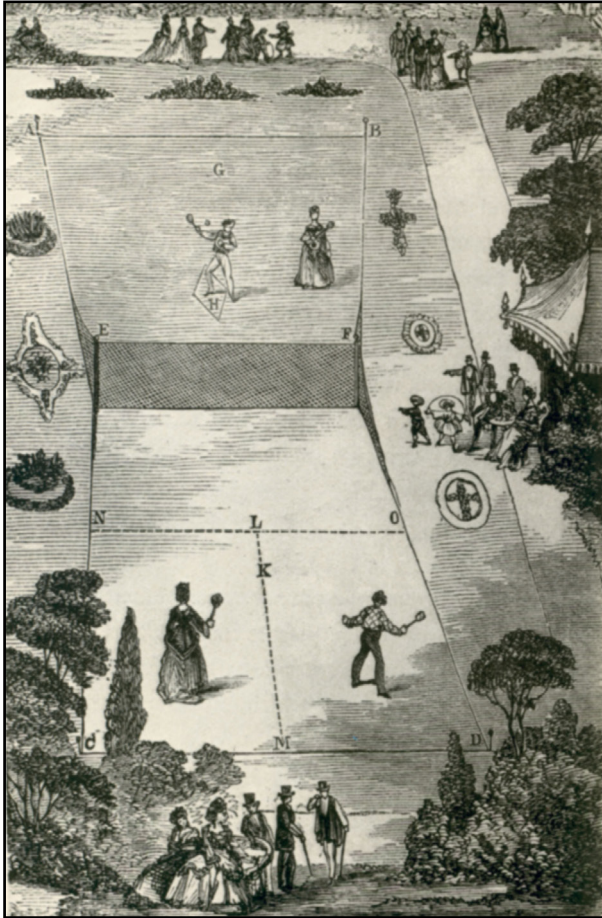


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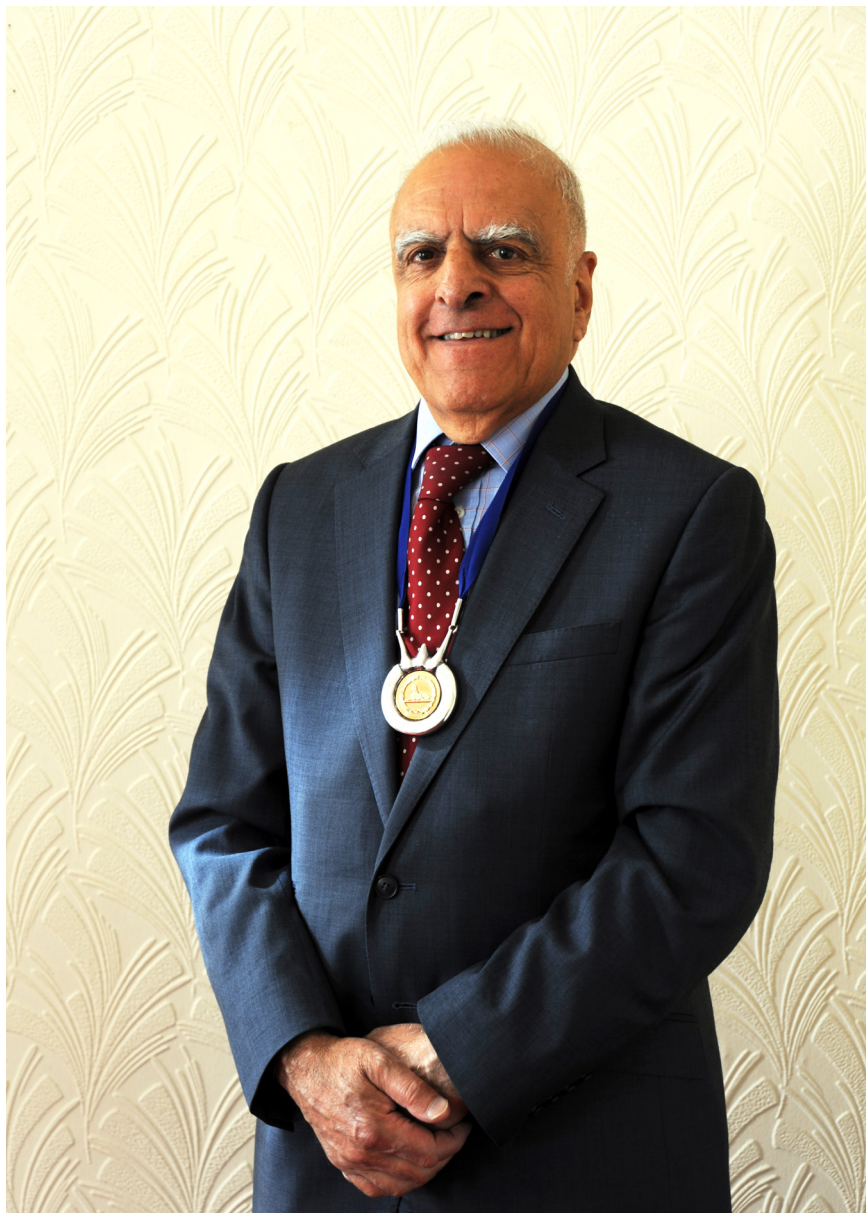
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Professor Sir Netar Mallick

President 2014–2016

President's Report

The past Season has been an eventful one but the programme was completed successfully with the hard work of members of Council and of our Sections. This could not have occurred without the work of our office staff. Julie and Kathryn have endured two office moves in the year, a change of bankers with the attendant delays in our normal cycle of business and the introduction of a new booking system - together with a complete redevelopment of our website and its infrastructure. They have been essential in the underpinning of our activities.

I must pay particular tribute to John Buckley* for his many achievements as Hon. Secretary and, in particular, express my grateful thanks for his unstinting effort, commitment and loyal support during my Presidency. John has made a valuable contribution in addressing the challenges the Society faces as it keeps abreast of changing circumstances. David Brown who like John leaves office at this AGM, has given much time to sorting out our banking arrangements and to the new requirements of the Charity Commissioners regarding our accounting systems - all this while moving to London for family reasons.

Like all venerable institutions, the Society survives by adjustment to circumstance but such adjustment is never smooth, it requires - as Harold Wilson remarked of Government - occasional sharp movement of the tiller.

This has recently been needed for us, and in the past two years we have addressed issues important to the future of the Society. An Away Day of Council in October 2014 produced a game plan and I am particularly grateful to Constance Holland for her work in putting our discussion in order.

We decided to work on the following issues,

- Communication and publicity
- Council Governance
- Current banking arrangements
- A better balanced budget
- Fewer, more prestigious Council events

BUT life being what it is, our priorities were temporarily upended when MMU, our hosts for over a decade, gave us notice. As you know from my earlier note to you, this gave us an unwonted headache, but we have managed to find a stable office suite with well-established landlords and a long lease. And thankfully have addressed all the areas we wished to work on.

A small, experienced group, Constance Holland, Joanna Lavelle and Patricia McWilliam-Fowler worked with the office and Faelix, our chosen advisors, to revamp our website and to integrate it with our regular office activities including the booking system. The website now makes possible a wider involvement with

* Sadly, members will be aware that John died on 21 January 2017. His obituary appears [later in this volume](#).

the Greater Manchester community and of course with our members. It remains a work in progress and your help in improving it will be invaluable. Joanna Lavelle will chair a group to examine our communications strategy with help from other expert Society members.

With regard to finance the Society has moved current banking from Co-op to CAF bank. We have again to budget for rental cost. So as better to balance our budget, we are curtailing costs. For example we are block-booking our venues - the RNCM is our preferred base - and using, as far as possible, the benefits of our charitable status and our University connections. We are instituting expert advice so as to maximise the income return from our investments. And, importantly, we are simplifying our future subscription rates while respecting our present membership.

Trevor Rees, our incoming Treasurer, has undertaken with colleagues a review of our Governance and the Report, which Council has accepted, is attached to Council minutes, together with Council responses. Some of these may eventually require approval by the membership.

For the coming session we have three prestigious Council Lectures. Prof Sir Konstantin Novoselov accepted my invitation on behalf of the Society to receive our Dalton Medal and this will be awarded in October. I was very pleased when Professor Tom Kirkwood, whom I and others know from his time in Manchester and his Reith Lectures, accepted my suggestion that he lectured to us on Ageing, a field in which he has no peers in the land. And our President-Elect, Dr Diana Leitch has worked hard to get our speaker for the 2017 Manchester Lecture.

Our popular Christmas events and of course the annual Percival Lecture will continue, but otherwise Council will concentrate on the above lectures and our important Young Peoples' events, while reviewing our involvement with Young People in whom we continue to invest. Watch the website!

Professor Sir Netar Mallick
President

*A History of Tenys and Racquets: a Romp through several centuries of Esoteric Small Ball Games**

PETER BARNES

24 September 2015

Introduction - types of ball game

In the history and philosophy of physical education there are several distinctions used to divide ball games; there are large ball games (primarily *association [soccer]* football and *rugby football*) and small ball games (such as those included here-in). These small ball games are further divided into those played using solid balls - *tenys, cricket, fives, rackets, golf, croquet*, etc. - and those which use a hollow ball, such as *lawn tennis, table tennis* and *squash racquets*. Further divisions identify small ball games played with an implement (but known as stick games) - *cricket, rackets, golf, lawn tennis, tenys, croquet, table tennis, hockey, squash racquets* etc. - and those played with the hand - *catch and throw games, tenys* (originally), *fives* and *rounders*.

Fives - the English jeu de paume

Fives is known as a public school game and is thought to have originated when boys played with a small ball against the walls of a school building and the buttresses supporting those walls formed the sloping side walls of the playing area. Each public school developed its own rules to suit the playing area it had available so we have *rugby fives, eton fives* and *winchester fives* to name only the three most common court types in order of popularity. *Fives* is played with the hands and is a classic 'jeu de paume' - game of the hand. Its origins were with the bare hand but later gloves with padded palms were introduced. The earliest notice we have of a *fives* 'challenge' is at Brecon Castle in 1786, so the game must be at least some years older than that.

Eton fives was commonly played at the foot of the steps to the school chapel and thus the court included the natural hazard of the lower step and balustrade protruding on to the left side of the court (figure 1a). All subsequent purpose-built *eton fives* courts include the same feature (figure 1b). Other versions of the game had their own peculiarities, such as a *winchester fives* court which widens slightly on the left side near the front wall. *Rugby fives* is played in a rectangular room with flat walls and a level floor making it the most easily reproduced and

* *Except for headings I have used italics to identify the names of games to avoid possible confusion with other uses of the same words and I have used the spelling tenys to indicate the old, original game and lawn tennis when referring to the modern game.*



Figure 1(a): The steps to the school chapel, where Eton fives was commonly played.



Figure 1(b): A purpose-built court, including the traditional balustrade obstruction

therefore the type most often built elsewhere. The game is thought to have been introduced to the school by Dr Arnold, its most famous headmaster. There are presently at least six rugby fives courts in Manchester and one in Salford - all remain in good condition, but sadly only two are still in use for playing the game.

This, then, was very much a game for public schoolboys although other catch and throw games that have not survived will have developed in all classes of society. In France and the Basque regions of Spain at the same times (over several centuries) other versions of 'jeux de paume' were being played, primarily among the peasant classes.

Early Tenys - a journey from street to court

If you imagine a small boy idly playing alone with a stone or pebble, he might play a simple game of 'catch' with himself. Later, if he finds a wall to throw it against, the stone might bounce off at an oblique angle and make the catching more interesting. If he uses the stone, pebble or nut as a kernel and wraps it in leaves then ties the bundle tightly with vines or creepers into a sphere we see the beginnings of a small ball with some bounce in it which will give a better rebound off the wall.

When his friend joins him, the game becomes one of throw, rebound and then catch by the opposition. And so, in France and the Basque country, the game of *pelota* was born, just as *fives* was born in England a few centuries later. There are several versions of *pelota* and of similar games. The Irish game of *handball*, like *pelota* uses only a single front wall and has its own similar, but separate origins. The various games in Basque Spain and neighbouring France are played with front wall only, front and one side only and front with two sides. Some have developed to use the chistera 'catch and throw' basketry extensions to the arm or the bracciale - a cylindrical spiked protective and hitting device made from leather and worn on the lower arm.

Let us return to our small boy and his friend. Where there is no wall to bounce off, and being unable to bounce the ball effectively on an earth or grass floor, they instead throw the ball to each other. Their friends join in and it becomes a team game, a free-for-all which easily descends into a fight. One answer was to keep the two teams separate and draw a line in the earth, sand, mud or grass (other answers are remarked upon in the final paragraph).

The game improved and the boys progressed beyond catching and throwing to hitting the ball directly back with their hands. Rough local rules reduced the number of players to a dozen or so, but it was too easy to return the ball very low down to make it go straight to the ground, so a line was strung across the playing area over which the ball had to pass. Later, of course, a 'filet' or net was strung below the line to prevent argument about whether the ball passed over or under. This line, for those readers who play *tenys*, is why we call that easy-to-lay but easy-to-beat chase 'chase the line' not 'chase-the-net'.

Getting the ball into play without favouring either team is a problem in any game - think of the kick-off, the bully-off, the throw-in, the line-out, the service etc.. The answer in *tenys* was to arrange things so that neither team had good control of the ball at the beginning. They carried with them a sloped 'serving table'

(my name - we can find no evidence of what it was called) which was put on one side of one team's playing area. The ball was thrown from the opposing side, across the line or net on to the square or triangular serving table from where it bounced into play without any real control of it being possible. Indeed, it seems probable that the person who threw the ball on to the sloping table was often not a member of either team but was an unbiased observer. It is a common joke amongst *tenys* players today that a few centuries after this, Henry VIII (a great *tenys* player in his youth) employed a boy to serve for him, the implication being that serving was beneath the dignity of a monarch; in fact, it was still normal for a non-player to put the ball into the game.

This sloped serving table was probably developed from those occasions when the game was played in the streets of towns and villages where it had been found that 'serving' the ball on to a wall or the sloping roof of a window awning was a good way of getting it into play. There are also examples of short, purpose-made serving roofs being fixed to walls alongside the playing area (fig. 2).

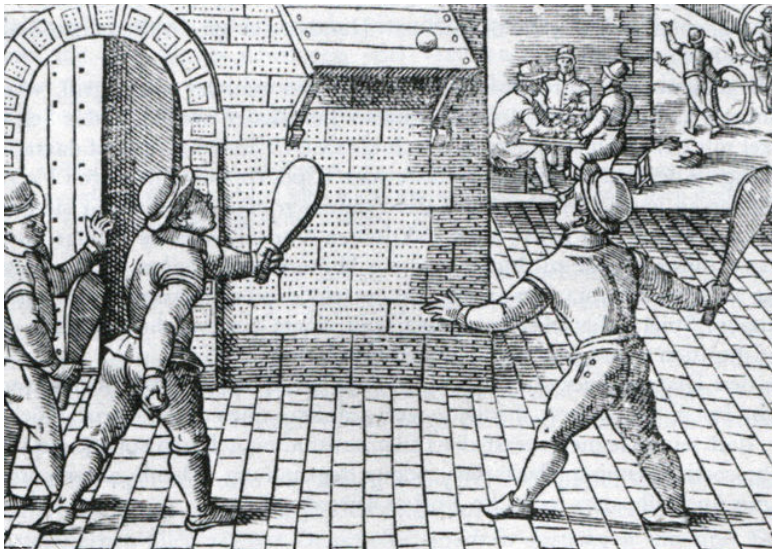


Figure 2: A small service roof

The successors to our original small boy often found themselves in monasteries - either as novices, as pupils or as servants - from where there is at least one letter extant from an abbot complaining about the boys playing 'at ball' in the graveyards. They therefore took their ball into the quadrangle or courtyard surrounded by cloisters and played there instead. The game was now becoming recognisable as the one we know today. Although there is no written evidence it is now generally accepted that, before serving, one side would use the imperative of 'tenir' (to hold) and call "Tenez!", which translates today as "Hold this!", but a more accurate

colloquial translation at the time might have been ‘Take that!’ It is but a short move from tenez through an anglicised pronunciation, ‘tennez’, to *tennis*.

Oddly, the cloisters of France commonly have sloping roofs, whereas in England they normally have flat roofs (one would think that the country more prone to rain would have the sloping roof). The sloping roofs of the French cloisters on one, two, three or even four sides of the quadrangle made ideal replacements for the service table and window awnings. Suddenly, we have a very recognisable early view of the modern *tenys* court.

Although *fives* began as, and has largely remained, an upper-class game in England, while the various forms of *pelota* and Irish *handball* began and remained with the ordinary man, *tenys* was a little different. In France it moved from the servants, pupils and novices in the monasteries, via the upper-class boys sent there for their education to the princes and kings of the country. As well as being built in the cities and towns for all to use (it is said that there were over one hundred *tenys* courts in Paris alone at the beginning of the French revolution), courts designed to mimic the monastery cloister quadrangle were attached to country houses and palaces (fig.3). From here, despite our antipathy towards the French, the game passed to the noble and landed families of England which is why many *tenys* courts in the UK are, or have been, attached to a royal palace or large country house. The few exceptions to this include the Queen’s Club in London, the Leamington Tennis Court Club and the Manchester Tennis and Racquet Club.

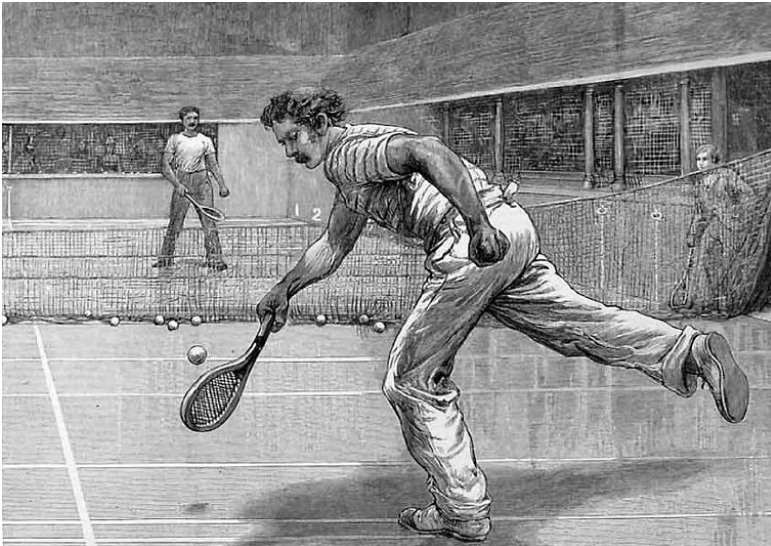


Figure 3: A tenys court at the Princes Club, Knightsbridge in 1889

Bringing this game, which originated in the streets, into an enclosed space meant that there had to be boundaries. As the boundaries were walls, the ball couldn't

roll out of play but instead bounced back into play and so the game more often has long rallies, or 'rests' as they are called, than the modern game of *lawn tennis*. Apertures - such as the dedans, the grille, the trou, the lune and the winning gallery - in the walls allow the players to gain points by hitting the ball into them. Each of these has an interesting and individual history that would take too long to detail in this glance at the game.

On the floor there are lines which is where players 'lay chases' - one of the most fascinating parts of the game - which gives players who might otherwise have lost a point the chance to win it by 'beating the chase'. If you missed the ball in the early days it could go a long distance across a field or down a country lane so the players would immediately chase after a missed ball. We know this is the origin of the word chase and we assume that diving on the ball to stop it and then lying on it is the origin of 'lay'. This latter is not certain, but there are drawings and engravings which seem to demonstrate it. Today we use lines painted on the court to mark the position of the chases. Such positions are where the ball makes its second bounce if missed after the first. In the early days, indoors and outdoors, before floors were sufficiently solid to allow lines to be painted or chalk to be used, a 'marker' was employed to run on the court and mark the position where a chase had been laid with a tile or a brick. As up to two chases can be laid before changing ends to play them off it could become quite a dangerous game. Few players today realise this origin of the name 'marker' who now keeps the score and is the equivalent of a *lawn tennis* umpire. (Presumably it is also the origin of the title of a 'billiard marker'.)

After laying up to two chases the players change ends (if only a single chase has been laid when either player reaches game point they change ends then). This is the only way to change ends and, as the service is always taken from the same end, those playing at the receiving or 'hazard' end are keen to lay chases so they can become the server. On changing ends the game is played as normal, but if the player defending the chase sees the ball will land on its second bounce short of the chase previously laid, he can choose to leave the ball and win the point. If, on the other hand, he misses the ball and the second bounce takes place beyond the position where the chase was laid, the other player has 'beaten the chase' and wins the point. This, and many other such matters are what make *tenys* a cerebral game which was truly described in a 1920s *Times* article as '....running, leaping and hitting chess'.

Tenys balls are hand made by club professionals and, unlike *lawn tennis* balls, are solid and made in the manner our small boy would have made his all those centuries ago (fig.4). Chopped cork wrapped in a small bag, is tightly wound with thread then built up to something close to full size with cotton tape, tied with more thread and finally sewn into a cover of yellow/green Melton cloth so that in size and appearance the exterior is the same as a *lawn tennis* ball.

Tenys was played as a *jeu de paume* (still its name in France) until racquets were invented by the Dutch around 1500 and were in general use in England by 1530. Today, as well as in England, it is played in the English 'colonial' countries of the USA and Australia as well as France where there are only two courts still in use.



Figure 4: Tennis balls in stages of manufacture

Rackets - a game for imprisoned debtors

We turn next to *rackets*, another game which is now played largely by the upper classes, but was first played by those in debtors' prison - notably The Fleet and The King's Bench prisons. It is supposed that these men tried playing some sort of *fives* in their cells but, finding the conditions too cramped, moved to the prison yard. They played against one wall with sometimes a side wall, doing so initially with their hands but soon began using their tenys racquets. The wall they played against became the 'racquet wall' and the game became *racquets*. The game was subsequently played against walls at public houses then purpose-built racquet walls and 'open courts' (a front wall with two side walls but without a back wall or roof) which were built predominantly at public schools (fig. 5). Thus *racquets* became *fives* as a recognised public school game.

The spelling of racquet/racket can cause confusion. The original continental spelling 'racquet' always applies to the implement with which one hits the ball and is also used to describe the game in America. Somewhere around the 1960s in England the spelling was anglicised so that the British game is now spelled 'rackets'.

Rackets is a very fast game in which the ball typically travels at between 80 and 120mph and many players wear goggles - although there is a school of thought that if you're not fast enough to get out of the way you shouldn't be playing the game! Services from the best players can achieve up to 170mph.

Squash Racquets - a schoolboys' game

Harrow School's racket wall or open court was so popular that in the 1850s they built indoor *racquets* courts adjacent to the *rugby fives* courts. In the early 1860s some of the smaller boys who couldn't cope with the speed of the ball in the huge court (a *racquets/rackets* court is about four times the size of a *fives* court) took their racquets into the smaller *fives* courts and played with a newly invented hollow rubber ball which squashed as it hit the wall then expanded and rebounded very much more slowly and was therefore easier to return. Thus was the game of *squash racquets* invented as a slower and easier game than *racquets/rackets*. It is only fair to add that Rugby School counters this with a very similar story.

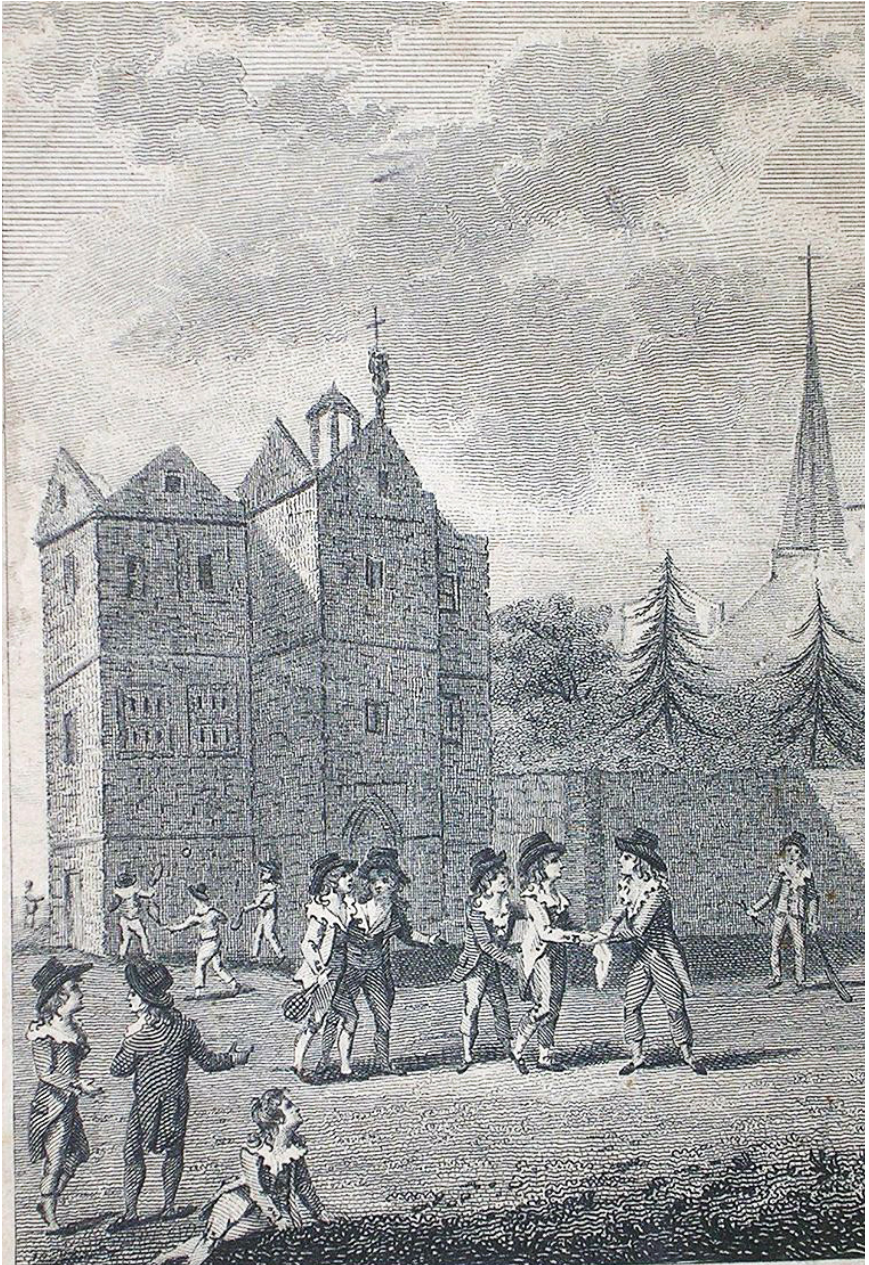


Figure 5: The Open Rackets Court at Harrow School

The *tenys/tennis* story should be completed with some words about the invention of *lawn tennis*. In 1973 the Lawn Tennis Association celebrated the centenary of the invention of *lawn tennis*. As the game was invented by Major Harry Gem and Augurio Perera some fourteen years earlier in 1859 this seems a little odd. To understand this development we need to know a little about *croquet*.

Croquet - a turning point in taking games outdoors

An early version of *croquet* - played through hoops placed in a long straight line - had arrived here from France in the 18th century called *paille maille*. *Paille*, meaning straw, indicated rolled-up straw to form a ball and *maille* means mallet, thus: ball and mallet. This is the origin of the names Pall Mall and The Mall in London - both long and straight - and 'mall' has subsequently been used to describe the long straight corridor with shops on both sides that means 'shopping centre' in America.

This game died away after several decades, but came back to us from France via Ireland in the 1850s, this time played on the square lawn that we know today. It faltered at first, then became a huge success. Indeed, the introduction of *croquet* was a major turning point in the story of English sport. For the first time, the middle classes had an active outdoor game that could be played in their own gardens by men and women together. Indeed, some of the women were so competitive that they were known to allow their hooped skirts to pass 'accidentally' over the ball so they could kick it into a better position.

In addition to being a popular garden game, it became a club game for the rising middle classes and, in 1868, the magnificently named All England Croquet Club was formed in Wimbledon, London.

Lawn Tennis - a game invented twice

The revolution in game playing brought about by *croquet* meant that people had tasted outdoor sport for all the family and now a new and more active game was wanted for the garden and subsequently for clubs. In 1859 Major Harry Gem and his Edgbaston neighbour, a Spaniard called Augurio Perera, decided to create a new game on Perera's *croquet* lawn. They both played *racquets* at the Bath Street Racquet Club in Birmingham and Perera had played *pelota* during his teenage years in Spain. Gem is also reported to have played *tenys* at the club which was opened in 1846 in Royal Leamington Spa. Their new game, which they first called *lawn racquets* then *lawn tennis* was recognisably the game we know today with the same court and very similar rules (fig. 6). In retirement the two both moved to Royal Leamington Spa where, in 1872, they formed the world's first *lawn tennis* club in the grounds of the Manor House Hotel opposite Perera's home - notably one year before the Lawn Tennis Association claims that the game had been invented! This club closed after one season and, although another was formed subsequently, the present Leamington Lawn Tennis Club is not the oldest still in existence; that honour falls to Gem and Perera's previous home of Edgbaston where, in the late 1850s, the Edgbaston Archery Society had been formed.

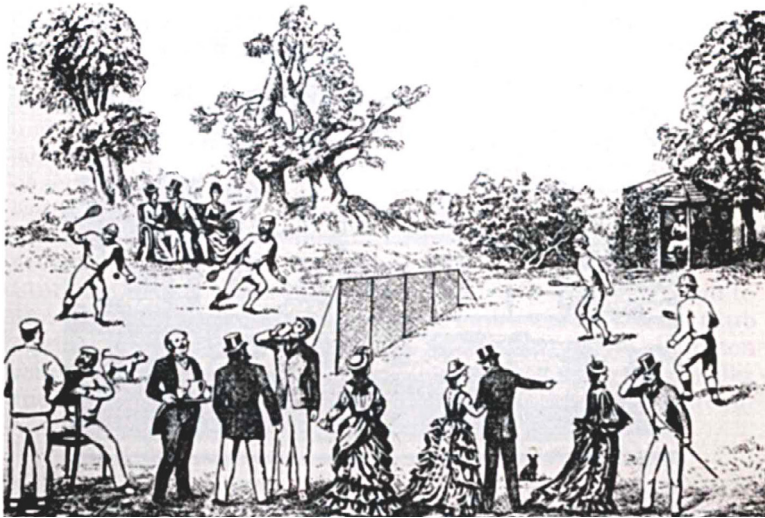


Figure 6: An early lawn tennis court

The Archery Society moved to its current premises, next to Birmingham Botanical Gardens, in 1860 where it introduced *croquet* in 1870 and altered its name to the Edgbaston Archery and Croquet Club. We know that the Club introduced *lawn tennis* on some of its unused land, but not when. Given that *croquet* is generally a precursor to lawn tennis and the Archery Club's fixture card for 1875 shows *lawn tennis* to have been well established by this date, it is probable that the *lawn tennis* section of the Archery Society was formed between 1872 and 1874.

In 1877 the name was altered for the last time to the Edgbaston Archery and Lawn Tennis Society which indicates its activities then and to the present. 'The Archery', as it is known, exists today as the second, and probably the oldest, still existing *lawn tennis* club in the world - although this is disputed by the die-hards of Leamington.

In 1873 Major Walter Clopton Wingfield, a *tenys* player recently returned from service in India where he had played *badminton*, patented a 'new' game played on a *croquet* lawn but with an hour-glass shaped court rather than rectangular, some notably different rules to Gem and Perera's game (e.g. service from one end only and scoring to fifteen points as in *racquets*) and the name Sphairistiké which apparently means ball game in Greek (fig. 7). Despite these incongruities, it is the invention of this game which, in 1973, the LTA chose to be celebrated as the centenary of *lawn tennis*! In fairness to Wingfield it must be said that it was 'the Major's game' which did the most to popularise *lawn tennis* and that he corresponded with Gem and Perera without rancour on either side.

In 1875 the All England Croquet Club allowed one of its lawns to be used for *lawn tennis*. When, two years later, it held the first Gentlemen's Lawn Tennis Singles Championship it altered its name to the All England Croquet and Lawn

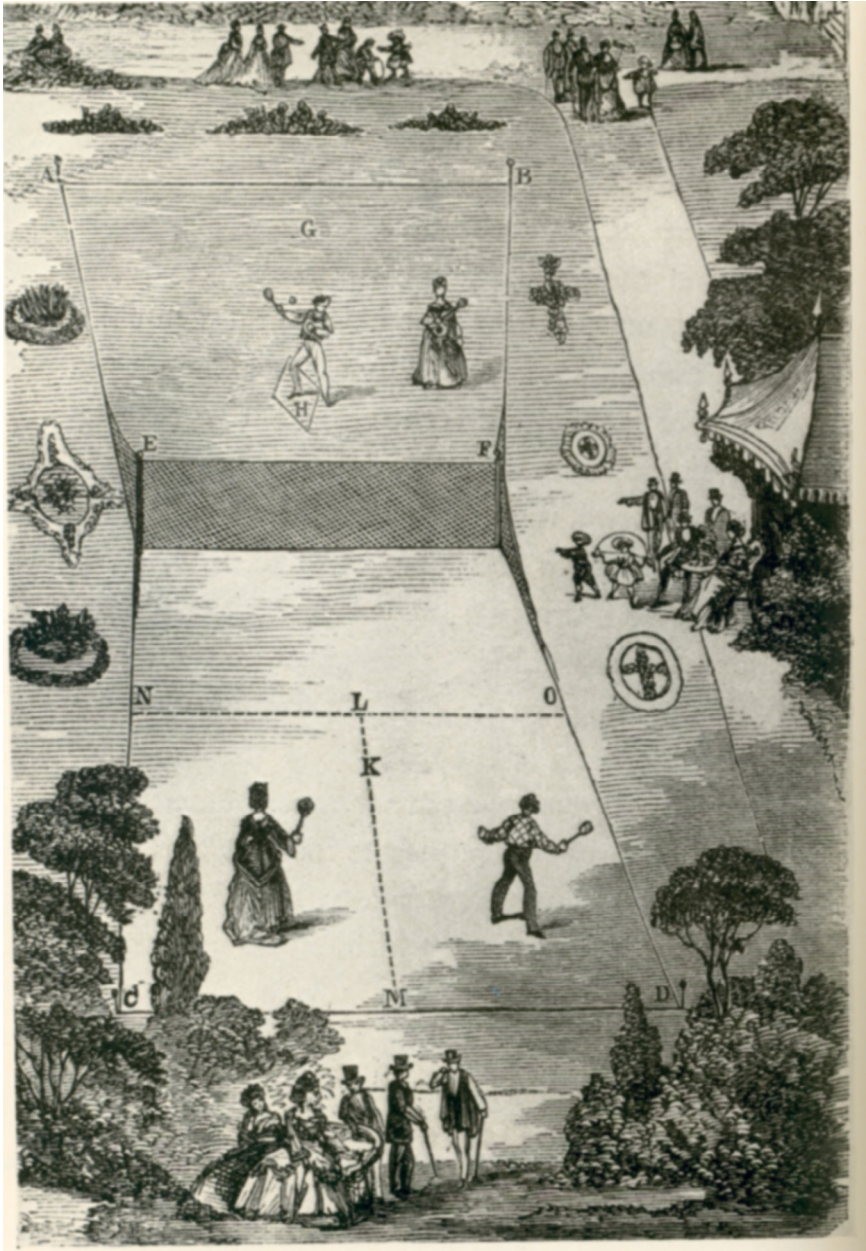


Figure 7: The layout of a tennis court as illustrated in the first edition of Major Wingfield's Rules of Sphairistike or Lawn Tennis

Tennis Club. In 1882, with *lawn tennis* having become the much more popular game, it dropped the word *croquet* completely but re-instated it in 1899 for sentimental reasons. This time it reversed the order of the games so the Wimbledon *lawn tennis* championships are now played at the All England Lawn Tennis and Croquet Club.

Some Other Points of Interest

Although it began as a *lawn tennis* club at Trafford Park in 1881 The Northern (as it is now known) moved to Didsbury after twenty years, had introduced *croquet* by 1912 and added squash courts in 1936. From then it displayed its full name on the board beside the gates: The Northern Lawn Tennis, Squash Racquets and Croquet Association.

The name *real tennis* was unofficially adopted in the late 19th century by newspapers which had begun - like the general public - to refer to *lawn tennis* simply as *tennis*. In order to differentiate between the games the original *tenys/tennis* became *real tennis* although the governing body still retains the formal name of the Tennis and Rackets Association.

Further Small Ball Games

Several other esoteric games similar to or derived from those described above such as *Pelota*, *Pallone*, *Long Paume*, *Stické Tennis*, *Jai Alai* and *Long Fives* - most of which are still played around the world - can be traced back to our small boy with his pebble. Many of these have several versions, each peculiar to a particular geographical region.

Finally, it is worth recording that, prior to the uncrossable line or net being introduced, other games derived from the same basic origins. Some of these (as with *tenys*) became attack and defence games such as *cricket* and others became double goal games such as *football*. This has led some historians of sport to suggest - a little simplistically in my judgement - that both *cricket* (originally, perhaps *criquet*?) and *football* were invented in France.....

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*Daring to be Wise: Reflections on 500 years of the Manchester Grammar School**

PATRICK THOM

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Within all fields of human endeavour, it is a matter of celebration when anything reaches its 500th birthday. But while mere antiquity may be enough for an artefact viewed in a museum, anything that claims still to have a role to play in the modern world needs to demonstrate that it is in good health, that it is relevant, that it has carried the best of its past forward without being bound by the chains of tradition. In celebrating 500 years of MGS, therefore, we may rightly be proud of past glories but we must also give the institution as we find it today a thorough health check.

Hugh Oldham

The founder of the Manchester Grammar School is a shadowy figure, whose legacy exists almost exclusively in the academic institutions that he founded. He wrote no books and we have neither letters nor significant records of his spoken word. Something of his beliefs and what we may term his educational philosophy may, however, be deduced from his actions in respect of three institutions. When he was Bishop of Exeter, Hugh Oldham insisted that the cathedral choristers should attend a local grammar school and receive a secular education. He gave the vast sum of £4000 to help found Corpus Christi College, Oxford, and persuaded his co-founder, Richard Fox, that the college should be secular, not admitting monks. His bill for building his school in Manchester was far more modest, a mere £218, but of far greater importance was the endowment made by him and others to allow the school to fulfil its educational mission: it was to be from the outset a free school to educate the poor boys of Manchester. This was written into the foundation statutes and has been the animating principle of the school ever since.

Why a grammar school? The deed of 1525, which reformed the governance of the school only ten years after its foundation, explicitly underlined the importance of teaching grammar, since 'the liberal art or science of grammar is the ground and fountain of all other liberal arts and science which surge and spring out of the same, without which science, the other cannot profitably be had, for Science of Grammar is the Gate by which all other be learned and known in diversity of tongues and speeches.' This was, at the time, a wholly practical consideration. Grammar meant the grammar of Latin, not just the language of European scholarship but the lingua franca of government, the law and the church. In giving the boys of the Manchester Grammar School grammar, Hugh Oldham and his followers were giving them the key that would open the door to the seats of power

in their world. In the early years, at least, few would have the chance to attend university, not least because of the expense involved, but they nonetheless gained an immensely valuable skill in a still largely illiterate society. MGS was starting its work of levelling up some of the inequalities of a hierarchical society, again a work that it strives to carry out in our very different but still highly stratified world.

The first student from MGS to go up to Cambridge did so in the 1520s and two more went up to Oxford in the 1530s. We may wonder whether we see even then the beginnings of the issue of elitism, an excessive concentration on the educational aspirations of a tiny minority, an issue that has remained a hot topic in English education ever since. The numbers remained very small, however, and over the next 150 years of its life MGS was an unremarkable provincial school from which two or three scholars a year left to go up to one of the universities, the rest entering the slowly-swelling ranks of Manchester's middle classes or returning home after a couple of years slightly more lettered than their artisan parents. It remained a free school, funded by its monopoly on both corn-grinding and the supply of brewers' malt within the city, and such endowments as came to the school were used to fund scholarships and exhibitions for those few who had gained places at Oxford or Cambridge, to help them shoulder the expense of actually taking up their place. Certainly by the late 18th Century a young aristocrat up at Oxford would expect to spend substantially more than £200 a year, at that time the annual salary of the High Master and a sum beyond the dreams of any student from Manchester.

Boarders

As time passed the sums raised from the corn-grinding and malting monopolies became inadequate for the maintenance of the school. This was partly due to changes in relative values, but more because the increase in water traffic on the newly-dug canals allowed millers to grind outside the city and thus beyond the reach of the MGS monopoly and to float their flour back into the city. The governors had to find another source of income and the most significant both for the finances and the character of the school was the taking in of boarders. These were not, of course, the sons of the Manchester artisans who made up the bulk of the school, as they had no need to board. No, these were the sons of the gentry who travelled from further afield and who naturally considered themselves superior to their urban classmates. They lived separately, some even having their own rooms rather than having to share a dormitory, and they paid handsomely for the privilege: by the early 19th Century the boarding fee had risen to 120 guineas a year. This was purely a boarding fee: the education was still provided free of charge to all pupils, as stipulated by Hugh Oldham, but there is no doubt that the boarders made the whole enterprise possible. One of the most celebrated pupils of the period was the essayist Thomas de Quincey, who was quite clear on the divisions existing within the school.

The elder section of the School – those on the brink of manhood, and by incalculable degrees the more scholar-like section, all who read, meditated or began to kindle into the love of literature – were boarders

in Mr Lawson's home. The students therefore of the house carried an overwhelming influence into the School. They were bound together by links of brotherhood; whereas the day scholars were disconnected.

The division was more than merely social but carried over into educational attainment, or the lack of it. Samuel Bamford, a weaver's son, joined the school in 1799, a year before de Quincey. He gives an entertaining account in his autobiography of his experiences of the school: how he brought large quantities of gingerbread in on his first day, thus securing his acceptance and making friends; how the school, though still occupying one large room, was divided into six classes – introduction to Latin, higher Bible, middle Bible, lower Bible, testament and spelling, with boys seated strictly in order of merit; how the day began with assembly, at which flogging took place. But all of this is but a description of the Lower School, where Bamford received a rudimentary education in the company of the sons of hatters, publicans and the church clerk. His father refused to allow him to learn Latin, thus depriving him of precisely the advantage that Hugh Oldham had wished to confer, and so he never progressed to the Upper School, graced by the like of de Quincey and his monied friends. It became more and more the case that the highest of prizes, a place at Oxford or Cambridge, supported by one of the many closed scholarships or exhibitions that had been established, was the almost exclusive preserve of those who were effectively paying for their education through their boarding fees. Was this wisdom? Was the free grammar school, established to allow the poor boys of Manchester an education and thereby access to positions of power staying faithful to its founder's intentions?

This was particularly sad, as it happened largely during the tenure of one of the most illustrious of the school's High Masters, Charles Lawson. When appointed he was young, dynamic and a formidable classical scholar. He inherited a school with a fine academic reputation, particularly in Classics and but which was failing financially. He died in office at the age of 79, having given the school much, not least new buildings, constructed in 1776, but with the institution rather fading than flourishing. This decline came, curiously, from an excessive fidelity to the founder's instructions, or at least to the 1525 deeds and its insistence on the primacy of grammar. The world outside the school's walls was changing rapidly at this time, with scientific and industrial advances, international radicalism, the discovery and colonisation of new territories and the opening up of Africa. Closer to home, the city of Manchester nearly quadrupled in size during Lawson's Highmastership, from a population of some 20,000 to over 70,000. But the school under Lawson and his immediate successors closed its eyes to this dynamic, rapidly-changing world and continued to teach the classics, and that in the most old-fashioned of ways. Frederick Calvert, who joined the school in 1803, wrote:

The education at school was on a scale of the noblest simplicity. Nothing of vulgar mercantile element found entrance there. No writing, no arithmetic, no history or geography. We were not allowed to waste our time on such trifles as these. It was wholly and exclusively concentrated on two subjects, Latin and the Bible. Nothing was explained to

us. We were given a grammar book, but even such words as nominative, genitive, dative, indicative, were left to our ingenuity to discover, stimulated by the powerful inculcation of the cane, for everything was thrashed into us.”



