seraphically. Prince Philip guffawed. Rab Butler had told them that, having graduated that day, I hoped to become Prime Minister of Jamaica. Not an odd ambition for a Trinity man, I thought, although Rab had previously warned me against the pitfalls of politics. But Trinity helped us believe anything was possible, and I have since done many journalistic assignments in and about the West Indies, so fulfilling that dream another way.

Reading History was stimulating and fun, but most of the golden memories arose elsewhere. It was good preparation for life as a broadcaster and journalist. This in turn prepared me for the last three years of making key decisions about London, as Chairman of the Heritage Lottery Fund's Committee for the metropolis.

Preparing this piece for *The Fountain* sent me into the loft after old papers. I found a cutting from the *Sunday Express* of December 1970 headlined "Coloured boy from foster home wins free place at Winchester"... "Wesley, 12, who has overcome every obstacle" says "I want to go to university—Cambridge if possible." May 1975's diary records "a very wet day." On that first visit I felt Trinity was the place for me. Great Court, imposing yet intimate, and the English Baroque splendours of Nevile's. Where better to study history? Good enough for Prince Charles, too. I also felt a connection with Rab Butler, having swotted up his sagacious memoir *The Art of the Possible*.

I did not then know that Rab had already helped to shape my life. One of his wartime education reforms

produced a scheme—the Fleming Boys, after the Scottish judge who worked out the details—for state-school pupils to get county council-funded places at public schools. Winchester paid half. I was one of the last beneficiaries of this scheme, so thanks Rab. Churchill had hoped that most public school entrants would be financed this way. How that would have transformed our bifurcated system!

I was thus a social experiment, but in that era poor students all benefited from a full subsistence grant. Nor did universities charge UK nationals for tuition. We could join the elite through ability, luck and hard work. 1976 was the penultimate all-male year. We lived and dined in a style handed down from the Tudors. Much has changed since.

My diary records my entrance interview in December '75: "In very very chilly Cambridge for Lonsdale interview. Only 20 minutes. I quite good, but he made it clear that exams were the main thing. Vaguely depressed, but most fond of Trinity." Before Christmas came a terse telegram, "Congratulations scholarship Trinity", opening up the most transformative period of my life.

In my gap year, work on a building site paid for me to leave England for the first time, for seven enthralling weeks in my ancestral home, Jamaica, where I met both the Prime Minister and dozens of relatives. Come October my old school trunk was packed for the drive to Bishop's Hostel. Lifelong friendships were forged that first month, some at Rab and Mollie's perfect parties. In a life of many cocktail parties since, only receptions

on board *Britannia* (during my ten years as a BBC Royal Correspondent) have seemed more exclusive than the Butlers' salons.

Rab's best story recounted a visit to the Lodge by Margaret Thatcher, the new Opposition Leader. He feared she had underestimated Scottish enthusiasm for devolution. Remembering the myth that Queen Mary I had died with 'Calais' inscribed on her heart, having lost it to the French, the Master approached the Iron Lady's chest with a piece of chalk and tried to inscribe 'Scotland'. I don't believe she visited again. But a few years later I was covering her premiership for the BBC, shouting questions outside No 10 after Geoffrey Howe's fatal speech, and commiserating with Denis, who was lunching at the Savoy while she was saying goodbye at the Palace. He told me, "These things happen dear boy".

One undergraduate privilege, thanks to being elected a committee-member of both the Union and the Fabian Society, was meeting dominant political figures. Sunny Jim Callaghan, the defenestrated Ted Heath, grumpy and silver; Thorneycroft, Williams, Foot, Owen in their pomp. Spending time with world-historical figures like Indira Gandhi and Benazir Bhutto. Or cultural stars such as Quentin Crisp and CP Snow. You learn more than you realise at the time from such encounters. They give perspective to meetings with today's politicians and cultural grandees.