Figure 1. Lawson teaching in the Upper School

Although some of the trustees of the time were reform-minded, very little changed over the next 30 years. W. H. Herford joined the school in 1833 but left after two years to join a more forward-looking establishment, of which he wrote: “The introduction to literature, the rational geometry and the natural sciences were all rich, rich feasts after starvation.” Even 20 years later, when the school underwent what we would today call an inspection, albeit by the trustees rather than by an external agency, there had been relatively little improvement, despite some slight broadening of the curriculum and the establishment of an English school as a poor relation of the Classical school. The trustees found that there was too much learning by rote, which was ineffective “in giving interest, rousing the intellect or in cultivating taste. The boys are ready in answering questions of fact, but have little or no comprehension of any questions involving thought and not directly based on their books.” The custodians of the school, it seems, had lost sight of the core of Hugh Oldham’s vision: he had wanted to prepare the poor boys of Manchester to rise out of their poverty and to be successful in their world. If his 19th century successors were to fulfil their mission, they needed to find ways of allowing their charges to succeed in the world of the 19th century, not of the 16th. Something needed to change.

Frederick William Walker: re-foundation

Change came in the shape of a 27 year-old Oxford graduate and fellow of Corpus Christi college, Frederick William Walker. With a first in Classics and a second in Mathematics, scholarships in Law and Sanskrit and a degree in Philology from the University of Dresden, Walker could have taken his place among the leading scholars of the age. It is here, however, that we may be grateful for the £4000 given by Oldham to Corpus Christi all those years before: cast your bread upon the waters, for you will find it after many days. The President of the college persuaded Walker to accept the post of High Master in 1859, to the immediate and enduring benefit of the school. In 1862 the external examiners of the Oxford Local Examination Board noted: "The general management and arrangement of the school appears to be very good, and its discipline perfectly satisfactory. In this respect its present condition, as compared with former years, shows a distinct improvement." Just four years later – frequent inspections are not a purely modern phenomenon – the Taunton Commission, investigating the secondary schools of England, noted that MGS had 39 former pupils up at either Oxford or Cambridge, of whom 20 were open scholars or exhibitioners. "As much as this cannot be said of any other school in England, and it is all the more remarkable because this school is purely a day school." From failing institution to the best school in England in under 10 years: what was the secret of Walker's success?

There was nothing magical about his approach. It was based on a coherent vision, curriculum reform, the appointment of talented new staff and the seeking of external validation. He did away with the rigid division between the Classical and English schools, so that every pupil learnt Latin, Greek, English, French and Mathematics, albeit in varying proportions. He even introduced setting by ability in Mathematics. He signed up to the Oxford Local Examinations board, entering every eligible pupil. He introduced Art to the school, appointing an excellent practitioner who rapidly established such a reputation that John Ruskin came up in 1865 to address the boys. All of this represented the first phase of Walker's reforms and it was highly successful, making the school extremely popular with local families. As early as 1862 Walker introduced the first entrance examination – a contentious move, but one which allowed him to maintain academic standards. He went even further than this, actively recruiting in the local area. A man of great energy and devotion to his educational cause, Walker taught evening classes at Owens College, the precursor to the University of Manchester, and when he spotted a particularly promising youth he would try to persuade his parents to send their son to the school.

By the mid-1860s, then, the school was full of bright boys and its reputation was riding high, but there was a familiar problem: there was not enough money. Revenues were falling rather than rising and there were certainly no funds for the next phase of changes: the introduction of further modern languages and, above all, the natural sciences. Walker thought the unthinkable and determined that it would be necessary to charge a fee – but whether in defiance or fulfilment of the founder's vision remains a contested point. The High Master and Trustees applied to the Charity Commission for permission to vary the school's

foundation statutes, a process that took two years, with the case going as far as the House of Lords, but in 1867 permission was granted and the school was effectively re-founded.

Although boarding had disappeared some time before and the old divisions of de Quincey's day had thus gone, Walker introduced a new two tier system. There were to be 250 free places supported by the school funds, the remaining pupils being charged a fee of twelve guineas a year. This was just enough to keep things going but it was by no means a universally popular move. It caused a serious division between the school and the Manchester Town Council and it roused some of the Old Boys to fury. The official alumni body, the Old Mancunians Association, was not founded until much later, but former pupils of the school had been meeting for an annual dinner since 1781. The Old Boys Dinner continues to this day, but rather petulantly they refused to hold another dinner until Walker had left the school, so they went hungry for a while. One can see why they felt aggrieved, but the fact was that in their day the total roll of the school had never risen above 250, the number of free places guaranteed by Walker's provisions, and this solution, or one very much like it, was perhaps the only way to allow the school to thrive and grow.

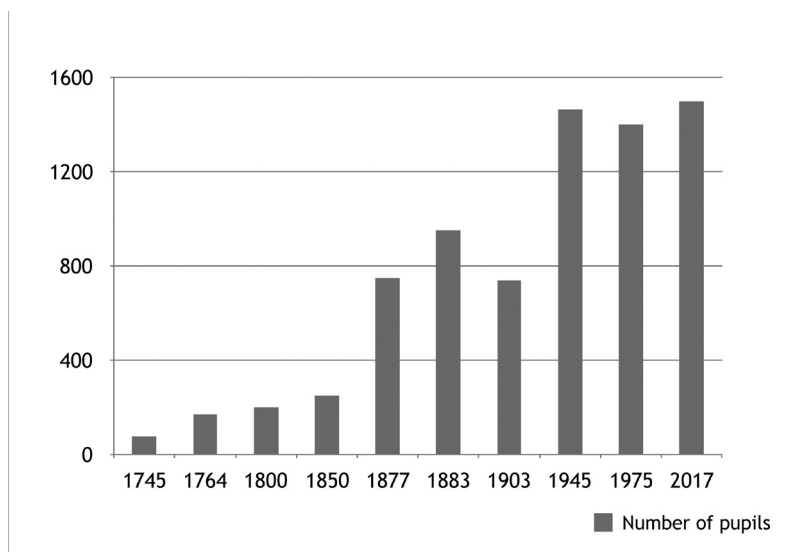


Table 1. The growth in student numbers

As if this re-foundation of the school were not enough, Walker had even bigger plans: he wanted rebuild it. In the prayers of thanks for our founders which we say at our annual Founders' Day service in Manchester Cathedral, we mention in the same breath as Hugh Oldham and his immediate family two later names: Edward Riley Langworthy and Charles Francis Beyer. Langworthy was one of the

great Manchester cotton kings and Walker cultivated him to such good effect that he gave £10,000 in his lifetime and the same again in his will. Beyer was another local merchant, similarly approached by this bold and visionary High Master, and who again gave £10,000. These lavish gifts allowed the construction of handsome new buildings on Long Millgate, buildings now largely occupied by Chetham's School of Music.

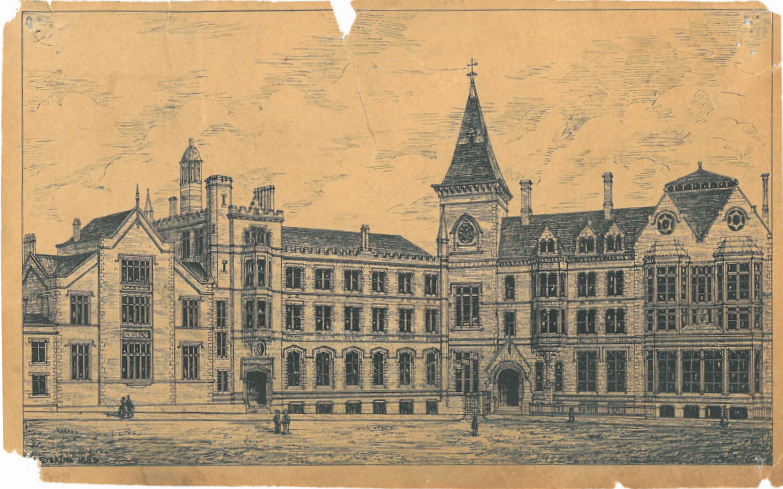


Figure 2. Long Millgate.

The new buildings in turn allowed the implementation of a new curriculum and Walker was at last able to bring in the proper teaching of science, first Chemistry and then Physics, with the old school buildings being converted into laboratories. Though himself a classical scholar of distinction, Walker told the Taunton Commission: “If an orderly and comprehensive system of scientific education could be constructed, it should hold the first place in a boy’s education, literary training the second.” How far we have moved from the primacy of grammar and a reliance on rote learning. The boys responded enthusiastically to the new opportunities presented to them, petitioning Walker for permission to use the school buildings to meet outside lesson times and explore natural philosophy further. Walker granted this and thus was born Philsoc, which claims to be the oldest student run society in any school in the country. It continues to inspire young scientists today and in keeping with the times, some of its talks now appear on You Tube. This devotion to the experimental sciences may help explain why there are currently five Old Mancunians who are Fellows of the Royal Society.

Walker made other innovations: he introduced the first proper programme of physical education and introduced a debating club and the first school trips abroad, before he left in 1877 to go to Saint Paul’s School in London, taking with him the title of High Master. He merits this lengthy consideration because he,

perhaps more than any other, gave the school its modern character of excellence in scholarship and freedom in enquiry. He is proof, were it needed, that High Masters really do matter. Alongside his boldness and decisiveness, at the heart of Walker's leadership was a spirit of service, and it is this same spirit that informs the opportunities that we continue to give today to pupils throughout the school, but especially in the Sixth Form, to take on positions of leadership. They have to learn that if they are going to lead successfully they also have to serve. There are only two elements which are compulsory for all our Sixth Form students, whatever their choice of academic programme, and one of them is the requirement that in their first year in the Sixth Form they should do a minimum of twenty-five hours of community service of some kind outside the school. Many do far more, and we believe that the benefits to them are at least as great as to those whom they serve.

J L Paton: mens sana in corpore sano

It is perhaps unfair to jump over the next three High Masters, all of whom served and led the school with some distinction, but there is really just one more before the modern era who deserves consideration in so brief a narrative as this, and that is John Lewis Paton, who took up the reins in 1903. He is notable for many things, of which three in particular deserve mention here. He was the first formally to put in place a system of pastoral care. This had always gone on, of course, as it must in any successful educational institution, but Paton was the first to articulate the principles on which it was founded. Though himself a 'muscular Christian' he recognised that boys were individuals, sometimes fragile and needy, rather than units to be stamped into uniformity, and that they were better led by kindness than by fear.

Second, Paton placed a huge emphasis on the outdoor life. He became the leader of a very large urban day school crammed into somewhat inadequate buildings in a fairly insalubrious quarter of a growing industrial city. The pupils needed fresh air and some of them had virtually never seen the countryside. Paton started the tradition of camping, first in Cheshire, then in the Lake District, and of walking in England, Wales, Scotland and continental Europe. The tradition remains unbroken and makes a significant contribution to the school's distinctive character. We still run five camps every summer term – simple and unsophisticated, perhaps, but providing a wonderful taste of communal living and the mutual responsibility that entails, a momentary release from materialism and a chance to explore the natural world, still alien ground to some of today's urban youth. We have expanded the range of longer treks to take in the Sahara desert as well as European mountain ranges, and as the idea of such feats can be daunting to the novice, the current High Master has introduced MAD days, mountain adventure days aimed particularly at beginners, laid on free of charge and with all equipment provided by the school. Like Paton before him, the current High Master leads some of these days himself, putting his experience at the service of young but eager mountain novices.

The third of Paton's contributions that is worth highlighting is essentially symbolic, but the symbolism is sufficiently profound as to be worthy of note. The school hall in the buildings in Fallowfield which the school now occupies is known as the Memorial Hall, because one wall takes the form of a memorial to the school's dead from two World Wars. On the left there are over 500 names from the First World War, of which two are slightly detached from the others. One is René Claude Albert Boisselot, who had taught French at the school and joined up back in France, going to his death like so many others. It was a courteous gesture to include him on the school's war memorial, but not a contentious one: he was an ally. The other name is that of Bernhard Neuendorff, evidently a German. We may wonder what he is doing here. Neuendorff had taught German at the school some years before the War and had returned to Germany to continue his academic and teaching career in Berlin. When Paton heard that he had fallen in battle, he was determined that Neuendorff's name should appear on the school's roll of honour. This aroused furious opposition from many quarters, including the then Bishop of Manchester: after all, the man was an enemy. But Paton would not let a narrow nationalism stand in his way. He insisted that the idea of the community of the school was what mattered most, and Neuendorff was one of ours. What unites us, Paton was saying, is more important than what divides us, and this spirit of inclusivity, of common purpose and esteem in spite of differences continues to be one of the animating spirits of the school today. Paton was daring in this, and it certainly feels today that he was wise. Neuendorff's name, incidentally, also appears on the war memorial of the school where he taught in Berlin, a rare double distinction.

Fit for purpose in the modern world?

J L Paton put in place the first steps that allowed the school to move to its current spacious site in Fallowfield, where it opened its doors in 1931. The school's occupation of that site may be seen as its latest chapter, a chapter that has seen wave upon wave of educational and social reform. How has the school weathered those reforms? Has it adapted in such a way as to remain a beacon of daring and wisdom into the 21st century? There is not space here to examine this question in great detail, but we may pick out one or two strands that may help us towards an answer.

Many of the criticisms that have been levelled at the school over the years are indistinguishable from those that have been levelled at the British education system in general, chiefly that it is narrow, elitist and divisive and does not prepare young people adequately to take their place in the world. It is hard for an academically selective establishment to refute the charge of elitism, but we need to be clear what we mean by it. In selecting on the basis of academic merit we are consciously choosing an elite group of pupils; we are not, in academic terms, a comprehensive establishment. But if we are to follow in the footsteps of Hugh Oldham, seeking to educate the poor boys of Manchester, and of F. W. Walker, going out to recruit likely boys from the local area, then we need to be socially comprehensive. As so often in education, much of it comes down to money. The history of educational finance in the 20th and 21st centuries merits a volume in itself, but it may be

briefly summarised thus. Until the mid-1970s, MGS was a direct grant grammar school, receiving its funding from the local authority but selecting its pupils on merit. This allowed a large number of pupils, particularly from working-class North Manchester families to attend. Since the abolition of the direct grant we have faced difficult choices and the composition of the school has changed somewhat. Our reputation was such that we could probably have become an entirely fee-paying institution, excluding the poor, but there was no stomach for such a move among the custodians of Hugh Oldham's legacy. When the government Assisted Places scheme came in we – or our poorer students – were beneficiaries for a while, but it was relatively short-lived and the High Master and Governors knew that another way would have to be found. The MGS Foundation Bursary Appeal was launched in 1998, with the aim of generating over time the funds that would allow us to support pupils from poorer backgrounds who had gained places on academic merit. The appeal has been a great success, to the extent that we currently support over 240 pupils each year who would not otherwise have been able to take up their place. The term 'support' needs some explanation: among schools with similar schemes, the fee remission typically available to bursary holders is about 40%. Our average bursary offers over 93% fee remission, meaning that almost all such pupils have free places at the school, very close to the figure that F. W. Walker negotiated with the Charity Commission 150 years ago. To have maintained this through the difficult financial times of the last few years has been a remarkable achievement, and the fund continues to grow through the great generosity of alumni and parents, and of some benefactors who have no other connection with the school but applaud our vision of serving the needs of our local community by offering as many places as we can to those who merit them regardless of means. This in turn allows a social diversity in the school which gives it a rich and distinctive character; there are state-funded grammar schools within a few miles of us that are far less diverse. May we then feel that we have refuted any charge of social elitism? Are we not inclusive rather than divisive?

What about the charge of being narrow? Like all schools we are bound to a degree by public examination requirements, but we do try to ensure that this does not represent the totality of our pupil's education. We have already made reference to one compulsory element in our Sixth Form education, the requirement to undertake community service, an element that is now replicated appropriately in all sections of the school through a service pledge. The other compulsory element in our Sixth Form curriculum is a course we call Perspectives. We mix together students who have chosen Sciences and Arts or Humanities as their main A-Level subjects and guide their discussions on topics such as Freedom, Responsibility, Morality, Law, Time, Race and Power. These are all areas where there are no firm answers but a range of different perspectives, and we do it because it encourages students who have narrowed down their areas of academic interest to continue to use all areas of that thing for which we selected them in the first place; the quality of their mind. We recognise too that each of them is far more than a mind in any narrow academic sense and we give them opportunities to acquire and exercise leadership, responsibility, initiative, collaborative abilities

and skills of presentation. Our aim is to prepare them for the next step, whatever that may be, and to look beyond that to the skills and aptitudes that are needed in the world of work. Following in the spirit of J L Paton, our aim is not merely to chalk up the biggest possible number of Oxford and Cambridge places each year, but to guide each individual towards a choice that is right for him and to equip him to be successful in what he has chosen.

The next 500

Martin Stephen was the High Master who launched the Foundation Bursary Appeal and at that launch he spoke these words:

We do not solve the problems of the world. Yet we can take a child and give that child a life that otherwise he would not have dreamt of. We can break that awful cycle of urban deprivation, that closed loop, that self-fulfilling and self-perpetuating prophecy. We can make a difference. We have been doing so for 500 years. We want to carry on doing so for the next 500.

*This paper is an abridged version of the talk given by Patrick Thom to the Lit & Phil as part of Manchester Grammar School's celebration of its 500th anniversary

All quotations are taken with grateful acknowledgement from *MGS: A History at 500* by Nigel Watson. Third Millennium Publishing, 2015.

Patrick Thom was educated at Tonbridge School and Pembroke College, Cambridge, where he took a degree in Modern and Medieval Languages (French and German). He taught for four years at a small Midlands boarding school and joined the staff at MGS in 1988. He has been there ever since, teaching French and German and serving eventually as Head of French and Deputy Head of Modern Languages. For the last seven years he has been Head of Sixth Form. His two sons have been educated at the school. Within his academic discipline Patrick is particularly interested in the translation of poetry, while outside interests include history, reading of all kinds, ornithology and wine.

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Greene and Hitchcock

MICHAEL HILL

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Graham Greene and Alfred Hitchcock. They were close contemporaries: Hitchcock was born in 1899, Greene in 1904. Greene and Hitchcock: a British writer and a British film director who combined mass popularity with serious interest from critics and academics. Greene and Hitchcock, both Catholics obsessed with guilt who anatomised twentieth-century angst. Greene was the literary man who controversially never won the Nobel Prize in Literature, and Hitchcock the film man who amazingly never won the Oscar as Best Director. Greene and Hitchcock met only once, in 1936: Greene wrote after the meeting that Hitchcock was 'A silly harmless clown'; we have no record of what Hitchcock thought of Greene.



Figure 1. Graham Greene and Alfred Hitchcock (photo: Jack Mitchell)

An examination of the relationship between the two can usefully start in the 1950s. By that time they had both gone through the British phase of their careers, in the 1920s and 30s, and were now international figures. Greene appeared on the cover of *Time* magazine, the celebrated author of major novels like *Brighton Rock*, *The Power and the Glory* and *The Quiet American*; Hitchcock was an acclaimed Hollywood director, with major films like *Rebecca*, *Notorious*, and *Rear Window* to his credit. Both were receiving studied attention from Catholic intellectuals for

the moral seriousness of their work. And both turned their attention to the Cold War. In 1958 Greene published *Our Man in Havana*, a comedy thriller which poked satirical fun at the rhetoric and attitudes of the Cold War. It is a tale of a man under pressure, of secrets and weapons of mass destruction, of non-existent, invented agents, plans which go wrong and people who get killed, but all done with a tongue in cheek, mocking tone; and it is a tale in which our hero gets the girl in the end. The year after *Our Man in Havana*, Alfred Hitchcock released *North by Northwest*, which could be described in exactly the same terms as Greene's novel – a man caught up in someone else's deadly political game, spying and secrets, invented agents, a romantic interest, a satirical attitude towards the Cold War.

This suggests that at this point in their respective careers the two men shared a certain similarity of outlook and artistic concern. But this parallel has a twist. In the late 1950s, Hitchcock was interested in filming *Our Man in Havana*, and submitted a pre-publication bid of £50,000 for it. Greene refused. Speaking in 1980, Greene explained his refusal: 'I haven't got all that admiration for Hitchcock ... and he was offering a rather derisory sum, and announced that he had bought it – so I said no.' Speaking later of *Our Man in Havana*, Greene said, 'I felt the book just wouldn't survive [Hitchcock's] touch.' Once Greene had turned down Hitchcock's offer, the film of *Our Man in Havana* was directed instead by Carol Reed, and though that film has its moments, it was the least successful of the three Greene/Reed film collaborations, a long way after *The Third Man* and *The Fallen Idol*. Shunned by Greene, Hitchcock then went on to direct the sparkling *North by Northwest*, the light and witty comedy thriller which *Our Man in Havana* could easily have been. We will never know what *Our Man in Havana* made by Hitchcock might have been, but Greene's refusal may have cost us all dear.

Greene's reasons for refusing Hitchcock's offer are worth dwelling on. There is the financial motive – the director offered 'a rather derisory sum' – and the hint at personal irritation at Hitchcock's presumption in jumping the gun and announcing the rights had been bought. But Greene's first-mentioned and primary reason is his dismissal of Hitchcock as a director – "I haven't got all that admiration for Hitchcock." Here was the essence – and it was not an isolated instance – of Greene shunning Hitchcock. In 1952, the director was preparing the film *I Confess*, about a Catholic priest who stands wrongly accused of murder, but who will not reveal the name of the real murderer because to do so would violate the confidentiality of the confessional. Natural territory, one would think, for Greene, a writer of deep Catholic sensibility; and Greene, by then a practised screenplay writer, was indeed approached to write the script for Hitchcock. Greene again turned the director down, this time on the grounds that he was interested in adapting for the screen only his own stories. But this explanation wore a little thin when a few years later Greene adapted Shaw's *Saint Joan* for film director Otto Preminger. It is clear that on both *I Confess* and *Our Man in Havana*, Greene snubbed Hitchcock because he did not rate him as a film director. Greene's lack of regard for Hitchcock's talents requires some explanation; and this explanation lies back in the 1930s.

Greene's attitude dated from that decade. Between 1935 and 1940, he reviewed over 600 films for *The Spectator* and *Night and Day*. He was a brilliant, witty and insightful reviewer, and his reviews are well worth reading today. (They and Greene's other writings on film, which are quoted from extensively here, can be found in *The Graham Greene Film Reader: Mornings in the Dark*, brilliantly edited by David Parkinson.) Greene had had a serious interest in film long before he began to write these reviews, and he inevitably had become aware of Hitchcock as a rising star in the British film world. In the late 1920s, Greene attended shows at the London-based Film Society, in which Hitchcock was a leading light and which encouraged a serious interest in film as an art form. In 1927, Greene wrote of 'a film I very much want to see' – *The Lodger*, the film which made Hitchcock's name as a director of talent. And with the advent of the Talkies in 1929, both Greene and Hitchcock were concerned lest the new sound pictures could lead to the death of telling stories visually, with films becoming merely static renderings of people talking. They both believed in visual cinema. So in his writings about cinema, one might expect Greene to speak well of Hitchcock's films. But it did not turn out that way.

From his very earliest writings as a film critic – even before he formally reviewed any of the director's films – Greene was critical of Hitchcock. In 1935 he wrote of the director as 'a specialist in sensation', and this was not intended as a compliment. A few months later he referred to Hitchcock's films as no more than 'polished fairy-tales'. And Greene lost no opportunity in dragging derogatory comments on Hitchcock into his reviews of others' films. Thus, he commented on Fritz Lang's films being reliant on melodrama, but melodrama 'infinitely more expert than, say, Mr Hitchcock's'. And in a review of a French film, Greene wrote: 'I have long suspected that a high-class murder is the simple artistic ideal of most film directors, from Mr Hitchcock upwards.'

Then Greene began to review Hitchcock's films, and his critical attitude to them can best be seen in what he had to say about three of them, all from 1935-6 – *The 39 Steps*, *Secret Agent*, and *Sabotage*.

The 39 Steps was a film based on the John Buchan novel and starring Robert Donat as Richard Hannay. Greene never formally reviewed the film, but he had much to say about it in other writings – for instance, in an article published six months after the film's release. Here he claimed to have enjoyed it quite a lot, but most of what followed is critical. He said that as a director Hitchcock was 'tricky, not imaginative', and that his films were 'simply made up of tricks, in their plots as well as their direction. They give a momentary impression of great liveliness, that's all'. As an example of Hitchcock's trickiness, he quotes from *The 39 Steps* 'how the scream of the charwoman finding the murdered woman was cut to the shriek of the Flying Scotsman' carrying away the man accused of her murder. For most critics, this was an exciting and innovative piece of cutting by Hitchcock – but not for Greene. He saw it as a pretty simple and uninventive visual metaphor – 'for all Hitchcock is saying' Greene wrote '... is that the charwoman's scream is like the whistle of the express coming out of a tunnel.' Warming to his theme and still focusing on *The 39 Steps*, Greene continued:

... my complaint about Hitchcock is that he amuses, but he doesn't excite. I should like to see him take over Ben Travers' excellent farces. He hasn't enough imagination to excite; he doesn't convince. For one thing he's so careless. Think of the ease in *The 39 Steps* with which his hunted hero managed to get down from Scotland to the London Palladium, although all the way up to Scotland, and while he was in Scotland, his pursuers were always close on his heels.

(In defence of Hitchcock on this latter point, it is worth adding that even in the original Buchan novel, this journey is covered in less than two short paragraphs.)

So a film Greene claimed to have enjoyed quite a lot was subjected by him to a great deal of criticism, aimed at Hitchcock's whole style and talent. The director was tricky in an empty way, was unimaginative, amusing but not exciting, unconvincing and leaving unexplained loose ends. It is worth noting here that other critics did not agree with Greene. The critic Otis Ferguson described the film as 'a miracle of speed and light'; the *Evening Standard* said it was 'A grand mixture of comedy, melodrama and character study'; while *Variety* enthused 'The story twists and spins artfully from one high-powered sequence to another while the entertainment holds like steel cable from start to finish.' Moreover, the film's qualities have lasted: in 1999 the British Film Institute voted it the fourth best British film of the twentieth century. So others rated *The 39 Steps*, as Greene did not.

Greene had one other comment on the film. In a later essay, Greene said of Hitchcock, 'how inexcusably he spoils *The Thirty-Nine Steps*'. This may be a bit of a giveaway on Greene's other strictures on the film. He was comparing the Hitchcock film with the original Buchan novel, and finding that the director had 'inexcusably spoilt' it. 'An early hero of mine was John Buchan', Greene later wrote, and *The Thirty-Nine Steps* was clearly a novel he had read and enjoyed. So here Hitchcock was another victim of the frequent complaint by fans of a novel that a film adaptation of it is a travesty of the original; Greene later repeatedly made the same complaint about many film adaptations of his own novels. One has to accept that Hitchcock's film version is a free adaptation of the Buchan novel, with many new scenes, much added comedy and a love interest for the hero Richard Hannay. But Hitchcock did keep the essential plot structure of a spy ring and the hero's journey from London to Scotland and back again, and the motif of the double chase: the hero is wanted for a murder he did not commit, and therefore cannot appeal to the police to save him from the spies who are also after him. And he did deliberately produce a fast-paced, episodic story which keeps to the spirit of the Buchan novel: the book has chapters with titles like 'The adventure of the literary innkeeper' and 'The adventure of the bald archaeologist', and if Hitchcock changed many of the episodes, he kept faith with the feel of Buchan's tale. John Buchan himself apparently saw the film, and not only liked it, but thought it an improvement on his novel. Graham Greene clearly saw things differently.

There is a final point worth making on *The 39 Steps*. One of Buchan's chapters is called 'The adventure of the radical candidate', and for his film, Hitchcock greatly expanded this episode. Hannay is on the run from the police and stumbles into a public meeting, where he is mistaken for an orator booked to speak

in support of a parliamentary candidate. At first surprised and embarrassed, he starts to assume his character. Warming to his task, he delivers an empty but stirring set of platitudes, which has the crowd cheering. In 1950, fifteen years after Hitchcock's film, Greene published *The Third Man*, the novel of the famous film. In it, the central character Rollo Martins goes to a British Council-style meeting where he is mistaken for a respected novelist, and finds himself answering questions from an earnest audience. Overcoming his surprise and embarrassment, he stumbles through his answers, eventually assuming his new identity to the extent of signing the author's books. The scene made it into the film of *The Third Man*. In both cases – Hitchcock film and Greene novel and film – the plot does not require the scene: in both cases, the intention is a humorous diversion, a gentle poke at, respectively, politicians' empty rhetoric and earnest British Council lectures. And it is difficult not to see the Hitchcock scene as the inspiration for the Greene one. Greene may have disapproved of Hitchcock's version of *The 39 Steps*, but he clearly was not above making use of it. Imitation is the sincerest form of flattery.

The second Hitchcock film, *Secret Agent*, starred John Gielgud and Peter Lorre. Released less than six months after *The 39 Steps*, it was reviewed by Greene for *The Spectator* in May 1936. *Secret Agent* was based on two Somerset Maugham short stories about Richard Ashenden, which Greene regarded as among Maugham's best writings, so it comes as no surprise that his review of the film is again critical of its treatment of its source material. The review ends: 'As for Mr Maugham's Ashenden, on which this film is said to be based, nothing is left of that witty and realistic fiction.' And that comment concludes Greene's most thoroughgoing and devastating critique of Hitchcock. The review runs thus:

Mr Hitchcock's latest picture might have been punctuated, and its dullness enlivened, by laughter: laughter at the secret agent who loudly discusses his instructions in front of the hall porter of a Swiss hotel and who brandishes his only clue to a murder in a crowded casino, laughter at the representation of a Secret Service which so arranges things that its agent's photograph appears in every paper, laughter in fact at Mr Hitchcock's inadequate sense of reality. It is all a great pity; a pity because of the immense wasted talent of Mr Peter Lorre, and because Mr Hitchcock too has talent. How unfortunate it is that Mr Hitchcock, a clever director, is allowed to produce and even write his own films, though as a producer he has no sense of continuity and as a writer he has no sense of life. His films consist of a series of small 'amusing' melodramatic situations ... Very perfunctorily he builds up to these tricky situations (paying no attention on the way to inconsistencies, loose ends, psychological absurdities) and then drops them; they mean nothing: they lead to nothing.

Such was Greene's savage review of *Secret Agent*. Hitchcock had 'an inadequate sense of reality'; he merely had a variety of ingenious situations he wanted to stage, and wasn't too bothered about devising logical ways of connecting them. The review crystallised the criticisms Greene had made in the past. It has to be said that Greene was articulating here what others of Hitchcock's detractors believed,

and he was not alone in believing *Secret Agent* to be a rather weak film – it received a mixed critical reaction at the time, and the critic Howard Maxford has said of Greene's review: 'Greene was right. The film is little more than a perfunctory series of set pieces, not too cleverly linked together.'

However, in the review Greene went too far. Most critics regard the faults of *Secret Agent* as being specific to that film – including the miscasting of a rather stiff John Gielgud as the secret agent, and the ludicrous overacting of Peter Lorre, so our sympathies with the main characters are not engaged, and many scenes misfire. Greene however went much further than this, suggesting that Hitchcock's films as a whole misfired because of the failings of the director. He did not believe that Hitchcock's mix of episodic, amusing and exciting adventures ever worked. But if we agree that *Secret Agent* fails in this respect, most would disagree that *The 39 Steps* does so; Robert Donat convinces as a charming, dashing and humorous protagonist, John Gielgud does not. The Hitchcock formula could sometimes work, but Greene would not acknowledge this; his views on Hitchcock had been formed long before he saw *Secret Agent*.

This point is even more evident elsewhere in Greene's review. 'How unfortunate it is that Mr Hitchcock...is allowed to produce and even write his own films...'. This may be a very perceptive comment, but it has no relevance to *Secret Agent*. That film was not produced by Hitchcock, nor was it written by him; the same had been true of *The 39 Steps*. Hitchcock acted as writer and sometimes as producer of many of his films of the late 1920s and early 1930s, which were notably less successful than those of the mid-1930s. But Greene was reviewing films which Hitchcock did not write or produce, and was drawing attention to flaws which no longer applied. The impression is confirmed, that Greene had taken against Hitchcock long before he started reviewing his films, and carried his prejudices into those reviews.

The third Hitchcock film, *Sabotage*, was released in December 1936 and reviewed by Greene that month. The omens for the review were not good. *Sabotage* is based on Joseph Conrad's novel *The Secret Agent*, and as a young writer of fiction Greene greatly admired Conrad and was enormously influenced by his writings. More than this, Greene had himself recently, in 1934, written the novel *It's a Battlefield*, which owes a great deal to Conrad's *The Secret Agent*. Still more ominously, Greene met Hitchcock in 1936, when the director was in the middle of turning Conrad's novel into the film *Sabotage*. 'I shuddered', Greene wrote, 'at the things he told me he was doing' to the book. Hitchcock must have girded his loins for another withering Greene review.

Greene wrote a very full review of *Sabotage*, and from Hitchcock's point of view it started unpromisingly. 'I have sometimes doubted Mr Hitchcock's talent', Greene began. 'As a director he has always known exactly the right place to put his camera..., he has been pleasantly inventive with his sound, but as a producer and as a writer of his own scripts he has been appallingly careless: he has cared more for an ingenious melodramatic situation than for the construction and continuity.' So far, so predictable. But lo and behold, Greene continued: 'In *Sabotage* for the first time he has really 'come off':

Sabotage is not, of course, Conrad's *Secret Agent*. That dark drab passionate tale of Edwardian London could never find a place in the popular cinema...But Mr Hitchcock's 'variations on a theme' are on a different level from his deplorable adaptation of Mr Maugham's *Ashenden*. This melodrama is convincingly realistic, perhaps because Mr Hitchcock has left the screenplay to other hands.

So Greene repeated many of his earlier criticisms of Hitchcock, while congratulating him on escaping his previous mistakes. It is worth repeating here that the point about screenplay writing is misplaced. The screenplay for *Sabotage* was written by Charles Bennett and Ian Hay, both of whom had done the same job on *Secret Agent*; the credit for improvement between the two films did not lie, as Greene claimed, in a change of writer.

Greene's review later congratulates the film for 'admirable dialogue' and for its 'fine cast': Oscar Homolka makes 'a slow, kindly, desperate Mr Verloc', and he and Sylvia Sidney 'raise the melodrama at times to the tragic level.' But Greene's main praise went to Hitchcock himself, and specifically focused on the scene in which Winnie Verloc kills her husband - Greene wrote:

Mrs Verloc, after hearing the news, passes through the little cinema to her living-room. A children's matinee is in progress and Walt Disney's *Cock Robin* is on the screen. She is pursued by the children's laughter and the diminishing repetitions of the song, 'Who killed Cock Robin? Who killed Cock Robin?' This ingenious and pathetic twist is stamped as Mr Hitchcock's own, but unlike so many of his ideas in the past it is an integral part of the story: it leads to the admirably directed scene when Mrs Verloc, serving dinner to her husband, finds herself against her own will continually picking up the carving-knife - to serve the potatoes, to scoop up the cabbage, to kill Mr Verloc.

Greene's evocation of the scene is brilliant, and its admiration for Hitchcock's direction is based on the scene's adherence to the spirit of Conrad's novel. As critic Charles Barr says: 'This is the one scene in the film that stays close to the Conrad original, finding a cinematic equivalent for its dream-like feeling of slow-motion inevitability, which elides the moment of stabbing in a passive past-tense construction: "the knife was already planted in the breast".' Greene saw that Hitchcock had achieved this cinematic equivalent, and was happy to recognise this in his review.

So against all the apparent odds, Greene gave *Sabotage* a warm review. It might have helped that the film, unlike *The 39 Steps* and *Secret Agent*, was not an episodic, fast-moving spy thriller; Conrad's book, and Hitchcock's film, are dark, claustrophobic and domestic in setting, and Greene clearly responded to this. His willingness to congratulate Hitchcock on the film suggests that he was not automatically prejudiced against the director, that he was willing to acknowledge a good film when he saw one. This seems, however, to be the only exception to Greene's default setting of being critical of Hitchcock's efforts. He certainly returned to this setting in 1939, in a hostile review of Hitchcock's *Jamaica Inn*.

This almost automatic hostility by Greene towards Hitchcock's films – so at odds with the general trend of critical opinion – requires some explanation. One or two explanations have already been suggested, but there is too a rather different reason. It is that Greene saw (and criticised) in Hitchcock's films some of the characteristics of his own fiction. This criticism reflects the distinction, which Greene adopted in the 1930s but dropped later, between his 'entertainments' and his more serious work, his 'novels'. 'Novels' were serious literary efforts. 'Entertainments' were popular, more commercial, written to make money, not the stuff on which serious literary reputations were founded. Entertainments were thrillers, melodramas, carrying no 'message', stories which would make popular films. Greene himself later admitted to 'a penchant for melodrama' as a writer, and as one struggling to make a living from his pen in the 1930s, he set himself to indulge this melodramatic bent by writing entertainments in the hope of landing lucrative film contracts. This was his explicit aim in writing the 1932 entertainment *Stamboul Train*, and a number of his subsequent books.

An idea of what such entertainments might consist of is shown in a story Greene tells in his autobiographical *Ways of Escape*. He says he met film director and producer Alexander Korda, at which Korda asked Greene if he had any film story in mind: 'I had none,' Greene wrote, 'so I began to improvise a thriller – early morning on Platform 1 at Paddington, the platform empty, except for one man who is waiting for the last train from Wales. From below his raincoat a trickle of blood forms a pool on the platform.'

This may not have been Greene's customary way of developing a story, but it is a striking opening to a potential film, and rather a good example of the kind of 'ingenious melodramatic situation' Greene so criticised in Hitchcock.

The fact is that his 'entertainments' of the 1930s and 1940s very often demonstrate the very characteristics Greene was critical of in Hitchcock's films. *Stamboul Train* is an exciting, episodic, fast-paced thriller with a vivid cast of characters; and so, for just about all other critics than Greene, is *The 39 Steps*, and indeed as is *The Lady Vanishes*, Hitchcock's own brilliant train thriller which Greene never reviewed. Greene's novel *A Gun for Sale*, from 1936, is another fast-paced melodrama, but guilty of some pretty implausible coincidences. If Hitchcock had 'an inadequate sense of reality', as Greene claimed, what should we make of the 1939 entertainment *The Confidential Agent*, whose plot Professor Cedric Watts calls 'blithely preposterous adding that 'plausibility is repeatedly sacrificed on the altar of dramatic incident and precipitate reversals.'? If Hitchcock's films were, in Greene's words, merely 'polished fairy tales', we should also remember that Greene wrote of his own *The Third Man* that 'Reality, in fact, was only a background to a fairy tale.' And it has already been seen how Greene later wrote a humorous, freestanding scene into *The Third Man* – the British Council meeting – which exactly mirrored one in *The 39 Steps*; could we say, in Greene's words but now of Greene's own scene, 'Very perfunctorily he builds up to these tricky situations... and then drops them; they mean nothing; they lead to nothing.'?

This general point can be illustrated in relation to the plot of one Greene entertainment, the 1943 fiction *The Ministry of Fear*. Here we have a Hitchcockian

tale in print. If we want ‘ingenious melodramatic situations’, what better in *The Ministry of Fear* than a reel of microfilm hidden in a cake, inadvertently acquired by the wrong man; an attempt by a crippled agent to retrieve the film by poisoning the hero, an attempt terminated by the explosion of an air raid bomb; a séance at which a man is apparently but not really murdered, in order to frame the hero; a suitcase of books, delivered innocently to a hotel bedroom, which explodes and causes a loss of memory; a massacre at an asylum; a tailor who kills himself by slicing his throat with cutting-shears, and another who shoots himself in a toilet cubicle at Paddington Station? Moreover, the hero who undergoes these tribulations has in earlier life been guilty of the mercy-killing of his wife, but by the end has the prospect of love with the sister of one of the spy ring. And if Hitchcock had ‘an inadequate sense of reality’, what of Greene’s own Nazi spy ring in *The Ministry of Fear*? Their idea of passing on microfilmed naval secrets is to put them into a cake, which is then entered into a ‘guess my weight’ competition at a bazaar, at which the agent collecting the cake will get the incorrect but winning weight from a fortune-teller after giving her a secret verbal code? If Hitchcock really was careless and too willing to subjugate character for the surprise and melodramatic situation, as Greene claimed, then perhaps it should have been Alfred Hitchcock who filmed *The Ministry of Fear*.

Greene’s entertainments and Hitchcock’s thrillers, in short, were not that far apart. Interestingly, Greene first adopted the distinction between ‘entertainments’ and ‘novels’ in 1936, at precisely the time he was criticising Hitchcock’s melodramas – and becoming aware of his own shortcomings in this regard. In 1935, Greene saw the Hollywood film version of his entertainment *Stamboul Train*, and he was horrified. ‘One had never taken the book seriously’ he wrote later; ‘it had been written hurriedly because of the desperate need one had for the money.’ ‘By what was unchanged [in the film] I could judge and condemn my own novel: I could see clearly what was cheap and banal enough to fit the cheap banal novel.’ For *Stamboul Train* – both book and film – read Hitchcock’s mid-1930s thrillers. If Greene thought less of his ‘entertainments’ than of his serious work, then perhaps he saw in Hitchcock’s successful films a reflection of his own commercial instincts. Here were tricky, merely popular thrillers that did not ennoble the art. If there was any embarrassment in Greene about his lesser work, it may be that it was Hitchcock who paid the price, in Greene’s film reviews.

This is the 1930s background to Graham Greene’s refusal to work with Hitchcock in the 1950s. He may have thought well of *Sabotage*, but it was his more prevalent jaundiced view of Hitchcock that survived. Speaking in the 1970s, Greene said ‘one has happy memories of his earlier English films and yet I always found enormous gaps in the logic of the story... I think he’s brilliant, but erratic in his logic’. And in *Ways of Escape*, published in 1980, Greene repeated his scathing review of *Secret Agent*, adding, ‘I still believe I was right ... when I wrote [this], and also repeated how inexcusably Hitchcock had spoilt *The Thirty-Nine Steps*. So a view formed in the 1930s persisted into the 1980s, and Hitchcock’s illustrious Hollywood career from 1940 was almost entirely ignored by Greene. Greene is known to have seen and admired *Notorious*, Hitchcock’s 1946 film, but

one wonders what else of his American output he saw. Did he see *Rear Window* or *Vertigo* or *Shadow of a Doubt* or *Psycho* or *Strangers on a Train* or *The Birds*, or any of the very many Hollywood films on which Hitchcock's greatest critical acclaim now rests? It seems not, so Greene's views on Hitchcock remained rooted stubbornly in the 1930s. It is worth reflecting, in conclusion, that we are the losers of this stubbornness, because as a result, two of Britain's greatest creative talents of the twentieth century never cooperated. What would *I Confess*, Hitchcock's exploration of Catholic conscience, have been like with a screenplay by Graham Greene? What would *Our Man in Havana*, Greene's witty Cold War satire, have been like as realised on film by an Alfred Hitchcock then at the peak of his powers? Alas, sadly, now we will never know.

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Manors, Baronies and Hunting Forests

JUDITH WILSHAW

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In the early 11th century, England was only just emerging as a united country by the amalgamation of a number of small kingdoms, and there were still skirmishes between those who thought they had a claim to the throne. In 1042 Edward (nicknamed The Confessor), the son of Ethelred (The Unready), was king of England. His mother, Emma, was the daughter of Richard I of Normandy. Edward was married to Edith of Wessex, and she had a brother called Harold. So Edward had Norman French and Anglo Saxon relatives. In a weak moment, in about 1050, he had verbally promised the throne of England to Duke William of Normandy, a relative of his mother. Harold of Wessex considered he had a claim on the throne through his sister. Talk about family confusion!

Edward died in January 1066. When news reached Duke William in Normandy, he made immediate plans to sail to England and claim his kingdom. He engaged with Harold on 14th October 1066 and, after fighting for eight hours, won the most famous battle in British history in decisive fashion. William lost no time in claiming his kingdom. He crowned himself king in Westminster Abbey on Christmas Day 1066 and immediately declared that he owned all of England.

This article attempts to explain how this event completely changed life in England, and seeks to show evidence that it still has effects today in my home territory of the Stockport area.

In late Anglo Saxon times England had already been divided into an early version of our counties. William kept these as his primary areas of jurisdiction, each controlled by a nobleman of the rank of Earl. We will focus on the county of Cheshire. It was feared that there might be trouble here, as it bordered Wales, so William appointed one of his most trusted nobles as Earl of Chester, his brother in law Hugh Lupus. Earl Hugh needed help to run Cheshire and a tier of lesser noblemen were appointed at the rank of Baron. There were eight barons in Cheshire, and the local one was Baron of Stockport. The Barony was sub-divided into a number of lease holdings called manors, each held by a Lord of the Manor.

The country was sparsely populated and much of it was wooded and full of deer, wolves, wild boar and bears. Suitable areas were designated as Royal Forests where the king and his nobles could enjoy the hunt. There were two adjacent hunting forests in our area. The Royal Forest of the Peak was to the east of the River Goyt, administered from Pevenil Castle at Castleton by William Pevenil, a son of the King, and really only impinged on the manorial lands of Mellor. Macclesfield Forest was to the west of the river, administered from Macclesfield, and under the control of the Earl of Chester. Several of the manors in the eastern part of the Barony of Stockport were in this area: Marple and Wybersley, Torkington,

Norbury, Bramhall, Poynton and Woodford. Some of the lords of these manors were appointed as Foresters. The office carried privileges, but also obligations: foresters were allowed limited hunting and fishing, and to use the fruits of the forest, but they had to provide soldiers when the king went to war, and they had to enforce the forest law, with many transgressions punishable by death. A reference to this is to be found in the entrance hall of Bramall Hall where there are two wooden busts flanking the fireplace, each with a noose around its neck. These are called ‘felon heads’ and their message is clear. The de Davenports, Lords of the Manor of Bramhall, were Chief Foresters of Macclesfield Forest for many generations, and it is recorded that they appointed Richard de Vernon of Marple and Wyberslegh to help them by serving ‘in the name of forestry’.

There were fourteen manors in the Barony of Stockport, including the Manor of Stockport, meaning that the Baron was also a manorial lord. The two roles brought a number of perks and obligations. The manor had a corn mill, powered by a water wheel turned by the River Goyt and located in the Portwood area. Everyone was required to have their corn ground there, for which there was a charge, providing income to the lord. The Baron was responsible for upholding law and order by conducting the Court Leet – precursor of the Magistrates Court (figure 1).



Figure 1. Blue Plaque for the Court Leet

In the mid-1200s Baron Robert de Stokeport arranged the granting of Stockport’s Charter of Freedom, giving the townspeople the right to take firewood, dig turf for fuel on the moors around the town, allow their pigs to feed in the woods, and claim a perch of land for a shilling a year. In 1260, this was extended by the granting of a Charter to hold markets and fairs (see figure 2). With some modernisation, these charters are still the basis of town government today, and the market still functions in the same location as it did in 1260. Looking round

the market place, we can still see the steep Mealhouse Brow street where they sold flour and meal ground in the corn mill. On the other side of the brow were the town lock up and the site of the Court Leet. Over the years the manorial system changed, but the manors of the Stockport Barony form the basis of the townships of today's Metropolitan Borough, and they were: Stockport, Brinnington, Bredbury, Romiley, Werneth, Hattersley, Marple and Wybersley, Poynton, Woodford, Norbury, Torkington, Bosden, Offerton, Etchells, with Cheadle and Bramhall tacked on as manors independent of the Barony.



Figure 2. Fifteenth Century copy of the Market Charter.

By considering the scope of two or three of the manors, we can find traces remaining into the present day. They were often named for their lord in the Norman French form, so we have the de Nortberies of Norbury, the area of modern Hazel Grove stretching from St Thomas Church Norbury along the Poynton Road, and in the Bramhall direction to the junction of Chester Road with Dean Lane/Jackson's Lane. Norbury Hall Farm stands on the site of the original manor house, opposite Brookside Garden Centre (figure 3). Nearby stood Norbury Chapel of Ease, and down Mill Lane was the manorial corn mill, powered by a waterwheel turned by the waters of the Norbury Brook. The de Nortberies ran into financial difficulties in the 13th century and they passed the manor to Robert de Hyde in 1220 in lieu of debts. In the 16th century an Anna Hyde married Johannes Arden of Bredbury, and at the end of the 17th century the Hydes sold Norbury to the Leghs of Lyme to settle yet more debts. The Leghs took an active interest in

Norbury. A cottage at the junction of Chester Road and Jacksons Lane bears a sign which tells us that it was part of the Lyme Estate, and many properties in that part of Hazel Grove paid ground rent to the Leghs until recently (figure 4).

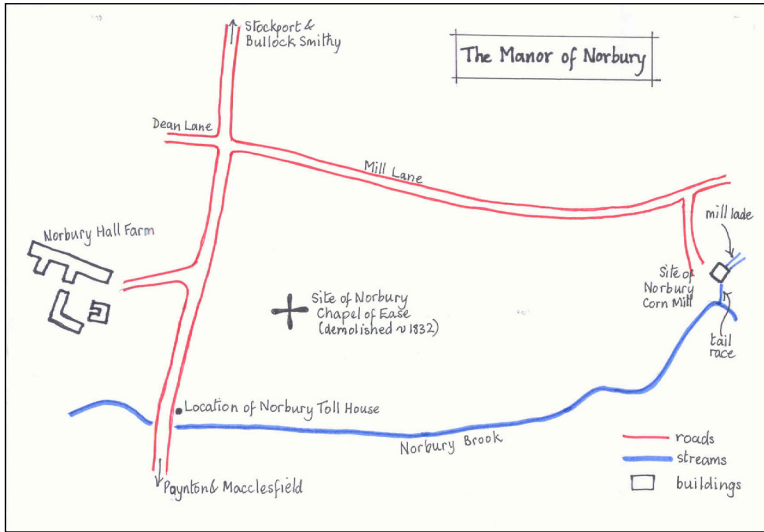


Figure 3. The Manor of Norbury



Figure 4 Sign of Lyme Cottage.

Norbury Chapel of Ease became too small for the needs of the growing population and was structurally unsound so was demolished early in the 19th century and replaced by St Thomas Church Norbury, which, while it is really the parish church of Hazel Grove, bears the name Norbury.

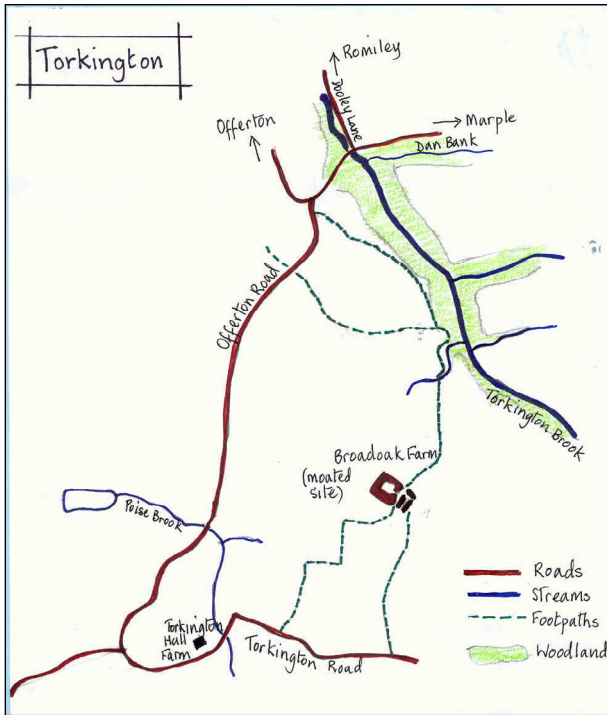


Figure 5. Sketch map of Torkington

On the other side of the A6 from Norbury was the Manor of Torkington (see figure 5), extending back along Torkington Road and across the fields towards Hawk Green. The manorial family were the de Torkyntons and over the years they had associations with the Worths (Poynton), Vernons (Marple), de Honford (Handforth), and yet another lot of Leghs, this time from High Legh near Knutsford. In 1354 John de Legh cleared 60 acres of woodland in the Macclesfield Forest and built a house of 2 chambers with a separate kitchen on a moated site. John de Legh had a reputation for murder and violence, so one wonders whether the moat was intended for his protection or whether the local people had arranged it to keep him in order. The moated site remains to this day as a fishing pond at Broadoak Farm which is accessed from Torkington Road. Descendants of this branch of the Legh family built Torkington Lodge as an 'occasional residence' in the early 19th century. They rarely lived there themselves, more often renting

it out to other wealthy families. It is now used as offices by the Council and the surrounding grounds are the very pleasant and popular Torkington Park.

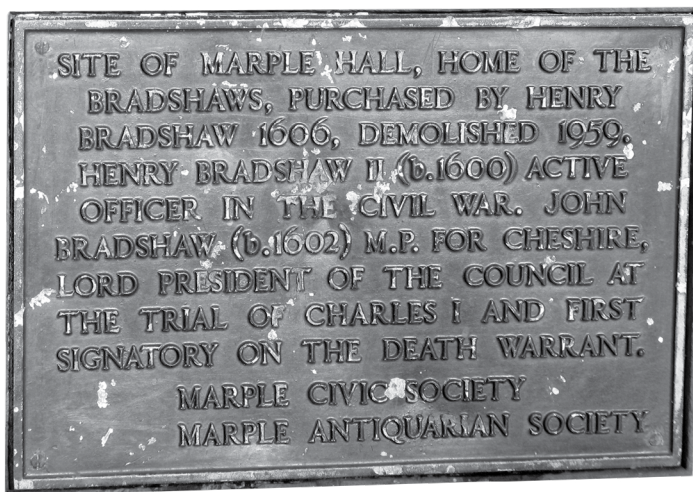


Figure 6. The plaque from the site of Marple Hall

Present day Marple started as the Manor of Marple and Wybersley. The Lordship was granted by the Earl of Chester to Robert, the son of the Baron of Stockport in about 1220, and he passed it on to his sister, Margery, who was married to a de Vernon of Haddon Hall, so the Vernons became Lords of the Manor of Marple and Wybersley. After several generations it was sold to some of the tenants, one of whom was Henry Bradshaw from Bradshaw Hall near Chapel en le Frith. He gained the title in 1606 and it remained with that family for nearly 400 years. The best known Bradshaw is John Bradshaw who was the President of the Court which condemned Charles I to death in 1649. Through marriage the Bradshaws became the Bradshaw Isherwoods and gave us their other famous son, the playwright Christopher Isherwood. He emigrated to America and his younger brother, Richard, had no interest in the family house, Marple Hall. It fell into disuse and ruin and was demolished in 1959. A plinth remains on the site of the house, the local secondary school is adjacent, and the rest of the grounds have been developed for housing. Family names are commemorated in Marple street names.

If we return to central Stockport, we can find all sorts of traces of the manorial system. In Chestergate and Great Underbank are two medieval timber frame houses. Underbank Hall (figure 7) is now the Stockport branch of the NatWest Bank, but was built as the town house of the de Ardernes of Bredbury. A few hundred yards along the street is The Three Shires Wine Bar (figure 8). This was the town house of yet more Leghs, this time of Adlington. These important manorial families valued a residence in town



Figure 7, Underbank Hall

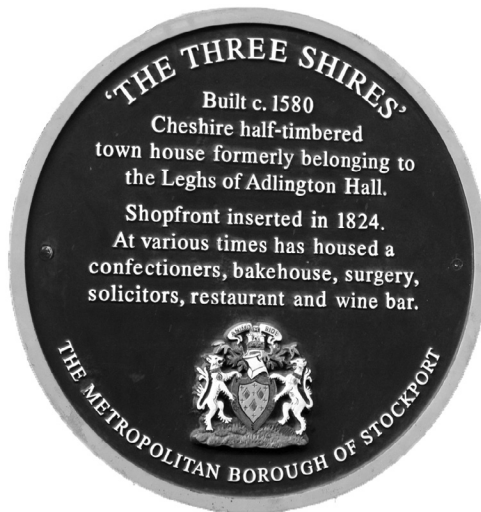
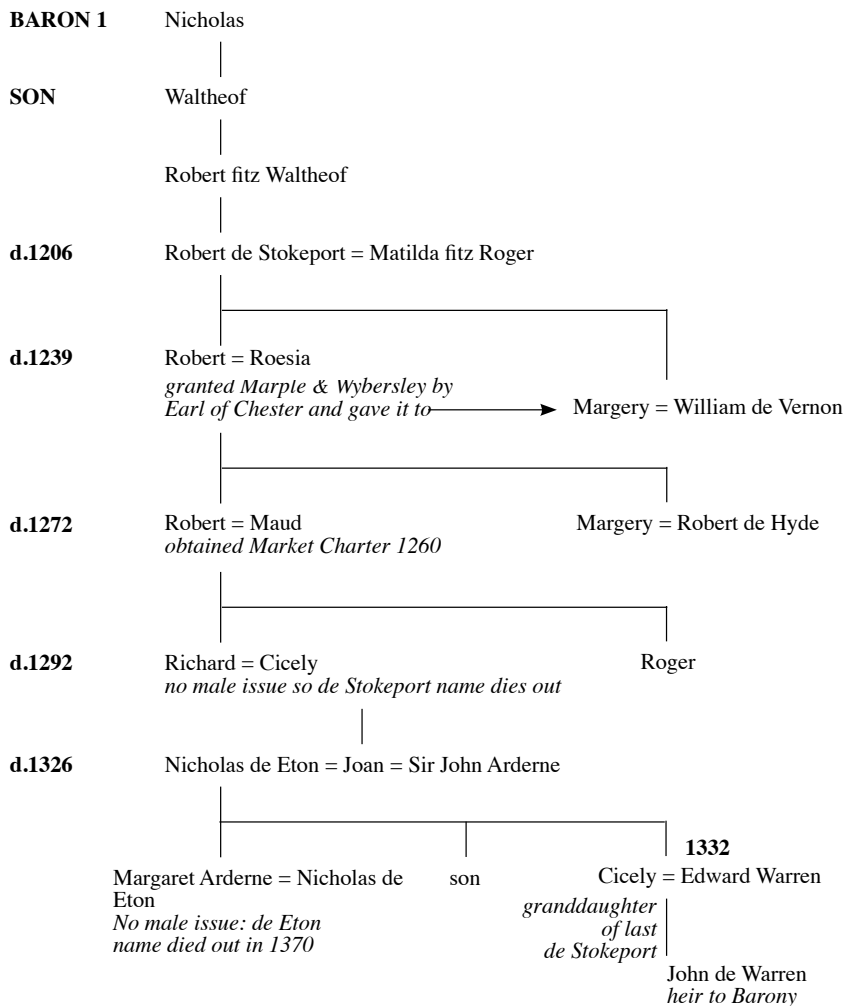


Figure 8. Blue Plaque of Three Shires Wine Bar

On Howard Street Bridge behind Sainsburys, at the end of Kennerley Road, where Hillgate meets the A6 and in front of the George and Dragon pub in Hazel Grove we come across boundary markers (see figure 9) for the Manor and Barony bearing the date 1332. What is the significance of this date?

Trace pedigrees of manorial families and we find that in 1332 the de Warrens of Poynton became Barons and Lords of the Manor of Stockport:

Stockport Barony pedigree



Their tenure lasted for the next 500 years until they sold the manorial and market rights to the Municipal Borough of Stockport in 1832. They were benevolent landlords and along with transfer of these rights, they gave land for the building of the infirmary and the grammar school, and for Vernon Park. Inheritance passed through the female line so the name changes from Warren to Bulkeley to Vernon, and gives us Warren and Vernon Streets, the Vernon Building Society, and the Warren Bulkeley Pub.



Figures 9 and 10: 1332 Boundary marker and a town bollard.

The manor and barony are recorded in the imagery of the coat of arms of the Metropolitan Borough of Stockport. The shield bears the cross crosslets and lozenges of the arms of the de Stokeports, its border shows wheat sheaves for Chester and two-headed eagles for the de Eatons, the Lions Rampant are for the Warrens, one with a wheat sheaf for the Cheshire parts of the Borough, and the other with the red rose for the Lancashire parts. Stockport castle sits on its hill fortified with a wall like a crown, and the worthy motto means 'with courage and faith'. The cross crosslets and lozenges can be found on the bollards (figure 10) planted all over town to prevent parking on the pavement.

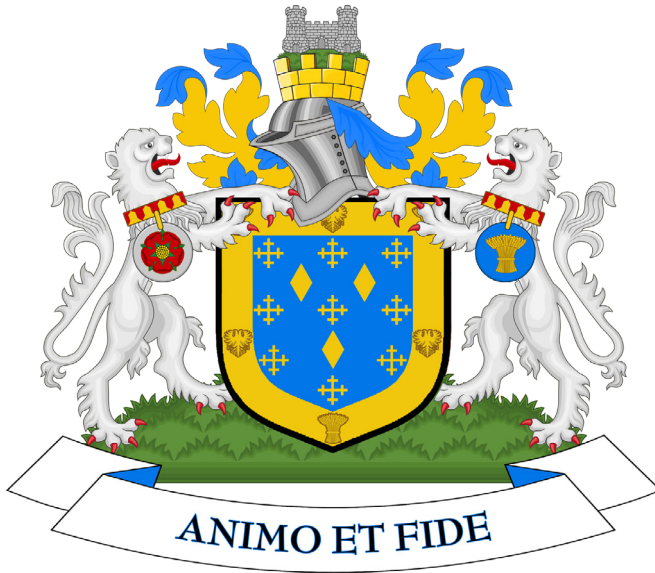


Figure 11. Coat of Arms of Metropolitan Borough

So many little snippets, and so many unexpected things to discover, weave an engrossing story of times long past, and add so much of interest for those who look carefully and closely around the intriguing town of Stockport.

Judith Wilshaw was brought up in Marple Bridge, where her father was the post master. Her training as a science teacher explains her overriding interest in industrial archaeology and the technical aspects of the machinery and plant of the Industrial Revolution. She runs adult education classes in Local History using direct observation in the field to enhance understanding of the locality.

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Degenerate Music – The Secret Soundtrack of the Third Reich

DEREK M. BLYTH

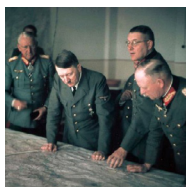
3 December 2015

On August 31st, 1928, 'Die Dreigroschenoper' opened at the Theater am Schiffbauerdamm in Berlin and, though it was not an immediate success, its opening song, 'Die Moritat von Mackemesser', quickly became the soundtrack to the final struggles of the Weimar Republic, being played on street corners by itinerant musicians, whistled by all and sundry and performed in theatres, cafés and beer halls throughout Germany.



'Die Moritat von Mackemesser'
from the 1931 film
directed by G. W. Pabs

On January 30th, 1933, with the advent of the Machtergreifung, the seizing of power by the National Socialists, life in Germany changed quickly and dramatically. The Nazis had clear ideas about what they considered acceptable – military marches, German folksongs, Bach, Beethoven, Wagner, Strauss, both Johann and Richard (not an exhaustive list) and specially written pieces, such as the new national anthem, 'Die Fahne Hoch', known as the 'Horst Wessel Song', a piece which is still banned in Germany, excepting academic use.



Die Fahne Hoch
(Das Horst Wessel Lied)

The Reichskulturrekammer (Reich Chamber of Culture) under Joseph Goebbels, was established to supervise all artistic life. All who wished to continue in the arts had to apply for permission, backed up by an Ariernachweis (a certificate of 'Aryanness') and failure to apply or rejection of application was a, de facto, ban.

Out went such composers as Mahler and Mendelssohn, despite their international reputations. They were both of Jewish descent and fell foul of the fast-developing anti-Semitism in Germany at the time. In Mahler's case, it is possible to hear the influence of Klezmer music in, for example, the second movement of

his first symphony, after the initial canon, when the tempo picks up. This is, of course, no justification!



Mahler Symphony no. 1 third movement
Chicago Symphony Orchestra
Pierre Boulez
(especially from 2.35)

In Mendelssohn's case, the Nazis even went as far as commissioning a new score of incidental music for 'A Midsummer Night's Dream' for productions of Shakespeare's play as Mendelssohn's score, which had been used in virtually every major production in Germany since its composition in 1826 and 1842 was no longer acceptable. The replacement seems to have disappeared without trace while Mendelssohn's score is as popular as ever.

Jazz and any music influenced by it, music perceived as 'black' (in a racial sense) or 'jewish', discordant music, atonal music and 12-tone music were all banned. This directly affected a whole range of composers and performers, many of whom were in imminent danger of arrest.

In 1937, in Munich and in 1938 in Düsseldorf an exhibition was mounted by the Reichsministerium für Volksaufklärung und Propaganda, the grandly titled 'Reich Ministry for Public Enlightenment and Propaganda', headed by Joseph Goebbels entitled 'Entartete Musik' (Degenerate Music) showcasing examples of the music considered unacceptable, that considered acceptable, and recorded speeches by Hitler and Goebbels. The poster for the exhibition was a parody of the cover of 'Jonny Spielt Auf' (Johnny Strikes Up) a successful but banned opera par by Ernst Krenek. A song from the opera was the first item in the exhibition.



Figure 1: The cover of the score and the poster parody. Note the prominent Star of David.

There were seven categories listed in the opening speech of exhibition, delivered by Hans Severus Sieglar, the director of the Weimar Theatre, as unacceptable:

1. A perceived influence of Judaism
2. Arnold Schoenberg (Jewish and developer of 12-note composition)
3. Kurt Weill (Jewish and communist) and Ernst Krenek (Roman Catholic but jazz/12-tone based and married to Alma Mahler's daughter)
4. Minor Bolsheviks (including Alban Berg, left leaning and pupil of Schoenberg)
5. Leo Kestenberg (Director of Music in Education until 1933)
6. The Operas and Oratorios of Paul Hindemith (he moved in and out of favour, but his wife was of Jewish descent and Goebbels hated him. He was championed by Fürtwängler)
7. Igor Stravinsky (Russian – atonal noise)

Jazz does not get a direct mention but is implied in the inclusion of Weill and Krenek as well as in the poster.

It is a peculiarly disorganised list for something official – why only the operas and oratorios of Hindemith? Was his other music acceptable? 'Minor Bolsheviks' does not seem to be a term recognised in music history. Of course, one way to popularise something is to ban it. Many people visiting the exhibitions were hearing so-called degenerate music for the first time or were being reminded of it from the past. Signs, such as the one below, were found all over Germany but they were often ignored.



Figure 2: Swing (or Jazz) dancing forbidden. Reich Chamber of Culture

This track was recorded live in Berlin in 1938. The lyrics have been changed but the tune is the, very familiar, 'Lambeth Walk'.



**In Lamberts Nachtlokal
Hans Rehmstedt mit seinem Orchester**

Another version of this, produced in the Ministry of Information in London in 1941, is also relevant here.

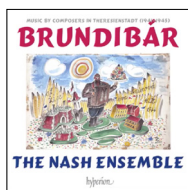


The Lambeth Walk
Charles A. Ridley

This was based on the film *Triumph des Willens* (*The Triumph of the Will*) by Leni Riefenstahl

Many composers, such as Kurt Weill, Erich Wolfgang Korngold and Berthold Goldschmidt fled Germany and ended up in the U.S.A. in the case of Weill and Korngold and the U.K. in the case of Goldschmidt. Many others remained, despite the risks, and continued to work as best they could.

Hans Krasa, a Czech composer with a German, Jewish mother continued to work in Prague, writing his most famous work, the opera *Brundibar*, in 1938 for a competition which was then cancelled by the Nazis. In 1942 he was arrested and sent to Theresienstadt (Terezin), the Nazi 'show' camp, where he continued to compose chamber works for the available musicians and reconstructed *Brundibar* from memory to perform it there. It received as many as 55 performances, one of which was filmed as part of the propaganda film *Der Führer schenkt den Juden eine Stadt* (*The Führer gives the Jews a City*). The day after filming, Krasa and most of the performers were transported to Auschwitz, where they perished.



Brundibar – Krása/ Matthews
The Nash Ensemble

Viktor Ullmann, a Silesian composer, was also an inmate of Theresienstadt, where he collaborated with the poet and artist Peter Kien on an opera, *Der Kaiser von Atlantis* (*The Emperor of Atlantis*). This work, a satire on war and death sees Death giving up his work and allowing no one to die as the Emperor (a thinly veiled parody of Hitler) is so much better at it than Death himself is. The work was rehearsed and ready for performances when the authorities decided it was too political and put a stop to it. Ullmann and Kien were both sent to Auschwitz where they perished.

The prologue gives a good idea of this amazing work.



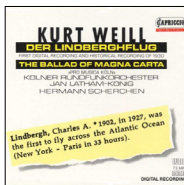
Der Kaiser von Atlantis
Viktor Ullmann
Gewandhausorchester Lothar Zagrosek

Ilse Weber, a poet and musician from Silesia, who lived in Prague, sent her oldest son to the U.K. on a Kindertransport, before being sent to Theresienstadt with her husband and younger children. She worked there as a nurse and teacher and found time to compose poems and songs. In October, 1944, her husband was sent to Auschwitz and so she, with her children, volunteered to go so as not to break up the family. She and the children were sent straight to the gas chambers, while her husband was put to work and he, with the older son in England, survived the war. The song, 'Ich wandere durch Theresienstadt' is typical of her work, simple, lyrical and a direct descendent of Schubert.



Ich wandere durch Theresienstadt /
Wiegala – Ilse Weber
Sylvia Larrass Daniel Walkington

Kurt Weill, in America, worked mainly on musicals for Broadway. Shows such as *Lady in the Dark*, *The Firebrand of Florence* and his opera, *Street Scene*, were successful in their day and have enjoyed revivals in more recent times. He was still, however, politically active and one of his works from this time, 'The Ballad of Magna Carta' to a text by Maxwell Anderson shows his political fire still very much alive.



The Ballad of Magna Carta – Kurt Weill
Jane Henschel Kölner
Rundfunkorchester Jan Latham-Köning

The story of Berthold Goldschmidt is much less happy. Born in 1903 in Hamburg to Jewish parents, he studied music in Berlin and played violin in the Berlin Philharmonie. His opera, *Der Gewaltige Hanrei* (*The Mighty Cuckold*) was a great success in Berlin and in many other cities in Germany. With the advent of the Nazis, he fled Germany in 1935 and came to the U.K. He worked as a conductor for the BBC and continued to compose. In 1951, his opera, *Beatrice Cenci* won

the opera prize at the Festival of Britain but the Covent Garden company refused to perform it. He worked on the realisation of Mahler's 10th Symphony with Deryck Cook and he conducted it at the Proms but few remember him. One of his early cabaret songs from the late 1920s gives a flavour of this largely forgotten man.



Der Verfolssene (The Washed-up Lover)
Goldschmidt
Ute Lemper Jeff Cohen Matrix Ensemble
Robert Ziegler

The long-term effects of the Third Reich are still being realised. The post-Janacek development of Czech music largely perished in Auschwitz. Many post-war composers rejected the whole concept of western music and began experimenting with electronics as a source of sound and as a means of recording natural and industrial sounds as a basis for composition. Composers such as Luciano Berio, Karlheinz Stockhausen and Pierre Boulez took music in directions which few could have imagined before the second world war.

Fritz Busch, Carl Ebert and Rudolph Bing, all refugees from the Third Reich, were invited to join the fledgling opera company at Glyndebourne, in Sussex and were instrumental in developing the high standards and adventurousness of the company.

Erich Wolfgang Korngold emigrated to the U.S.A. He became a composer for films in Hollywood and was largely responsible for the acceptance of that branch of composition as a legitimate art form.



Suite from Anthony Adverse – Korngold
Warner Brothers Studio Orchestra
E. W. Korngold

In 1994, Decca records embarked on a project to record music from this period that was in danger of, or indeed had been forgotten. This project has led to performances of many of these works, including songs by Ilse Weber, chamber music and 'The Emperor of Atlantis' by Viktor Ullmann, Brundibar by Hans Krasa and cabaret songs by various composers. Of course, just because a work has been forgotten or was written under extreme circumstances, it does not necessarily follow that the work is a masterpiece and Decca was clear in its intention that it was making no special case, but giving the works their due.



Figure 3: Jedem das Seine.

JEDEM DAS SEINE is still the text set into the gates of the concentration camp at Buchenwald. It was designed by the communist artist Franz Erlich, a Bauhaus alumnus and inmate of the camp. It faced *inwards*, so that the inmates could see out through it, unlike the more famous ‘Arbeit macht frei’ above the gates of Auschwitz, to be read as you entered. The text at Buchenwald was meant to intimidate. It can be translated as ‘You’ll get what’s coming to you’, but, in this elegant and simple font, designed at the Bauhaus, it seems to say ‘To each what they are due’. Justice for all, a beacon of hope. Perhaps the Nazis did not make the connection with the town of Weimar, just a few kilometres down the road, where in 1715, J.S. Bach premiered his cantata, ‘Nur Jedem das Seine’. Even in the darkest places, there is hope.

Acknowledgement

I wish to record my thanks to Edwina Dyson for inviting me to give the lecture on which this article is based, to Jill Taylor for her superb performance of ‘Die Moritat von Mackiemesser’, which set the atmosphere for the lecture so appropriately and to all the composers of this period, not all who could be mentioned but, whose contribution to the musical life of our world is immeasurable.

Derek Blyth read music at the University of Aberdeen, where he founded the Aberdeen University Gilbert & Sullivan Society. He has spent most of his career teaching in the north-west of England and has conducted productions of all the Savoy operas, as well as more serious operatic and orchestral works. He has a particular interest in Richard Wagner’s music. A chance gift of a CD of Klezmer-inspired music opened a new area of study which, coupled with his teaching interest in the Holocaust and enthusiasm for the works of Brecht and Weill, inspired this talk.

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THE RAMSDEN LECTURE

Why is Britain so Badly Governed?

IVOR CREWE

9 December 2015

Fifty years ago, scholars of democratic political systems, tended to the view that the British system of government was close to perfect, and certainly far superior to others. It was simple and easily understood as the world's constitutions go. It was strong, decisive and accountable. And it was stable. The government – always of one party – governed for four or five years, but then the public had their say, which the electoral system ensured was a decisive say. The civil service was a Rolls Royce machine of disinterested and high-minded public servants that purred in support of experienced and respected ministers. Not least, the system was effective. It worked; it delivered the goods. There were occasional cock-ups – notably Suez in 1956, the Blue Streak missile system – but when they happened, the electorate could always throw the rascals out. They might complain about the government's objectives, but rarely about the state's competence.

Fast-forward fifty years to today: respect for Westminster Government and the political classes that run it is at a low ebb, among ordinary voters and experienced observers alike. Government is increasingly seen as part of the problem, not the solution to the nation's or to people's critical concerns. Causes of dissatisfaction include the global financial crisis, and the decline of the power of the sovereign nation state in an era of globalisation, of porous national boundaries and of international markets of overwhelming power. The parliamentary expenses scandal has not helped.

Governing well is always difficult, far more so than commentators and citizens imagine. But in Britain government is also disrespected for the simple reason that British governments frequently get things wrong, sometimes very badly wrong. They cock things up, probably increasingly, probably on a greater scale than at least some comparable countries, and certainly unnecessarily and too often. This is the genesis of a study that Anthony King and I undertook of major policy blunders between 1980 and 2010 and published as *The Blunders of Our Governments*.¹

By a blunder we mean a case of a government initiative to achieve one or more stated objectives which not only fails totally to achieve those objectives, but in addition:

- wastes very large amounts of public money
- and/or causes widespread human distress
- and was eventually abandoned or reversed
- and was foreseeable.

We studied twelve blunders from 1980 to 2010, taken from a much longer list compiled from the suggestions of a large number of former ministers, senior officials and political commentators. Here are the Dirty Dozen in chronological order:

- The widespread mis-selling of private pensions in the late 1980s
- The poll tax, of course, the classic policy blunder
- The Child Support Agency, established in 1993, still in desperate difficulties under another name, after more than twenty years
- Britain's entry into the Exchange Rate Mechanism in 1990 at the wrong level and its humiliating exit in 1992
- The Millennium Dome in the year 2000 – not desperately important in the scale of things, although it did lose £800m – but an entertaining mishap
- The fiasco of Individual Learning Accounts in 2001, a charter for embezzlers and scoundrels. There are still trials of the fraudsters whom the Government paid for the non-existing training of non-existing students
- The whole business of the administration of tax credits, introduced in 2003, including demands for large reimbursements from recipients long after the event
- The Assets Recovery Agency, also established in 2003, charged with recovering the ill-gotten gains of criminal activities but costing far more to run than it ever obtained, and closed down after five years
- The failure, year after year, from 2005 to 2009, to pay British farmers monies due to them from the EU, resulting in bankruptcies and suicides
- The endless problems with ill-conceived and over-ambitious government IT projects, most notably but by no means limited to the abandonment of the NHS Patient Record System before it ever came into operation
- The collapse of Metronet, the PPP for the modernisation of the London Underground, at a cost of at least £2bn to the tax payer
- The on-again, off-again, on-again and now apparently off-again introduction of ID cards, which has consumed a great deal of time and a considerable amount of public money.

Had we extended our study to the Coalition Government, we would have had additional case studies, including the restructuring of the NHS, the tripling of university tuition fees and, probably, the introduction of Universal Credit.

Three blunders

To provide a flavour of these blunders, here are the details about three of them. The first is the poll tax. It was introduced in 1990 to replace property-based local taxes, by a flat-rate Community Charge on all local adult residents.

The poll tax

The Conservative party, especially its local activists, vocal at annual conferences, had long regarded the rates as unfair. Two figures, deeply embedded in

Conservative iconography, were always contrasted: the elderly widow living alone in her family house, paying the same rates, as the family next door consisting of Mum, Dad and three strapping young men (they were invariably strapping) all bringing income into the household. The rates, moreover, were not paid by council house tenants, and therefore funded the profligacy of Labour councils to fleece home owners. The Community Charge would be fairer, would make local authorities accountable to the local electorate and financially more prudent. It was, as is well known, a colossal blunder, the mother of all blunders.

- It was uncollectable in some communities, especially the big cities;
- It cost £2.5bn in uncollected taxes;
- It led to the collapse of the finances of some local authorities;
- It caused widespread human misery, especially low income owner-occupiers, who found themselves charged at twice or three times the level of their rates;
- There was rioting on the streets;
- It cost the Prime Minister her job;
- And it was replaced by Michael Heseltine after three years with the 'Council Tax' – a return to a property tax, albeit one that was banded and included discounts and exemptions based on the size and composition of the household

The Child Support Agency (CSA)

The CSA was initiated by Mrs Thatcher and set up under John Major in 1993. It was meant to address the rapidly growing problem of single mothers whose former partners were paying no child maintenance and who therefore had to rely on income support and other benefits. So-called 'feckless fathers' had twigged that they could have children, abandon the mother and leave it to the state to pick up the tab. And the tab was growing rapidly throughout the 1980s.

At that time child maintenance issues were handled by the courts, but in most people's view they were cumbersome, slow, arbitrarily inconsistent and ineffective. So the Government established the CSA to assess, collect and distribute all maintenance payments. At the time almost everybody thought it a good idea in principle, from moral authoritarians and fiscal conservatives on the Right to welfare champions and campaigning feminists on the Left.

Ministers promoted the CSA at the 2nd reading of the Act as a means of lifting millions of children out of poverty, saving the taxpayer money and forcing young fathers to meet their responsibilities.

It was a disaster.

- It cost far more to run than it ever collected in payments;
- It left hundreds of thousands of single mothers, and their children, worse off than before;
- Single mothers refused en masse to identify the fathers;

- Very few supposedly feckless fathers paid up for the simple reason, that being feckless, they just did not have the money;
- The IT system set up to manage the processes soon choked to death, as did its costly replacement, producing administrative chaos. To those who came in touch with it, the CSA was known as the Complete Shambles Agency;
- There were countless instances, running into hundreds of thousands, of miscalculated charges, of payments going into the wrong accounts and of payments being charged to the wrong fathers – you may imagine the breakfast scene when the wife sees a letter to a blameless father demanding maintenance payment for the child he never told her about because he never fathered it, or the frustration of childless gay men being pursued by the CSA.
- Eventually, fifteen years, four governments and five chief executives later, the idea of a government agency superintending child maintenance arrangements was abandoned.

Metronet

The blunder of Metronet exceeded the scale of the poll tax in its waste of public money, although not in human distress, but was barely noticed by the media.

In the 1990s the London Underground was in poor shape, with a huge backlog of maintenance and desperately in need of maintenance. The Government recognised the need for a major long-term upgrade. The traditional forms of procurement for an infrastructure project of such magnitude are either contracts issued by a central public commissioning authority, e.g. Transport for London or the Department of Transport, or a bond issue underwritten by the central government or the Greater London Authority. Instead – and against advice from all with expertise and experience in the matter – the Treasury insisted on a Public-Private Partnership. The idea of a PPP is to transfer risk to the private sector and take the costs off the government's public accounts.

Metronet was the larger of two consortia of major private companies in the construction and engineering sectors established to undertake the modernisation programme. The multi-layered management structure of the set up, involving the Treasury, London Underground, TfL, the Metronet Consortium and its constituent companies among others was of hideous and baffling complexity. The detailed, convoluted contracts drawn up to manage the risk of every element of the programme ran to 28,000 pages and two million words. They cost over half a billion pounds in consultants' and lawyers' fees.

In 2007 Metronet went bust, with very little maintenance or upgrading undertaken. To keep the show on the road up to the point of bankruptcy, the Treasury had agreed in a comfort letter to underwrite 95 per cent of Metronet's liabilities. In other words, the risk had not been transferred to the private companies but been shouldered by the taxpayer. Estimates of the overall cost to the tax payer vary from £2.5m to £20bn. As one of the people we interviewed for the book said: "You couldn't make it up. You simply couldn't make it up".

Why do blunders happen?

We offer no general theory of blunders, no single capstone explanation; indeed each of our case studies was to some degree *sui generis*. But it is helpful to distinguish between structural and behavioural causes. Structural causes are rooted in poorly designed policy-making and delivery structures which are liable to produce or allow mistakes irrespective of the quality and behaviour of the individuals and groups involved. The Ministry of Defence has blundered repeatedly in procuring defence equipment and numerous government agencies have similarly blundered in the commissioning and implementation of IT systems. But it seems highly improbable that these blunders can be attributed to the failings of particular individuals and groups; they are institutional, systemic and cultural in character. Structural malfunctioning points to the need for the reform of policy-making institutions.

Behavioural causes refer to the inadequate skills or delinquent behaviour of ministers and officials operating in a sound system of policy-making. The culprits are one or more of ill-informed, prejudiced, over-confident, careless, stubborn, lacking in judgement - or whatever. The remedies include better training, more appropriate experience, increased self- and group awareness, more compelling rewards and sanctions for performance and so forth.

There is no hard and fast distinction between institutional and behavioural causes; they are inter-connected and overlap. In particular, institutions shape the incentives and opportunities for politicians and officials to act in ways that make blunders more likely, or less likely, to happen.

Let me begin with structural causes and highlight two features of the institutional landscape – a deficit of deliberation and a deficit of accountability

Deficit of Deliberation

The British system is designed for decisiveness, but it is not designed for, and certainly does nothing to encourage, deliberation.

If a British government wants to act, it does so. It is unconstrained by ‘veto-players’: individuals and institutions whose backing is needed for any major initiative and who are therefore able to block any initiative that they find objectionable or that threatens their interests. It is rarely beholden to other parties in the Commons, or to the House of Lords, which lacks the power or legitimacy of, for example, the US Senate; or to the Supreme Court of the United Kingdom which lacks the authority of, for example, Germany’s Constitutional Court or the US Supreme Court; or to powerful city and regional governments that constitute independent centres of power in federal systems such as the US, Germany or Australia.

The British system is efficient at converting a minister’s whim, picked up at a Notting Hill or Islington dinner party, or a panic-stricken reaction to tabloid headlines, into a bill, albeit a hastily and badly drafted one, such as the Dangerous Dogs Act, (1991), the Football Spectators Act (1989) and more recently much of the counter-terrorism legislation

The whips will drive it through the Commons and the parliamentary committees. Number 10 and the Treasury will lean on ministers. Ministers will instruct civil servants to deliver. Whitehall will issue guidelines to town halls or NHS trusts or whoever is responsible for applying the policy locally.

The trouble with a system designed to take decisions unconstrained is that it is every bit as easy to take the wrong decisions as it is to take the right ones. Good decisions are facilitated, but so are bad ones. Ministers would hate it but perhaps the policy-making process would be improved if it accommodated more veto-players, rather than fewer. All the governments that committed the blunders we investigated were strong and decisive, but their very strength and decisiveness made possible – indeed positively encouraged – their blundering.

To explain what I mean by a deficit of deliberation imagine taking a big personal decision: a house purchase or a choice of career or university. What would you do? You would deliberate, by which I mean three things:

1. You would take your time. You would not decide immediately, because you would need time to gather information and ask around.
2. You would take advice, from those with more experience and knowledge, but whom you could trust to give you honest and disinterested counsel. And you would listen dispassionately to those whom you knew to be sceptical about the decision you were minded to take.
3. You would carefully weigh the pros and cons. You wouldn't plump for the first university or house you came across. You would gather as much information as you could; you would think about it.

The common feature of our set of blunders is that the Government did none of these things. [e.g. ILAs] Almost all of the blunders were gestated very much in-house, within the executive branch. The government did not deliberate with the people most directly affected, with those whose job it is to apply a policy, with independent experts, and with those who were opposed, before arriving at the decision in the first place. Either the mechanisms for deliberation did not exist or, where they did, the outcomes were ignored.

In the case of the poll tax a small group of seriously bright officials and junior ministers were tasked to propose an alternative to the rates. It was a complex, major project. They talked incessantly to each other. But they did not talk to the people who mattered. They deliberately excluded local government treasurers, the real experts on local tax collection, whose day-to-day activities would be adversely affected if they failed to collect it, on the grounds that the local government treasurers had pre-ordained views, an agenda. And they did not investigate the probable reaction of local tax payers because they assumed they knew it.

In the case of the Child Support Act, they ignored the doubts expressed by the Child Poverty lobby and failed to consult officials who had direct experience of collecting payments and information from the poor – the managers and staff of social security offices.

Nothing in the British system – or indeed in the British political culture – required the Government to reach out beyond its own confines.

Parliament

The institutional locus of national deliberation should, of course, be Parliament, one of whose roles is to scrutinise the details of legislation. It turns out to be a black hole at the centre of our governmental system. Parliament was an irrelevant spectator of the twelve policy blunders we examined. Most of the blunders involved new primary legislation but on all essential points the members of the governing party in the Commons did little more than support their ministers' legislative proposals. The House of Lords merely did as it was told. In neither House were there pre-legislative hearings; the public bill committees, where legislation is meant to be examined clause by clause, are systematically whipped, and the select committees, including the Public Accounts Committee, look at policy after the event, not before.

The bills in most cases were rushed through, with little time allowed either for substantive debate or for detailed scrutiny of individual clauses. The few voices raised in opposition were largely ignored. Indeed, a notable feature of the whole list of blunders was the inevitability with which the Opposition parties would object to the policies on grounds of principle but the rarity with which they argued that they would fail in their objectives, the single exception being the mis-selling of pensions. The official opposition parties played no effective part in any of the proceedings. When we conducted our interviews with former ministers and senior officials almost none mentioned Parliament, even in passing, until we brought it up ourselves, at which point they usually dismissed it as irrelevant.

Deficit of accountability

At this point one might ask: don't ministers want to avoid blunders and, if so, why don't they understand the advantages of careful deliberation? After all, they are formally accountable to Parliament for the performance of their department and run the risk of media exposure when things go badly wrong. But, in reality, they are not accountable for the outcomes of their policy initiatives.

We drew up a list of all the ministers and senior officials associated with our twelve horror stories - about eighty people in all - and traced how many resigned or suffered demotion or sanctions. Excluding the chief executives of delivery agencies, the answer is one: Margaret Thatcher, brought down by the poll tax.