The dons distinguished too; like the great medievalist Walter Ullman, a refugee from Nazi Austria who himself looked and sounded like an



G S T R E A M



ultramontane pope. We learned world history with Jack Gallagher, Anil Seal, John Lonsdale; 19th century Britain with Boyd Hilton; the origin of modern wars with Norman Stone; social history with Roy Porter—whose book on London is useful for speeches now. You could be up all night reading Plato or Marx.

Some contemporaries launched a lively magazine, *Rampage*, to which I contributed. This led to producing a groundbreaking student edition of *Punch*. Writing a feature on Cambridge for *The Times* in 1977, I called for a “more balanced intake”, a less “inward looking... cliquish place”, and noted the divide between the 50% of students from private and direct grant schools and the 41% from the state sector. I observed two camps: “some groups can be very incestuous in constantly keeping to the company of those from

their own educational background.” How much has that changed?

All this was a foundation for three decades of broadcasting and journalism, mostly at the BBC, covering politics, the royals, sport, arts, education, medicine, health, and horticulture. Thousands of assignments, forty countries on six continents.

Focusing now on my home town for the Heritage Lottery Fund, becoming a decision-maker as well as commentator, is thrilling and fulfilling. HLF spends around 4% of the National Lottery pot, of which £860 million has been distributed in London. You’ll have noticed the transformation of the great museums. Lottery money has regenerated most of the capital’s cultural institutions, refurbished historic places of worship, local landmarks and rundown parks, cultural traditions, and saved magnificent works of art for public view. But we are also helping outer London suburbs with their local museums and grand houses in historic estates, now popular public parks. We want non-traditional audiences to feel welcome in the big institutions with programmes, presentations, and learning attractive to them. Heritage and culture are economically important and vital for social adhesion.

My boyhood experience of picnicking with my foster family in grand places taught me anyone can love beautiful objects or be moved by a sacred space or precious view. I can now help make them more accessible to new generations.

I’ve come across Trinity men and women throughout my career, from

the policeman, the late Wilf Knight, who saw me on the other side of the lines during the Brixton riots; although a local resident I was actually there in peace for *Newsnight*. Later I had great fun doing a consumer show *Value for Money* with Trinity’s own Vanessa Feltz. We both imagined ourselves dumbing down, simplifying complex issues as the cameras filmed us at crazy angles. What we all have as Trinity alumni is a certain self-confidence.

And lots of random memories. Late night chats round gas fires, and ambitious gatherings, as I found in a letter to my late foster-mum Gertrude Hilleard from March ‘79. “I gave a party/bop in my rooms for 30/40 people, preceded by dinner for 8 (*cooked on the single gas ring*). I asked people to bring bottles and the whole thing, with chicken paprika for dinner, only cost £10 and went on from 7.30pm to 4 am.”

Fill in your own happy memories. Here are more of mine. The Whim. The Eagle. Gay Wednesday nights at the Anchor. Evensong at Kings. Mass at Fisher House. The history of cinema at the Arts. Falling in the Cam six times punting to Grantchester after post-exam champagne. Vaughan Williams’s Tallis Fantasia in Hall. Formal Hall under the watchful ancestral portraits. Crossing Great Court daily.

I recently asked my sister Fiona how I changed while at Trinity, and she replied, “You became an adult.” In 1976 I was not the typical Oxbridge man, but the old place made me part of the ever-flowing stream of British history.

Wesley Kerr (1976)

NEW FELLOWS AND OF HIGH TABLE



Tudor Dimofte



Alexander Ritter



Andrew Croxall



Urs Rauwald



Felicity Green



Lyndsay Coo



Gail Trimble



Mohan Ganesalingam

Trinity's Fellowship receives new talent every year—by electing new Junior Research Fellows with a four-year term under Title 'A', a springboard for distinction; by appointing new College Lecturers under Title 'C'; and by inviting senior scholars to join us, under Title 'D' if University Professors and, under Title 'B', Senior Research Fellows with a potential undimmed by years of service.

We elected eight new Title 'A' Fellows, the stars of the future, in October 2009. A century ago the election was called 'one of the most solemn and responsible acts' in the lives of Fellows on the Committee of Electors. It remains so today. Five of the new Fellows are in science or mathematics and three in humanities; three women and five men; three internal and five external.

Tudor Dimofte is an American mathematical physicist who did Part III Maths at Trinity and uses his intuition for the stability of black holes, quantum field theory and string theory to make conjectures, about the topology of exotic higher dimensional spaces and convoluted knots, that are confirmed by abstruse calculations that suggest that the physicists' dream—to give a unified account of everything in the physical world—may well be achievable.

Alexander Ritter was a Trinity undergraduate mathematician who moved to MIT for his PhD. With new techniques he has proved some beautiful and remarkably original results about geometric entities called exact Lagrangian submanifolds. These inhabit the area of symplectic topology, a mathematical field connected with physics.

Andrew Croxall is a physicist from Robinson College and member of a research group already represented in Trinity. He uses the tools of semiconductor physics to produce 'electron-hole bilayer' devices in which electrons and positively charged particles, called holes, interact to produce multiple opportunities for forming unusual low-temperature phases. He has paved the way for further study in highly tunable quantum many-body systems.

Urs Rauwald is a synthetic chemist who graduated from Bremen and started his postgraduate study in Texas. He has shown how two complicated molecules, crucial in biological systems, can be handcuffed by a third molecule 50 million times smaller than a napkin ring. His insight and painstaking lab work will help researchers take greater

control of molecular assembly and create substances with entirely new properties.

Felicity Green is an historian from King's College who studies one of the most important works of the French Renaissance, Montaigne's *Essais*. She argues that while Montaigne is valued for seeming to be able to speak directly to a modern audience he was himself deeply influenced by two ancient authors: Seneca and Plutarch. She will influence late Renaissance intellectual history more generally.

Lyndsay Coo, a classicist from Pembroke College, has attempted to reconstruct the plots of some of Sophocles' lost plays. While he wrote over a hundred, only seven survive. From the others we have only brief quotations, tantalising glimpses of stories which often influenced later Greek literature. From the fragments of six plays to do with the Trojan War Lyndsay has shown what they tell us about Sophocles' dramatic technique, with arguments that mark her as a future authority.

Gail Trimble, our second new classicist, is from Oxford. She studies Latin poetry, Catullus especially, who in the first (really the last) century



D MEMBERS



Stuart Haigh



Filipa Sá



David Tong



David Baulcombe



Chris Stoltz



Ulyana Gumeniuk



Marie-France Courriol



Aurelie L'Hostis

BC, produced poetry which was both passionate and learned. Her work mirrors Catullus's poetry in its range, learning and elegance. So far she is more widely known for her astonishing prowess on 'University Challenge' in 2008.

Mohan Ganesalingam started as a mathematician, changed to Anglo Saxon, with stellar results in both, began a dissertation on Old Irish Literature and then embarked on an ambitious project in computer science. He asks how computers might learn not just computer languages, but the language of real mathematics, a complex mix of prose and symbols. He has dug deep into the bases of mathematics to approach this improbable goal, to the admiration of computer scientists, mathematicians and even philosophers.

To turn to our three new Title 'C' Fellows: **Stuart Haigh**, a Trinity graduate and University lecturer in Engineering, is a civil engineer who models the stresses on buildings. Off-shore wind turbines, for instance, need to be firmly planted in order to withstand stormy weather; buildings in earthquake-prone areas must survive even more violent stresses. He appeared in the television programme,

'Ancient Apocalypses' that simulated the supposed fate of Sodom and Gomorrah.

Filipa Sá is our new lecturer in economics. From Portugal, she had her undergraduate education in Porto. She then moved to MIT where she wrote a PhD dissertation on European labour markets and earned high marks as an instructor. She came to England in 2007 to work at the Bank of England in their International Finance Division. She has had a lively two years! Yet college teaching is no rest-cure.