In the British system blunderers go unpunished and, for that matter, achievers go unnoticed and unrewarded. The main reason is that ministers and senior officials typically stay in post for a couple of years. In our thirty-year period there were thirteen Home Secretaries, fourteen Pensions Secretaries and thirteen Education secretaries. By the time a blunder becomes apparent, by the time a policy idea has been turned in to an implementation mess, they have moved on or out. They do not even appear before the Public Accounts Committee or select committee. It is left to their hapless successors to do the explaining and apologising.

Newly appointed ministers usually have little knowledge of, or indeed personal engagement, with their department's policy area. But they know three things: firstly, that they have only a year or two to make a mark, or to grab the attention of

the media or of Number 10; second, that a new policy backed by Number 10 and the Treasury will reach the statute book unblocked by any veto player; and third, that by the time the consequences of their policy initiatives become apparent they won't be associated with the cock-up or triumph. So they are attracted to short-term achievements and to designing and pushing through policy initiatives as fast as they can. They demand that their officials come to them with solutions not problems. They have little incentive to get weighed down by time-consuming deliberation or to involve themselves in the messy and frustrating details of implementation.

Behavioural Causes

Cultural Disconnect

Individuals in government, and governments collectively, may blunder because they suffer from what we call 'cultural disconnect'. They devise policies in the belief that those affected by the policies will respond in a particular way, only to be surprised to discover that they respond very differently or not at all. They fail to recognise that the people whose behaviour they are trying to influence live lives that are very different from their own. They project onto others their own mind sets, values, habits and assumptions, which tend to be very unrepresentative of the people most affected by a policy. They fly into potentially violent storms without radar – but without realising that that is what they are doing.

In the case of the poll tax, its inventors could not imagine that people would break the law to evade it. In the case of the CSA, officials were wholly unaware mothers might have four children by four different fathers who have each impregnated four different mothers; or that mothers might quite genuinely not know who the father is or could possibly be. As one of them put it to us: "I didn't realise people led such complicated lives".

The Civil Service

Politicians believe that the behavioural causes of government blunders lie elsewhere: the Civil Service. Ministers used to respect Whitehall, if grudgingly. This changed with Margaret Thatcher who railed against officials "who come to me with problems instead of solutions". Tony Blair felt similarly: "fighting the forces of conservatism", he complained, had "left scars on my back". Iain Duncan-Smith Minister for Work and Pensions, publicly blamed his officials for the botched roll-out of Universal Credit.

The Civil Service is not always or even usually to blame. Misgovernment is more often the result of over-hasty and ideologically-driven ministers ignoring the advice of their officials and outside experts, and pressing ahead with proposals in a highly centralised system of government that lacks checks and balances. But I offer, very tentatively, three features of today's Civil Service that can contribute to policy failure and should be the focus of reform.

The first is the asymmetry of expertise between civil servants and the private sector service providers and partners whom they must manage. The second is

the excessive rate of staff turnover. And the third is 'operational disconnect' – the failure of ministers and senior officials designing policies to connect and consult with those whose job it is to apply the policies on the ground.

Countless post-mortems by the National Audit Office on policy failures point to the absence of skills and experience in programme and project management, procurement and commissioning and the negotiation of contracts, and call for officials capable of dealing with their counterparts among private providers on equal terms. This presumably requires a much more ambitious programme of in-house training, perhaps the establishment of permanent programme planning units in each department, possibly recognition of project management as a professional grade within the Civil Service and recruitment of talent from the private sector at competitive salaries. The rigid cap on public sector salaries as a means controlling public spending may have to be loosened if the Civil Service is to be staffed with people of the right skills.

The annual turnover of officials has reached alarming proportions, especially in the Cabinet Office and Treasury, where it is almost 50 per cent.² Part of the explanation rests with the austerity cuts in staffing, the restructuring of departments that followed, and uncompetitive remuneration. But the main culprit is the historical assumption in the Civil Service that staff development and retention require a rotation of jobs every two to three years between different departments. This is combined with the equally rapid turnover of ministers in many departments: the typical length of time that the same minister and permanent secretary are jointly leading their department is twelve months and the same instability is replicated at the junior ministerial and deputy secretarial level. This is no way to run a country.

Staff turnover on this scale makes misgovernment almost inevitable. In his damning report on the Department for Transport's mishandling of the bidding for the West Coast Mainline franchise, at the cost of £50 million to the taxpayer, Sam Laidlaw laid the blame on the loss of key staff, the asymmetry of expertise between the Department and the bidders, the reluctance of inexperienced mid-level officials to voice their concerns, and the arrival and departure of no fewer than four permanent secretaries during the twenty-six months of the process before it aborted.³ Too often officials are learning the ropes in their new job. Too many of them are hastily drafted temporary secondees who do not stay long enough in post to build up expertise and lack the confidence to warn off ministers against blunders. Departments lack a corporate memory, re-invent the wheel and repeat mistakes from the past.

The Civil Service urgently requires more stable leadership. To avoid the sclerosis and complacency that can set in to organisations with very low turnover, the stratum of senior and experienced officials should be leavened by specialist professionals recruited on medium-term contracts for major programmes. Why cannot officials be appointed to departments (or a group of cognate departments), not the Civil Service as a whole, and career development be designed within not across departments, as it is for the Foreign and Commonwealth Office?

Operational disconnect

The second behavioural failing is what we call 'operational disconnect'. Time and again those who designed the policy failed to involve those who, further down the line, would find themselves having to implement whatever the new policy turned out to be. Sometimes the planners sat in one set of offices while the executants sat in another, without the planners realising that they should be in close communication with each other. The rapid rotation of ministers and officials exacerbated the problem. The policy-makers operated in an implementation vacuum. They did not regard issues of implementation as their problem, because they did not imagine it could ever threaten the viability of the policy.

So implementation planning needs to be prioritised throughout the process of policy design. Perhaps this requires embedding a different operating procedure in policy formulation. Officials and other public sector staff responsible for applying the proposed policy at street level should be engaged in the policy design. Perhaps officials in central departments should be seconded as part of their career development to the local agencies and offices charged with delivering policy.

But the behavioural sources of policy blunders lie predominantly with ministers, who set the targets, than with officials who fail to implement them. Most ministers have had little or no personal experience of running an organisation, delivering services, satisfying clients or customers, in other words, of managing and delivering change. They are, increasingly, professional politicians who have spent their entire career, or almost all of it, in politics itself, as student politicians, political researchers and speech writers and young MPs.

The list is long: David Cameron, Nick Clegg, Ed Miliband and Jeremy Corbyn; George Osborne, William Hague and Michael Gove; John McDonnell, Diane Abbot and Hilary Benn. All have spent almost their entire adult lives in politics. They are experienced parliamentarians, campaigners, lobbyists, researchers, communicators, speech writers; they know how Westminster and perhaps bits of Whitehall work. But until they assumed office they had not run anything. So perhaps it is not surprising that they miscalculate the impact of policies and take little interest in the practical implementation as distinct from its principles of design.

Not all ministers are without outside experience, but even those who enter parliament later in life from a different career have typically had jobs that do not involve taking responsibility for the achievement of collective objectives in an uncertain world. They are preponderantly lawyers, fund managers, consultants, teachers, journalists. Very few have had any prior experience of successfully devising and implementing a policy designed to make things better.

We draw our ministers from a narrow and unqualified pool, largely from about 200 MPs, who sit for safe constituencies. They are selected by constituency associations for whom the attributes of an effective minister are rarely uppermost in their mind. Other countries, e.g. the United States draw their ministers from a much more diverse set of backgrounds.

Conclusions

One final, wider thought: in recent years all of our political leaders have promised to engage in reforms that enhance the quality of our democracy. Nick Clegg tried to change the electoral system and to democratise the House of Lords; David Cameron and George Osborne were publicly committed to shifting the balance of power from central government to local institutions. Jeremy Corbyn wants parliamentary question time to be a forum for ordinary constituents' questions and the PLP to follow the views of party members. We have directly elected police commissioners.

In all these cases the emphasis is on the quality of democracy in the UK rather than the quality of UK governments – of their decision-making systems and how they are applied, of their decision-makers and how they think and operate. The popular legitimacy of our democratic institutions almost certainly owes more to the standard of government affecting everyday lives than the quality of governance owes to democratic design. Blundering governments are not governments that command respect. Perhaps the principal cause of our discontents is poor quality governing rather than democratic deficit and is what needs to be addressed. Maybe the poet Alexander Pope caught the public mood in his *Essay on Man*:

For forms of government let fools contest;
What 'er is best administered is best.

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THE WILDE LECTURE

Doping In Sport

CHARLES GALASKO

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Man is competitive. This is true in all walks of life but probably reaches its maximum in sport. It is not surprising, therefore, that athletes seek every advantage including the use of performance enhancing drugs. This is not new. The ancient Greeks used a viscous opium juice which the Dutch many years later called “doop”, hence the word doping. The Roman Gladiators used hallucinogens and strychnine to stave off fatigue, avoid injury and improve the intensity of the fight.

At the beginning of the modern era, doping was still accepted. In the late 19th century French cyclists and lacrosse players used a mixture of cocoa leaf extract and wine. Thomas Hinks, who won the 1904 Olympic marathon, was given an injection of strychnine and a large glass of brandy during the race with a further injection 4 miles from the finish. The official report stated “The marathon has shown from a medical point of view how drugs can be very useful for athletes in long distance races”. This was at a time when medical advice was completely different to today’s. For example, Dr Thomas Allinson, who advised healthy living by exercise, fruit and vegetables in the diet and giving up smoking, was struck off the Medical Register by the General Medical Council in 1893 for the latter as London physicians, at that time, regularly recommended smoking as a way to clear the lungs.

Between the years 1900 and 1920 mixtures of strychnine, heroin, cocaine and caffeine were used but in the 1920s heroin and cocaine only became available by prescription. In 1928 the International Association of Athletic Federations (IAAF) prohibited doping but no testing was available. During the Second World War British, American, Canadian and Japanese troops used amphetamines, British troops consuming 72 million tablets. Like other stimulants, which include caffeine, cocaine, Modafinil and Ephedrine, they improve wakefulness, with many university students taking Modafinil, and in sport they lead to a better performance. They also result in a lack of judgement and a willingness to take risks. The RAF saw an increase in crash landings as a result. It is also alleged that the Everton players who won the league in 1962-1963 used them.

In the 1950s anabolic steroids were introduced accounting for the success of the Soviet weight lifters. Dr Ziegler, an American physician, learned about this and with the help of Ciba, the pharmaceutical company, developed the anabolic steroid methanandrostenolone (Dianabol, DIBOL) which was released in the USA in 1958 by Ciba. He pioneered its use as an aid to muscle growth by body builders who probably consume more anabolic steroids than athletes.

Knut Jansen, a Danish cyclist, was the first athlete to die during an Olympic event due to performance enhancing drugs. He was competing in the 100 km team trial race in the 1960 Rome Olympic Games. The temperature was 42C (108F) and about 20 km from the finish he collapsed from the effects of heat-stroke. He fell, hit his head and died from the resultant head injury. He had been given Roniacol, an amphetamine-like substance that acts as a peripheral vasodilator which increases the blood flow to the limb muscles, probably in addition to others. His death was one impetus that led the International Olympic Committee (IOC) to establish a Medical Commission in 1967 and to institute drug testing in the 1968 Olympic Games, the first disqualification being for the use of excess alcohol. Meldonium is also a vasodilator. It was recently added to the banned list of drugs by the World Anti-Doping Agency (WADA), since when a number of athletes have tested positive, including Maria Sharapova, the Russian grand slam winning tennis player. Tommy Simpson was the first cyclist to die during the Tour de France. He died in 1965 from a combination of amphetamines and brandy.

Full scale testing for narcotics and stimulants was introduced in 1972 but did not include anabolic steroids which were tested for in the 1983 Pan-Am Games. Several athletes were caught whereupon 30 withdrew from the Games.

I first became interested in doping when I was a Medical Officer with the British Olympic team at the 1988 Seoul Olympic Games. The 100 metres was won by the Canadian Ben Johnson, who tested positive for Stanozolol (a synthetic anabolic steroid). He later admitted to using several agents including human growth hormone. Carl Lewis, who was promoted to gold, later admitted failing three tests during the United States Olympic trials, claiming that this was concealed by the US Olympic Committee and also claiming that he was one of "hundreds". Linford Christie, who was promoted from third to second, tested positive for pseudoephedrine. He claimed that ginseng was responsible even though all members of the British team had been advised not to consume ginseng in any form because of the danger of contaminants. The IOC accepted his explanation by a vote of 11 to 10. In 1999 he tested positive for Nandrolone (also an anabolic steroid). He claimed it was a contaminant citing a number of possible carriers including avocado but his excuses were not accepted on this occasion and he was given a two-year ban by the IAAF.

In the Olympic village I shared a flat with five coaches including one of the judo coaches. He was found to have given one of his team diuretics in order to make weight. Both he and the competitor were banned. Diuretics are banned because they are masking agents. One day, one of the taekwondo competitors attended the British Medical Centre asking for diuretics in order to make weight (i.e. achieve the necessary weight loss). This was refused. He spent the rest of the day running around the Olympic village in a sweat suit, losing several kilograms. He made the weight limit for his event but, not surprisingly, was eliminated in the first round of the competition. During a discussion about doping a previous gold medal winner advised me to be cautious of athletes who pulled out of a competition a few days prior to their event claiming flu or some other illness. It was suggested that in many instances the reason was that the athlete's own testing

regimen showed that he was still positive. This was at a time before out-of-competition testing was introduced. The weigh-in for the wrestling competition was held adjacent to a sauna. The scales were made available several hours before the weigh-in commenced and competitors who were slightly overweight spent a considerable length of time in the sauna, sweating in order to make weight. Unfortunately, in some sports, athletes believe that they are at their strongest if they are slightly over the weight limit for their weight category shortly before the competition commences and attempt to lose the excess at the last moment.

There are several methods of making weight. The most physiological and, in my opinion, the only one, is for the athlete to adjust his diet so that he does not have to lose weight by sweating in a sauna or sweat suit immediately prior to the competition, and does not have to rely on diuretics. Another method is to become dehydrated and after the weigh-in, to be given intravenous saline to make up for the fluid loss. I was the Chief Medical Officer for the World Wrestling Cadet Championships in 1998 when IV (intravenous) giving sets were found in the Polish team's quarters. At that time rehydration by intravenous saline was allowed. The giving sets only contained saline. This practice has since been banned by WADA, which was created in 1999 following the first world conference on doping held by the IOC.

During this period the doping experts were East Germany. In 1977 a shot putter tested positive for anabolic steroids; thereafter all their athletes were tested before they left the country, approximately 12,000 tests being carried out per annum. The Stasi supervised systemic doping from 1971 until re-unification in 1990. In 1993 their records were opened making this information available.

In 1963 the International Olympic Committee introduced a list of banned substances. This was taken over in 2004 by WADA who produce a yearly update. The problem with their list is that drugs are mentioned by category rather than by commercial name. Global Drug Reference on Line (GlobalDRO.com) has produced a list of products sold in the United Kingdom, United States, Canada and Japan in the last couple of years. Athletes can now check specific medications including over the counter medication but not supplements.

The WADA classification is divided into five categories: - substances prohibited at all times, substances prohibited in competition, substances prohibited in particular sports, prohibited methods and mechanical aids.

The substances prohibited at all times include non-approved substances; anabolic agents; peptide hormones, growth factors and related substances e.g. erythropoietin (EPO) and growth hormone; beta-2 agonists (these drugs are used in asthma to provide bronchial dilatation and in athletes can improve lung function. In injection/tablet form (but not by inhalation) they also have an anabolic effect); hormone and metabolic modulators such as insulin which improve muscle mass and endurance; and diuretics and other masking agents.

Substances prohibited in competition include the above plus stimulants such as Modafinil, Ephedrine and Strychnine; narcotics; cannabinoids; and glucocorticoids such as hydrocortisone. Substances prohibited in particular sports include

alcohol which is prohibited, for example, in karate and archery, and beta-blockers in addition to the above. Beta-blockers are used in the treatment of angina, hypertension and irregular heart rhythm. They lower the heart rate, reduce adrenalin, calm the nerves and steady the hands, thus are particularly useful in sports like shooting. They are also used by musicians.

Prohibited methods include manipulation of blood and blood components which includes transfusion, IV manipulation including use of intravenous saline as described above; chemical and physical manipulation which includes tampering with samples; and gene doping. This category now also includes mechanical methods which were previously listed as a separate category and includes urine substitution and/or adulteration e.g. by proteases.

The whizzinator is a false bladder available on the internet. It consists of a kit with dried urine, syringe and a false penis. It is not only used by sportsmen and in the United States there is a case of an actor who was caught trying to use one when tested for driving under the influence of drugs. Catheterisation is another method that has been used, the athlete catheterising himself and inserting clean urine prior to being tested. The use of chaperones to stay with the athlete from the moment their competition ends until they give the sample prevents this technique. The most recent case of “mechanical” or “technological” doping is the use of a motor in a bicycle frame.

Probably the commonest performance enhancing drugs are the anabolic steroids. They are used therapeutically for bone growth, to stimulate appetite, induce male puberty and in chronic wasting diseases, including cancer and AIDS. In sport and body building they are used to increase muscle mass, reduce fat and provide faster recovery time and physical strength. The increased muscle mass is permanent providing the athlete continues to train and, in my opinion, because their use provides a permanent advantage, individuals found guilty of using anabolic steroids should be banned for life. They have major side effects. These include, “roid” mania resulting in hostility and aggression, delusions and hallucinations, depression upon withdrawal and rage; high blood cholesterol, atherosclerosis, high blood pressure and cardiac damage; liver dysfunction and liver cancer; stunted growth in youngsters by prematurely halting the activity of the epiphyseal (growth) plates; kidney disease and retention of fluids, so called “steroid bloat”; reduced testicular size, low sperm count and impotency in males; increased size of ovaries, cessation of ovulation and menstruation in women; balding in men and women with hair growth on face and chest in women; severe acne; the development of a beard and deepening of the voice in women; breast enlargement in men and breast reduction in women and muscle and tendon rupture. Nevertheless, despite the risks of many of these drugs athletes are prepared to take them. In a 1992 study athletes were asked whether they would be prepared to take performance enhancing drugs if the drugs guaranteed success despite a five year mortality. At the time 50% said they were prepared to do so. A 2009 study suggested that the level had fallen but the current doping scandal suggests that many athletes are still prepared to take these risks.

Many of the banned drugs have a medicinal use and athletes may need to take them therapeutically, for example insulin for diabetes, medication for asthma etc. Where this is necessary the athlete needs to apply for a therapeutic use exemption certificate (TUE). When I was a member of the UK Therapeutic Use Exemption Committee, it was run by UK Sport and I was one of eleven members. Each application had to be completed by the athlete as well as his doctor and was viewed by three members of the committee. All the work was done by email to speed up the decision. In the vast majority of cases we agreed as to whether it should or should not be given; where there was some disagreement it took longer for a decision to be made. Occasionally we felt that the use of the drug was outside our field of expertise and would ask for a report from a Consultant in the relevant specialty before finalising our decision. The Therapeutic Use Exemption Committee is now run by UK Anti-Doping (UKAD). Treatment may be required because of a chronic disease such as diabetes, exacerbation of an existing disease such as Crohn's disease (a chronic inflammatory disease of the intestines especially the colon and ileum) or for an emergency such as acute anaphylaxis. In the latter case the TUE can be requested retrospectively. The use of these medicinal drugs does not enhance performance. For example, one of the track gold medallists in the Manchester 2002 Commonwealth Games, at which I was a medical commissioner and one of the individuals responsible for ensuring that specimen collection was carried out correctly, was on asthma medication. His lung function was tested both on and off his medication. It improved with the medication but did not reach the expected normal level.

EPO (erythropoietin) increases the red blood cell count, oxygenated blood and VO₂ Max which is highly correlated with success in endurance sports such as cycling, rowing, cross country skiing and long distance running. The VO₂ Max is the maximum rate of oxygen consumption expressed either in litres of oxygen per minute or millilitres of oxygen per kilogram body weight per minute. It is measured during incremental exercise, most typically on a motorised treadmill and reflects the aerobic physical fitness of the individual. In 2003 WADA stated that only urine testing was necessary but some sports have continued to require blood testing.

More recently the athlete passport has been introduced. This is a longitudinal recording of haemoglobin and reticulocyte levels (immature red blood cells) looking for abnormal variation which could be caused by taking such agents. However, the levels are also affected by illness, altitude, pregnancy and dehydration; because of the latter athletes need to be rehydrated before being tested. As part of their training many athletes undertake altitude training to increase their haemoglobin. In South Africa individuals living in Johannesburg, which is at 6000 feet, have a haemoglobin level $\frac{1}{2}$ - 1 gram higher than those living in Cape Town at sea level. Specimens can be kept for years making it possible to look at longitudinal records some years later. Because it thickens the blood the risks of EPO include myocardial infarction, deep vein thrombosis, pulmonary embolism and cerebral embolism. Recombinant EPO also carries the risk of autoimmune disease.

Out-of-competition testing was introduced by WADA to try and catch athletes who were doping between competitions but is not always successful as shown by the Balco scandal, the Puertes trial and the recent Russian scandal. The Bay Area Lab. Co-op (Balco) was a US nutrition supplement company which developed Tetrahydrogestrinone (TGH, "The Clear"), a highly potent designer anabolic steroid. It was used by several medal winners including Marion Jones, a US athlete who won gold medals in 100 metres, 200 metres and long jump in the 2000 Sydney Olympic Games and 2001 World Championships but subsequently was disqualified because of the use of steroids and by Dwaine Chambers, the British sprinter, who returned to competition after his two-year ban in 2003. In the 2002 Manchester Commonwealth Games he won all his preliminary races and reached the final but suffered a cramp mid-race and ended up in last place. He later revealed that he had feigned injury as the brief hamstring cramp was caused by drug abuse. In 2003 a US sprint coach found a syringe lying in the dressing room which he forwarded to the US Anti-Doping Agency for testing. This led to the identification and a test for TGH making testing for TGH possible. Until that time all the agency's tests were negative. TGH has similar complications to other anabolic steroids but can also cause immunosuppression.

In 2006 the Spanish police discovered the doping network of Dr Fuentes (Operation Puerto). They seized steroids, growth hormone and 211 blood bags. Fifty cyclists were implicated as well as 150 other athletes. Only the cyclists were named. These included cyclists who had won major events including the Tour de France, Giro d'Italia, Vuelta a Espana as well as gold and silver Olympic medals and who were subsequently banned for taking performance-enhancing drugs. It was not until 2013 that Dr Fuentes came to trial and was given a one-year suspended sentence, which was overruled in 2016. The judge ordered that the blood bags be destroyed. WADA, who have a 10 year statute of limitation, appealed. In this case the police acted quickly to uncover the scheme but the courts were very slow to react. In June 2016 the appeal judge ruled that the 211 blood bags be handed over to anti-doping authorities for investigation. These bags were to be used for blood doping (which is the transfusion of the athlete's own blood, that had been collected earlier) back to the athlete a few days prior to competition in order to increase his haemoglobin. The ruling was too late to charge any of the athletes with doping but may be used as baseline levels for their athlete's passport. This case also brings up an important principle - namely that of the individual's privacy including the right to act fraudulently (by using banned performance enhancing drugs to earn money in professional sport) versus the right of the public, other competitors and the sport to clean and fair competition. It also demonstrates the failure of routine testing.

In the 2004 Athens Olympic Games Costas Kenteris, who had won gold medals for the 200 metres at the 2000 Sydney Olympic Games, the World Championships in 2001 and the European Championships in 2002, and Katerina Thanou, who had won a silver medal in the 100 metres at the Sydney Games, tried to avoid testing by riding off on a motor scooter when they were selected

for testing prior to their events. WADA declared that drug testing was successful because a number of athletes had not attended these games but this shows the difficulty of out-of-competition testing.

Drug doping continues as can be seen by the recent scandals involving Russian athletes and others, including Kenyans. 2015 and 2016 are probably the worst years for doping to date. In December 2014 German broadcaster ARD reported on state sponsored doping in Russia comparing it to East Germany, having received details from a whistleblower. In November 2015 WADA published a report highly critical of RUSADA (Russian Anti-Doping Agency) and ARAF (All Russian Athletic Federation). In the same month IAAF suspended Russia indefinitely from world sport due to widespread doping. The decision was upheld by CAS (Court for Arbitration in Sport). Richard McLaren, a Canadian attorney, was commissioned by WADA to investigate the allegations and his report in July 2016 concluded that, beyond a reasonable doubt, the Russian Ministry of Sport, the Centre of Sports Preparation for National Teams of Russia, the Federal Security Service (FSB) and the WADA accredited laboratory in Moscow had operated for the protection of doped Russian athletes including a state dictated system which included the disappearing positive test methodology between 2001 and August 2015. This included 15 Russian medallists at the 2014 Sochi Winter Olympic Games who had had their urine samples substituted by clean urine, the specimens being retrieved through a hole in the wall. As a consequence WADA recommended that Russia be banned from the 2016 Rio Olympic Games but the IOC rejected this, claiming it would be unfair on clean Russian athletes and deciding that individual International Federations make the decision based on an individual basis. The federations behaved differently, the International Weighting Federation giving a 1-year ban to Russian athletes, whereas others allowed Russians to compete including Yulia Efimova, a swimmer, who had previously been suspended for 16 months and then had tested positive for Meldonium in 2016 for which other athletes have been suspended, not surprisingly leading to friction between Russian and other competitors and booing by spectators. In contrast the International Paralympic Committee suspended Russia from competing in the 2016 Paralympic Games leading to further disharmony. Overall 271 Russians were allowed to compete in Rio and 117, including field and track, were banned. Dr. Grigory Rodchenkov, former director of the Anti-Doping Centre in Moscow, admitted to supplying drugs and swapping specimens in his laboratory.

Although the IAAF eventually banned Russia, its initial behaviour has been criticised and its previous president, Lamine Diack, has been investigated by the police for allegedly receiving payments of £800,000 to cover up doping offences.

Re-analysis of 454 specimens from the 2008 Beijing Games found 32 positives, including 14 medallists: 23 of 265 specimens from the 2012 London Games were also positive with 15 more being reported in July 2016, showing the importance of re-analysing specimens as testing methods improve.

Several questions arise with regards to the future:

1. Should performance enhancing drugs be legalised? It has been said that their use is banned in order to provide fair competition but competition is not fair in that those athletes who can afford it or whose countries can support them have access to training facilities including altitude training which are not available to all athletes, to biomechanical resources to help improve their performance and in some instances to better equipment. My objection to the use of performance enhancing drugs is because of their risks to the individual's health. Once it is allowed amongst professional sports people the lower ranks will take these drugs so as to improve their performances and this is likely to include schoolchildren.
2. Governance. The recent scandals suggest that doping control should be taken away from governing bodies, International Federations, the IOC and many national anti-doping authorities and given to independent International Agencies

In 2004, in a lecture given to the Institute for Sports and Exercise Medicine in London, I suggested that there should be two bodies in the UK to control drug doping, namely a British Anti-Doping Agency and an Anti-Doping Commission. The first would be responsible for providing 24-hour advice to athletes with regard to the safety of drugs (and which is now provided by Global Drug Reference Online – GlobalDRO.com); advice to athletes who require banned agents for medicinal purposes; be responsible for the therapeutic use exemption committee as well as specimen collection and drug testing; investigation with police collaboration of drug pushers; and research including developing improved methods of testing and safe supplements. The latter would have avoided the problems that Rusedski and other tennis players faced when the Professional Tennis Association produced a supplement which they claimed was safe but contained Nandrolone. The Anti-Doping Commission would judge the case and dispense justice in line with international agreements. This would avoid claims that the punishment was either too severe or too lenient. Both would be funded by bodies like UK Sport but would be totally independent. The Department of Culture, Media and Sport has since partly changed governance along these lines. In 2009 they established UK Anti-Doping (UKAD) as the independent single body but judging of cases was left to the governing bodies.

I now believe that doping control should be under international control. WADA would continue in its current role. The first of two new international bodies, perhaps named the International Anti-Doping Agency would be responsible for collecting and testing specimens, three rather than two specimens being collected on each occasion, the third being sent to this body. They could licence national bodies to carry out some of this work, the licence being renewable every three years and the third specimen being used to audit the licensed agencies. The second new body would have a judicial role, judging cases with positive tests, abnormal athletic passport

findings, missed tests etc., so that all athletes would be subject to the same disciplinary process. CAS would become the Appeal Court for Sport and hear appeals against judgements made by the latter. These international bodies would be funded by the International Federations, the IOC and Governments but would be totally independent.

3. Punishment. Currently, most athletes who are found to have taken banned substances are suspended for two to four years although there is a marked variation and in some cases the period is much shorter. I do not think that this is sufficient. I would suggest that athletes who are found guilty of taking performance-enhancing drugs that give them a lifelong advantage should be banned for life. Other athletes should be banned for a minimum of four years and this would include those athletes who have tested positive for drugs which give a temporary advantage, those who take supplements that are contaminated and those that take over-the-counter drugs which are banned, unless there are specific mitigating circumstances. If there are aggravating factors such as a second positive test the period of ban should be increased.

One group who might be treated more leniently are those who seek medical advice and are given a prescription for a banned drug. When I was Chairman of the British Wrestling Association, I chaired the hearing of a member of the senior squad who had attended his GP and had been given a cough mixture. Unfortunately, this particular medication came in four preparations, two of which contained pseudoephedrine and the GP prescribed one of these. In the event we suspended him for 3 months because he had not sought the advice of his team doctor with regard to the medication.

4. Criminalisation. The supply of drugs is a criminal offence but the question arises whether this should also apply to professional athletes and governing body officials who conceal data. In the case of professional athletes the argument can be made that they are earning money under false pretences and governing body officials who conceal the data allow them to do so.
5. Improve detection. This may be helped by more out-of-competition testing and re-testing specimens up to 10 years later. Research is necessary to discover new drugs and methods that are being developed and to improve testing. The question also arises as to whether there should be a specific police group whose aim is to detect suppliers, particularly if they operate on a large scale.
6. Russian athletes. Should they be excluded from European and International competition until Russian athletes are shown to be clean? Sochi has been stripped from hosting the 2017 World Bobsleigh and Skeleton Championships.
7. Abuse of non-prohibited drugs. It has been suggested that excessive amounts of analgesics and hypnotics e.g. Tramadol are being taken. Drowsiness is a side-effect and it has been suggested that this may be the cause of some

of the accidents that occur in endurance cycling events. L-carnithine is an amino-acid that has a role in the transfer of fatty acids to mitochondria and there are suggestions that it may improve performance. WADA allows infusions of up to 50mls. in six hours.

It has been suggested that Alberto Salazar, head coach of the Nike Oregon Project in Portland (and coach of Sir Mo Farah and others) has used up to 1 litre as well as other non-prohibited drugs inappropriately, the United States Anti-Doping Agency claiming that he has “almost certainly” broken the rules.

8. Should honours be delayed until after the sportsperson has retired? WADA's statute of limitation is 10 years. Should this be time chosen. It took many years for Lance Armstrong to be unmasked. Repeated testing of specimens collected during the 2008 Beijing and 2012 London Games continue to regularly reveal additional positives.
9. Drug abuse is not confined to sport. It also occurs with body builders, ballet dancers, students, musicians and others. The question as to whether anti-doping measures should be introduced in ballet has been raised.

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One of his main interests has been in Sport & Exercise Medicine. He has been a Medical Officer at Olympic and Commonwealth Games as well as World Championships where his duties have included doping control. He was a member of the Medical Committee of the British Olympic Association and Medical Adviser and Chair of the British (Olympic) Wrestling Association. He was a member of the Therapeutic Use Exemption Committee and Chair of the Intercollegiate Academic Board for Sport & Exercise Medicine. He was instrumental in the development and recognition of the new medical specialty of Sport and Exercise Medicine and was elected the Inaugural President of the Faculty of Sport and Exercise Medicine (UK), the governing body for the new specialty and is currently writing his autobiography, provisionally entitled Opportunities Knock.

*Excavating Engels: The Archaeological
Investigations of Workers' Housing
in Manchester and Salford, 2001 to 2017*

MICHAEL D NEVELL

19 January 2016

Introduction

Manchester's central role in industrialisation, that is the shift from a rural agrarian society to an urban-based manufacturing one, drew both praise and scorn in 19th century Britain. The descriptions of Manchester by Friedrich Engels, a member of a Prussian textile mercantile family working in the city in the 1840s, of the housing and living conditions within the city have become infamous. Writing in 1842-43 (though his observations were later published in 1845 in his book *The Condition of the Working Class in England*) Engels concluded that the

“350,000 working people of Manchester and its environs live, almost all of them, in wretched, damp, filthy cottages, that the streets which surround them are usually in the most miserable and filthy condition, laid out without the slightest reference to ventilation, with reference solely to the profit secured by the contractor” (Engels 1845)

His comments can be foreshadowed 50 years earlier by John Aikin writing in 1795;

“It [Manchester] unfortunately vies with, or exceeds, the metropolis, in the closeness with which the poor are crowded in offensive, dark, damp, and incommodious habitations, a too fertile source of disease!” (Aikin 1795, 192).

Writing over 150 years later, in 1963, the social historian Asa Briggs could describe Manchester as the ‘shock city’ of the Victorian period. This was due to the city’s central role in developing urban-based steam manufacturing, densely packed urban housing and free market economic theory.

From having no textile mills in 1780 Manchester became the largest mill town in the world, with 33 textile spinning mills in 1800, 86 working steam mills in 1831 and 108 working mills in 1850. Other industries such as engineering, iron and glass making also flourished in the mid-19th century with hundreds of factory sites recorded in 1850 (Nevell 2008). This phenomenal industrial rise was matched by its spectacular population growth in the first half of the 19th century; Manchester nearly doubled its size between 1801 and 1821 from 75,281

to 126,066 people, and then more than doubled its population by 1851, when there were 303,382 people within the new borough (Hartwell 2001, 17). This new population required huge amounts of housing and between 1773 and 1821 the number of dwellings in the city rose from 3,446 to 17,257 and by 1851 had reached nearly 50,000 (Kidd 2006, 38; Kidd and Wyke 2016, 29-30).

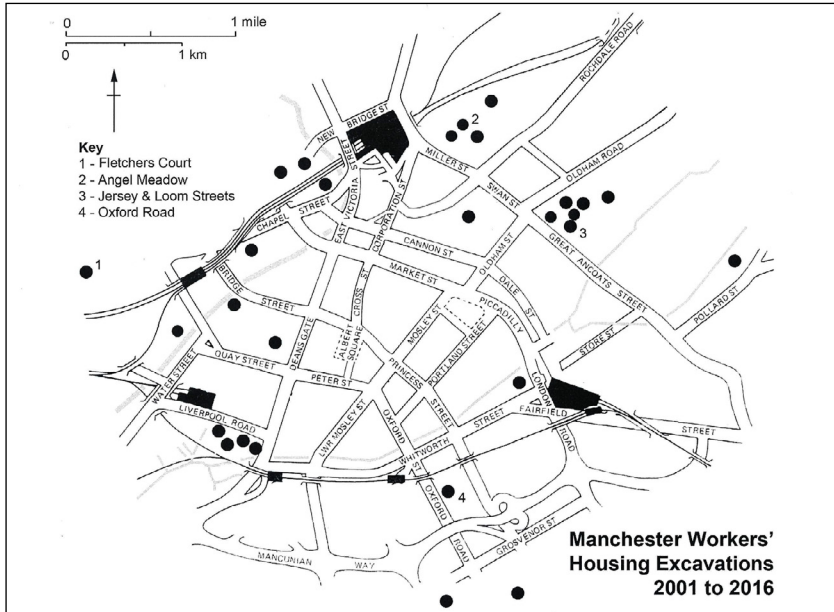


Figure 1: Workers' housing excavations in Manchester and Salford 2001 to 2016.

For most of the 20th century archaeology had little to contribute to the debate on Manchester's role in industrialisation and urbanism. However, beginning in the 1980s archaeological studies of vernacular domestic buildings and the surviving textile factories began to provide a line of archaeological investigation that developed new perspectives on the 'Shock City' (Nevell 2008). At the end of the 1990s a conscious decision was made by the city's planning archaeologists to actively record, during the redevelopment of central Manchester after the IRA bomb damage of 1996, this dwindling resource and to further expand our knowledge by targeting for excavation key city centre urban areas (Redhead 2011, 53-54). Since 2001 archaeological work ahead of redevelopment within the city of Manchester, and central Salford, has been targeting the excavation of workers' housing from the 18th and 19th centuries. Over 30 sites have been looked at and the remains of several hundred houses excavated, or more rarely, recorded as standing structures. Some of the worst areas of 19th century slum housing in Britain have been studied, including Angel Meadow in Ancoats, and the New Islington area of Salford.

Archaeology and Industrial Housing in Manchester

The archaeological study of housing in Britain goes back to the 1970s with Jennifer Tann's study of fireproof workers' housing in a factory colony in Staffordshire (Palmer and Orange 2016; Tann 1972). Such early research focused upon the surviving standing buildings and includes a significant series of articles on housing quality in the Lancashire factory colonies by Geoff Timmins (Timmins 1979; 2000; 2013), as well as vernacular building studies of industrial workers' housing in West Yorkshire (Caffyn 1986; Dewhurst 1989), and handloom weavers' dwellings in the Cotswolds, and workers' housing in Essex (Palmer and Neaverson 2003; Crosby, Garwood and Corder-Birch 2008).

The excavation of urban, Industrial Period, workers' housing was pioneered in several places in the late 20th century: in New York in the USA and Sydney in Australia for instance (Yamin 2001; Karskens 2001). In Britain the archaeological investigation of workers' housing only became a significant method of investigation after 1990 when UK planning guidance required developers to fund archaeological work ahead of redevelopment. Even then it took the long economic boom of 1992 to 2008 to turn the excavation of workers' housing from an exceptional occurrence to one that is now a standard part of archaeological urban planning conditions. From a few excavations in the late 1990s in parts of London such as the Spitalfields suburbs (Harward, Holder and Jeffries 2015), the 2000s saw major areas of industrial workers' housing targeted archaeologically in industrial cities including Glasgow, Manchester, Sheffield and York (Connolly 2011, Nevell 2008 and 2011; Rimmer 2011; Symonds 2005).

The archaeological study of workers' housing in the city of Manchester can be traced to the work of the Manchester Early Dwellings Research Group in the 1980s. This group grew out of a Workers' Educational Association class on workers' housing led by Jacqueline Roberts (Guasden 1988). Spurred by the realisation that significant parts of Manchester's pre-1850 housing stock survived in the city, but was threatened even then by extensive redevelopment, a small group set out to record all the remaining pre-1850 workers' housing in central Manchester and to preserve key examples. Between 1982 and 1993 the group recorded 38 blocks of housing ranging from workshop dwellings and terraced housing to back-to-backs and cellar dwellings. Much of this record, which focused on the Northern Quarter of the city, was through photographic recording although several structures were the subject of detailed archaeological building recording and historical research (Roberts 1983; 1985, 1993; Taylor and Holder 2008). The project was successful in raising awareness about the city's early housing stock, and this research led directly to fresh protection for many pre-1850 dwellings either through listing or inclusion in Conservation Areas (Parkinson-Bailey 2000, 33-40). Further recording work of early dwellings was undertaken by English Heritage in the 1990s and by the Manchester Region Industrial Archaeology Society in the 2000s and subsequently through the archaeological planning process (Redhead 2011, 53-54).

However, the fact that more than two thirds of the sites recorded by MEDREG have subsequently been demolished highlights how vulnerable such small-scale

dwelling are to redevelopment and the ravages of time. More importantly, the steady loss of such early dwellings brought about the realisation that archaeological excavation offered a way forward in further exploring these sites.

Parallel to this are four important historical studies on workers' housing in 19th century Manchester. The earliest is Rushton's study of housing conditions in Ancoats (Rushton 1977). This looked at the historical evidence for over-crowding and sanitation in the new industrial suburb. It also looked at household incomes. Wilson charted the introduction of sanitation in Manchester between 1868 and 1910 (Wilson 1990). This study is important in explaining how domestic sanitation spread across the city but also looks at how local politics initially favoured new build regulation over improving sanitation to earlier properties. Hayton undertook a comparative study of 19th century cellar dwellings in Manchester and Salford (Hayton 1995). She looked at the way in which evidence collected by the public health inspectors in both cities over-emphasised the prevalence and poor conditions of cellar dwellings compared to other types of workers' housing. Finally, Brumhead analysed the clearance of workers' housing for two new railway termini in the 1870s and 1890s: the construction of Central Station (opened in 1879) and the Great Northern Railway Warehouse (opened in 1896). The early 19th century housing affected, between Deansgate and St Peter's Square, were amongst some of the worst in Manchester and the demolition was encouraged by the city as part of its slum-clearance strategy (Brumhead 2004). Whilst the owners of over 1600 over-crowded back-to-back, court and terrace houses in this area were compensated for their loss, the tenants had to find new premises unaided.

Archaeological Excavation 2001 to 2017

Though the first archaeological excavation of workers' housing in Manchester was undertaken by Prof Barri Jones of Manchester University on Deansgate in 1972 this pioneering research was not followed by further digs until the early 21st century (Jones and Grealley 1974). Between 2001 and 2017 (Nevell 2017; Redhead 2011) more than 30 workers' housing sites have been excavated within the historic 19th century mercantile and manufacturing city centre, and a further six on the Salford bank of the River Irwell, opposite Manchester Cathedral. Many of the areas studied archaeologically were the subject of detailed commentary by social reformers such as Friedrich Engels and Elizabeth Gaskell, or surveys by the local health inspection authorities. This has allowed comparison of the written with the archaeological record, which it turns out often proved to be at odds with each other (Nevell 2011, 2014).

A number of research questions have been pursued by archaeologists excavating such sites in Britain. Amongst the most common are issues of: build quality; identity, movement and migration; overcrowding; and sanitation and disease. Furthermore, most of these topics overlap with the concerns of 19th century social commentaries on Manchester from local health inspectors and local health boards to social campaigners such as Edwin Chadwick, Charles Dickens, Dr J P Kay and de Tocqueville in the 1830s and 1840s (Kidd and Wyke 2016; Roberts

1985, 48-50). Whilst archaeologists must always be wary of following other disciplines' agendas (Johnson 1999), archaeological investigation of industrial period housing in Manchester is engaging with other forms of historical evidence in order to highlight the unique qualities that an archaeological approach brings to the study of these issues.

Build Quality

Manchester was one of the places which social commentators highlighted as having the worst quality of housing. Dr J Ferriar writing in 1805 described the average worker's dwelling in Manchester as consisting of 'two rooms, the first of which is used as a kitchen, and though frequently noxious by its dampness and closeness, is generally preferable to the back room. The latter has only one small window, which though on a level with the outer ground, is near the roof of the cellar' (Miller, Wild and Gregory 2010, 25). Engels in 1844 noted that in Ancoats 'in such a hole [referring to a one-roomed house] I found two beds, which with a staircase and chimney-place, exactly filled the room. Everywhere, before the doors, heaps of debris, refuse and offal' (Engels 1845). As late as 1904, when The Citizens' Association of Manchester commissioned a detailed map of housing quality in the city, there were still dozens of occupied back-to-back houses, and hundreds of properties without running water or dedicated toilets (by then condemned as slum dwellings) in Ancoats, Hulme and central Salford. The worst quality housing formed a ring nearly completely encircling the commercial core of Manchester (Marr 1904).