David Tong, the third new college lecturer, is a theoretical physicist. His expertise ranges from 'real world' condensed matter physics to arcane concepts in string theory. His degrees are from Swansea, London and Nottingham; he then had 4 years in the US. He has also maintained strong links with India ever since, 10 years ago, he was a post-doc at the Tata Institute in Mumbai.

Our new Professorial Fellow, **David Baulcombe**, knighted in the Queen's birthday honours, is a leading plant scientist, celebrated for his work on small ribonucleic acid (RNA) in plants and its role in virus resistance and gene silencing. His arrival is a great

coup for Cambridge's plant science programme. A member of the Royal Society's Council, he has chaired an important report on techniques for enhancing food production.

Trinity has also welcomed new members of High Table, not Fellows but equally important in the life of the College.

Chris Stoltz is our new Chaplain. Ordained as a Lutheran minister in Kansas, on moving to London he entered the Church of England and comes from a curacy in Highgate. He not only sings but plays the piano, organ and bassoon.

Our new artist in residence, succeeding the composer Tarik O'Regan, is a painter, **Ulyana Gumeniuk** from the Ukraine. The Junior Bursar has found her a big studio, where she plans a series of large works.

Our new one-year French Lectrice is **Marie-France Courriol**, a Lyonnaise art historian, with master's degrees from both Florence and Lyon.

Finally, **Aurelie L'Hostis**, here as a temporary lecturer while Jean Khalfa is on leave, studies modern literature from Martinique and Guadeloupe.

A CHALLENGE TO PUBLIC HEALTH

By Ian Peacock and Ron Zimmern

A friendship forged at Trinity has led us, 40 years on, into a joint venture to develop a new, transformative, approach to public health.

We came up in 1965, Ron to read natural sciences, Ian for mathematics and economics. Trinity was different then: tweed jackets, sherry, and gowns for dinner. Ron's kids think it's hilarious.

Our careers then diverged. Ron specialised in neurology. Ian was a banker. But neither of us likes to stand still. Ron became a consultant in public health. Ian left banking to develop what city-speak calls 'a diverse portfolio of non-executive boardroom positions'. He is now chair of Mothercare plc and also chairs a Housing Association that provides both affordable housing and the supported housing that the more vulnerable people among us need.

We kept in touch. When, two years ago, Ron was looking for someone with financial skills, able to help develop a ground-breaking new venture, Ian was a natural choice. The result is our Foundation for Genomics and Population Health—the PHG Foundation.

Ron had realised that developments in genetic and molecular science would, in time, revolutionise medical practice. But public health was in denial, unable to see beyond its traditional focus on the environmental and social causes of disease: poor sanitation and diet, poverty itself, smoking and so on. All these matter, but a person's health is also determined by the interplay between genetic endowment, environment, and way of life. The new science of genomics offers the hope of

discovering what the genetic factors are. Public health cannot afford to ignore it.

The challenge is to reconcile public health's traditional population perspective with a new focus on personalised medicine. People now want more control over their health by knowing more about how genetic and environmental factors affect them. They will expect public health to provide the information that allows them to understand and respond to their personal disease risks.

Public health therefore needs genomics. Genomics also needs public health. As founder of the Cambridge-based Public Health Genetics Unit in 1997, Ron worked to bring the two disciplines together. This also meant gathering, in the same organisation, people with both public health experience and the lawyers, philosophers and social scientists who could examine the ethical, legal and social implications of genetic advances.

By 2007 his organisation was ready to enter a new phase, independent of NHS funding and with broader horizons. The Foundation for Genomics and Population Health was launched with charitable funding to support it for its first 5 years.

That was when Ron invited Ian to join his Board of Trustees. Ian naturally accepted, having always been interested in the links between the science and practice of medicine, and between medicine and ethics. Ian's international banking experience helps too, since we want to bring public health genomics into the international arena.