Figure 2: Excavations at Angel Meadows in 2009 (Courtesy of Oxford Archaeology North)

The control of building quality through local bye laws only came about with the creation of local health boards and later local councils in the mid-19th century. These new bodies used private Acts and local bye-laws to address housing problems in individual towns. Thus, in Manchester the Police Commissioners (established in 1792) and then the new Borough Council (established in 1838) were responsible for taking action to improve the draining and paving of streets. After 1792 the Commissioners introduced a series of bye-laws controlling street widening and improvement as well as building regulations that specified the requirement for and condition of party walls, joists, load bearing timbers and chimneys. A Nuisance Committee was setup in 1800 to deal with the dangers posed by projecting cellar steps and unfenced cellar holes, whilst in 1801 a party-wall surveyor was appointed. By 1811 the Commissioners were repairing soughs and drains from police funds and in 1830 a minimum street width of 24 feet (7.32m) was decreed (Roberts 1993, page 21). The Police Commissioners came to act as the de facto council for the rapidly expanding industrial town, recognising that bad sanitation and poor building quality were threats to health and public order. The Manchester Police Act of 1844, sponsored by the new borough of Manchester, apart from establishing judicial courts in the industrial town had clauses allowing the new local authority to insist on the provision of privies for new houses and to ban the building of new back-to-back properties (Kidd and Wyke 2016, 315; Rushton 1977). Before the 1844 Manchester Police Act, local land owners might stipulate some restrictions in terms of house plot-size and road width but, as was common in urban centres outside London, control of the type and quality of building material, room size and the provision of utilities was rare. In 1853 a new local bye-law allowed the Borough to prevent the building and habitation of cellars, thus rendering illegal a complete class of dwelling. In the following decade the privately sponsored Manchester Waterworks and Improvement Act of 1867 was aimed at removing back-to-back houses from the city. Thus, it required landlords to renovate, recondition or change the use of existing back-to-backs. This was a very significant moment since, until 1867, all of these regulations applied to newbuild properties, not the earlier housing stock, with the exception of the banning of cellar dwellings (Roberts 1983, 23; Wilson 1990).

Archaeology has been very adept at recovering the structural evidence for the build quality of the new urban industrial homes of 19th century Britain. Across Manchester and Salford this is reflected in the depth and quality of housing foundations and in the quality of the materials used. Build quality varied greatly, but often excavated evidence reveals the substantial nature of much of the housing of the late 18th and 19th centuries in the two cities. The excavation of late 18th century workshop dwellings and terraced housing in Ancoats, Angel Meadow and Castlefield testifies to this. Workshop dwellings typically had substantial half-basements (used as workshops) often with separate heating, lighting and stone-flagged floors as at Southern Street in Castlefield (Nevell 2008, 144) and Angel Street in Angel Meadow (Miller and Wild 2015, 12-14). Late 18th century terraced houses with substantial brick foundations have also been excavated in Ancoats along Loom Street and in Salford along Chapel Street (Nevell 2008,

146-150). Later 19th century board housing in Ancoats also had substantial brick foundations (though no cellars) with running water, paved surfaces and individual back yards and outside toilet blocks (Nevell 2014).

Yet many urban excavations in Manchester and Salford have also revealed poorly-built housing, especially amongst the court, back-to-back and blind-back housing of the first half of the 19th century. One set of four blind-back houses in Salford, at the junction of Gravel Lane and Greengate, built around 1820, had brick foundations resting on the clay subsoil, not laid in a foundation trench, with internally the only evidence for a floor surface being a series of clay levels (Nevell 2008, 149-150). Though of two storeys there was no sign of a staircase suggesting that a wooden ladder might have been used. There was of course no sign of running water and no external privies close by. Other blindbacks could be better appointed. The eight examples excavated at Bury's Court off Adelphi Street in Salford, also built in the early 1820s, had paved floors and staircases, for instance, although they had to share four ash or earth closets and none of the properties originally had running water (Gregory and Miller 2015, 45). Though few single-room dwellings have been excavated in Manchester the dwellings in the cellars of the lodging house on Factory Street in Angel Meadow illustrate how cramped these structures could be at 3m by 3.5m in area (Miller and Wild 2015, 41).

At Piccadilly Place, off London Road in central Manchester, some of the earliest back-to-backs in the city were excavated in 2009. Built around 1800 and extended in the period 1837-50 the earliest dwellings in Syer's court had purpose-built cellar dwellings, with rooms of roughly 12ft by 15ft (4.27m x 4.57m). The internal partitions were one full brick-length deep and each had a flagged floor, fireplace, and separate stone stairways from the street above. The additional properties, built 30 years later, had internal partitions just one brick-width deep, and only communal stairway access to the street. None had running water or drains (Miller, Wild and Gregory 2010, 26-28).

In Ancoats various sets of back-to-backs were excavated along Loom Street in 2007. One set on the northern side of Jepson's Court, built in the years 1807 to 1813, had paved and heated cellars but were dug into clay. The only drainage was a soakaway in the court. This meant that they were prone to flooding when it rained (Nevell 2008, 156-7; Nevell 2014, 61-66). These properties appear never to have been upgraded with running water. The back-to-backs excavated on George Leigh Street, also in Ancoats, built by 1815 were a slight improvement in that they had no cellars, but they also still had no running water (Miller and Wild 2015, 43).

Finally, one aspect of the archaeological evidence that still remains under-researched in Manchester is the manufacture and quality of the bricks that were used in workers' housing. Contemporary accounts and photographs, and now archaeological evidence, shows these to be the favoured building material for housing from the late 18th century onwards. The stamping of makers' marks into bricks is a later 19th century trend, along with new forms of mass production and distribution from regional brick making centres (Palmer, Nevell and Sissons 2012). This

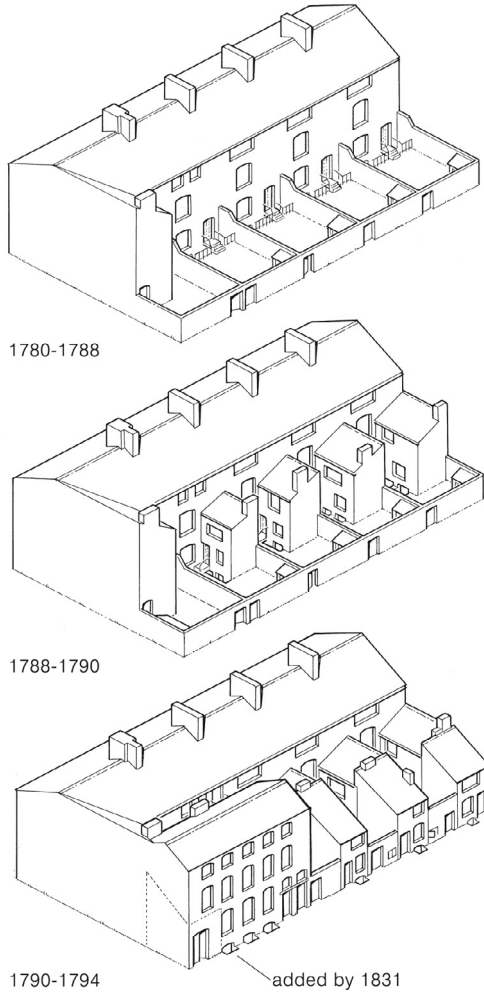
gave an increasing regularity and conformity to brick types. However, all of the sites discussed in this paper were established before these advances and during the late 18th and early 19th centuries most of Manchester's bricks were made locally, on the fringes of the expanding industrial town. Documentary sources suggest that the bricks were manufactured in clamp kilns using local clay. This is supported by the excavated evidence, which has produced handmade bricks with evidence for irregular firing (either under-fired or burnt) typical of clamp kiln sites from sites across the city, such as Angel Meadow and Loom Street in Ancoats, as well as Chapel Street in Salford. Sometimes, straw was used to temper the bricks during firing, leaving a more porous product that was probably less weather proof. So far only one brick clamp kiln has been excavated in Manchester, off Oxford Road in 2016. This site was covered with housing in the mid-19th century (pers. comm. Norman Redhead, chief planning archaeologist for Greater Manchester). Another feature of early domestic brick construction was the move from white lime mortar to, in the mid-19th century, lime mortar mixed with ashes and cinder. As yet it is unclear how this affected build quality in houses, but it is a distinctive feature of house building in the city from at least the 1840s onwards.

Overcrowding

Archaeologically, the evidence for overcrowding in the new industrial towns and cities of the late 18th and 19th centuries can be seen in several ways through the archaeology of the worker's house. The first of these is the subdivision of existing properties by the addition of internal partition walls and external access ways (new doorways, corridors and alleys). The second way overcrowding can be tracked archaeologically is through backyard infilling leading to court areas accessed by narrow passageways from the main streets. Finally, the construction of purpose-built back-to-back and cellar dwellings represented an attempt at high density housing by local private builders. Subdivision, backyard infilling and back-to-back and cellar dwellings are recorded in most 19th century industrial urban sites, with excavated examples ranging from Birmingham and London, to Salford and York (Brumhead 2004; Connelly 2011; Dwyer 2011; Gregory and Miller 2015; Hayton 1995).

Archaeological evidence for subdivision comes from a number of areas of central Manchester. In 2005 the Channel 4 archaeology television programme *Time Team* excavated a single vernacular workshop on the southern side of Angel Street. This was built in the 1770s as part of a row of four-storey properties, with cellar and attic workshops. Part of the front room and the whole of a rear room were excavated, giving a floor area of roughly 5.4m by 4.3m. A halfpenny was found encased in mortar from the cellar backfill with the date 1775 inscribed, suggested that these properties were built around this date. The front room had a flagstone floor, which might have been later, but the rear room had an original handmade brick floor and both spaces were originally heated. Bancks' directory of 1800 records a Michael Smith, shoemaker, at No. 39 Angel Street, which is the likely address of the excavated property (Nevell 2008, 143-144). A single-thick brick wall was later inserted across the cellar to form a front and back room space,

whilst a stairwell from the pavement into the cellar was inserted. This is visible on the 1850 sixty inch Ordnance Survey map of the area. The 1851 census shows that on average three families were living in each of the former workshop dwellings along Angel Street. Other 18th century properties excavated in the Ancoats district of Manchester also show evidence for such subdivision in the early 19th century (Nevell 2008, 144-50).



*Figure 3. The development of the Lever Street houses 1780 to 1794.
(Image courtesy of English Heritage).*

A surviving range of three workshop dwellings on Nos 1-5 Milk Street (later Kelvin Street) were built by Richard and Mary Manchester in 1772-73 and let by that family until sold by them in 1790s (Nevell 2003). Directory evidence indicates that the family were textile traders (Nevell 2008, 142). The layout of the three Milk Street properties shows they were built as a single working unit by the Manchester family. Internally, the ground and first floors of each property acted as the domestic areas, each floor being heated and perhaps divided by a wooden screen and providing a total living area of 50m square. Below was a cellar accessed only from the individual property, but each third-floor attic room was connected to each other providing three, linked, workspaces with a taking-in door at the rear of the northern-most attic room. On the ground floor a covered passageway between the southern and middle properties led to the rear enclosed courtyard and the area below the taking-in door. Archaeological evidence indicates that in the mid-19th century the doorways between the loft workshops were blocked and new external stairwells added to provide separate road access to the cellars. This allowed at least one family per floor of the building, so that in the 1841 Census as many as 20 people were living in a single property which once accommodated just one family. Thus, a mid-18th-century property for one family was turned into a tenement for four or more families, with no extra provision of privies in the rear yard area and no running water (Nevell 2011).

Far more common than subdivision was the backyard or courtyard infilling of urban properties. This is a frequent urban indicator of overcrowding and was noted by 19th century commentators in many industrial cities including Chester, Glasgow, Manchester and London (Matthews 1999; Harward, Holder and Jeffries 2015; Nevell 2008). This process often created court areas accessed by narrow alleys. One extreme example comes from the Angel Meadow-Shudehill area of Manchester. This was a zone of mid- to late 18th century housing that saw backyard and court housing development in the first half of the 19th century. The area was vividly described by Engels in 1844: 'Here one is in an almost undisguised working-men's quarter, for even the shops and beer houses hardly take the trouble to exhibit a trifling degree of cleanliness. But all this is nothing in comparison with the courts and lanes which lie behind, to which access can be gained only through covered passages' (Engels 1845). The large-scale 60 Inch Ordnance Survey map of the Angel Meadow area of Manchester records in apparent detail the alleyways and courts that were created by this urban infill process. However, excavation has demonstrated that the actual urban pattern was far more intricate than recorded by the Ordnance Survey surveyors (Miller and Wild 2015). Unrecorded alleyways and backyard cottages were excavated in 2009 between Blakeley Street and Factory Street in an area that was known as St Michael's Square. A similar pattern of previously unrecorded backyard dwellings was seen when an area between Blakeley Street and Back Blakeley Street was excavated (Miller and Wild 2015, 17-19).

The New Cross area of Chapel Street, in Salford, provides a further case study of infill housing leading to overcrowding. Engels commented that 'The working men's dwellings between Oldfield Road and Cross Lane, where a mass of courts

and alleys are to be found in the worst possible state, vie with the dwellings of the Old Town in filth and overcrowding' (Engels 1845, 100). In 2012 nine houses were excavated fronting Chapel Street and George Street, seven of which were built around 1807 and two of which were added as infill by 1831. Houses 1 to 5 represented Nos 333 to 341 Chapel Street, which trade directories confirmed as commercial premises with dwellings above. The infilling included the addition of earth closets in the small yard to the rear of No. 15 Park Street, and the two infill dwellings to the rear of No 335 Chapel Street and George Street. Both infill houses were accessed via a short alley from George Street, south of No. 333 Chapel Street. There was also alleyway access to House 2 from the northern side of Park Street.

The construction of purpose-built back-to-back and cellar dwellings represented an attempt to provide high density housing at a time of high housing demand caused by inward migration. In Manchester and Salford such housing was a common feature of the expanding urban landscape between 1810 and 1840, the era of the fastest population expansion in both cities, although examples are known from outside this date range.

One of the best excavated examples of purpose-built court housing was excavated in 2012 between Park Street and Barrow Street, south of the Chapel Street site discussed above. Ten structures were identified and all were built as a single phase between 1821 and 1824. These were part of a block of sixteen back-to-back dwellings which fronted Barrow Street and which also had cellar dwellings accessed from Barrow Street. Houses 6 to 10 represented No. 1 to No. 5 Fletchers Court. Houses 11 to 14 represented No. 6 to No. 12 Park Street. Houses 6 to 10 were the northern half of the back-to-backs and were only accessible from Fletchers Court, an area less than 3m wide and roughly 30m long. Two passages from Park Street to the north (roughly 3m wide) and Barrow Street to south (just 1m wide) provided access to this court. The average floor size of the back-to-backs was roughly 4m by 3.5m. Back-to-back properties were a common feature of many other urban excavations across central Manchester and although their construction was banned in both Manchester and Salford by 1850 many houses, including the examples at Fletchers Court, were still occupied as late as 1905.

One model of the way in which overcrowded, slum, housing developed during this period is represented by the upstanding remains of Nos 69–77 Lever Street in the Northern Quarter of Manchester. These began as a speculative development of five-, four-storey, workshop-dwellings built progressively over a decade by a plasterer, William Bradley (Taylor and Holder 2008, 24). The first phase spanned the period 1780–88 when a row of five houses was built. These had attic-floor workshops but the basements, ground and first floors appear to have been divided for tenement housing in all but one case. Each house had its own rear yard with an outside privy. The second phase saw two-storeyed extensions, lit separately, built into the rear yard areas by around 1790 and a third phase by 1794 saw one-up-one-down cottages added to the rear of these in turn, facing Bradley Street. By 1831 a five bay, three-storey, warehouse was built across two backyards.

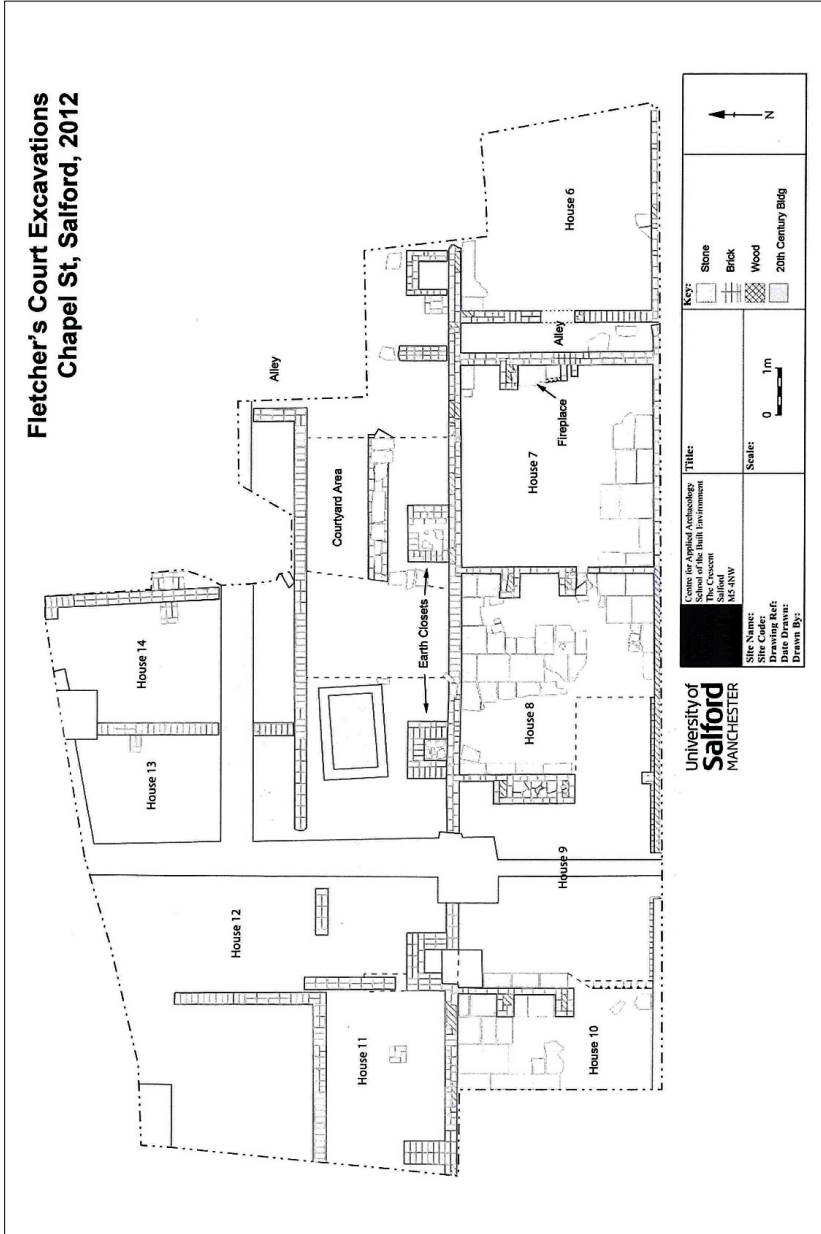


Figure 4. Excavation of the back-to-back houses at Fletchers Court, Chapel Street, Salford 2012.

Access to the phase two and phase three housing was only from the Bradley Street side of the properties (Taylor and Holder 2008, 25). These dwellings encapsulate many of the features of later slum housing; small domestic unit size, poor lighting, restricted access through narrow alleyways and a lack of sanitation (Nevell 2011).

Sanitation and disease

Excavation of workers' housing can reveal extensive evidence for the state of sanitation in these properties, and by implication the quality of living conditions and the likelihood of disease. This material complements the evidence for disease from the increasing database of urban post-medieval and industrial-period cemeteries now being excavated through developer-funding. Such work in turn builds upon projects like the excavation of c. 1000 burials from the period 1729 to 1852 at Christ Church, Spitalfields suburbs, London, in the late 1980s (Reeve and Adams 1993).

Excavations of industrial workers' housing in Chester, Glasgow, London, Manchester and Sheffield have indicated that the most significance features in understanding the role of urban sanitation in the 19th and early 20th century are the presence (or absence) and form of drains, water pipes, and toilet.

Before the first Public Health Act of 1848 the regulation of domestic urban structures focused upon building materials and form rather than sanitation. In London wells and soakaways were common during the 18th and early 19th centuries whilst 'proper dry rubbish' (containing potentially useful pottery assemblages similar to the clearance assemblages seen in North America and Australia) was often used to level up ground as the city expanded in the 19th century (Jeffries et al 2009, 332-335). The poorest quality housing in Manchester, Sheffield and York (back-to-backs, blind-backs and court housing) had no running water, localised soak-away drains and shared external earth-closet toilets. This is a frequent theme on excavated workers' housing sites in the centre of Manchester from Ancoats and Angel Meadow, to Castlefield and Hardman Street (Nevell 2008, 146-159; Miller and Gregory 2010; Miller and Wild 2015; Rimmer 2011; Rushton 1977; Wilson 1990). The latter site had, around 1800, cellar dwellings adjacent to a felt hat works that was using soakaway drains which in turn was adjacent to a soda works with its own well (Nevell 2008, 70-71). This lack of hygiene controls extended to county and market towns such as Altrincham, Cambridge, Dorchester and Oxford with a similar poor outcome in terms of disease levels and health (Cessford 2009; Nevell 1997; Trinder 2013, 487-488).

The same archaeological work also reveals extensive evidence for domestic sanitation improvement from the mid-19th century onwards. This could take three forms. Firstly, the upgrading of a property's utilities with running water being brought into one room (the kitchen or scullery), and the addition in the backyard of a dedicated outside earth closet or flushing toilet. Excavations on Loom Street in Ancoats, in Hulme, and Chapel Street in Salford all show this kind of adaptation during the second half of the 19th century (Connolly 2011; Gregory and Miller 2015; Matthews 1999; Miller and Wild 2015).

Secondly, as building regulations through local health boards became more common often back-to-back housing would be converted either into a single terrace of houses through the demolition of partition walls or put to non-domestic use. This process can be seen at George Leigh Street in Ancoats. Here the central row of houses was demolished in the 1890s and replaced with a wide alley, beneath which was a drain, whilst the remaining two rows of back-to-backs were converted into through houses with individual yards and rear privies (Miller and Wild 2015, 43). In other parts of Ancoats and Angel Meadow such housing was converted into workshops or warehousing (Nevell 2008, 159-165).

Thirdly, there was the demolition of slum housing, sometimes to be replaced with bye-law terraced housing or with purpose-built council housing as with the 1890s Victoria Tenements and terraces on Sanitary (now Anita) Street in Ancoats (Nevell 2014). Complete clearance was also a common approach. This happened in Manchester with the building of new railway terminuses at Central Station, Exchange Station and the Great Northern Warehouse. More common was the clearance of working class housing ahead of the construction of urban railway lines from the mid-1830s through the industrialised towns. This has been recorded along the path of the Eastern Counties Railway in Shoreditch, London, (Dwyer 2011, 15-19) and along the railway line between Castlefield and Piccadilly stations in Manchester and beneath Exchange Station in Salford. One striking feature of the archaeological case studies of industrial urban housing from around Britain is that older housing, those properties built before the introduction of local bye-laws, took a long time to be upgraded, or in many cases were not improved at all before eventual demolition (Matthews 1999; Walker and Beaudry 2011). A study of housing in the northern half of Ancoats provides a case-study for the way in which archaeology can show how the introduction of bye-laws and regulations could take decades to affect existing housing (Nevell 2014). In 1889 Dr John Thresh presented a paper to the Manchester and Salford Sanitary Association, in which he examined the reasons for the continued high mortality in No. 1 District in Ancoats. This was a 36 acre area between Great Ancoats Street, Oldham Road, Union Street and German Street. Thresh reported that the majority of houses in this district (over 800) had been built before 1830, some even before 1780; about 60 had been built between 1830 and 1850, but none after that last date. Most were two-storey, but there were also several three-storey houses, with a workshop in the garret. Back-to-backs accounted for about a third of the dwellings in the district. Many houses had cellars described as being used as workshops or for storage (Roberts 1993, 19; Rushton 1977). In 1904 T R Marr in *Housing Conditions in Manchester and Salford* reported the results of his own inspection of nearly 600 dwellings in 12.7 acres of No. 1 District. Almost half the dwellings were four-roomed (ie two-up two-down), whilst a third were still two-roomed, although these were gradually disappearing under pressure from Manchester's Sanitary Committee. (Roberts 1993, 20). There were even three sets of back-to-backs still occupied in 1904 (Nevell 2014, 55).

Households, Clearance Groups and Mobility

A more intimate approach to the investigation of the everyday lives of the inhabitants of the new industrial cities is through their rubbish, chiefly but not exclusively in the form of ceramic evidence. One particular methodology, that of studying households through clearance groups, only started to be used significantly in British Post-Medieval and Industrial Archaeology after the turn of the millennium. These studies aim to reconstruct individual household histories by combining tightly defined groups of objects, often from rubbish dumps, pits or back-filled latrines and wells, with the documented occupants of the associated property. Developed in Australia and North America their use is still rare in the UK and some of the best published British examples are, ironically, from small rural communities (Brennan 2015; Cassella 2009; Cessford 2009; Harward, Holder and Jeffries 2015). There are, nevertheless, several published urban studies from sites in London at Limehouse, Shoreditch, the Spitalfields suburbs and Sydenham (Dwyer 2011; Harward, Holder and Jeffries 2015; Jeffries et al 2009). Clearance groups have also been analysed and published from Hoyle Street in Sheffield (Powel 2014) and the Grand Arcade in central Cambridge (Cessford 2009).

In Manchester two case studies from Ancoats highlight the advantages and problems in dealing with such urban clearance groups from workers' housing; firstly, the excavation of back-to-back housing off Jersey Street; and secondly the excavation of 46 houses along Loom Street.



Figure 5. A glazed earthenware storage pot of the early 19th century from Jersey Street

At Jersey Street eight dwellings from a set of ten back-to-back built forming Hall's Court were excavated in 2011 (Cattell and Nevell 2011). These dwellings were built in a single phase between 1794 and 1800, making them amongst the earliest known such building types in Manchester. The buildings were finally demolished in 1970, further enhancing their importance within Ancoats, as this court housing spans almost the full history of the industrial suburb (Nevell 2014, 54-56). The houses are shown in detail on Banck's map of Manchester from 1830. A passageway ran from the eastern side of Jersey Street giving access to the southern row of five back-to-backs. The other side of the passageway was occupied by a school. Hall's Court comprised a block of ten, two-storey, back-to-back properties forming Nos 1 to 7 Hall's Court to the south, Nos. 4 and 6 Jersey Street to the west, and Nos. 2 to 8 Pickford Street to the north. Friedrich Engels in his commentary on Ancoats noted that the construction of the workers' houses in the area around Jersey Street was '...on closer examination... evident that the walls of these cottages are as thin as it is possible to make them. The outer walls, those of the cellar, which bear the weight of the ground-floor and roof, are one whole brick thick at most...' (Engels 1845). The properties forming Hall's Court were not cellared, nor were outer walls of the house foundations just a single brick thick. These properties were, then, somewhat superior to those elsewhere on Jersey Street.

After minor alterations in the mid-19th century, during the 1880s (identified in the excavations as Phase 3) the buildings at Hall's Court were substantially redeveloped. Goad's Insurance Map of Manchester from 1888 shows that Nos 4 and 6 Jersey Street were extended by knocking through into Nos. 1 and 3 Hall's Court and into No. 2 Pickford Street to create two larger commercial premises which functioned as a hairdressers and general provisions store. Number 5 Hall's Court appeared to have been demolished and replaced by a single storey out building and yard. No. 7 Hall's Court also appears to have been demolished and in its place was a single-storey, rear, extension to No. 8 Pickford Street. No. 4 Pickford Street was demolished and replaced by a single-storey structure with a front yard possibly serving as an out building for the expanded No. 6 Jersey Street, whilst Nos. 6 and 8 Pickford Street were knocked through to create one larger dwelling.

Documentary and cartographic sources from the 19th century confirmed Nos. 4 and 6 Jersey Street functioned as commercial premises but had living accommodation on the upper floors. In contrast Nos. 1 to 7 Hall's Court and Nos. 2 to 10 Pickford Street were all private dwellings and census returns and trade directories from the period 1797 to 1881 have established that these properties were occupied by local mill workers (cotton piecers and weavers, almost all in Hall's Court in the period 1851-81) and artisans and trades people (barbers, boatman, chair maker, chair maker, coffee mill maker, dress maker, glaziers, fishmonger, greengrocer, hairdresser, joiner's assistant, lawyer, plaster's labourer, plumbers, provisions dealer, shoemaker, sugar boiler, warehouse worker, and a washer woman). One of the reasons for so many trades was the regular turnover of tenants in Hall's Court

and along Pickford Street. Nos 4 and 6 Jersey Street saw longer term tenants, such as James Hardman, hairdresser (1879 to 1920), at No 4. The Census Returns from 1891 and 1901 indicated that Hall's Court had ceased to be used as dwellings and were uninhabited. 20th century Census Returns, rate books and trade directories from the period 1901 to 1961 indicate that Nos 4 and 6 Jersey Street, whilst in use as commercial dwellings, continued to have dwellings in the upper storeys (Phase 4).

The excavations produced a closely stratified group of pottery found in drainage and levelling layers associated with three of the main phases of the buildings. Most of the artefacts were derived from primary and secondary contexts, dating to the 19th century and early 20th century. A small proportion (some black-glazed fine wares and some of the cream wares) were dateable to the late 18th / early 19th century when the houses were built. The single largest category of objects was pottery, 81 sherds, mainly from three contexts: two dumping levels and a make-up levelling layer all associated with Phases 2 and 3 of the complex (broadly mid- to late 19th century). This ceramic material formed 17 black-gazed earthen ware vessels, nine cream ware vessels, five brown stoneware vessels, one dark-glazed fine ware vessel and one unglazed earthen ware vessel. These were mostly bowls and jars, although there were at least one cream ware plate and one cream ware jug. Of particular note was a pair of pince-nez, excavated from a Phase 2 deposit (early to mid-19th century) in No 6 Pickford Street, occupied by the Chapman and Eagle families in the mid-19th century. No. 4 Jersey Street, occupied by the Hardman family from the 1870s into the early 20th century, produced a clearance group (from the Phase 2 levelling context 27) that might be associated with the Hardman's. This included utilitarian earthenwares used in the kitchen or dairy, stoneware vessels used in the pantry or cellar for cold storage, and fine porcelains and white wares used at the table. The ceramic assemblage from Jersey Street provides an invaluable insight into the 19th century domestic repertoire from working class dwellings at the heart of the industrial core of 19th century Manchester. Its importance lies in the social history it records, through the material possessions of the residents.

The second case study comes from the excavation of a disparate group of workers' housing along Loom Street, to the north-east of Hall's Court. Seven area excavations in a block of land either side of Loom Street, bounded by George Leigh, Bengal, Sherratt and Blossom Streets (Areas A to G) exposed the complete or partial floor plans of 46 dwellings (Gregory 2007). This represents one of the largest archaeological investigations of late 18th-, 19th- and early 20th-century workers' housing within the city. This work also demonstrated the problems of dealing with fragmentary artefact evidence from an area with both a highly mobile population and extensive later rebuilding.

The excavations at Loom Street produced 1024 finds, representing 768 individual items. Of these the ceramic assemblage amounted to 779 individual stratified fragments of pottery, representing a minimum estimated number of 527 pottery vessels, weighing 23.664 kg. The ceramic material falls into two

broad-groups according to period; post-medieval (pre-1800) pottery and industrially produced ceramics of the 19th and early 20th centuries. The ceramic assemblage can be sub-divided further into fine tablewares and utilitarian coarse wares. Only a small percentage of the assemblage could be directly associated with the structural remains of late 18th and 19th century worker's housing. Most of the artefacts were derived from secondary and tertiary contexts associated with later demolition and infilling episodes and dated to the later 19th and early 20th centuries. How then to interpret such a fragmentary assemblage?

An overtly 'ethnographic' approach to studying 19th-century households and urban communities, that is one with a focus on neighbourhoods by attempting to combine excavated evidence with building studies and the broad swathe of contemporary documentary data in order to provide a better understanding of the context (Mayne and Lawrence 1999; Mayne and Murray 2001), would appear to be one way forward. Jeffries and Owens have suggested that such an approach would be helpful in tackling a particular problem in British industrial urban archaeological studies; the identification of migrant and shifting communities in poor urban districts through their material remains (Owens and Jeffries 2016). Traditionally, the recovery of such identities through their objects has been difficult in this context. This is usually ascribed to the fragmentary nature of much of the material remains excavated, the paucity of available clearance groups, and some of the urban cleansing strategies adopted by the new industrial city authorities the consequences of which are thought to have removed most of the available material culture in many cities (Nevell 2008; Owens and Jeffries 2016; Symonds 2005). A poor area such as Ancoats had just such a highly mobile population with a history of later house clearances.

Jeffries and Owens suggested (Jeffries et al 2009; Owens and Jeffries 2016) that by putting the concept of the mobility of people and things at the heart of a study, and drawing on secure contexts such as privy or pit groups, it should be possible to combine historical data and groups of assemblages to suggest new insights into the material lives of highly mobile communities. They identified three types of mobility relevant to an area such as Ancoats: international, local and micro.

There were no distinctive items that might reflect the international nature of the migration into Ancoats (Irish, Italian, eastern European) during the 19th century. This in itself is suggestive of the way in which the mobile populations within Ancoats perhaps did not carry with them artefacts linking themselves with their past. The Loom Street assemblage, both fine ware and coarse ware types of ceramic, show a remarkable restricted range of forms and decorative treatment, with most ceramic products being manufactured in Manchester and Staffordshire, though a few stoneware bottles were manufactured in Bristol and Glasgow. There was a great degree of repetition of styles within the ceramic groups recovered. This could be the result of demolition spreads of material containing fragments from the same vessel (as was seen in Area C House C2 and Area D House D1) or because the domestic ceramic repertoires of the 19th-century inhabitants were utilising standard contemporary items which were easily accessible and affordable.

The overall emphasis in the assemblage on fine wares as opposed to coarse wares suggested that previously utilitarian products, such as brown stoneware and dark-glazed coarse wares were being replaced by cheaper white wares, such as polychrome-banded factory-produced slip wares, used in the pantry, dairy or kitchen for cold storage.

In terms of local migration the existence of jumbled fragments of mis-matched pottery were noted in just a few of the houses along Loom Street. This may reflect the local movement of transient individuals and families where some items are abandoned whilst others are taken to the new home. Notable small groupings came from dwellings in Areas D and G which produced two fragments of Black Basalt Ware. Jepson's Court (Area C) produced 39 fragments, including 29 sherds that represented fragments of earthenware, stoneware and white ware bottles, jars, jugs, and saucers. Area D 1, House 1, also produced fragmentary ceramic remains from a drain: representing a cup and saucer.

Finally, the Ancoats material provides evidence for the daily routines of household life, particularly around cleaning and food preparation. This included objects such as a flat iron, medicine jars and a whetstone. Another strand of object was associated with leisure activities, particularly drinking (beer bottles from Houses E3 and E5) and playing (gaming balls and marbles). These objects would have been moved around individual properties hundreds of times before ending their lives in one of the demolition layers.

Conclusion

The study of surviving industrial workers' housing is well developed in Britain, though rooted in architectural approaches or dominated by studies of particular industrial housing types, such as the workshop dwelling. Furthermore, the survival of exceptional landscapes of workers' housing, as at the factory colonies of Cromford, New Lanark and Saltaire, can give a misleading impression as to the character and quality of Industrial Period urban workers' housing. Detailed studies through archaeological building recording and excavation have only developed since the introduction in 1990 of widespread archaeological planning conditions. This has coincided with large scale urban redevelopment that has forced British archaeologists to confront the evidence for the domestic side of the new industrial towns and cities of the 18th and 19th centuries. Manchester is a type-case for this kind of approach.

The lack of survival of key types of industrial housing in Manchester, the cellar dwelling and the back-to-back house, has meant that until recently any study of the city's 19th century house has begun with the contemporary accounts of this 'hell upon earth' chief amongst them Friedrich Engels. Occasionally it has been possible to add as colour a few surviving examples, although by their very nature the existence of such industrial workers' housing in the early 21st century is exceptional and the examples either atypical or heavily altered, often both. Certain types of industrial housing in Manchester have gone or are now very rare survivals, such as back-to-backs and cellar dwellings. This is due to concerted campaigns of clearance and conversion since the mid-19th century. Thus, excavation is already the

major means by which this industrial urban housing type is recovered and understood within the broader context of British industrialisation. Within Manchester archaeological excavation now provides another source of evidence to add to the scant survival and the Georgian and Victorian commentaries.

Comparing the archaeological recorded with the written, especially the work of the contemporary social campaigners, highlights the selective nature of the evidence Engels and others used in their arguments. This is especially noticeable in any discussion of build quality. The archaeological evidence in key areas such as Ancoats, Angel Meadow and Chapel Street demonstrates that not all early 19th century industrial urban housing was poorly built. Yet it also demonstrates the norm of wells, the lack of running water and ubiquity poor drainage in this period. Archaeological evidence also provides many case studies of the way in which good quality housing could be divided and converted into tenements as population pressure increased in the second quarter of the 19th century. Engels in particular talks about overcrowding extensively and the archaeology has so far been unanimous in recording evidence for subdivision and backyard infilling on housing plots before 1850 across Manchester. Local health board officials often worried about the threat of disease outbreaks in the 1830s, 1840s and 1850s and the archaeological data records how slowly sanitation improvements were, amongst the existing housing stock in the second half of the 19th century. Yet the archaeological record also preserves evidence for the house clearance and improvement campaigns in new builds after 1850. Even the shifting, mobile nature of Manchester's migrant population can be captured, at least in part from the archaeological record through clearance assemblages.

Where does this leave the dialogue between the documentary record and the archaeological record? The first point is to recognise that the archaeological data has its own importance and should be seen as a unique data set with its own properties and values that goes alongside the historical record but is not subordinate to it. The second is that we need to recognise that even the most fragmentary urban housing archaeology can reveal useful data on issues from building quality and identity to poverty, overcrowding and poor sanitation, through a study of clearance artefact groups and those structural elements which regularly saw the most rebuilding activity: entrances, passageways and the fireplace. Finally, archaeologies of industrial urban workers' housing in Manchester need to steer a course between the twin 19th century extremes of demonising the working poor whilst praising the benefaction of the factory owner, and the 20th century tradition of valorising working class culture. The archaeological information from urban workers' housing is a unique data set that deserves a balanced approach to its study, and whose implications are as relevant to the 21st century experience of urbanisation as they are to recovering the experience of living in the first industrial city.

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The Just War

CHARLES GUTHRIE

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In this article I want to discuss the Just War - what the traditions of the Just War are and the ethics in modern warfare. With recent conflicts (in some of which the British have been involved) and with on-going fighting in Libya, Iraq and Syria it is certainly a topical and often controversial subject. I am very clear that although we ourselves should understand and follow the Just War tradition, we should recognise that sadly not everybody else will. However, there is no excuse for descending to their level.

What is the definition of a war? I think the meaning has in some ways changed over the years. Today, especially in the USA, there are wars against poverty, against drugs, against cancer, against AIDS and against crime. None of these has so far been won. The term 'war' is used fairly loosely but I don't intend to be pedantic and refer to war as it used to be, when it meant wars between nation states - wars which were declared officially, which had truces and peace treaties, when soldiers wore uniforms, nations surrendered and it was easier to detect who were the victims and who the vanquished.

When the Cold War came to an end many people felt that a new age had arrived: conflict would be rare and with the threat of World War III disappearing should the traditions of war be questioned? Were they still relevant?

The Just War Tradition

In armed conflict some of the normal ethical rules need to be over-ridden, rules such as not killing other people. War is a very bad way of resolving disagreement between peoples - it is ghastly and it is inevitable that terrible things will happen; things which in any other context would be utterly intolerable. From the earliest times almost every society has had to face up to the reality of war and has, at the same time, had some accompanying notion, however incomplete or crude it may seem to modern eyes, of the moral limitations applying to war. In ancient Greece for instance, there was a recognition that even in the fiercest struggles there were some things that absolutely ought not to be done, such as poisoning water supplies, cutting down the other side's olive trees (because they would take so long to grow again) and executing those who had had nothing whatsoever to do with the fighting, for example, women and children.

Medieval warfare had some rules but many of them were about chivalry and matters purely concerned with fighting. For instance, there was a tradition which certainly could not be called ethical, that in a siege, if those who were besieged continued to fight after they had had the opportunity to surrender, their populations, women and children included, would be slaughtered once the attacking

force had seized the castle or town being besieged. Although terrible things did still happen from time to time, they were recognised as being wrong by the majority for most of the time.

All the great religions and rationalist humanists have contributed to setting limits to what could be done. Thinking has evolved over hundreds of years on moral values, rules and understanding, to govern and restrain the use of military force. But I think it is really Christian thinkers who have written most about the Just War tradition, even though the historical record of Christians in faithfully observing it is far from unblemished. Terrible things have been done in the name of Christianity.

Islamic thinking about the ethics in public affairs is markedly different in some ways from that of Christianity and its teaching about war cannot be tidily compared with the Just War tradition. Many of the concepts in the Islamic tradition can be found in its sacred texts - the Koran itself and other holy books and texts. In Islam there is a central emphasis on the primacy of peace, especially peace within the world-wide Muslim community. The key concept of Jihad means "effort" or "striving". It does not necessarily mean taking up arms, though it does not exclude that as a duty in the right circumstances. There have been voices in the Islamic world, particularly in modern times and certainly today, whose claims about what justifies the use of violence and what methods are legitimate (for example, relating to the death of non-combatants) are sharply at variance with the Just War tradition. Yet these voices are far from being accepted as a norm within Islam.

The Jewish pattern of thinking about contemporary war has historically been less fully developed than either the Christian or Islamic traditions. This, I suspect, largely reflects the fact that for nearly 2000 years there has been no Jewish sovereign state and therefore no direct occasion in which Jews could conduct themselves in a practical, operational, ethical war.

Elements of the Just War tradition underlie much of the international laws of war which are currently accepted by all the member states of the United Nations. However, here I am not talking about legal statutes but a tradition which should be our moral compass, showing the way we should behave if it becomes necessary to take the terrible step of going to war.

Many historians believe that early Christians (a minority in the Roman Empire) were predominantly pacifists, but when Emperor Constantine came to power in the 4th century, adopting Christianity himself, Christians then had to face up to and work out the tough, awkward, practical responsibilities of running and serving a state and protecting its citizens. Christians who had been outsiders in the Roman Empire had now become part of it.

Many famous historical figures, for example St Augustine of Hippo in the 5th century and Thomas Aquinas in the 13th turned their minds to these problems. What should be done in the face of armed aggression and oppression in human affairs? What should be done about the barbarian hordes such as Attila and his Huns invading Europe from the East in the 5th century? Or the Moors spreading Islam by the sword from North Africa across the Mediterranean and

through Spain into France in the 7th and 8th centuries? Attila's record was well-known and everyone would die who stood in his path. Christians had to decide what to do about him and the Just War theorists believed that it simply could not be right to lay down that armed resistance to Attila and his like was absolutely morally forbidden. How could any sensible person advocate pacifism if lives could be saved and genocide avoided? My view today is that I respect pacifists though I believe them to be mistaken and unrealistic.

Jus ad Bellum

As I have indicated above, Just War is not a doctrine that is decreed from on high or by law. It is a tradition. It recognises that while war can never be positively good, it is not always the worst thing. Ethnic cleansing, genocide and wholesale slaughter are certainly worse. The tradition sets out a range of tests which must be satisfied if war is to be morally justified. The criteria fall into two groups:

- the right to fight (in Latin, *Jus ad Bellum*) which concerns the morality of going to war at all, and
- the morality of what is done in a war - how it is to be waged.

There are six criteria to do with the first group and I think it should be asked whether these criteria are considered, satisfied and taken into account before the horror of armed conflict is embarked upon.

First, there must be a Just Cause - a proper reason to go to war. Possible reasons are:

- a) to protect the innocent and to stop genocide - this could be said to have applied to British activities in Sierra Leone, or in Kosovo,
- b) to restore rights wrongfully denied,
- c) to re-establish just order and, of course,
- d) for self-defence and self-preservation.

Reasons such as revenge or the desire to punish or to eliminate the enemy are not just causes! The cases of Afghanistan, Syria and Libya could be discussed - could one argue that regime change is necessary? This seems a topical and controversial subject. In Iraq Saddam Hussein was a bad man running a bad regime. But Iraq was not a failed state. Did we have the right to topple him? Have we made the situation better?