Our pilot projects have proved the public health value of genomics. We



Ron Zimmern and Ian Peacock

are, for example, playing a key role in introducing new, non-invasive prenatal genetic testing in the NHS. For use further afield we are devising a 'toolkit' to help developing countries to prevent or care for birth defects. In another, multinational study, we are looking at the implications of using genomic and lifestyle data to assess the relative risk of cancer in a population. Ethical, legal and social analyses clearly play a large part in our work. All our projects also emphasise a crucial but often neglected phase in translating research finding into clinical practice—the need to prepare the real world of public policy and health services for change. So health services and governments are among our keenest 'customers'.

We face many challenges, not least the end of our current funding in 2012. But with one of us a reformed banker, the other a clinician turned public health entrepreneur and both of us Trinity men, we reckon the PHG Foundation will continue to challenge public health to enter a new era.

For further information about the PHG Foundation—

www.phgfoundation.org

Ian Peacock and Ron Zimmern (1965)



CRICKET IN FRANCE: MAKING IT HAPPEN

By Tony Banton

Anyone who knew me at Trinity may remember I did a lot of “Gentlemen’s” rowing, a bit of badminton, plenty of drinking in the bar, but not much cricket. Not much French either. So what am I doing as the new President of the French Cricket Association?

Non-French people can’t believe they actually play cricket in France. The French themselves confuse it with croquet, and assume cricket is played only in England, every game lasting five days. My first priority is to make the French aware of cricket. Germany, Italy and Belgium have the same problem. Holland were in the same boat, before their famous victory over England in the last Twenty20 World Cup.

In fact, cricket has a long history in France. In Flanders cricket dates back to the 15th Century: there is a reference to a “criquet” match near St Omer in 1478, thus predating the earliest (16thC) references to cricket in England. Some say Flemish weavers introduced it when they emigrated to England. In 1789, the MCC was about to board ship in Dover to play a Paris side when certain events postponed the trip.

Cricket was played at the 1900 Paris Olympic Games. Great Britain beat France in the only game so, as cricket has not appeared since, we can (and do) boast the title of reigning Olympic silver medallists. Cricket developed between the wars, but then under Vichy “things British” went right out of fashion. In the 1950s, cricket gradually renewed itself, until De Gaulle’s exit from NATO caused another retreat.

200 years after the MCC got stuck at Dover, the match finally took place and, to everyone’s surprise the French

National team beat the MCC. The first French team, from any sport, to win a European club championship was the Château de Thoiry Cricket Club in 1992—OK, so English clubs weren’t invited as it was a Continental cup...

It’s time now to move the game to another level. The International Cricket Council has introduced World Cricket Leagues, where the winners of each division can get closer to the World Cup qualifiers. Afghanistan rose from the lowest WCL division to the 2nd Division in less than two years. In 2010, France will be playing for a place in World Cricket League 8, to get on to the bottom of the promotion ladder.

The ICC provides increasing support to every member country, the fruit of TV and advertising deals round such ICC events as the World Cup and Twenty20. Our share gives us resources to break into the national culture, to introduce cricket into primary schools and maintain a more professional organisation. While still very dependent on volunteers, we now have three managerial staff on the payroll.

It was time for me to help these developments along. As a naturalised Frenchman, it seemed obvious—get cricket naturalised, like football and rugby. Both started in England, but no Frenchman would

consider them anything but French today. We must raise the public profile of the game, and come up with a flagship event to get cricket into the limelight. With the Olympics in London in 2012 and our own Olympic heritage, the answer was, as the headline in *Le Monde* of 21 April 2009 put it, “L’équipe de France de cricket veut sa revanche des JO de 1900”—revenge is in our sights for 2012. The press interest, in both England and France, showed that this is the way to get the French public talking about cricket. Planning is still in the early stages but we have asked the ECB, and through them the MCC, to identify suitable opposition and are enquiring about an appropriate ground.

So for the cricket-loving Francophiles amongst you, be reassured: you *can* watch cricket while you are here. Get in touch and I’ll find out who is playing when and where—tony@bantton.fr.

Tony Banton (1975)



Tony Banton presents the French Cricket U19 Cup to the winning Captain

FORTHCOMING EVENTS

11 March 2010

Trinity in the City Association

'Insights' Meeting hosted by Deutsche Bank, with a talk by Paul Tucker (1976).

13 March 2010

Regional Event: Trinity Lunch in

Yorkshire, Hollins Hall, Shipley. Invitations will be sent out to all members living in the Yorkshire area.

18 March 2010

Trinity Choir Concert, Cadogan

Hall, London. Preceded by a Drinks Reception for Trinity members.

15 April 2010

Trinity Law Association Drinks

Reception will take place at The Supreme Court, with a talk by The Right Hon. the Lord Walker of Gestingthorpe, Justice of The Supreme Court (1955).

15 May 2010

Trinity in the City Association

Third Annual Dinner will take place at Lord's Cricket Ground.

20 May 2010

Trinity Medics Association First

Annual Dinner will take place at St Thomas' Hospital in London.

25 May 2010

The Great Court Circle Luncheon

will take place in the Master's Lodge followed by afternoon activities. Invitations will be sent to all members of the Great Court Circle, the College's legacy society.

25 June 2010

Benefactors' Dinner

in the Master's Lodge. This event is by invitation only.

10 July 2010

Benefactors' Garden Party

This event is by invitation only.

11 July 2010

Trinity Family BBQ

This popular event will take place in the Fellows' Garden with musical entertainment, a roving magician, puppet shows and more. Please see the enclosed application form.

26 September 2010

Sixth Annual Members' Luncheon

in Neville's Court. Please note that first preference will be giving to those who have not previously attended this event. Please see the enclosed application form.

14 November 2010

Remembrance Sunday Service

followed by a luncheon for former and current members of the Armed Forces.

18 November 2010

Trinity Law Association Autumn

Drinks Reception to be held at Taylor Wessing, London.

December 2010

Varsity Match at Twickenham and Trinity Reception.

Date to follow.
Please contact the Alumni Relations Office for further information about any of the above events. E-mail: alumni@trin.cam.ac.uk, or Tel: +44 01223 761527.

ANNUAL GATHERINGS 2010

Tuesday 29 June—(1977–1979)

Choral Evensong at 6.30pm
Dinner at 8pm

Friday 30 July—(1986–1987)

Choral Evensong at 6.30pm
Dinner at 8pm

Friday 3 September—(1988–1989)

Choral Evensong at 6.30pm
Dinner at 8pm

Wednesday 22 September—(1996–1997)

Choral Evensong at 6.30pm
Dinner at 8pm

Invitations for Annual Gatherings will be sent out at least three months in advance.

Please contact the Annual Gatherings Administrator for further details at sjp78@trin.cam.ac.uk or direct general enquiries to alumni@trin.cam.ac.uk.

THE CHARITIES ACT 2006

Readers of *The Fountain* may have wondered whether the College has been affected by recent changes in the law relating to charities. The answer is that while its administrative status will change, its substantive characteristics will not: Trinity will continue to be a charity with its current tax position. However, it will now come under the scrutiny of the Charity Commission, and for the first time will have a Charity number. This will occur once our application for registration is accepted, some time in the coming year.

Whereas trusts for the advancement of education were hitherto presumed to be for the public benefit, the institution must now demonstrate that its purpose is for the public benefit. This is all that is meant by the shorthand, and rather alarming, phrase that "educational charities are to lose their exempt status." Trinity's purposes and activities are so clearly for the public benefit that prospective donors can rest assured that their benefactions will not cease to be deductible by them or suddenly become taxable in the College's trusted hands.

THE FUONTIAN

We must apologise for three errors in our 9th issue, of Autumn 2009. Our least pardonable was to omit Thailand from our list of Trinity Prime Ministerships, not least since we had featured Mr Anand Panyarachun (1952) in our Autumn 2008 issue, in Ray Schonfeld's report of his Amartya Sen lecture. In Graham Chinner's article on the Great Court Clock, we misspelt the clockmaker Vulliamy as Villiamy and omitted to credit the British Horological Institute and Mr C.G. McKay with the portrait of Lord Grimthorpe.