Second, the cause must be proportionate. The case for going to war must be weighty enough to warrant the massive step of engaging in armed conflict. It is not good enough to go to war if it is believed that a citizen has been cheated and his holiday house or property confiscated, that the national flag has been burnt by a mob or that the President of the United States or the Queen has been insulted!

Third, the intention must be to create a better, more just and lasting peace than existed before going to war.

Fourth, the right authority must be someone with the proper authority. Historically this has usually been the Head of State, the Ruler or Governor of a sovereign state. This is not so straightforward today. In 1945 the Charter of the United Nations laid down that countries have a right to take up arms in self-defence and that external military action going beyond that must only be taken with

the authorisation of the Security Council. The failure of the UN has been due not only to the bad behaviour of certain countries, although over the last 60 years there have been plenty of those, but because of the short-comings inherent in the Council's present composition and the power of veto within the five permanent members of the Security Council. Any one of these can block a resolution. It is not surprising that the Council cannot always agree. National interests often prevail as they did in the Balkans and now in Syria and a number of other places. I believe the cases of Rwanda and Kosovo (and many commentators would add Darfur) where widespread desires for more determined humanitarian interventions were held back by a perceived likelihood of a veto by China or Russia or France, certainly show that a strict, absolute insistence on Security Council clearance can at present be incompatible with a proper recognition of the world's practical and moral realities. Should we go to war to save our fellow Christians? Should we do more and can we do more?

Fifth, there must be a reasonable possibility of success. If the likely result is simply death and suffering without material improvement we should not take up arms. Death before dishonour is not a right!

Finally, the sixth criterion is last resort. We must not take up arms unless every other way of securing Just Cause has been tried or there are grounds for ruling out other ways as being ineffective. This does not mean that war is not to be embarked upon until every other option, however unrealistic, has been tried. It would be unreasonable to demand that every conceivable non-military instrument must have been exhaustively tested irrespective of the possibility of its success.

Conduct during the conflict

If the six criteria listed above should be taken into account before going to war then there are two further criteria about how one should behave during a conflict.

Initially there should be discrimination: in the conduct of the war the innocent should not be deliberately attacked. Innocent means not involved in harming or helping to harm us. But defining innocence is not easy. In 1991 for example, I think it was legitimate to target the reluctant Iraqi conscripts facing the UN forces. The relevant fact was that they were there to help do harm and were indeed killing people - mostly Kuwaiti civilians. But are civilians innocent if they provide logistics support for the armed forces? Are armaments factory workers? These civilians seem plainly "involved". Less clearly, are the broadcasters putting out a hostile regime's propaganda? Some will remember the Belgrade TV station being destroyed. Is an old lady knitting socks for her grandson at the front also involved? Surely not! Are disarmed captives? Again almost certainly not, but they could be if they outnumber their captors and begin lynching their armed guards. These are very different questions about which there is much debate. Increasingly often the situation is not one of state versus state but of countering guerrilla-like or clandestine opponents. Terrorists rarely wear a uniform and often look like the ordinary civilians they hide amongst and are using as a shield. Tidy rules are impossible to formulate but honest judgements must be made.



Figure 1. Dresden after the bombing. Wikipedia Commons

A general attack on a nation's population in order to weaken its resolve is surely wrong. Increasingly we look back at the bombing of Dresden and other raids by Bomber command and think them wrong. They happened towards the end of WWII when the final outcome, the allies' victory, was clear. The morality of Bomber Harris's campaign will be argued about for many years.

The second further criterion is that the action should be proportionate. We must not do things, however legitimate in themselves, if in our honest and considered opinion, the good they are likely to achieve will probably be outweighed by the harm that will be inflicted on those who ought not to be harmed. It is entirely legitimate to knock out an enemy tank but if the tank is hidden in a large hospital complex or a school it is not permissible to fatten everything in order for the tank to be destroyed,

After the conflict

In my own experience, fighting is frightening and dangerous but often easier than dealing with what happens after the battle is won. One must avoid creating a vacuum once the battle is over. Failure to do this may result in the vacuum being filled by the ill-intentioned as happened in Iraq and in Afghanistan in certain areas. The post-conflict phases need judges, lawyers, policemen, prison officers, diplomats, doctors, aid workers, civil engineers, vets and economists. Soldiers are not well-trained in the necessary tasks but too often they are likely to be the only people around at the end of the war to do them. Perhaps the greatest failure of Iraq and Afghanistan was the lack of policy and co-ordination of effort once

the real fighting was over. Military aid, foreign and political policy all had to be co-ordinated and it has not always happened at national or international levels. When the Allies went into Kosovo I seem to remember that only one non-governmental organisation NGO was ready to go with them. A year later there were over 400 such organisations.

One of the great problems about war and armed conflict is that the consequences are largely unforeseen. The outcome is difficult to predict and one of the Just War traditions is to make things better than they were before. It is not like a play in a theatre where there is a script and the ending is known. We must be prepared for the unexpected. In my experience the enemy rarely does what one wants him to do. We have to plan for the unexpected and I think the greatest indictment on the second Iraq war was that the United States, Cheney and Rumsfeld were steadfast in their opposition to a plan for what might happen after the first 21 days of war when the Iraqi army collapsed. As a result some very unfortunate decisions were taken and those which could have been taken to the benefit of Iraq and which would have brought about reform were not implemented. One of the unfortunate decisions was to disband the Iraqi army in its entirety. It was certainly necessary to get rid of the Saddam supporters - the colonels and generals - but to disband the whole army was unwise. Very few of the ordinary soldiers supported Saddam but they were sent home to their villages without pay, without a pension and no prospects but still having their rifles. Instead of being used by the Coalition to help rebuild Iraq they became a new and effective opposition.

Conclusions

In conclusion the tradition of a Just War doesn't yield a tidy unambiguous answer to every question. Terrible problems and dilemmas have to be faced and those who lead are faced with horrific decisions - sometimes based on sparse evidence - which have to be taken quickly. The Just War calls for judgement, often contestable in good faith, on matters lying well beyond the expertise of moral philosophers. It is, I think, simply a systematic reminder of the moral questions which need thinking about when the possibility of embarking on an armed conflict is considered or undertaken. One recognises that not everybody will consider the moral issues but it is surely beyond argument that some framework and analysis of war is necessary before engaging in it. Politicians and Generals need to understand what the Just War tradition means in order to avoid sliding into war without understanding what the possibilities and consequences are as well as having contingency plans ready to cope with the unexpected. Intervention is comparatively easy when compared with conflict and its almost inevitable unforeseen consequences.

Field Marshal Lord Guthrie GCB LVO OBE DL served in the British Military for forty six years. He was Chief of the General Staff (Head of the Army) for four years and then Chief of the Defence Staff for a further four years, responsible for the Royal Navy, the Army and the Royal Air Force both in peace and on operations. At the same time he was principal advisor to the Prime Minister and Government. In the Lords he focuses on defence, the health services, medicine and international affairs. Outside of his professional activities he is also involved in voluntary positions and charities such as Action Medical Research (President), St. John's Hospice (Chair) and London Youth (President). Since 2013 he has been Chancellor of Liverpool Hope University. Together with Michael Quinlan he has co-authored the book Just War - The Just War Tradition: Ethics in Modern Warfare (Bloomsbury Publishing, London, 2007)

Whose Land is Our Land?

PETER HETHERINGTON

26 January 2017

Who owns England? On a philosophical level, we can surely all claim a stake in our country, beyond the small plots many of us own, as citizens of the UK. From the uplands of the north, to the down-lands of the south, the Fens of the east and the Shropshire hills in the west, our urban areas and wide open spaces - all 50.3 million acres - offer something beyond aesthetic appreciation, the nice view: namely, our very identity as a nation, evoked in William Blake's "green and pleasant land", the alternative national anthem.

Why should big landowners, whether the state, institutions, the aristocracy, the new rich, own so much - on one estimate 36,000 people, 0.6% of the population, having half the rural land in England? It's an enduring question where ideology, prejudice, ignorance - a misconception that private ownership necessarily equals 'bad' and public, or charitable equals 'good' - can sometimes trump evidence to the contrary.

To answer the question, "Whose land is our land?" is to invite a string of seemingly contradictory answers. In some countries, where a republican constitutional settlement is built on the back of a revolution, the answer seems barely worth asking. It is, in part at least, the peoples' land through either varied owner occupation or the direct involvement of either local or national government - and lest we forget, in England's case, the state is still the biggest landowner of all.

At first sight, the roll call of (British) land ownership appears diverse: the Forestry Commission (2.2 million acres) - biggest single landowner - and the National Trust in England, Wales and Northern Ireland (620,000 acres), underpinned by specific legislation, followed by the Ministry of Defence (568,000 acres); pension funds, hedge funds, utilities (about 600,000 acres); the Crown Estate, a semi-state body (343,000) and the Royal Family directly (257,000). Throw in the old aristocracy, like Richard Scott, Duke of Buccleuch and Queensberry (243,000 acres in Scotland and Northamptonshire), whose family trust embraces the biggest private land holding - and his cousin over the border, Ralph Percy, Duke of Northumberland (130,000 acres) - and a fair slice of our land is still owned by what we might call the old landed class.

Since the early days of a post-1945 Labour government, when public ownership of all land was a commitment, however vague, society has changed immeasurably in 71 years. But, as a leading geographer and land specialist, Professor Richard Munton reminds us, of the 80+ per cent of rural land owned by private individuals, family trusts and corporations, "a significant proportion remains in the hands of a few owners."

Through progressive post-war legislation, our 'rights' to land have been strengthened with 137,000 miles of public footpaths, given the same legal standing as a highway, 46 areas of Outstanding National Beauty, 10 national parks and 11,000 miles of (British) coastline. And 'right to roam' legislation in 2000, giving access to countless additional acres, finally answered the key question raised by the famous mass-trespasses (and by Ewan McColl in his enduring 'Manchester Rambler' lament) on Kinder Scout, Derbyshire, 68 years previously: why can't we walk on our land as free people? Answer: you now can.

Yet beyond the philosophical level, legal ownership – as Munton points out – remains remarkably concentrated in spite of a big land transfer from the aristocracy to former tenant farmers, in the 1920s-30s, driven by heavy taxation viewed as penal by the landed class and the dreadful consequences of war. Many heirs to estates died in battle.

This combination of circumstances – possibly the biggest land transfer since the 16th century dissolution of the monasteries – might have been a prelude to wider land reform. By 1939, after all, former tenant farmers-turned-owner occupiers probably held half of all agricultural land. But as the historian Arthur Marwick has noted in his study of society after the Great War, many landowners still emerged with their territorial empires considerably reduced but with their incomes “probably much healthier than they had been for many years.” Consolidation has worked well for them.

If we are honest, our views on land ownership are both complex and contradictory. Two years' ago, I began research for a book by asking a seemingly simple question – namely: Whose Land is Our Land? I was, at best, equivocal about a privileged aristocracy owning so much. Were they using their inherited wealth for the benefit of society as a whole or for a select few in the family firm? In truth, they were a mixed bunch: some running efficient farming operations recognised as progressive and sustainable; others acknowledged a hard-edged commercial approach which clearly rattled communities. “There are times when you need to raise capital and become unpopular with locals, when you are trying to do development of one sort,” volunteered Ralph Percy, Duke of Northumberland. “But that's all part of the balance of estate management.”

I interviewed some of the most prominent landowners and spent time with the Land Registry, ninety years after it was given the task of detailing the ownership of all land in England. Why?

A senior director of the Royal Institution of Chartered Surveyors had earlier made this point to me graphically: “If we don't know what land we've got how can we manage it? This is a national resource and we need to know – quite an irony...for a country which is the best mapped in the world through the Ordnance Survey.”

Full registration of all land was scheduled for 2011. By then 25% remained unregistered. It is now down to around 11 per cent. But Kevin Cahill, author of the definitive book on land ownership in 2002 – *Who Owns Britain?* – believes the figure is inaccurate. “It doesn't detail the volume of acreage...most of the land owners I know (Cahill lives in Devon) haven't signed up,” he rails. “They don't

see the point." Cahill reckons that 30 per cent probably remains unregistered – puzzling, he thinks, when title deeds of every dwelling are painstakingly recorded, but not the details of considerable swathes of England.

One problem is that so much of our land has not changed hands since registration was reintroduced in 1925 and, hence, has not been logged. Another problem is that the aristocracy, fearing land nationalisation, have preferred to keep their affairs private. And a third, according to the geographer, Richard Munton – an advisor to the Northfield Committee, the last major inquiry into the ownership of agricultural land (in 1979) – is the scope of registration itself. The committee found it logged 'legal' rather than 'beneficial' ownership – with family and offshore trusts, for instance, distancing ownership from managerial control – thus making the whole process opaque.

But a fourth problem briefly emerged – namely former Chancellor George Osborne's plans to privatise the Land Registry, ostensibly to raise £1 billions. Consultation on the disputed sale closed at the end of May last year, shortly after the Competition and Markets Authority (CMA) objected to the plans. It warned that allowing a private firm to take possession of property information would give a new owner a monopoly on commercially valuable data with no incentive to improve access to it. For campaigners, like Cahill, the registry – which holds 24 million property ownership titles across England and Wales – needs strengthening, rather than weakening through privatisation, to shine a light on opaque land ownership and the hundreds of thousands of acres which remain unregistered.

As for the landowners themselves? How does Richard Scott, Duke of Buccleuch, justify his family's 240,000 acres and three splendid stately homes (a fourth is used by a US university)? "I am certainly not going to imply we are sitting here with a white man's burden," he told me. "That's a dreadful image... there are huge pleasures from this wonderful rich and varied inheritance we have but it has its complications and frustrations."

Fearing that Scottish land reform – making it theoretically easier for tenants to acquire their farms – will eventually reduce his estate by at least a third, Richard Scott thinks that a 'whole systems approach' being considered for the family's extensive lands – balancing forests and farmland, for instance, to address climate change – will be undermined by breaking up ownership.

Scott's worries strike at the heart of a wider issue raised in my recent book*: Namely that, as a nation, we are approaching a collision of extremes – increasing demand for food, energy, water, housing – when we should be adapting to the impact of climate change on that most basic resource: our land. Just as the 2010-15 coalition government claimed to have an active industrial policy, I have argued that England needs an active land policy, across government, to address the use, abuse, ownership and (underused) potential of our land. Thus, five glaring issues stand out:

First, according to the National Farmers' Union, we're lucky to produce 62% of the food we're capable of growing – down by a fifth since 1980. While it thinks the country has the potential to reach 85% self-sufficiency, the NFU argues that inadequate productivity and under-investment in research has placed the country

behind mainland Europe. As a result, it fears that in 25 years' time self-sufficiency will drop by a further 10 per cent. "We can't keep outsourcing to a global supply chain," Minette Batters, deputy president of the NFU, complained. "To drop further takes us into potentially dangerous territory."

Secondly, land has become the safest investment for those with a few spare millions to offload. Prices were up by a staggering 277% in a decade according to a market survey by land agents Savills last year, although they are now stabilising. Our prime farm land was considered more valuable than gold. Why? If farmed actively after two years it's exempt from inheritance tax, with additional capital gains tax 'incentives'. There's another reason: farm land is recession proof. Regardless of a labouring economy, the subsidy cheques from government keep rolling in. I asked Paul Hovesen, a Dane and a former farmer of the year, who manages two large farms in Norfolk, whether this trading market was serving the country well. "No," he replied emphatically. "Do they farm sustainably, have they a long term vision?" Hovesen believes British farming has stagnated over the past decades and could easily raise production levels.

Thirdly, is a 'shadow', yet unquantifiable market in land leading to a housing shortage? It's a contested question. But late in 2014 a housing review commission, chaired by the former BBC Trust chair Sir Michael Lyons, warned that an artificial scarcity of land was distorting the market, limiting building and "incentivising the acquisition and trading of land." It spoke of six firms of land agents alone holding strategic land banks of 23,000 acres – enough, perhaps, for 23,000 homes. But, below that, at a local level, could more landowners follow the example of Michael Eavis, whose family owns a 500-acre farm at Pilton, Somerset, which stages the Glastonbury festival? He's provided land, at a nominal price, for 22 affordable homes through a housing association - with a stipulation that they remain as rental homes in perpetuity – with 13 more in the pipeline, using local limestone from his land. "I just want to do more for the community so that more people can afford to stay here," he says.

Fourthly, arguably the most critical issue of all: rising sea levels, particularly in the east of England, which includes 57 per cent of our best (Grade 1) farm land – an "important asset for national food security," according to a Foresight Land Futures Report from the Government's Office for Science in 2010. Alarmingly, it put the capital value of 'at risk' land at £15 billions. A report from the National Audit Office, in 2014 went further in 2014. It warned that millions of acres are at risk because flood defence funding is spread too thinly.

Finally, with 'Brexit' looming after the decision to leave the EU in the June 23 referendum last year, what of generous farming subsidies themselves delivered through the Common Agricultural Policy (CAP) – around £3 billions annually in the UK – which provide around half of farmers' incomes? It's an open question.

The appointment of Andrea Leadsom, a leading 'Brexiteer', as secretary of state in the Department of the Environment, Food and Rural Affairs (DEFRA), has raised eyebrows in the NFU – not least because the new minister, also a supporter of fox hunting, once said she favoured ending farm subsidies. While she has hinted at a wider shake-up, Leadsom recently said – admittedly before

taking up her new role - that farming subsidies should continue “in the short term while we think about what makes sense.” But with tough decisions ahead, it is frankly difficult to see the current regime remaining post-Brexit, with competing demands for scarce resources.

But as a nation, our emphasis must surely be directed towards the efficient use – and the safeguarding – of land, rather than directing fire towards those who own it. As Philip Lowe, Emeritus Professor of Rural Economics at Newcastle University argues, people and institutions owning our land must, at the very least, be obliged to sign up to basic principles of efficient land management “specifying their responsibilities to maintain the land in their care.” This might be termed a new charter of ownership between government and landowners.

Striking a balance, then, between efficient farming on one hand and managing the land, and its fragile ecosystems on the other is not easy; providing the money to safeguard our best farmland from the impact of more extreme weather will involve hard choices; reforming the tax system to ensure landowners pay their fair share of inheritance and capital gains tax will take political courage. But we cannot continue as we are.

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Peter Hetherington is a former Manchester-based northern editor of The Guardian

Shackleton, the Endurance and the Remarkable Voyage of the James Caird

ANGELA SHACKLETON BEBB

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Ernest Henry Shackleton was descended from Yorkshire Quakers who emigrated to Ireland in the early 18th century. They settled in County Kildare, where Ernest's father, Henry, was born. His mother, Henrietta Gavan, had some Irish blood, but they were an Anglo Irish family, upper middle class and comfortably off. Ernest was the second of ten children, and the elder son. He had eight sisters and one brother, Frank, of whom, unfortunately, we will hear more in due course. Henry started his adult life as a farmer, not very successfully, and in 1880 went to Trinity, Dublin to read medicine. Four years later, when Ernest was 10, they moved to Sydenham, London, where Henry embarked on a medical career. He was moderately successful but the family were always short of money. Henrietta, Ernest's mother, enjoyed ill health. In fact she enjoyed it so much she took to her bed where she remained for 40 years for reasons unspecified.

Ernest attended Dulwich College for three brief years after prep school Fir Lodge, but he was unsuited to formal education and lacked application. He was bored in class and ill-at-ease in team games. He longed to go to sea, but his father couldn't afford the £70 a year for cadet training (fees at Dulwich at that time were £15 per year). So, at the age of 16, he went as a 'boy' on board a sailing ship in the mercantile marine. He joined the North Western Shipping Company of Liverpool and, having signed his indentures, spent four years at sea, rounding Cape Horn five times as he shuttled between Liverpool and South America. He left as second mate with priceless life experience under his belt. He spent a couple of years with the Union Castle Line, the elite of the merchant service, which meant shorter voyages and longer breaks at home.

By now Ernest was in love. He had long admired Emily Dorman, friend of one of his sisters and daughter of a successful and comfortably established solicitor, and he wooed her over time, eventually marrying her, and with her having three children, Raymond, Cecily and Edward. His progress, materially, had been conventional but his emotional and psychological states were more complex. Both Ernest and his brother Frank yearned for fortune, success and in Ernest's case, fame. Frank craved riches, and Ernest would as happily have sailed the Spanish Main as well as the Polar regions, had they led to money and recognition.

Scott's Antarctic Expedition

Partly to appease his questing intellect and energy and partly to impress the father of his intended fiancée, Ernest volunteered to join the National Antarctic Expedition under Robert Falcon Scott. This was the brainchild of the President of the Royal Geographical Society, Sir Clements Markham KCB. Shackleton had been a Fellow of the Society since 1899. Markham personified much that was wrong with the current attitudes towards exploration. He was Victorian in outlook and demeanour and a passionate advocate of the cult of the amateur. I think this attitude is very well summed up by an article on the Boer War in the *Westminster Gazette*. It was headed 'The Virtue of Unpreparedness.'

This 'unpreparedness' was viewed as being gentlemanly, and somehow more sporting than taking a professional approach to sport, pastimes and adventure. It led to extraordinary levels of incompetence in preparation in fields where it was essential for survival, and where examples were being set that should have been followed.

When Scott was preparing to walk to the South Pole he appeared both sublimely ignorant of, and indifferent to, knowledge of skiing, sledges, dogs, the use of fur, sleeping bags, appropriate footwear and the essential need for clothing that allowed ventilation. None of the men had pitched a tent or used a Primus stove before. This attitude was actively encouraged by Markham, and applicants with knowledge of sled dogs and skiing were turned down. At this time there were eight other expeditions of varying nationalities on Polar explorations, and all of them would have been horrified by the casual approach to planning. The 'moral worth' of manhauling was extolled, and though dogs and skis were taken, no one knew how to use them.

Shackleton was put in charge of the dog teams when McMurdo Sound was reached. He didn't like dogs and had no understanding of them at the best of times, and to master the skill of running a team takes about two years. They were harnessed in single file, which they hate, and made to walk which is a totally unnatural gait. They were also fed only on biscuit despite the readily available seal meat, and suffered greatly.

Skiing had also been rejected though skis were taken, and at one stage everyone gave it an initial try. Like much else it is not as easy as it looks, and to his chagrin Shackleton was, by a long way, the least competent.

Clothing was also inadequate. Their Burberrys were windproof, but far too tight, without fixed hoods. The men sweated heavily whilst hauling and became severely dehydrated. Instead of the recently invented sleeping bags, reindeer pelts were sewn into a sort of rudimentary sleep suit. They were heavy, permanently damp, and moulted hideously into everything.

This, then, was the preparation for the National Antarctic Expedition which left in 1901 on board the *Discovery*, a ship built in Dundee especially for the purpose. The aim was to winter on the ice in McMurdo Sound and engage in a

variety of scientific and geographical projects. A selected party would also travel as far south as possible, using dogs and 'manhauling' to pull sleds. There was a vague and optimistic idea of maybe getting as far as the Pole. At that stage the reality of manhauling had not sunk in.

Markham was a navy man and wanted it to be broadly a naval enterprise. Shackleton was Merchant Navy, but impressed Markham by his obvious enthusiasm, charm and energy. It seems unlikely that he ever charmed Scott however. The two men were different in background and outlook, as well as there being a huge gulf between the two branches of the service. The Royal Navy did the fighting. The Merchant Navy did the 'other stuff.' And they pretty heartily despised one another.

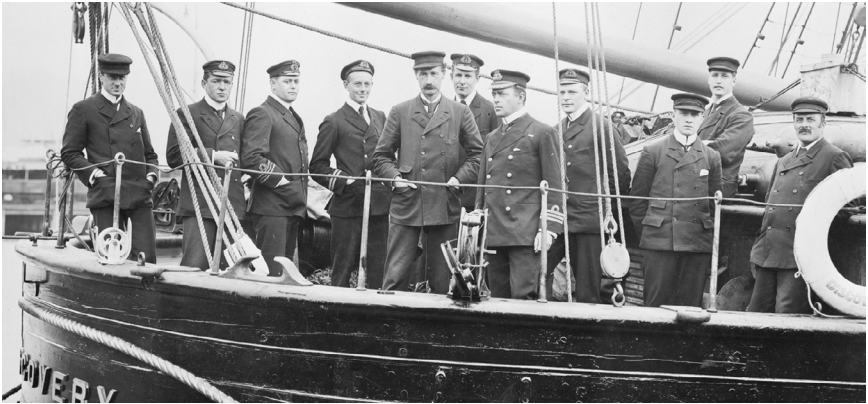


Figure 1: The officers of the Discovery. From left: Edward Adrian Wilson, Ernest Henry Shackleton, Albert Armitage, Michael Barne, Dr. Reginald Koettlitz, Reginald Skelton, Robert Falcon Scott, Charles Royds, Louis Bernacchi, Hartley Travers Ferrar, Thomas V. Hodgson.

The Discovery Expedition was a tremendous learning curve for everyone involved. Scott did not seem to have a particular gift for running a happy ship. He was young, inexperienced and he had a very short temper, combined with a view that dignity lent authority. His sense of humour was lacking, perhaps understandably considering the anxiety he must have suffered throughout. The expedition was regarded as a success. A considerable amount of scientific work was done and geographical surveys achieved. The South Magnetic Pole was located, Shackleton aided the noted oceanographer and meteorologist Dr. Hugh Robert Mill who had travelled with the expedition and who became a friend.

It was not likely that the Pole would be reached, but the attempt was made by Scott, Shackleton and Edward Wilson. This was a chaotic and nearly fatal foray, blighted by poor planning and organisation. 23 dogs were on board the *Discovery*, and of course skis which were carried on a sled. They were at least 500 miles from

the Pole and had rations for 91 days. Depots were laid by a support party for the return journey, but they proved very difficult to spot. Initially Scott failed to ration food or fuel and in the first few days they consumed too much of both. The subsequent rationing left them undernourished and weak, and certainly both Wilson and Shackleton had the early signs of scurvy.



*Figure 2: Shackleton (left), Scott and Wilson, 2 November 1902
(National Library of New Zealand, public domain)*

Knowledge of vitamins and the need for fresh meat was in its infancy, though there was some rudimentary awareness of the scourge of scurvy. Pemmican, the basic ration, was a mixture of ground dried meat mixed with fat and broken biscuit. This was heated and known as 'hoosh'. Powdered milk was used to make a hot drink; snow was melted for drinking water. Fuel was key to all these essentials and fuel was heavy and space consuming. The dogs were used very inefficiently and provided a fraction of the help they could have. The plan was to kill some to feed others on the return journey, but through malnutrition and overwork they began to die very quickly. When it was time to slaughter them the men realised they had no weapons to do so, which made it a brutal and messy business.

Scott's determination to go as far south as possible meant he pushed on far beyond a safe limit. The fact that the three of them made it back was remarkable, and Shackleton in particular was in a very bad way by the time they returned to camp. There has long been a question mark over Shackleton's health, about which he was very secretive. He refused to have a proper medical examination before the expedition and it was clear he suffered some kind of long standing medical problem, probably asthma; there seems also to have been an issue with his heart which he variously described as rheumatism, and 'Mauritius fever'; he was a heavy smoker and suffered severe headaches.

On the manhaul back to the *Discovery* he collapsed, coughing blood, and became so weak he could barely stagger. At one stage he had to be pulled on a sled. Scott had an almost pathological dislike of physical weakness and was incapable of viewing illness with either compassion or tact. He referred to Shackleton as 'our invalid' and 'the lame duck'.

The end result was that when the relief ship, the *Morning* arrived, anchored four miles off the ice from the *Discovery*, Scott announced that Shackleton would be sent home, whilst the rest of the expedition spent another winter on the ice. This was a terrible blow, but possibly a life saving decision for Shackleton. It was also becoming apparent to other members of the party that he and Scott were not compatible. This was further highlighted when, on his return, Scott published *The Voyage of the Discovery*. It implied heavily that Shackleton's 'breakdown' was the sole cause of the failure to get further towards the Pole, referred to him again as an invalid and in poor health, and implied he had routinely ridden on sledges rather than pulling.

Once home, recovered and still restless, Shackleton started to plan his next project. It was to be known as the British Antarctic Expedition and again the South Pole was to be the prize. His greatest problem was raising funds, and though his reputation and contacts were good, he was thwarted constantly by fate and by his younger brother, Frank.

Frank Shackleton

My grandmother would never speak of Frank. "We never mention your uncle Frank," was all she would ever say. One evening, after an extra half glass of sherry, she volunteered the staggering information: "Your uncle Frank ran off with the Irish crown jewels and his boyfriend". Alas, on the evidence available it would appear to be absolutely true. Frank was a clever, charming and handsome man, financially very astute and with friends in high places. He was described, by one of them as 'extremely good looking – and extremely depraved.'

A longstanding interest in heraldry and some excellent contacts resulted in him being made *Dublin Herald*, a sinecure which required only a token presence in Ireland. Frank had made a great deal of money very shrewdly, but his business deals were becoming more shady and his reputation getting steadily worse. Ernest's efforts to raise money were hampered by rumours of Frank's dealings and behaviour, culminating in the elder bailing out the younger with money from a sponsor which should have gone towards the expedition.

Prior to this, the disappearance of the Irish Crown Jewels from Dublin Castle could have been a scandal of truly monumental proportions. Frank was closely involved in a circle of gay men, at least one of whom was worryingly close to the throne. This at a time when homosexuality was illegal. Exonerating him was essential to ensure his silence and to keep many of the more salacious details out of the public domain. The commission which achieved this was almost certainly a

whitewash, and it seems more likely than not that he was heavily implicated. The jewels themselves, the Insignia of the Order of St. Patrick, worked in diamonds, rubies and emeralds, have never been found and are certainly not gracing the women, or men, of the Shackleton family.

The Nimrod Expedition

Meanwhile, the combination of Shackleton's financial insouciance and Frank's shady dealings meant the expedition was on very uncertain ground. However, a ship, the *Nimrod*, a sealer from Newfoundland, was purchased. Not ideal, but the best that could be afforded. Men began to volunteer eagerly and among them was Frank Wild, a Yorkshireman who had been on the Discovery Expedition. He was to become Shackleton's right hand, close companion and greatest support to the end of his life.

Though Shackleton sought advice from the experienced Norwegian explorers, who were leading the field through a combination of superior expertise and technique, he still decided to take ponies for his march south and, bizarrely, a motor car. The lunacy of transporting ponies and their hay and maize across the ice occurred neither to him nor to Scott, whose fatal Terra Nova Expedition was equally handicapped. He joined the ship in New Zealand, only to find that much of the promised money had not materialised and also that she was hopelessly overloaded. Some stores had to be left behind, and a reluctant New Zealand government arranged to tow the *Nimrod* to the ice to preserve precious coal.

The first winter on the ice passed uselessly. No effort was made to work the dogs, who moped, fought and became unfit. No one learnt to ski or to perfect travelling techniques on snow. A magazine – *Aurora Australis* – was produced, and Shackleton ensured a calm, happy environment. He had a gift of making everyone feel important to the enterprise, valuing men and officers equally.

On 29th December Shackleton and Wild with two other men, Adams and Marshall, set off for the South Pole. Famously they turned back 97 miles short, weak, dizzy and on the borders of survival. The decision was Shackleton's alone – his men would have carried on to the end had he wished it. It is documented in Wild's diary that 'The Boss', as he was known, forced his breakfast biscuit on him on one of the worst days. His sense of responsibility to others outweighed even his towering ambition to be first at the Pole. The achievement, though incomplete, was stupendous, though the nearness of the ultimate destination must have made it very bitter, particularly when, later in his exploring career, Shackleton was forced to admit that had he used dogs and skis properly he would have made it.

Nevertheless, he came back a hero. He had beaten Scott's record by 360 miles, done a considerable amount of geological and geographical research, and according to Roald Amundsen, 'he more than anyone else lifted the veil that rested over the Antarctic.' He had made the first ascent of a polar mountain and found a route to the polar plateau which he named the Beardmore Glacier after a sponsor. He was, according to the gossip columns, the 'undisputed lion' of London society and feted all summer.



Figure 3: Shackleton on board the Nimrod (Archive of the Alfred Wegener Institute of Polar and Marine Research, public domain)

He returned, however, to mountainous debts which he had hoped to clear by lecturing, writing a book and selling the rights to special stamps. This barely dented the debts, and he was threatened with bankruptcy, despite travelling to lecture all over the world: America, Russia, (he was granted a long audience with the Tsar), any audience that would listen – and pay. He embarked on a series of fairly hopeless commercial enterprises: Hungarian mines, North Mexican timber, importing cigarettes, whaling and sealing concessions. He was endlessly entranced by new schemes, but nothing succeeded, and his reputation was yet again tarnished by the appalling spectre of Frank, and a wealth of lurid speculation and scandal.

Emily and the children meanwhile were living off £700 a year, her inheritance from her father, and handouts from kind and generous sponsors and friends. The wonderful Mrs Oates, mother of Lawrence who died on the Terra Nova Expedition, paid some of the school fees, as did Janet Stancomb Wills, a sponsor. Shackleton was neither a good husband nor a reliable father. “One must not chain down an eagle in a barnyard,” Emily would say, but she showed astonishing patience, courage and loyalty. He had several liaisons, a couple lasting over many years, and was neither discreet nor contrite. Being of his era, sex and class he had a strong sense of entitlement and an affectionate contempt for domesticity.

Having promised Emily that his exploring days were behind him, he now began to fret to be back on the ice. Scott had embarked on board the *Terra Nova*, again headed for the South Pole, and unknown to everyone Amundsen was after the same prize, having diverted his planned destination from North to South. A Japanese expedition under Lieutenant Shirase was also on its way, having sworn to reach the South Pole or die!

Scott tries again

Shackleton went to see Scott off on the boat train at Waterloo. The men parted courteously, but there had been a great deal of hostile negotiation over who had rights of access to which parts of the McMurdo Sound. Scott tried hard to claim it was all his for the taking as he had been there first. Preposterous but very difficult to refute with dignity, and weather conditions had meant that *Nimrod* had had to berth where it could. Scott had made this a cause for very public recrimination. He was shattered on arrival in Antarctica to find Amundsen already established in the Bay of Whales, and clearly on the same quest.

Amundsen reached the Pole on 14th December 1911, and Scott, Wilson, Edgar Evans, Lawrence Oates and Bowers died on their tragic and epic trudge back from discovering his flag already planted. This national tragedy shunted Shackleton firmly to the back of the glory queue. The country couldn't have enough of the glamorous dead explorers. The heroism of Oates, the dogged loyalty of the men, the dignity of Scott were headline news.

The Transcontinental Expedition

Shackleton now had to re-think his aims and come up with a new project. He decided on a transcontinental trek, literally from sea to sea, crossing the Pole. He started to plan, and embarked on the monumental project of yet again raising funds. It was at this point that Frank lurches back into the picture. He had been shipped off by family and friends to Portuguese West Africa, where everyone hoped he would remain. Unfortunately Detective Sergeant Cooper of Scotland Yard, fired with both dogged determination and a spirit of adventure, travelled 500 miles in pursuit and triumphantly returned with Frank in handcuffs to stand trial for defrauding a Miss Mary Browne of £1,000. At last someone had something on Frank that would stick, and he went to prison for 15 months.

Shackleton persevered with his plans, placing the famous advertisement:

Men wanted for hazardous journey, small wages, bitter cold, long months of complete darkness, constant danger, safe return doubtful, honour and recognition in case of success.

It is not known if this was genuine, but certainly there were 5,000 applications, three of which were from women.

The plan was for one party to head north to the uncharted Weddell Sea coast from where they would walk south. The other group would be based in the Ross Sea and lay food and fuel depots. The Ross Sea party aboard the *Aurora* were captained by Aeneas Mackintosh, probably not a wise choice. Shackleton's men were on board the *Endurance*, a 300 gross ton Norwegian wooden barquette, previously called the *Polaris*. The name *Endurance* comes from the family motto, *By Endurance We Conquer*. Plans and fundraising went ahead, the Government donated £10,000, The Royal Geographical Society £1,000; the King promised a flag and the Queen gave a bible. Sponsors slowly materialised and crew were selected. But just as things were in the final stage of preparation the prospect of war began to emerge – it was late spring 1914.

Shackleton handled well the terrible frustration of not knowing whether all his efforts and plans would be thwarted by war. He offered his ship and his men to the war effort, but on balance it was probably felt that the moral uplift success would bring outweighed a relatively paltry contribution to the outcome of the war. The famous telegram 'Proceed' must have come as a huge relief.

Inevitably Frank threw another spoke in in the wheel. Just as his brother was about to depart, news came that the black sheep was to be released from prison. As ever, Ernest came to his aid and Frank was not exactly welcomed into the arms of his family, but established in Eastbourne, trading in antiques and with a considerable knowledge of gems. He tactfully changed his name to Mellor and fades, mercifully, from the story.

Shackleton joined his ship and his men in Buenos Aires, where some unsatisfactory crew were replaced and a stowaway sneaked on board. His name was

Thomas Blackborrow and when he was discovered his appearance led to one of Shackleton's rare explosions of wrath. The tirade ended with Shackleton saying: "You probably know that when a ship runs out of food it is the stowaway who gets eaten first". The indomitable Blackborrow eyed the now rather portly 'Boss' and replied, in a strong Welsh accent: "Well they would get more meat off you, Sir". He was hired on the spot.

From Buenos Aires they sailed to Grytviken, the whaling station on South Georgia, the last port of call before Antarctica. And here came the first intimations of potential disaster. "A bad year for ice," was the verdict of Fridthjof Jacobsen, the general manager. The reports coming back from the whalers were gloomy. 'The worst ice ever recorded' said one. Shackleton was fond of saying 'difficulties are just things to overcome after all,' but they stayed longer than planned at Grytviken.

On this occasion a sensible number of dogs, 99 in all, were on board as was a stowaway cat known as Mrs. Chippy as she (he, as it turned out) belonged to McNeish the carpenter. The time on South Georgia was used to start training the seven dog teams. Better tents at last had been ordered, dome-shaped and easy to erect; sleeping bags, proper clothing and sledging rations, which included vitamins and dehydrated food. This was on the advice of Beveridge the army nutrition expert. Late in the day Shackleton was learning, but the whalers were perplexed by the haphazard preparation. When they finally set sail they did indeed encounter ice far further south than expected. 60 miles from their planned destination. The *Endurance* became trapped and the epic nightmare had begun as she slowly began to drift north with the pack.

Among the crew was a remarkable photographer, Frank Hurley, an Australian, whose wonderful and dramatic images of the *Endurance* are both brilliant and poignant. He was also a trained metal worker, ingenious and inventive. McNeish was a superb carpenter and shipwright but difficult and truculent. The captain, Frank Worsley, a New Zealander, proved to be the saviour of them all, so outstanding were his skills of navigation. There was an eccentric naval officer, Orde-Lees, who took his bicycle but who could actually ski proficiently. Leonard Hussey, who provided much needed diversion with his beloved banjo, became a friend and supporter of Shackleton and edited and partly wrote his book, *South*. They were a motley but mostly happy crew and The Boss ensured that all played their part in doing chores, including officers, who were startled to be told to scrub the decks.

Green the cook was probably the most imperturbable member of the whole company. He calmly produced whatever he could whenever he could, despite the ship lurching and dipping and eventually breaking under him. When decamped on to the ice he was still phlegmatic and cheerful. He did confound the rest of the crew by developing housemaid's knee however.

On the other side of the continent, unknown to the *Endurance* party, the *Aurora* was also beset by ice. The two ships were stranded with no hope of communicating their plight. The *Endurance* would have to winter drifting, but Shackleton still spoke of completing the transcontinental journey next season after the thaw. It would be 79 days before 'Old Jamaica' – sailor slang for the sun – would return, but spirits were high. The routine was inflexible and kept everyone busy, gathering in the wardroom after dinner for discussions, card games, concerts and lectures. The Boss remained full of energy and optimism, calm and self confident.

August was calm, but in early September the ice started shifting and putting serious pressure on the ship. McNeish and Shackleton alone of those on board knew she wasn't built for this. Her stern wasn't egg-shaped. It had a counter, or ledge, which enabled the ice to grip and get a purchase. There were days when she would break free and huge efforts were made to secure a channel, but the relentless ice would close on her again.

On 27th October The Boss made the decision to abandon ship. What followed was the gradual death throes of the ship. The agony of the *Endurance* and the pain of watching it was terrible for them all. Shackleton was phlegmatic. Macklin, a seasoned polar man very close to Shackleton, described it thus:

As always with him, what had happened had happened: it was in the past and he looked to the future. Without emotion, melodrama or excitement he said 'ship and stores have gone – so now we'll go home.'

A few years ago a television series was made about Shackleton, starring Kenneth Branagh. I was lucky enough to be invited to a post-filming party, and was very entertained by some of the stories. Part of the filming was to be done in Antarctica, but again it was a bad year for ice, so plans were changed and cast and crew headed for the Arctic.

So far, so straightforward. Snow is snow. But the Arctic, full of seals and polar bears, has no penguins. Some bright technical spark pointed out that one penguin placed on a floe or piece of ice could then be digitally transposed all over the place. After all, one penguin looks pretty much like another. A penguin was selected from the zoo, crated up and travelled with them. When everything was in place ready to film, actors poised, it was carefully released.

I am not sure if a very surprised polar bear is wondering what that delicious slightly fishy snack was, or whether a lone penguin is still roaming the arctic wastes, but to Shaun Dooley, the actor who played Evans, the sight of cast, crew and catering staff haring round the ice after a penguin which has seen Nirvana was one that will stay with him. The other thing that stayed with them all was the cold, the discomfort and weight of the clothing, the perpetual damp. And they were neither stranded nor hungry. It was at this point in the whole of his career that the personality of Shackleton would be tested.

No one knew where they were. They knew they were not where they should have been. Entombed in ice, the *Endurance* had drifted 1,300 miles. They were in

uncharted waters and all plans, hopes, projects had to be abandoned. Shackleton gathered them round him in an intimate group, a discussion not a command, to offer the options and solutions. With him there were always solutions and there was always hope. Very privately in his diary he wrote 'I pray God I can manage to get the whole party to civilization.' But outwardly he was calm, confident and listened to everyone.

The first idea was to walk, towing two of the lifeboats, either to Snow Hill or Wilhelmina Bay, a distance of around 320 or 500 miles, but technically overland as the ice pack was still firm, and there were stores at Snow Hill, Nordenskjold's old base in the North West. It was reluctantly agreed, with anxiety on Worsley's part at the idea of leaving one of the lifeboats. Should the pack break all three would be needed. However, plans went ahead. Every man jettisoned all his belongings publicly, keeping only two pounds weight each. An amazing array of treasures accumulated in the snow, including Shackleton's precious bible, a gift from the Queen. The puppies and Mrs Chippy the cat were shot.



Figure 3: The Endurance, final sinking, November 1915. (Wikimedia Commons)

The hauling was, predictably, hellish. The column was about half a mile long. Any crack in the ice could permanently separate one half from the other. Shackleton was amazed by how quickly Orde-Lees could ski from end to end keeping up communications. He admitted he might have underrated the advantages of skis! After two days the project was abandoned. Ocean Camp was set up on a sturdy floe and it was agreed they would remain there until the ice broke. The third boat and many more provisions and essentials were rescued from the rapidly disappearing *Endurance*. Hurley made some terrifying dives into the hold to rescue photographic plates. Hurley and McNeish worked on the lifeboats; ship's discipline and routine were maintained, and The Boss remained calm, relaxed and entirely confident. In fact there was some reason for a slight lessening of tension, as the floe was drifting north-northwest at a comfortable rate.

On 21st November they had their last sight of the *Endurance* as she finally sank on the horizon. "I cannot write about it," was all Shackleton put in his diary.

The next problem was a change in drift. The floe was now moving east. Snow Hill was no longer an option; Paulet Island, Larsen's hut and food depot, was the most likely possibility, and from there a boat trip to Wilhelmina Bay and help. Greatest fear was the open ocean between the South Shetland and South Orkney Islands and a fate not to be thought of.

And Shackleton didn't think of it. He kept camp morale up, discussed options and guided the men to his way of thinking. The decision to strike out again for land before the pack broke further was generally agreed, and another foray, dragging boats as before, was embarked upon. Not much headway was made, but it was during this march that the surly McNeish rebelled. In his view he had signed his papers to be obedient to his captain. His captain was the law on board ship; there was no longer a ship; therefore the captain no longer had any authority over him – and Shackleton wasn't even the captain. He refused to march, to pull or to obey orders.

There was much more to this of course. All the men were worried about pay. No ship equals no pay in navy law. Shackleton put their minds at rest and assured them they would be paid to the day they reached port. In fact he did not honour this, but the crew felt happier and McNeish was isolated. McNeish, a superlative carpenter, had said, from the *Endurance's* first entrapment, that he could build from her a sturdy craft large enough to get them to safety when the ice broke. There is no doubt at all that if he said it he could have done it, and from diary entries of Worsley's it is clear the Captain agreed. McNeish also had terrible piles, poor chap, and a short temper. The situation was dealt with – the really crucial issue of insubordination – by Shackleton offering to shoot McNeish, and McNeish agreeing to go on marching. The whole thing blew over, but McNeish was never forgiven and was never awarded the Polar Medal, which he richly deserved.

After a bare three miles Patience Camp was established and the routine continued as before, with the same anxieties and stress, masked under games, careful rationing and a remarkable amount of quiet acceptance, even happiness. For three months they drifted north, the end of the Weddell Sea was in sight and as they sat facing the tip of Graham Land there were very few options. Would the wind and the currents push the floe to land or out into the South Atlantic, and almost certain oblivion?

It was now March, and on the other side of the continent, after terrible hardship, loss of life and failure, the Ross Sea party emerged from the ice. Aurora had broken free and a wireless message from her was picked up in Australia. Headlines hit the press suggesting rescuing the party from McMurdo Sound – it was assumed that by now they would have crossed the continent and be trapped on the other side. A very trenchant Churchill wrote to his wife:

Fancy that ridiculous Shackleton and his South Pole – in the crash of the world. When all their impoverished and broken hearted homes have been restored, when every hospital is gorged with money and every charitable subscription is closed, then and not till then will I concern myself with those penguins.

Meanwhile, in Patience Camp, keeping up morale was becoming harder. Inaction is a terrible thing. The dogs were shot and eaten, a source of great grief to all. Hussey stopped playing his banjo, even the regular card games were falling by the wayside. And then inexorably, inevitably, the dreaded drift out of the Weddell Sea pulled the floe in the direction of the ocean.

As their options narrowed, Shackleton began to think of either Clarence or Elephant Islands, outliers of the South Shetlands, about 100 miles to the north. An open boat trip was the only option. The floe began to crack under them – they nearly lost a man trapped in his sleeping bag into the suddenly opening sea – and they boarded the whaler, the *James Caird* and the cutters the *Dudley Docker* and the *Stancomb Wills* and with Worsley's incomparable expertise they launched all three.

The boat journey was dreadful, but they found a floe where they decamped and the imperturbable Green cooked up a 'delicious' hot supper. Heroic feats of navigation from Worsley showed them that the currents were pulling them ever further from their destination, but they rowed day and night for five days, fighting the elements and indomitable.

Shackleton clung to the mast of the *James Caird* almost non-stop, so the men could see him. He had given his mittens to a frozen Hurley – threatening to throw them overboard if they were not accepted. Elephant Island was now the only possible destination and by a miracle Worsley found it. They landed there on the sixth day, 14th April. Green bustled on shore, got the blubber stove going and everyone raised a mug of hot milk. Shackleton said to Worsley: "Thank God I haven't killed one of my men".

Euphoria was brief. Elephant Island is a bleak and inaccessible patch of rock and ice, two miles from end to end. No one was going to look for them, so they had to find a way of escaping. There was only one truly horrific option: to sail to South Georgia.

The Voyage of the *James Caird*

The *James Caird*, the sturdy little whaler, was the only possible vessel. 22 feet long, six-and-a-half feet in the beam, she was about as inconvenient a boat as could be imagined. The stormiest seas on earth were going to be crossed in a cockleshell which would pitch and roll like a bucking bronco. Bags were stitched out of blankets for ballast; lamp wick and Marston's paints were used for caulking and McNeish did a wonderful job of half covering her to create a rudimentary cabin.

The six chosen sailors were Shackleton and Worsley, Crean, McCarthy, Vincent and McNeish. Those left behind in the care and charge of Wild had to be free of potential troublemakers as theirs was the more challenging role. Fighting the seas even dying in the attempt, was less appalling than the prospect of no one ever finding the survivors.



Figure 4: The launch of the James Caird from Elephant Island, April 2016.
(Wikimedia Commons)

On 24th April, the *James Caird* set sail. And within about an hour they were all seasick. She pitched and rolled and heaved her way through swell and dip, one terrifying gale and a cliff wall of a wave which swamped them completely. They did watches of four hours on, four off, bailing non stop and at one stage inching out over the canvas to chop off frozen spume which was sinking them. This they could only manage a few minutes at a time. Two hot meals a day, under the canvas

on the rocks and stones which provided ballast, kept them warm, and some very uncomfortable snatches of sleep kept them sane. They couldn't sit upright and the canvas leaked, but they were fuelled by determination, resignation and hope. Their thoughts were constantly with the men marooned on Elephant Island. On one watch Shackleton confided to Worsley: "Skipper, if anything happens to me while those fellows are waiting for me, I shall feel like a murderer".

In 15 days at sea they saw the sun only four times. All Worsley's previous feats of navigation pale into insignificance beside this. To find the tiny speck that was South Georgia with no compass. Taking an observation entailed Worsley kneeling on the forepart of the cockpit whilst McCarthy and Vincent clung to him. Trying to remain steady whilst the horizon was visible at the height of a wave, he called to Shackleton, crouched below decks, reading off the chronometer and booking the sightings.

Crean and McCarthy were an absolute tower of strength, humour and phlegmatic reliability. Vincent became morose and embarked on a rather trying mental collapse. McNeish was imperturbable and slightly surly, unsparing of himself. As drinking water ran out and total exhaustion set in it was fortunate that the end was in sight – literally.

In a hurricane force wind the rock bound coast of South Georgia appeared. Inevitably it was impossible to land the battered little craft. They had missed the relatively friendly southern tip, and after two days and a brief landing on a narrow beach for water, and to hastily eat some albatross chicks, they finally found a relatively safe spot. They dragged the *James Caird* up the beach, overturned her and named it Peggotty Camp.

The impossible had been accomplished. Now remained only the unbelievable. In winter, with only 50 feet of fraying rope, a party would have to cross the unknown interior of South Georgia. This comprised a series of knife edge ridges and a mountain range, crevasses and rock falls.

They made a huge driftwood fire and ate their fill of whatever wildlife could be slaughtered. McNeish fashioned alpenstocks from decking and hammered nails into the soles of their boots to try and give them a little grip. They carried a primus stove and food slung round their necks in canvas bags. At 2 o'clock on the second morning in bright moonlight Shackleton, Worsley and Crean set out on a 27-hour trek to try and find the whaling station in Stromness Bay; a lifetime ago, the *Endurance* had left this very spot with their hopes, ideals and optimism.

The crossing of South Georgia, like the boat trip, has been attempted by various teams, some with modern gear, some in an approximation of what these men wore and carried. It remains a mystery to everyone who tries it that these three exhausted, frozen men, with no maps, achieved it. There was the hair raising moment when they tobogganed down a glacier, having no idea whether there was a sheer drop at the end. The time Shackleton let Worsley and Crean sleep for five minutes and told them they had had a good half-hour.

They walked day and night, dehydrated and almost hallucinating. A constant, unspoken anxiety was whether they had missed their route, overshot, doubled back. Shackleton wandered a little way ahead at one stage, trying to keep his worries under control. It was 6.30 in the morning. Suddenly he stiffened; ran back and dragged the other two to where he had been standing.

“What Boss? What is it?” They feared he had finally broken under the strain.

“LISTEN. It will happen soon. It will happen.”

They stood still, shivering and disbelieving until suddenly, at exactly 7 o'clock, a piercing whistle was heard in the distance. The men at the whaling station below them were being summoned to work. Solemnly, the three men shook hands.

There was a sheet of blue ice, a sheer slope, to negotiate down to the bay. They laboriously chipped steps, hour after hour, but eventually they were on a plateau which gently ushered three weary scarecrows into the whaling station carrying the only three possessions they had left: the ship's log, an adze and - bewilderingly - a saucepan wrapped in a shirt.

The rescue of the remaining three men on the other side of the island was achieved without too much difficulty. The astonished Norwegian whalers were unstinting in their praise, honouring the feats of both sailing and mountaineering. Shackleton and his men were not allowed to lay a hand on the *James Caird*. The whalers all wanted the honour of bringing her home. One old seaman who spoke only Norse gave a moving tribute at dinner. Forty years sailing the stormy Southern Ocean had taught him that this feat was impossible. It was for him the crowning honour of his life to meet and shake hands with Ernest and his comrades. The bluff and unemotional Norwegians stood honouring them in their own language with the cry: “These are Men”.

The story nears its end. Getting the men from Elephant Island proved far more challenging than could ever have been foreseen. Eventually it was achieved, on the third attempt and after many setbacks, from Port Stanley on the Falkland Islands. Shackleton was in the boat that hovered yards from that dreary shore. From the bow of the boat, with Worsley and Crean beside him, he saw with horror the little settlement was flying a flag at half mast. In a breaking voice he shouted “All well?”

“All well, Boss,” came the reply. “Flag got stuck.”

It was eight months before Shackleton returned to England. The world had changed beyond anything that could be comprehended. The able-bodied of his men, from both expeditions, volunteered, and several died in the last couple of years of the Great War, including Ernest - the wonderful brother of Frank Wild - who was a stalwart on the Ross Sea Party.

Scott was now a legend. Shackleton was deeply uninteresting. He had caused disproportionate national anxiety and irritation, first by his disappearance, and then his demands to have his men rescued. The Aurora expedition had been a disaster with the deaths of Spencer Smith, Mackintosh and Hayward. Home

was not a comfortable place and money worries and debts were ever present. Shackleton did a stint as an amateur diplomat in Buenos Aires to help the war effort, but he was neither in touch with current affairs nor settled in his own soul.

Only two years after the war ended he was fretting to see the polar regions again. He set about the laborious treadmill of plans, fundraising, publicity and promises. The circumnavigation of the Antarctic continent was the aim; the Quest was the ship; a handful of old friends were among the crew and he was with them when he died on board on the 5th of January 1922. To be buried, as he was, in the Norwegian cemetery at Grytviken; Wild, Worsley, Macklin, Hussey, the wonderful Green to say goodbye. What more fitting end could this restless soul find?

After reaching Furthest South, Shackleton wrote to Emily that he was sure she would rather have a live donkey than a dead lion. She may have agreed, she may not, but from family stories, family memories, and a very small understanding of the man I am pretty sure he would rather have been a dead lion any day.

Angela Shackleton Bebb is the great niece of Sir Ernest Shackleton. She graduated from the University of Bristol and now runs a company called Universal Aunts which began by transporting children all over the world and has since continued with other, odder requests. Its motto is 'Anything for Anyone at Any Time' and it has transported a pair of Purdeys to Verona, an ambassador's trousers and a pack of foxhounds to France. It has found a suitcase "lost somewhere between Victoria station and Switzerland" and a passport "mislaid somewhere in Italy". The archives are a social history of Britain from the 1920s to the present day.

Bruno Pontecorvo – Physicist and Spy?

FRANK CLOSE

6 March 2017

Bruno Pontecorvo was born in Pisa in 1913, the same year as Bohr's model of the nuclear atom. In 1932, the year that the neutron was discovered, Bruno was a student at university in Rome. Here he worked with the great physicist Enrico Fermi and, using neutrons as his tool, discovered the key to nuclear power. In short: if a beam of neutrons is first slowed before it hits a lump of uranium, it becomes extremely effective in stimulating nuclear fission, thereby releasing energy from uranium. Later this would become key to the development of nuclear power, and in the explosive release of energy in an "atomic bomb". It would also enable the conversion of some of the uranium into the element plutonium, which would be the seed of the atomic blast over Nagasaki and of modern atomic science. In summary: Bruno was midwife to the "atomic age".

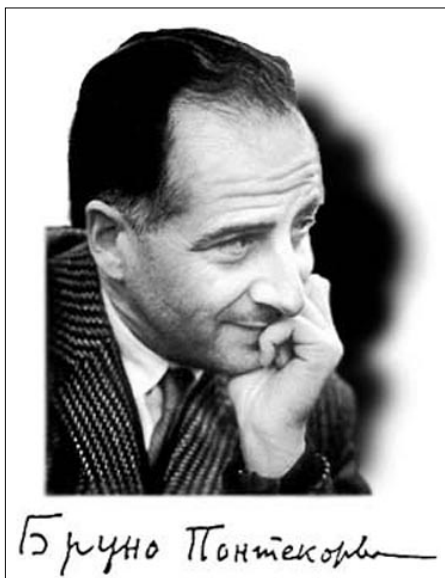


Figure 1: Bruno Pontecorvo and his signature in Cyrillic script.

Bruno's family had Jewish roots, at least in the opinion of Mussolini's fascists. He left Italy in 1936 and moved to Paris, where he continued his work with neutrons and research the foundations of nuclear physics with Nobel Laureates Frederick and Irene Joliot-Curie. In 1939, he joined the Communist Party.

The field of nuclear physics was still small. The five major laboratories were in Rome, which he had just left, Paris, where he now was based, Cambridge, Berkeley and Moscow. In Moscow Igor Kurchatov took note of Bruno's work. Both Kurchatov and Pontecorvo acknowledged one another professionally in their research papers. Kurchatov would later, in 1943, be charged by Stalin to develop an atomic bomb for the USSR. From KGB archives we now know that Kurchatov gave the instruction that Soviet agents should find out what work was going on in this area in the West, basically: at which laboratories, and who works there? This led to infiltration of the Manhattan project by established spies, such as Klaus Fuchs, and others, not all of who have been identified even today.

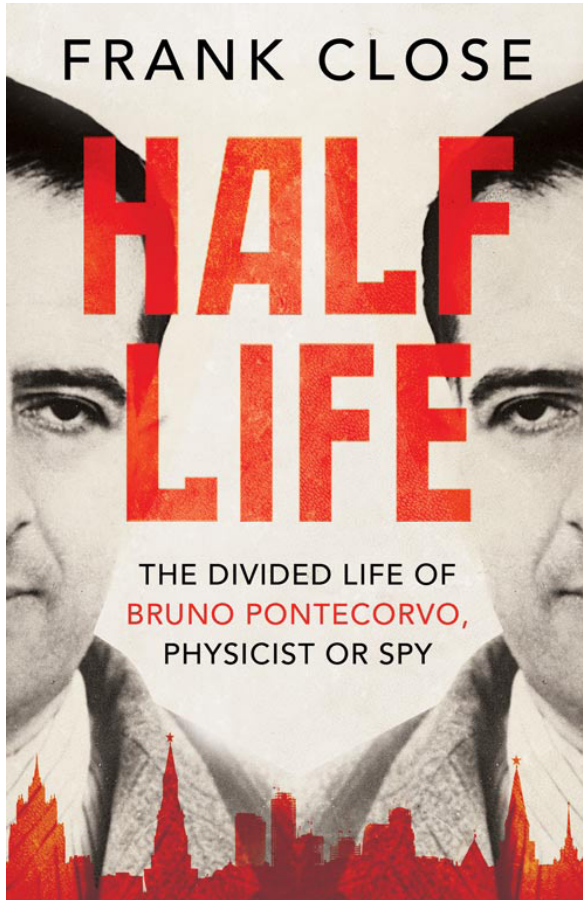


Figure 2: My book on Pontecorvo's life.

So what was Bruno doing by then? When the Nazis invaded France in June 1940, Bruno, accompanied by his wife Marianne and their baby son Gil, escaped. Marianne and Gil fled to Toulouse by train, and Bruno followed by bicycle! His adventure is a factual analogue of the fictional accounts in the novel *Suite Francaise*¹. I tell his story in more detail in my own book (Figure 2) *Half Life*.² For the brief account presented here, let's move on to what happened next. The Pontecorvos fled via Portugal to the USA. Here, from 1940 to 1942 he became an oil prospector. This might seem an odd choice for a nuclear physicist! However, Pontecorvo now introduced nuclear physics as a tool for the oil industry. The basic idea was to lower a radioactive source of neutrons down a borehole. This irradiated the rocks, which become themselves radioactive. The nature and spectrum of radiation emitted by these rocks is like a bar-code, which can be read to deduce the nature of the strata. This enabled oil-bearing shales to be identified.

His former teacher, Fermi, was by 1942 based in Chicago. Here he was building the first experimental nuclear reactor, which in turn led to the Manhattan project to develop an atomic bomb. Pontecorvo's experience with identifying rocks turned out to be central to the practical development of a reactor, where a multitude of materials are irradiated in addition to the uranium fuel. Fermi's intervention brought Pontecorvo into the project. He worked at Chalk River in Canada, as part of the British-Canadian teams who designed one of the first nuclear reactors. This became a key plank in the broader Manhattan project. It also involved at least one spy.

One of Pontecorvo's colleagues in Canada was Alan Nunn May. May was arrested in 1946 and jailed for nine years for having passed classified information to the Soviets. A deathbed statement, which I obtained through his stepson, establishes that these included reports of work on the nuclear reactor. I discovered copies of these reports in the National Archives. They include the names of scientists to whom these were circulated. The names include Pontecorvo.

Thus it is clear that through sight of these documents in Moscow, Kurchatov would have been aware that Pontecorvo – whose work and reputation he already knew – was working at Chalk River. It would have been natural that Kurchatov's instruction to his agents to find out what was happening in North American laboratories would lead to contact with Pontecorvo, who had also enrolled as a Communist Party member in France. What Pontecorvo's response was we might never know. My conjecture is that Kurchatov could have asked for seemingly innocent help, along these lines: "I want to improve the quality of life for Soviet citizens by building a nuclear power station to produce energy. Can you help?"

From two scientists, now aged, who were working in the USSR in 1950 on the nuclear programme, I learned that 'blueprints of the Canadian reactor' had found their way to Moscow at some point. These could not have come from Nunn May as the plans did not exist until after 1946, by which time May was in jail. If not from Pontecorvo, then a 'Dr X' remains to be identified.

In 1948 Pontecorvo moved to England, to Harwell, where the first nuclear reactor in Western Europe was being designed. Here, by an unfortunate coincidence, Pontecorvo was a colleague of Klaus Fuchs. When Fuchs was arrested in

February 1950, the Harwell security re-examined the political affiliations of its staff, in an attempt to shut the stable door after the horse had bolted, in the hope of avoiding further disaster. Pontecorvo voluntarily informed the security chief, Henry Arnold, that he had 'communist relatives', but denied that he himself was a fellow traveller.

Having managed to have Pontecorvo's file of that time released by MI5, I established that they had no evidence that he had violated the Official Secrets Act, or done any misdemeanour. There was much gossip about Communist leanings, but no more. To play safe, the authorities decided that he should leave Harwell and move to the University of Liverpool. Liverpool was building a nuclear accelerator, and so Pontecorvo's expertise could continue to be available without him being privy to classified documents.

The move was to take place at the end of 1950. He had accumulated six weeks annual leave and so, with his wife and their three sons – Gil by now 12 years old and a student at Abingdon School – they left for a camping holiday in Europe. They visited his parents in Milan, were accompanied by his sister Anna (who returned to England three days before the end of the holiday) and then spent time near Rome with his brother and another sister. On August 31, instead of returning to see his parents en route back to England, he vanished. Five years later he was produced by the Soviets as a propaganda ploy prior to the Atoms For Peace conference. For sixty years the mystery of why he took this precipitate action has been unresolved.

When the file on Pontecorvo of activities prior to his defection was released, I discovered that the final entry was a letter from the British Embassy in Washington, to the Head of MI5 in London, concerning Bruno Pontecorvo. It was received in London just five days before Pontecorvo departed for Europe, never to return. The letter revealed that the FBI was interested in Pontecorvo as a nuclear physicist who, they believed, had "communist associations". What these consisted of was not mentioned, but the FBI asked if MI5 had any information. The writer was Geoffrey Patterson, MI5's man in the Embassy. How could Pontecorvo have become aware of this? The letter contains a remark that Patterson has discussed this with the 'SIS representative' in the Embassy. In July 1950 this was none other than the infamous traitor Kim Philby.

I gave this presentation to a select group, which included Lord Jonathan Evans, former head of MI5, and Baroness Pauline Neville-Jones, former chair of the Joint Intelligence Committee. At the moment when I revealed this letter, there was an audible sigh as if the light had just dawned! Philby's *modus operandi* at that time was to liaise with fellow traitor Guy Burgess, who was in London. Burgess would then contact the Soviet Embassy in London, and they would have to pass this news on to Moscow. By the time it arrived there, Pontecorvo was already on a camping holiday in Europe. Only when he arrived in Rome, in late August, and had contact with his cousin Emilio Sereni – a Communist member of the Italian government and leading member of Comintern – was contact finally achieved. Within three days, the Pontecorvos were en route to Moscow.

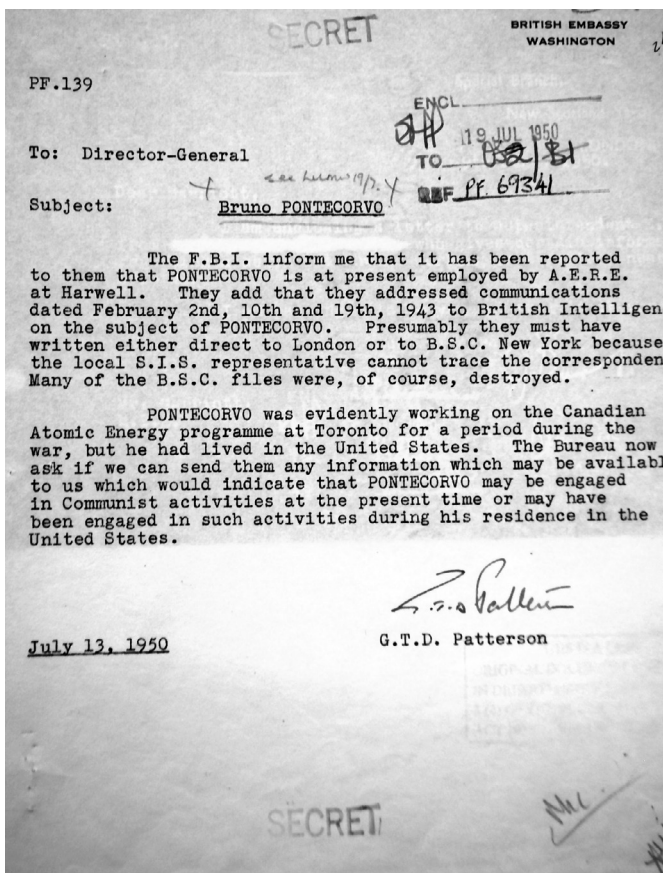


Figure 3: The British Embassy letter from Washington to the Director General of MI5 which was read by Kim Philby the 'SIS representative' and led to Pontecorvo's defection.

Why was Philby so exercised by the sight of Patterson's letter and the FBI's interest? In part it is a black comedy of errors, not least associated with his duplicity. Philby was one of a handful that knew the biggest secret of the time: the Americans had broken the Soviet diplomatic codes, known as the VENONA project. Decrypts arrived in fragmentary form, and Philby was continuously monitoring them to see if there was any mention of him or his fellow double agents, Guy Burgess and Donald MacLean. He was aware that three atomic spies had been identified, but only by their Soviet codenames. These were CHARLZ, MLAD and QUANTUM. Of these CHARLZ was identified as Klaus Fuchs in September 1949, a fact that Philby passed on to Moscow, but too late to alert Fuchs. The identities of MLAD and QUANTUM remained unknown, however, in 1950.



Figure 4. Bruno with Marianne Nordblom, later his wife, in Paris around 1938.

Today we know these were Boris Podolsky, working at Oak Ridge, and Theodore Hall, at Los Alamos. In subsequent decades, before these identities were established, several have speculated whether one or other was Pontecorvo. Philby would certainly have recognised the possibility that Pontecorvo was one of these atomic spies, hence the FBI interest, and would have done his job to alert Moscow.

So today we can be certain as to why Pontecorvo jumped ship so suddenly: a tip-off which originated with Kim Philby. Why he was so concerned, only he ever knew. In *Half Life* I assess this, along with his remarkable career as one of the great scientists of the twentieth century. The second half of his life was spent in the USSR, and was not a happy one for his wife, at least. Late in life he admitted that he had been “a cretin”.

Was he perhaps the most successful atomic spy of all, in that the ones we know of, such as Klaus Fuchs, were exposed and hence ultimately failed. Fuchs and Nunn May each spent about a decade in jail for their crimes. Pontecorvo spent four decades in the USSR, where his career was often frustrated, his wife suffered mental breakdown, and his travel was restricted. It is moot who was punished the most.

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2. Close, Frank. *Half Life* (OneWorld, London, 2015)

Frank Close OBE is Professor Emeritus of Theoretical Physics at Oxford University. He was formerly Head of Theoretical Physics at the Rutherford Appleton Laboratory and of Communications and Public Education at CERN. He won the Institute of Physics' Kelvin Medal in 1996 and the Royal Society's Michael Faraday Prize for Science Communication in 2014. Uniquely he has won the British Science Writers' Prize on three occasions. He is the author of many books, including Neutrino; Antimatter; The Infinity Puzzle - the story of the quest to discover the Higgs Boson; as well as Half Life. He is currently writing Trinity, the story of the atomic bomb's father Rudolph Peierls, his colleague and metaphorical son Klaus Fuchs and the spooks of MI5 as they attempted to decide which of them was the spy.

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Annals of Manchester, 2015

The idea of publishing an annual record of events in the Greater Manchester area along the lines of the much-consulted *Annals of Manchester*, compiled by William Edward Armytage Axon, was one of the final projects initiated by Professor Donald Cardwell before his death in 1998. That the publication of such a record will be of interest not only to present readers but future historians and researchers can hardly be questioned. Readers should note that Axon's *Annals*, covering the years to 1885, is now available on the internet. It is also fully searchable, yielding far more references than can be identified using the printed index, which is heavily weighted towards the names of individuals. This will further increase the usefulness of this most useful local reference work.

As in previous years, corrections and amendments to this year's entries should be sent to Terry Wyke, Manchester Metropolitan University, Department of History, Politics and Philosophy, Geoffrey Manton Building, Rosamond Street West, off Oxford Road, Manchester M15 6LL (t.wyke@mmu.ac.uk). Entries for inclusion in the *Annals* for 2016 should be sent to the same address.

The entries below cover the period from the beginning of January 2015 to the end of December 2015.

Thursday 1 January Carol Ann Duffy, poet laureate and professor of poetry at Manchester Metropolitan University, awarded CBE in Queen's Honours List for services to poetry; Oldham businessman and philanthropist, Norman Stoller received a knighthood; Denis Law and Francis Lee awarded CBE for services to football and charity.

Saturday 10 January Police charged ten men in connection with drug dealing in Piccadilly Gardens. The ongoing Operation Manderla has resulted in the arrest of over 50 suspected drug dealers in the city centre.

Monday 12 January Josh Wilson, aged 14, who battled complex health problems and an operation to remove a brain tumour, was voted Mancunian of the Year.

Tuesday 13 January The *New York Times* named Manchester as one of the top places in the world to visit.

Monday 19 January Anne Kirkbride, actress, aged 60, best-known for her role as Deidre Barlow in the Granada soap opera, *Coronation Street*, died. She was born in Oldham – her father was cartoonist on the *Oldham Chronicle* – and developed her acting skills at the Oldham Coliseum.

Tuesday 20 January Trial began of Victorino Chua who was charged with the murder of three patients and attempting to poison 18 others at Stepping Hill hospital in 2011.

Thursday 29 January Roy Little, professional footballer, died, aged 83. He was born in Manchester in 1931. He played for Manchester City from 1953-1958. He later worked at the University of Manchester Sports Centre.

Sunday 1 February Sir Douglas Hague, economist, died, aged 88. Hague had been professor of business studies at the University of Sheffield and professor of applied economics at the University of Manchester (1963-5), where he was instrumental in establishing the Manchester Business School. A proponent of monetarism and the free market he influenced the thinking of Margaret Thatcher. He received a knighthood in 1982.

Monday 2 February Sandra Chalmers, broadcaster, died, aged 74. She was born on 29 February 1940 at Gatley, Cheshire. Her father was an architect, her mother a medical secretary. She attended Withington Girls' School before going on to Manchester University where she studied English and served as president of the Women's Students' Union. She became a presenter at Radio Manchester, before going on to introduce and later serve as editor of BBC Radio 4's *Woman's Hour*.

Thursday 5 February Premiere of *Scuttlers*, written by Rona Munro, at the Royal Exchange. The subject of the play was the scuttling gangs in Ancoats and Salford in the 1890s.

Police called in to deal with anti-social behaviour of off-road bikers who formed the cortège at the funeral of Clarence 'Clay' Edwards at Southern Cemetery. Edwards had been stabbed in Manchester city centre in January.

Thursday 12 February Three men arrested at Manchester Airport following discovery of heroin valued at £2 million. They had travelled from Pakistan.

Saturday 14 February Whitworth Art Gallery re-opened following a £15million redevelopment. The opening events featured a collaboration between artist Cornelia Parker and graphene pioneer Sir Kostya Novoselov.

Tuesday 17 February Dannall Dunkley, aged 36, was jailed for life for the murder of Rhyan Wilson, aged 18, in Urmston in August 2015.

Thursday 19 February Manchester Central Library provided information on its 'weeding out' of some 240,000 items from its collections. The disposal was considered excessive and opposed by the Friends of Manchester Central Library.

Sunday 22 February Metrolink trams began reusing Victoria Station.

Monday 2 March Hotel Football, Old Trafford, opened. The hotel, located on Sir Matt Busby Way, adjacent to Old Trafford stadium, was developed by Gary Neville, Ryan Giggs and other former Manchester United players.

Thursday 5 March A schoolboy at Sale High School was excluded from World Book Day celebrations because he dressed up as Christian Grey, a character in E. L. James's novel *Fifty Shades of Grey*.

Friday 6 March International Women's Day marked at Manchester Town Hall. Professor Caroline Dive, Mariam Yusuf, Anna Mayne, Charelle McKenzie and Hilda Palmer were among those receiving awards.

Friday 20 March George Osborne, Chancellor of the Exchequer, officially opened the National Graphene Institute at the University of Manchester.

Crowds gathered in Piccadilly Gardens to observe the solar eclipse.

Monday 23 March Opening of Manchester Metropolitan University's new Student Building, Higher Cambridge Street. It was designed by Feilden Clegg Bradley Studios.

Tuesday 24 March Yehuda Afner, Israeli diplomat, died, aged 86. He was born Gubbi Haffner in Manchester on 30 December 1928, educated at Manchester High School. A supporter of Bnei Akiva, the Zionist youth movement, he emigrated to Israel in 1949 where he helped to establish a religious kibbutz. He went on to serve as an adviser and speech writer for a number of Israeli prime ministers, including Levi Eshkol and Golda Meir. He was Israeli ambassador to the United Kingdom (1983-88) and Australia (1992-5). He recalled his career in *The Prime Ministers: An Intimate Narrative of Israeli Leadership* (2010).

Monday 30 March A grenade was thrown at the home in Formby Street, Salford belonging to relatives of convicted drug dealer Ryan Coward. Police believed it to be part of gang feud.

Sunday 12 April The Big Wheel in Piccadilly Gardens closed and was to be removed. It was installed in 2014.

Wednesday 15 April March for the Homeless took place in city centre, beginning in Piccadilly Gardens. Anti-homelessness protesters attempted to storm Manchester Town Hall. The demonstrators later set up a protest camp in Albert Square.

Friday 17 April Filming taking place in the city centre for the final series of *Fresh Meat*, Channel 4's comedy about students at Manchester Medlock University.

Monday 20 April One St Peter's Square (Glenn Howells Architects) was recognised as the best commercial workplace in the British Council for Offices annual awards.

Wednesday 22 April Vandals damaged toys and sports equipment at Oswald Road primary school.

Friday 24 April Death announced of Katy Jones, television producer and investigative journalist, aged 51. She was based in Manchester, living in Fallowfield. She began her television career working as a research assistant on Granada's *World in Action*, later going on to produce award winning documentaries including Jimmy McGovern's *Sunday* (2002) and *Hillsborough* (1996), and Tony Marchant's *The Mark of Cain* (2007)

Monday 27 April Cassandra Harvey, aged 41, was arrested and charged with robbing a 95-year-old woman on Lownorth Road, Wythenshawe. She was subsequently sentenced to four years imprisonment.

Wednesday 29 April Greater Manchester authorities agreed to provide £350 million funding for Metrolink line from Pomona to the Trafford Centre.

Tuesday 5 May Homeless people who had set up a protest camp outside Manchester Central Library following their removal from Albert Square were banned from entering the building. Two protestors were arrested.

Thursday 7 May Conservative Party was returned with an overall majority at the general election. Labour MPs were elected in the five Manchester constituencies: Graham Stringer (Blackley and Broughton), Lucy Powell (Manchester Central), Gerald Kaufman (Gorton) and Jeff Smith (Withington). Mike Kane took Wythenshawe and Sale East from the Liberal democrats. In Greater Manchester the Conservatives won Bolton West, Cheadle and Hazel Grove from Labour. In the local elections Labour Party candidates won all 33 Manchester wards.

Saturday 9 May Rigby Graham, artist, died, aged 84. He was born in Stretford in 1931. Best known for his landscape and topographical illustrations, an archive of his original works and prints is held at Manchester Metropolitan University Library Special Collections.

Sunday 10 May The annual 10 kilometre Great Manchester Run attracted 40,000 runners. The winners of the elite men's and women's races were Stephen Sambu (Kenya) and Betsy Saina (Kenya).

Black Roses : The Killing of Sophie Lancaster, a film about the murder of Sophie Lancaster who was attacked by thugs in Stubblee Park, Bacup in 2007, was premiered in Manchester.

Wednesday 13 May Publication of *Alan Lord, Life in Strangeways: From Riots to Redemption, My Thirty-Two Years Behind Bars*. Lord was one of key figures in the Strangeways prison riot in April 1990.

Thursday 14 May George Osborne announced that more powers would be devolved to Greater Manchester if it agrees to be governed by a directly elected mayor.

Wednesday 20 May Police launched a murder investigation following the discovery of a body in Manor Park, Urmston. Andre Marshall, 29-years-old, a member of the former Gooch Street gang, had been shot seven times.

Thursday 21 May Home, Manchester's new centre for film, theatre and contemporary art, was officially opened by Danny Boyle. The building on First Street was designed by the Dutch architects, Mecanno.

Friday 29 May Some 4,000 fans watched FC United play against a team from Benfica to mark the opening of their new Broadhurst Park stadium.

Monday 1 June Professor Malcolm Press became new Vice-Chancellor of Manchester Metropolitan University.

Saturday 6 June Park Life festival at Heaton Park. The headline acts included Rudimental and Disclosure, Fatboy Slim and Mark Ronson.

Monday 8 June Malcolm Layfield, violin teacher, was found not guilty of sexually assaulting one of his students from the Chetham's School of Music in the 1980s.

Friday 19 June Manchester City Council served notices to leave on protestors camping in St Ann's Square and Castlefield who have been highlighting the problem of homelessness and rough sleeping in the city. The protests began in April.

Monday 22 June Lemn Sissay, poet and playwright, was elected as Chancellor of the University of Manchester, receiving 7,131 votes in an electronic ballot of university staff and alumni. He defeated Sir Mark Elder (5,483 votes) and Peter Mandelson (5,269 votes).

Tuesday 23 June Anti-austerity protest held in Piccadilly Gardens.

England defeated New Zealand in International T20 test at Old Trafford.

Sunday 28 June St Peter's tram stop closed as part of Second City Crossing. A new tramway stop is scheduled to open in the square in 2016.

Wednesday 1 July Edward (Ted) Greenfield, classical music critic, died, aged 86. Originally employed as a political correspondent by The Guardian, Greenfield became one of the newspaper's most eminent music critics. His memoir, *Portrait Gallery: A Life in Classical Music*, was published in 2014.

The Whitworth was announced as the Art Fund Museum of the Year, winning a £100,000 prize.

Thursday 2 July The fifth Manchester International Festival opened. It featured 22 specially commissioned performances and events, including a musical by Moira Buffini and Damon Albarn, and a ballet choreographed by Wayne McGregor. The events attracted almost 260,000 attendees. John McGrath, Artistic Director of National Theatre Wales, is to take over from Alex Potts as director of the 2017 festival.

Sunday 5 July Annual Madonna del Rosario street procession celebrated the city's Italian community and its culture.

Thursday 9 July In his first budget after the general election George Osborne stated his intention of granting more powers to Greater Manchester, establishing a Land Commission and placing fire services under the control of an elected mayor.

Saturday 11 July Manchester boxer, Terry Flanagan beat Jose Zepeda for the WBO lightweight championship title at the Manchester Velodrome.

Thursday 16 July Chand Raat, the Night of the Moon festival on the eve of Eid, was celebrated at Longsight market.

Friday 17 July John Taylor, jazz pianist and composer, died. He was born in Manchester in 1942. He was a self-taught musician and played in Manchester dance bands before moving to London. He played with many leading jazz musicians, and co-founded the jazz trio *Azimuth* in 1977.

Tuesday 21 July Second North West Construction Summit organised by Greater Manchester Chamber of Commerce. Keynote speakers included Peter Hansford, Government Chief Construction Advisor.

Wednesday 22 July An unnamed 16-year-old girl from Manchester appeared before Westminster magistrates charged with terrorism offences. She had been arrested in Longsight in April. The arrest followed an investigation into a 14-year-old Blackburn youth who was alleged to have been plotting terror attacks in Australia.

Ray Flynn, 80, from Audenshaw who suffered from advanced macular degeneration received a bionic eye in a ground-breaking operation at Manchester Royal Eye hospital.

Sunday 26 July Paul Massey, aged 55, who was known to have links with organised crime in Salford, was shot dead outside his home in Manchester Road, Clifton. The murder was connected to a feud between rival criminal gangs which had resulted in a number of shootings in Salford.

Monday 28 July Graham Stringer, Labour MP for Blackley and Broughton, criticised Sir Peter Fahy, Greater Manchester Chief Constable, for the rise in gun crime, calling for him to be replaced by a 'proper copper'.

Saturday 1 August A teenager, Ashley Florence, was shot in both legs in Foxlair Road, Wythenshawe. Adam Coombes, who was arrested and charged with the shooting, died whilst on remand in Forest Bank prison.

Wednesday 5 August Following delays and problems, Transport for Greater Manchester ended its contract with Atos, the firm developing an Oyster-type smart travel card to improve tram, bus and train travel in the region.

Friday 14 August Following heavy rain, a large hole in the eastbound carriageway of the Mancunian Way caused a section of the road to be closed. United Utilities were criticised for the time taken in repairing the road.

Sunday 16 August Christopher Eccleston, Maxine Peake, John Thomson and John Henshaw led tributes to mark the anniversary of the Peterloo massacre. Campaigners continued to call for an appropriate memorial to be erected.

Thursday 27 August A 16-year-old Manchester schoolgirl has pleaded guilty to two terror charges, including possessing a "recipe for explosives", in connection with a plot to attack police officers at an Anzac Day parade in Australia.

Friday 28 August A man was beaten and sprayed with chemicals following the funeral of Paul Massey at Agecroft Cemetery.

Metrolink trams resumed running through but not stopping at St Peter's Square following its closure due to the construction of the Second City Crossing (2CC) from Lower Mosley Street to Victoria Station.

Saturday 29 August Manchester Pride parade was highlight of the annual festival celebrating lesbian, gay, bisexual and transgender culture in the city.

Sunday 30 August Manchester Soul Festival held at The Printworks.

Tuesday 1 September Chris Link killed himself in his Los Angeles home shortly before he was due to be extradited to England to stand charge on 77 counts of indecent assault, including pupils at Chetham's School of Music, where he was a teacher.

Wednesday 2 September Consultants expressed their opposition to plans to make Wythenshawe Hospital a local rather than specialist site under the Healthier Together scheme.

Friday 4 September Former Middle East hostage Terry Waite spoke about his life before signing copies of his new novel, *The Voyage of the Golden Handshake* at Gorton Monastery.

Thursday 10 September Ken Martindale, Lancashire-born businessman, died, aged 83. He was key figure in development of the Manchester-based car dealership, Lookers, building the business into a national chain. He also served as a magistrate in Bolton, and as a council member of the University of Manchester Institute of Science and Technology.

Saturday 12 September Heaton Hall, closed since 2011, was one of Manchester's historic

buildings open to the public on National Heritage Open Day.

Wednesday 16 September Schools in Manchester collected supplies to help Syrian refugees.

Thursday 17 September Ian Hopkins, Greater Manchester Deputy Chief Constable, to take over from Sir Peter Fahy as the new Chief Constable in October.

Sunday 13 September A prisoner, Stuart Horner, climbed on to the roof of HM Prison Manchester in a protest about conditions. Horner had been previously in Garth Prison, Leyland but had been moved to Manchester following evidence of an intended escape. He wore a tee-shirt on which was written: 'It's not 1990, tell the government we've all had enough, sort the whole system', a reference to the Strangeways prison riot of 1990.

Thursday 24 September Manchester is to appoint a permanent director of children's services following a critical Ofsted report of its children's services. Paul Marshall, assistant director of children's services at Rochdale, was appointed, taking over from Gladys Rhodes-White who had been in temporary charge.

Sunday 27 September Frank Tyson, cricketer, died, aged 85. He was born at Farnworth on 6 June 1930 and brought up in Middleton. He played cricket and football for Manchester Schoolboys and cricket for Middleton in the Central Lancashire League. He only played once for Lancashire but went on to become one of the legendary English fast bowlers. His autobiography *A Typhoon Called Tyson* was published in 1961.

Thursday 1 October Manchester United supporters gathered in Dudley to mark re-dedication of statue of Duncan Edwards who died in the Munich air disaster.

Friday 2 October Sean Hedges-Quinn commissioned to create a statue of the entertainer, Gracie Fields, in Rochdale.

Sunday 4 October Police closed down anti-austerity protest rave in Piccadilly Gardens.

Monday 5 October Gerry Carroll, Lord Mayor of Manchester in 1997-8, died, aged 84. He was Labour councillor for Northenden from 1988-1998.

An overflow meeting was organised when the new Labour Party leader, Jeremy Corbyn spoke at The People's Post Rally at Manchester Cathedral.

Tuesday 6 October National Rail formal reopening of Victoria Station following a £44 million refurbishment. New features included a steel map installed in the Soldiers' Gate which identified the places where British servicemen were killed in France and Belgium.

Wednesday 7 October David Cameron delivered keynote speech at the Conservative Party conference in Manchester.

Friday 9 October Ronald Brunskill, architect and architectural historian, died aged 86. He was born in 1929 at Lowton, near Leigh. He studied at Manchester University and qualified as an architect but was best known for his pioneering research into vernacular buildings. His books included *An Illustrated Handbook of Vernacular Architecture* (1971) and *Traditional Buildings of Britain* (1981).

A Fanzone was provided in Albert Square for supporters to watch the Rugby World Cup.

Monday 12 October Jayne Hickey and her seven-year-old son shot in the legs on the doorstep of their home in Winton, Eccles. Police believed that the shooting was part of gangland feud linked to the murder of Paul Massey in July.

Tuesday 13 October Eighteen men and women were arrested in police raids across Salford as part of Project Golf investigation into organised crime in the city. Police seized cocaine, crack cocaine, heroin, cannabis, a stolen motorbike and cash in the raids.

Wednesday 14 October Sir Howard Bernstein cut the turf to mark the construction of the Belong care village, Palatine Road, for Didsbury's Jewish community.

Thursday 15 October Sebastian de Ferranti, businessman, died, aged 88. Sebastian Basil Joseph Ziani de Ferranti was born on 5 October 1927, grandson of Sebastian Ziani de Ferranti, engineer who pioneered electricity supply. He started work at the family firm in 1950, joining the board in 1954 and serving as chairman from 1963 to 1978. In 1957 he purchased and subsequently demolished Henbury Hall, Macclesfield, building a new Palladian-inspired house based on the Villa Rotonda near Vicenza. He was a governor of the Royal Northern College of Music and chairman of the Hallé Concerts Society at the time of the building of the Bridgewater Hall.

Sunday 18 October Gary Neville and Ryan Giggs allowed the former Manchester Stock Exchange to be used by homeless people following its occupation by housing activists. They are planning to develop the building as boutique hotel.

Monday 19 October Dick Sharples, comic writer, died aged 88. He was born in Manchester on 7 June 1927 and began his career as a writer and illustrator for a Manchester advertising agency. His books included *A Year in Muswell Hill* (2002) and *Adieu Muswell Hill, Bonjour Manchester – A Year in the Provinces* (2012). His work for television included the comedy series *In Loving Memory* (1979–1986) and *Hallelujah!* (1981–2), both starring Thora Hird.

Wednesday 21 October Michael Meacher, Labour MP for Oldham West since 1970, died, aged 75.

Thursday 22 October Emmeline Pankhurst was chosen in a public poll to be the subject of a privately-funded public statue in Manchester. She was selected from a list of six inspirational Manchester women: Elizabeth Raffald, Emmeline Pankhurst, Elizabeth Gaskell, Margaret Ashton, Ellen Wilkinson and Louise Da-Cocodia. The Womanchester campaign was led by Andrew Simcock, Labour councillor for East Didsbury.

Opening of Manchester Science Festival.

Friday 23 October President Xi Jinping visited Manchester, the first Chinese president to visit the city. He visited the National Graphene Institute at the University of Manchester, the City Football Academy at Manchester City Eithiad stadium, the Town Hall and the Airport City project at Manchester Airport. His wife, Madame Peng Liyuan, visited the Museum of Science and Industry.

Sir Peter Fahy retired as Chief Constable of Greater Manchester Police. He was appointed Honorary Professor of Criminal Justice at the University of Manchester.

Saturday 24 October Kirsty Howard died, aged 20, in Manchester Royal Infirmary. She inspired people having been given a short time to live because of a rare heart condition when four years old. She raised over £7.5 million for the Francis House hospice in Didsbury.

Tuesday 27 October Exhibition recalling the campaign that resulted in the passing of Disability Discrimination Act, 1995 opened at People's History Museum.

Monday 2 November Colin Welland, Lancashire-born actor and screenwriter, died, aged 81. His acting career started at Manchester Library Theatre in 1962 where he was employed as assistant stage manager.

Sunday 8 November Remembrance Service held at the Cenotaph at the Cooper Street entrance to the Town Hall. It was led by Lord Mayor, Paul Murphy and concluded with a march-past in Albert Square.

Rodney (Rod) Davies, astronomer, died, aged 85. The Australian-born astronomer came to England in 1953 to work at the Jodrell Bank observatory under Bernard Lovell. He worked there for over sixty years, becoming professor of radio astronomy and director of the Observatory (1987-1998). He served as president of Royal Astronomical Society (1987-9).

Wednesday 11 November The King's Fund health think-tank expressed concerns over devolved NHS budgets. The warning came as Greater Manchester prepared to become the first region in England to have its £6.2bn health and social care budgets removed from central government control.

A new war memorial commemorating those killed from the Greengate area in the first world war was unveiled in Queen Street, Salford. The original memorial installed in 1919 had been taken down during road works in the 1960s.

Thursday 12 November Manchester Airports Group – described as the beating heart of the Northern Powerhouse – received the newly created Mitchell Henry prize at the Manchester Evening News Business of the Year Awards.

Friday 13 November The Whitworth was named as the Greater Manchester Chamber of Commerce Building of the Year.

Monday 16 November Hundreds of people gathered in Piccadilly Gardens to show solidarity with France following terrorist attacks in Paris.

Saturday 21 November Anthony Crolla knocked out Darleys Perez in the fifth round to become WBA lightweight champion at Manchester Arena. Their first fight in July had ended in a draw.

Thursday 26 November Manchester City Council published its annual State of the City report. It confirmed that that the city's population was continuing to increase, reaching 520,000 in 2014.

Saturday 28 November Tyson Fury, who was born and raised in Wythenshawe, defeated Wladimir Kitschko to win the WBA, IBF, WBO and IBO world heavyweight boxing championship in the Esprit Arena in Düsseldorf.

Sunday 29 November Storm Clodah caused disruption across Greater Manchester. The gale-force winds forced a Monarch Airbus A321 to abort its landing at Manchester International Airport.

Tuesday 1 December Conference on industrial heritage held at Manchester Museum of Science and Industry.

Exhibition at Manchester Metropolitan University Library celebrated the 150th anniversary of the Manchester Society of Architects.

Saturday 5 December Glynn Williams arrested and charged with the murder of Sian Roberts, St Helier's Drive, Higher Broughton on 29 November.

Sexist and anti-gay comments made by the world heavyweight boxing champion, Tyson Fury, caused public outrage and prompted a petition to remove him from the BBC Sports Personality of the Year poll.

Tuesday 8 December Thousands of pounds stolen during a raid on a G4S security van outside the TSB bank, Barlow Moor Road, Chorlton.

Thursday 10 December Inquest into the death of Michael Carter, a Manchester United supporter, ruled that he died of a head injury following a fight in September 2014. The brawl between rival football fans took place in Deansgate. The Crown Prosecution Service ruled that there was insufficient evidence to proceed with criminal charges.

Monday 14 December Madonna was booed by some of the audience following a delay in starting her concert at the Manchester Arena, part of her Rebel heart world tour.

Sunday 20 December Tributes paid at Agecroft Cemetery to Salford civilians killed in the Blitz in 1940. A memorial marks the mass grave of more than 100 Salford victims.

Thursday 24 December Death announced of Robin Dodge, consultant histopathologist, aged 93. He trained at the University of Manchester and joined The Christie in 1963 where he became an expert in tumour pathology. Following his retirement he established the Robin Dodge Fellowship Fund to help young pathologists follow a career at The Christie.

Obituaries

PROFESSOR KEITH ROSS

1939-2016



Keith was born in 1939 in Ballymoney, County Antrim. His father Alfred, known as Fred, read chemistry at Queen's University Belfast and took his Ph.D at University College London, before working for ICI on Teesside and later returning to Northern Ireland to become the first Headmaster of Dalriada School, a non-sectarian school in Ballymoney. His mother Eileen was one of the first women graduates of Queen's University Belfast, and imbued in both her sons a passion for learning. Keith and his brother were brought up as non-subscribing Presbyterians - liberal Protestants whose key belief is "the right of men to think for themselves". Keith and Julian went to Campbell College in Belfast. Keith then gained an Exhibition to Pembroke College, Cambridge to read Natural Sciences.

Eventually Keith became a Professor of Physics and Julian a Professor of Chemistry. A quietly distinguished family, it would be fair to say.

By the time he graduated, the 1960s lay ahead of Keith, an era that was perfect for a man whose studious passion for science was balanced by a love of rock'n'roll and jazz; a passion for exuberant jiving; and the thrill of parties - throwing parties, attending parties and gatecrashing parties too. He worked initially for the Atomic Energy Authority in Winfrith, choosing to live in the brighter lights of nearby Bournemouth, and later became a lecturer at Birmingham University in Applied Nuclear Science. On the evening in 1971 when Keith was first introduced to Judy in a University bar, he invited her to gatecrash a party in Solihull with him. The rest is history!

During 42 years of marriage to Judy, Keith never failed to be loving, generous, appreciative and her very closest friend. The downside of marriage to a research scientist was that Keith was very often away at international conferences or on collaborative research activities, but this was such an important part of who he was, that it was price worth paying. Their first son, Alex, was born in 1977; Julia in 1980, and Peter in 1983. Family life was relaxed, cheerful and sociable. Keith was an involved, caring and exceptionally tolerant father. None of the children can recall many occasions when he got cross with them, and he is best remembered for his catch-phrase: "If you do that again Daddy will get cross with you...". Keith loved his children and was immensely proud of their achievements and character.

Recently, the birth of a daughter, Ida, to Julia and her partner Daniel was a source of great joy to Keith and Judy .

Keith was not, of course, a paragon in all respects. He cooked very badly, as exemplified by his speciality, curried scrambled eggs and the incident of the microwaved boiled egg. Like many large men, he was not a neat and tidy person – buttons seemed to drop off his clothes and he could make a room untidy in no time. He was not good at decorating or gardening, and did not grieve when he was relieved of these responsibilities because of his deficiencies.

Friends and friendship were a hugely important part of Keith's life . He was very good at making friends and keeping them. Keith loved good company, whether sitting around the kitchen table sharing a meal and some good wine, or engaging in the sometimes frivolous discussions at his Book Club. set up five years ago by Julie Carmichael and Judy.

For many years Keith and Judy have been members of the Manchester Lit & Phil, and Keith was Chair of the Science and Technology Section for four years as well as being a member of the Lit & Phil Council. He was a member of Probus and enjoyed the fortnightly chat over lunch in the The Griffin. He was widely read and was very culturally aware, with a broad knowledge of films, drama and music. He remained loyal to *The Guardian* newspaper even though he lamented its loss of character when it ceased to be *The Manchester Guardian* . There was also a distinctly extrovert side to Keith. One of his party pieces (sometimes greeted with groans) was the recitation, by heart, of the opening pages of *Ulysses* by James Joyce, to which he applied a rich Dublin accent. When he was a postgraduate student at Birmingham University Keith took a minor role in a production of *Antigone* directed by one Terry Hands. Many years later, he met Terry Hands (by then famous) at a function, and was gratified that Terry at least claimed to remember his performance as third spear carrier. Keith's finest theatrical hour came when, as President of the Senior Common Room, he played the eponymous Sweeney Todd in a joint Senior and Junior Common Room production in the Lake / Wyddrington Halls of Residence of Birmingham University.

Keith was a formidable international scientist with hundreds of publications and research achievements to his name, and an impressive list of research council and industry grants to the value of many millions of pounds, the last of which only came to an end in January 2016. An email from Sonny Sinha, an extremely eminent scientist, now at University of San Diego, states:

Even now I find it difficult to comprehend that Keith is gone and I feel devastated. Keith was one of my closest friends from our days sharing digs together at Cambridge and we followed parallel tracks throughout our lives. I was only yesterday looking again at a paper he and I wrote together many years ago, which is still one of the best things we have done and is widely cited.

Keith's last big professional showcase was the Metal Hydrogen International Conference in Salford in 2014, which will be particularly remembered, as well for its scientific quality, as for the lovely sunny weather that gave the many

international participants a rather different view of Manchester than that widely held.

Finally, one should mention Keith's appreciation of the very many research students, whom he supervised between 1964 to the present day, both in Birmingham University and later at Salford University. Many of his students have become leaders in the scientific community, but Keith had the same feelings of commitment, pride, sometimes frustration, concern and affection for all the members of his research groups over the years.

Towards the end, Judy asked him how he would like to be remembered. Keith's answer was simple and immediate: "Just as a fair and reasonable person".

Judith Ross

JOHN SPENCER BUCKLEY
1943-2017

In January 2017, the passing away of John Spencer Buckley was reported to the Society. This obituary has been written by Sir Netar Mallick (Immediate Past President) with the contribution of John's daughters, Helen and Charlotte.



John was born in Southport on 28th July 1943 to Margaret and Jack. His father was a public health inspector and his mother worked in healthcare. John spent his early years in Kendal, Cumbria, before moving to Heywood. He attended Heywood Grammar School and then studied architecture in Wigan.

John set up his own architectural firm, located in the city centre of Manchester and worked on a range of commercial and retail developments across the North West. John lived a life of service – to Manchester and to business. He was area chairman and a National Councillor of the Round Table, an active member of the Manchester Chamber of Commerce supporting Manchester's bids for the Olympic Games and the successful

hosting of the Commonwealth Games in 2002, and later a Governor at Salford City College.

Outside of the professional sphere, John was a lifelong Bury Football Club fan watching the "Shakers" both home and away for over 60 years. He was also a lover of cricket and was a member of Lancashire County Cricket Club for many years. He was also a long standing member of the St James's Club in Manchester.

John was a dedicated supporter of the Manchester Literary and Philosophical Society. This Society, founded in 1781 and one of the oldest in the country, is part of the warp and weft of the life of Manchester, attracting both academic and professional members from a wide catchment. As such it was always going to attract John's interest. He studied its history, regularly attended its meetings and eventually became a member of its Council and then its Secretary. He was not afraid of challenging anyone who he thought was not seeing the wood for the trees and insisted on developing a business-like approach which his successor is continuing.

John was a man full of intellectual curiosity, always learning. He travelled the world – Hong Kong, America, India and Europe – to further his understanding of history, culture and architecture and was planning to visit Israel and Palestine. He willingly gave of himself to those causes he cared for, supporting many voluntary causes over the course of his life. Most of all he was a good friend to many, dependable, caring and good humoured.

He married Susan Janet Maslin in 1977, and Sue was by his side throughout his career as his company secretary until she sadly died of Motor Neurone Disease in 2007.

John leaves two daughters, Charlotte and Helen.

Other Deaths 2015-16

Members will be saddened to learn of the following deaths, which occurred during the above period.

Miss Mary Mason

Dr David Tunbridge

Mr R. M. G. Carter (Michael)

Named Lectures 2015–16

A complete list of the Named Lectures prior to 2015 is given in volumes 151–153 of the Memoirs.

The Clayton Lecture

2015 Oct 20 *The Scottish Political Earthquake (2015)
and the future of the Union*
Sir Tom Devine

The Ramsden Lecture

2015 Dec 9 *Why is Britain so Badly Governed?*
154 pp51-61
Sir Ivor Crewe

The Wilde Lecture

2016 Jan 6 *Doping in Sport*
154 pp62-71
Prof Charles Galasko

The Joule Lecture

2016 Feb 2 *Anaesthesia and Critical Care in Action*
Prof Peter Nightingale

The Percival Lecture

2016 Feb 16 *The History of Jodrell Bank Observatory*
Dr Teresa Anderson

The McCurdy Lecture

2015 May 16 *Shale Gas in the UK*
Prof Kevin Taylor

President's Lecture

2016 Jun 15 *The Just War*
154 pp97-103
Lord Guthrie

*Proceedings of the Manchester Literary and
Philosophical Society*

ANNUAL REPORT OF THE COUNCIL, 2015-2016

Lectures arranged by Council

The History of Tenys and Racquets: a romp through several centuries of Esoteric Small Ball Games

Peter Barnes, a past secretary of the society, got the 2015 /2016 session off to a more light- hearted start than usual by tracing the origins of tenys from its origins in the fifteenth century to the split in the 1870's to Real Tennis and Lawn Tennis. Then the development of fives into squash and racquets. The lecture accompanied by the presentation of many historic 'tools of the trade' and their use.

Daring to be Wise - a history of Manchester Grammar School

500 years ago Hugh Oldham founded the Manchester Grammar School with the object of promoting "Godliness and good learning among the poor boys of Manchester". Its motto is sapere aude - dare to be wise.

To celebrate this momentous achievement the society ventured out into the suburbs to hear a history of the school and its more famous pupils and their achievements from Patrick Thom the Deputy Headmaster. To make the occasion more memorable, we were also introduced to the archives and artefacts held in the school's library by the joint archivists, Mary Ann Davison and Rachel Kneale.

The Scottish Political Earthquake (2015) and the Future Union

The society was honoured to have been able to lure to the south and obtain the services of Sir Tom Devine, the doyen of Scottish historians, knighted in 2014 for services to the study of Scottish History. He explained how we arrived at a vote on Scottish Independence in September 2014 and how, months later in the General Election of May 2015, the leading party in Scottish politics was virtually wiped out.

For an hour we were privileged to hear an incisive and detailed study of the history that led up these events all delivered without hesitation or notes, a man very clearly in command of his subject and, as one would expect, a very lively question session ensued.

Christmas Carol Service

What has now become a tradition, the society took part in a carol service with the members of The St James's Club in the Parish Church of St Ann's Manchester, followed by a convivial supper.

Christmas Event 2015

The objective of the society's Christmas Event is to showcase to members the wealth of young talent that exists within the community and to give those young performers a vote of confidence.

This year we had the privilege of visiting the largest specialist Music School in the UK, Chetham's School of Music, whose motto is "Love to Play" and play they did. After a talk on the structure of Beethoven's Piano Concertos and the training of young musicians by Dr Sam King (Head of Music in the Curriculum), we

moved into the Concert Hall to hear four of the most talented pianists compete in the Annual Pianist of the Year competition which this year was on their own choice of Beethoven's Piano Concertos. The quality of what we had heard was the main point of discussion during supper in the 16th Century Baronial Hall.

The Percival Lecture - Jodrell Bank: World-leading science and world-leading heritage

This year it was the turn of The University of Manchester to host the Annual Meeting of academia with the society. This lecture and supper was held in the imposing environment of the Whitworth Hall at the University and was given by Dr Teresa Anderson MBE, the Director of the Jodrell Bank Discovery Centre, the Grade 1 listed Radio Telescope. She analysed the history of the site from its inception to its position at the forefront in the field in Radio Astronomy and described its ongoing research programme especially as the HQ of The Square Kilometre Array which is set to be the largest science project ever known.

The Future of Museums in the UK

This talk by Nick Merriman, Director of the Manchester Museum and at present the Chair of the National Collections Trust, examined the ways in which museums in the 21st century were changing by the introduction of staff trained in the skills of learning, interpretation communications and customer care. In doing so how they were playing major roles in tourism, economic development, education health and well-being, even in international diplomacy and partnerships. He also looked at future developments including digital developments and the roles of museums in addressing major issues such as climate change and migration. He finished by looking at the role of museums in the Northern Powerhouse.

Special Lecture to mark the service given to the Society by Professor Sir Netar Mallick

This special event was organised at the Co-operative Pioneers Museum in Rochdale, where members had time to visit the museum and to hear a fascinating address by the Head of Heritage Resources for the Co-operative Heritage Gillian Lonergan on the subject of Robert Owen and his part in the formation of the Co-operative movement and how he formulated his ideas and gained confidence in public speaking whilst a member of the Manchester Lit & Phil.

Hidden Gems of Cheshire, Daresbury, its environs and the Catalyst Science Discovery Centre and Museum

This venture into Cheshire was hosted by President-Elect, Dr Diana Leitch. Throughout the tour she pointed out all of the various buildings and places that had contributed to the growth of this area of Cheshire throughout the ages with two major stops firstly to the 12th century All Saints Church at Daresbury where Charles Ludwidge Dodgson was baptised to later become known as Lewis Carroll and it is in that church there is a Visitor Centre to Alice. It was in this venue that we learnt about rural Cheshire and then on to Widnes and Runcorn and the Catalyst Science and Discovery Centre to learn all about the extensive chemical industry that grew up in the area and is still active. Whilst there we were able to view the ongoing construction of the new bridge across the Mersey.

Presidents Reception with address by Lord Guthrie of Craigiebank GCB LVO OBE, former Chief of the Defence Staff

Lord Guthrie gave an address to further stress his beliefs in the conduct and ethics in modern warfare which he first expounded in his book *Just War: The Just War Tradition: Ethics in Modern Warfare*. It was a spell-bounding address, as one would expect from a man of such widespread experience from a young soldier to Head of the Army then the Defence Forces and still continues as an advisor to Government. The questioning was forensic especially around events of the last few years.

This event was held in conjunction with Broughton House, a home for elderly service personnel.

Lectures arranged by the Arts Committee

The Arts Section prefaced the season with a visit to Quarry Bank Mill, Styal, Cheshire. Pioneering cotton entrepreneur Samuel Greg, founded the mill in 1784, and the family played an important role in the industrial and political life of Manchester. In addition, Samuel, Robert Hyde and William Rathbone Greg were all active members of the Lit and Phil. The visit was doubly successful – an enjoyable and interesting excursion for members, which has also seen the renewal of links between the Society and Quarry Bank, with joint activities now planned between the two organisations.

The lecture programme began in October with the talk on ***Miss Rachel B Shuttleworth's Treasured Textiles***. Vanessa McDermott, the Director of the Gawthorpe Hall Textiles Collection presented a pictorially beautiful, knowledge filled and delightfully relaxed yet directly engaging talk. Her remarkable insights into the personal life of the Gentrified collector added gravitas to the purpose of the textile collection as a teaching resource for women in particular. From a young age and influenced by the interior design work of her home and family seat, Gawthorpe Hall - for example, by the Elizabethan ceiling plasterwork of F and T Gunby (1605) - "Miss Rachel" transposed these flowing and natural designs into her handmade pieces of hand crafted fabrics and influenced her choices of pieces to collect from across the globe. Images of close-up glossy thread in repeating detail, or genre, of the type of handmade stitching used in the manufacture of a fabric-work were particularly beautiful. She was to become a major exponent of the Arts and Crafts movement. Her ability to focus on fastidious detail and record keeping was itemised in her stock of some thousands of index cards, in green ink, with which the current curators and researchers of the collection are using to identify and catalogue very many of the thirty thousand pieces in the collection. Vanessa described the re-opening of the displays and the Hall due in the Spring of 2016 with great enthusiasm.

In November Mike Hill spoke about ***Graham Greene and Alfred Hitchcock***. The talk considered what might be called a "blind spot" in Graham Greene's film reviews in relation to Alfred Hitchcock's work. Using three film examples of *The 39 Steps*; *Secret Agent* and *Saboteur*, Hill explored why Greene's usual considered and insightful reviews were savagely critical when it came to the works of

Hitchcock. He offered three reasons: Greene was acting in defence of writer John Buchan for what he considered to be a film “full of tricks”. However, the defence was unnecessary as Buchan saw the film, liked it and saw it as an improvement on his novel. Hill further proposed that Greene had failed to acknowledge that Hitchcock had improved since his early offerings and finally that there may have been a touch of self-criticism as Greene was very disparaging about his own commercial work which he dismissed as “entertainments” rather than serious writing and that perhaps he felt that Hitchcock had “sold out” to commercialism. Greene refused to work with Hitchcock and Hill suggested that this was a great loss, for example Greene’s novel, “Our Man in Havana” would have made a fascinating Hitchcock film. The talk was well attended and the question and answer session could have gone on all night had not supper intervened.

To the surprise and delight of the audience, the December lecture *Degenerate Music – the Secret Soundtrack of the Third Reich* was opened with a splendid performance of Kurt Weill’s song, ‘Moritat von Mackie Messer’ by mezzo Jill Taylor, accompanied by the lecturer Derek Blyth on the accordion. This song was the signature tune of the final days of the Weimar Republic before being banned by the Nazis on coming to power in January 1933. Derek outlined the range of music regarded as entartete (degenerate), such as work by Jewish composers, or influenced by jazz, by radical political beliefs, or too dissonant for their conservative taste. Derek played examples of Mahler, Mendelssohn, Klezmer music – all banned – and also of ‘approved’ music, including ‘Die Fahne Hoch’, which is now banned in Germany for its Nazi sentiments. He mentioned the 1937 ‘Entartete Musik’ exhibition ridiculing music regarded as having a degenerate influence, and also many other composers and performers affected by the ban. He played excerpts of underground music from Berlin, referencing a film made of storm troopers marching to ‘The Lambeth Walk’ and from there led us to the gates of KL Theresienstadt and the composers living there, including Victor Ullmann, Hans Kruse and Ilse Weber. A song by Ilse Weber, ‘Ich wandere durch Theresienstadt’ was particularly moving, with the text and translation provided on screen. All these composers perished in Auschwitz. Of the many who fled the Third Reich some reached the UK, contributing to the founding of Glyndebourne. Some ended up in Hollywood composing music for the film industry, such as Korngold and Goldschmidt; examples of their work were played. Derek mentioned Decca’s ‘Entartete Musik’ programme of recordings and the modern performances *Brundibar* and *Der Kaiser von Atlantis*. He finished with a picture of the gates of KL Buchenwald which had the legend ‘Jedem das Seine’ – the significance of the phrase, the links with J S Bach and the hope for the future.

In January James Thompson gave a lively and much appreciated talk on *Performance in Place of War* the major research project he has led for the past twelve years: In Place of War – an award-winning initiative at the University of Manchester that has documented and helped to advance the practice and understanding of theatre and performance projects in sites of contemporary armed conflict around the world. The project started after James worked on theatre programmes for UNICEF in northern Sri Lanka in 2000 and has continued to

this day, exploring arts projects in international war, disaster and conflict settings. Beginning with an overview of how theatre and the arts have responded, directly or indirectly, to war - from the Ancient Greeks to the first world war poets, Brecht and various contemporary practitioners - he then explained how *In Place of War* has developed programmes, documented the work of artists and provided support for struggling arts organisations. His talk included descriptions of projects in the Democratic Republic of Congo, Kosovo, Sri Lanka and Sudan and the very different styles and approaches that exist in these contexts. He concluded by examining how these different projects raise important questions about the relationship between the arts and war - and how people survive, live through and seek to represent conflict. Among the issues that such programmes highlight were the need to grasp exactly where the practice sits on the time-place axis, the dangers of what he called 'Romeo-and-Juliet-itis' (the all-too-easy and sometimes counter-productive appropriation of Shakespeare's classic tale into contemporary conflict zones), and the value of work that can create moments of beauty in the midst of otherwise appalling situations.

In February Jane Hornby spoke on *Alchemy, Obsession, Poison and Death: a brush with colour*. The skilful selection of beautifully composed and intensely coloured pre-Raphaelite, Italian Renaissance and Baroque Art-works delighted an appreciative and captivated audience; combined with a lecture narrative which was pitched at the level of eager-to-inform and to pass on an understanding of the Artists' intention and symbolism, not only of the colours of pigments used but also of the objects painted in the pictures, made the evening edifying for all. Given the topic's breadth of possible content, the lecture was necessarily concise yet remained comprehensive in admirable detail, for example, discussing the early use of earth's minerals for pigments up to the variety of synthetic pigments of the 19th century as by-products of a burgeoning scientific advance in chemistry. The unfortunate poisonous effects of arsenic based pigments and their array of uses in wallpaper for example and in Napoleon Bonaparte's ultimate demise raised an awareness in the audience that the Artist could lead a perilous life! Although the speaker was well-versed in so many aspects of the use of colour in Art, time did not permit too much discussion on other edifices, but there was a poetic and well worded narrative provided on the emotional significance of the primary colours used for clothing and objects portrayed alike.

The March lecture, *John Ruskin: A life in Pictures* by Prof Stephen Wildman, Director of the Ruskin Library at Lancaster University was an expansive talk combining a biographical history of Ruskin with illustrations of his artistic skills from boyhood to later life. He highlighted the breadth of Ruskin's capabilities as poet, artist, writer, critic, educationalist, philosopher, naturalist, archaeologist and architect - representing a true polymath. With insight and occasional humorous asides, Prof Wildman told of Ruskin's privileged upbringing by his sherry merchant father and overindulgent mother to provide private tuition for their precocious son leading to undergraduate studies at Oxford University, where he excelled in poetry. Illness interrupted his studies, and was, during periods of stress, intermittently to affect him for the rest of his life. On recovery, he embarked

on the critical study of art and architecture being a great admirer and supporter of the painter JMW Turner. Later he became interested in the Pre-Raphaelites and helped Rossetti and Burne-Jones. During his tours of Europe he developed a great love of the Alps studying their geology, and in Northern Italy he studied artists little known in Britain at that time and championed the Gothic architecture of Venice. His growing status in Art was acknowledged with his appointment as the first Slade Professor of Art at Oxford University. Others of his numerous activities included educational support of workers, giving lectures and setting up the Saint George's Guild in Sheffield. The last 28 years of his life in declining health were spent at his home at Brantwood, overlooking Coniston. Since 1996 JH Whitehouse's collection of Ruskin paintings, drawings manuscripts and books, under the auspices of the owners the Education Trust Ltd, have been housed in the purpose-designed library at Lancaster University.

Two of Marple's famous sons, were the subject of the fascinating April lecture by Prof Andrew Biswell, *Christopher Isherwood and the Bradshaws of Marple Hall*. The writer Christopher Isherwood, is well known for his novels about Berlin - to where he was drawn by its bohemian lifestyle - and his relationships with other literary figures including Stephen Spender and W H Auden, to whom he also became literary mentor. But many people do not realise that Christopher William Bradshaw Isherwood, was descended from John Bradshaw, who rose to become President of the High Court of Justice and one of the regicides who signed the death warrant of King Charles 1. The focus of the talk by Prof Biswell, a literary critic and biographer, was to place Isherwood in the context of his strong connections with the North-West of England. Isherwood rejected his upper middle-class background, living in Berlin for some time, then leaving England in 1939 - a controversial move which was regarded by some as a flight from the war in Europe. He became a US citizen, but he returned to the subject of his family towards the end of his life when he wrote a remarkable series of autobiographical books. This insightful talk, which drew on Isherwood's writings, libellous poems about John Bradshaw and documents by other family members, was illustrated by photographs of the people and places to which it refers. Isherwood's legacy includes The Christopher Isherwood Foundation at the Huntington Library in California, which aims to preserve his work. The audience was enthralled by the lecture, which was followed by a lively and informative question and answer session.

The Section has been gratified to receive very positive feedback from audiences about the wide range of lectures, and high quality of speakers.

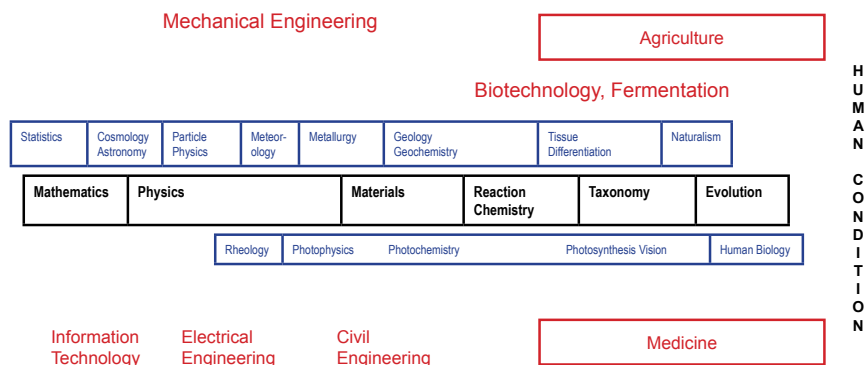
The Annual Arts Section AGM was held on 10 May 2016. Patricia McWilliam-Fowler agreed to continue for a second year as Chair. Tony Jackson and Joanna Lavelle agreed to continue as joint Minute Secretaries

Art Section members for 2015-2016 and contributors to this report were:

Edwina Dyson, Tony Jackson (Joint Minute Secretary), Joanna Lavelle (Joint Minute Secretary, Gary Mitchell, Patricia McWilliam-Fowler (Chair), David Shreeve

Lectures arranged by the Science and Technology Committee

With the death of its immediate past Chair, Professor Keith Ross, in February 2016, the Committee lost a valuable friend and colleague, who was an insightful guide to the business of the Committee. At its first meeting, on the 29th October, the Committee defined its subject coverage as “those areas of knowledge which give accurate predictions, and the technologies derived from them”. The diagram below, loosely based on Auguste Comte’s hierarchy of sciences, is used to visualise the areas of the lectures, and to try and ensure a rough balance of the physical sciences and the biological sciences, and also the applications in engineering, IT-, and applied biology-based subjects. We include mathematics, and its immediate applications such as cryptography, even though mathematics can advance in the absence of experiment or observation. At the RHS extremum of this diagram, we are open to joint lectures in areas where sound science has important consequences for social philosophy: on the technology axis, there would seem to be opportunities combining materials science and the visual arts, or mathematics with music.



Subsequent committee meetings were held on 11th December 2015, 2nd February and 26th May 2016, the latter being followed by the Annual General Meeting. The main purpose of these meetings was to set up the programme for 2016-7.

Lectures

The first talk on 22nd October was by Professor Simon L. Lewis on *The Anthropocene: when did humans become a global force of nature?* The speaker explained how the various periods, epochs and ages had been defined in the nineteenth century as practical guides to the possible age of geological finds. Divisions between them had often been marked by catastrophic events such as meteor strikes. It was quite clear that humans were now the dominant species on the planet, and were altering its makeup: the question was, when did this change occur? A very fair-minded treatment of four contenders was presented. The first was the introduction of agriculture – over half the land area has a history of

cultivation, and extensive cultivation alters methane and carbon dioxide concentrations in the atmosphere (marshy paddy fields produce much methane, “marsh gas”). The problem with agriculture as a geological marker was that its introduction was geography-dependent, and spread over many thousands of years. Very recent candidates – nuclear weapons and the industrial revolution – suffered from too short a time-scale to really determine how big, and what, the change was. The age of the discoveries, though, had caused huge changes by dispersal of species hitherto separated by oceans: North American earthworms are of Eurasian origin, the native species having been displaced. A very violent volcanic eruption in the East Indies in 1610 had left an isotopic and elemental geological time marker across the planet. The Anthropocene began in 1610. An interesting and lively question session followed.

On 23rd November, Professor Colin Pulham of the University of Edinburgh talked on *The Big Squeeze: Putting Materials under Pressure*. The meeting was organised in collaboration with the Manchester Branch of the Institute of Physics. The lecturer described the effects of pressure on materials. Starting from the every-day effects, he went on to demonstrate some very entertaining effects, including some quite impressive explosions. He then talked about where we could find much higher pressures in Nature in the Gigapascal range (tens of thousands of atmospheres) – at the bottom of the trenches in the middle of the oceans and in the centres of planets. Undersea explorers are bringing back some very strange creatures with very different biochemistries. Colin Pulham then turned to his own scientific interests – the creation of gigabar pressure in the laboratory using diamond anvil cells – samples placed in these cells can be investigated in situ using either X-ray or neutron diffraction or direct spectrometry as diamond is transparent to these radiations. The results show many interesting structural changes under pressure – usually reversible but occasionally permanent changes are observed. It was agreed by all that occasional joint meetings with the IOP worked well and the pattern should be repeated in future.

On 6th January 2016 a lecture on *Doping in Sport* was given by Professor Charles Galasko, an Emeritus Professor of Orthopaedics at The University of Manchester, who has served professionally on many sporting bodies. He first described the dodges used in sports contests in classical antiquity (wine and opium, largely). These persisted into the twentieth century in some sports, augmented by New World coca, initially in the form of leaf. Questions were raised before WWI, but it was only post-war that some performance-enhancers were prohibited. The changing nature of mainstream medical advice was illustrated by the case of a GP who, before WWI, had been struck off the Medical Register for recommending to his patients that they stop smoking, and ate plenty of fresh fruits and vegetables, in defiance of Harley Street orthodoxy that smoking helped lung function, and that refined food was healthiest. As pharmaceutical and biochemical knowledge after WWII exploded, so did the problems of doping. In addition to the narcotics used to kill pain, there appeared stimulants such as ephedrine (Ph-(R)-CHOH-(S)-CH(NHMe)-Me; amphetamine, “speed”, is Ph-CH₂-(S)-CH(NHMe)-CH₃): 72 million doses of ephedrine were used by UK forces in WWII). In the 1960s

beta-blockers, to increase heart regularity and function, appeared, whilst long-known pharmaceuticals were misused as insidious drugs which permanently alter the body itself. Anabolic steroids are such drugs, which increase muscle mass, but at the expense of a whole host of other problems, including aggression and reproductive malfunction. Nonetheless, after they were shown to be the main factor behind the DDR's Olympic successes, they now appear to be in widespread use even in high schools. The difficulties of detection of doping increase when artificial means are used to increase favourable endogenous biochemicals: to increase haemoglobin count, athletes have been known to take some of their own blood and keep it preserved for some weeks before an important event. The athlete's haemoglobin count would rebound naturally, and then just before the contest the preserved blood would be re-added. The only solution to such tricks is for athletes to be continually monitored, when a sudden increase in haemoglobin would be detected. A survey of professional athletes had found that half would be prepared to take a drug with a 50% five-year death rate, if they could be certain of winning their contests, although a repeat study showed that this prevalence had fallen to that of the general public. In such an environment, sports medicine is condemned to an endless three-way race between analytical chemistry, to detect the doping agent, synthetic chemistry, to design new doping agents (biosimilars are very difficult to detect), and unscrupulous athletes, or, more importantly, unscrupulous coaches. The speaker recommended that all doping control should be removed from sport governing bodies and given to completely independent anti-doping agencies whose board members would have no connection with the sport governing body. He also asked whether taking performance-enhancing drugs should be made a criminal offence, since it allowed the individual to earn money under false pretences.

Dr John Cunningham, University of Bristol, gave a lecture on *Fossilized Embryos from the Dawn of Animal Life* on 8th February 2016. The explosion in the number of fossilised animal forms in the early Cambrian (about 5.3-5.5 x 10⁸ years ago) presents the paradox that evolutionary clocks derived from DNA sequences suggest that animals existed for long before the first fossil records of them. Dr Cunningham described his and his colleagues' work throwing light on this paradox, by examining fossilised embryos developing from the eggs of these early creatures, geologically at the early Cambrian/late pre-Cambrian boundary. The embryos yield more detailed fossils than the larger but more transient adults. Embryonic fossils are on the order of 1 mm across. They are usually isolated from CaCO₃ – based rocks such as limestone by stirring the rocks with warm aqueous acetic acid and filtering: the structures of the fossils are apatite (calcium phosphate based), which is insoluble in warm dilute acetic acid. The fossilised structures can look very much like the colloidosomes formed in non-living systems, and internal detail is important in distinguishing fossilised embryos from such structures.

The speaker described his investigations of one such fossil type *Olivoides*, whose external form has unusual 5-fold symmetry. By use of X-ray and electron microscopy in various configurations, it was possible to see inside the curled-up embryo and identify *Olivoides* as a Cnidarian (related to modern jellyfish and

sea anemones). A particularly rich source of microfossils is the Doushantuo deposit in China, which seems to have arisen from some quirk of hydrodynamics in an ancient body of water depositing rich layers of embryos in the same place. A suite of microfossils looked like tubular organisms reminiscent of modern corals, although some workers thought they were cyanobacteria. In fact the internal arrangement of these fossils indicated they were not animals at all, but probably algae. An interested and lively discussion followed.

Professor Paul Bates, University of Bristol, gave a Lecture on *Modelling Flood Inundation from Street to Continental Scales* on 5th April 2016. The flooding of areas of human habitation is a global problem. Seven types of flooding can be discerned, with the four most important to the UK being fluvial, where a river or stream overflows its banks, pluvial, where rain falls at such a rate that it cannot flow away by normal drainage, groundwater flooding, where the water table in permeable rocks rises to enter basements/cellars or comes up above the ground surface, and storm surge in coastal areas, where a rise in effective sea level as a result of a storm backs up streams and drains. Less common in the UK are wave overtopping, dam breaks and tsunamis. £1bn is spent on flood insurance in the UK, but there is little real idea of what constitutes a “100 year event” (i.e. an event for which the probability each year is 0.01). Much of the increased insurance payments reflects building on flood plains, and houses which are both more vulnerable and have more costly content. Media claims that any particular events are “exceptional” rarely withstand scrutiny. However, some estimates of the global costs of flooding reach £54 billion a year by 2030. It is therefore important to be able to predict in detail where water will lie in any flooding event. Professor Bates outlined the operation of his modelling program. It was based on the assumption that flow was Newtonian (i.e. rate of flow was proportional to stress, a definition which included turbulent flow) and a very finely modelled three-dimensional map of the area. Such maps could not be constructed by ordinary trigonometric surveying, with its vast amount of interpolation. The technique now used is laser altimetry, in which a continuous record of height was deduced from interference patterns as an aircraft overflew the area in question. Professor Bates then gave examples of his predictions, superimposed on which were the areas that had actually flooded in a recent flooding event. An extensive discussion then followed.

Professor Gideon Davies FRS, FAMS, University of York, gave a talk on *Biofuels: From Curly Arrows to Pilot Plants* on 25th April 2016. He started by explaining how biological information flow, nucleic acid*protein*polysaccharide, resulted in an increase in potential complexity at each step, from a mere four nucleoside bases in nucleic acids, twenty-odd amino acids in proteins, both of which were linear polymers, to the >10¹² structural possibilities available to a hexasaccharide. He explained how the myriad structural possibilities were organised to modulate recognition phenomena, demonstrating this by scratching his arm and reddening it, thereby promoting an inflammation response initiated by protein-carbohydrate interaction. In addition to their importance to regulation, sugar polymers were also the main component of plant biomass. With the aid of diagrammatic slides showing the many components of the plant cell wall and the

various enzymes which depolymerised them, he explained how certain types of polysaccharides formed ribbons and fibres, and others formed helices.

Biofuels are defined as liquid fuels derived from plant biomass. The “first generation” biofuels were derived from helix-forming starch or sucrose by fairly simple processes, involving at most a few hydrolytic enzymes, followed by fermentation. Unfortunately starch and sucrose are human foodstuffs, and the economic result of subsidised first generation biofuel production is to increase global food prices. Second generation biofuels rely on saccharification of the structural polymers of plant cell walls, most importantly cellulose, which differs from starch only in the configuration of one carbon atom in the six-carbon glucose monomer, but is an intractable and insoluble material, unlike starch. The monomeric sugars are then fermented to ethanol in the usual way. The biomass may be agricultural or forestry waste, or crops grown specifically on marginal land not used for food production. The study of the enzymic hydrolysis of cellulose dates from WWII, when the fungus now known as *Trichoderma reesei* was found to be responsible for dissolving the canvas tents of US forces in the Philippines. Progress using classical enzymological approaches was slow until the introduction of molecular genetic techniques, first by the State Technical Institute of Finland in the 1980's. Into the 21st century searches were made for fungi and bacteria which hydrolysed cellulose: with the advent of a huge biofuels programme in the US during the Bush 43 administration, the number of new cellulase producing organisms increased dramatically, at least until the recent fall in oil prices.

The speaker then described his own researches on an oxidative component of cellulase complexes. Early workers, such as ET Reese in the 1950's, had posited that certain components of the cellulase mixtures were not hydrolases but solubilising or disaggregating factors, and in the 1970's KE Eriksson had demonstrated that these disaggregating factors required oxygen. The paradigm had, though, been established that cellulose disintegration was an exclusively hydrolytic process until the second decade of this century, when the speaker discovered a copper-dependent oxidase, which disrupted the surface layer of cellulose crystal, cleaving the chain to yield a lactone at the point of cleavage, which used a novel N-methylated histidine residue to coordinating the single copper atom.

The practical aspects of second-generation biofuel plants were then discussed, including the massive amounts of bulky biomass needed, and the net energy gain. The audience was left to draw its own conclusions about the desirability or otherwise of biofuels. A very extended discussion session followed.

Professor Kevin Taylor, University of Manchester, gave the last lecture of the year on 16th May 2016 entitled *Shale Gas in the UK – what, where and how: a geologist's perspective*. He started by explaining what hydraulic fracturing ('fracking') was. The aim was to liberate methane and smaller quantities of other very low molecular weight organic molecules from the shale (a sedimentary rock) in which it resided: the liberation was a physical, not a chemical process (higher MW hydrocarbons in oil shale were obtained by a completely different process). The gas shale lay at a depth of between 1000-15000 feet, and extraction therefrom was critically dependent on the recent development of horizontal drilling:

the pipes were drilled vertically, and then were turned in a very gentle curve through 90°, so that the drill bit into the rock and progressed horizontally: it appears from Wikipedia that simple rotatory steerable systems combined with very precise (satellite) location of the bit in three dimensions are used.

With the hole in place, water and sand are injected into the rock formation. Methane is held in cavities with exit holes similar to the diameter of the hydrocarbon, so the water erodes some of the cavity wall and the sand “props open” the widened holes. Very fine cracks and channels were opened up in the shale, and about 8% of the methane and a larger, but still small, proportion of the injected water flow to the surface. Guar gum (a polysaccharide) is added to the water as a viscogen: as it is a good carbon source biocides also have to be added.

The use of fracking is restricted by geology, environment, and public acceptance. In North America the very large Bakken shale field in the high prairies (North Dakota, Saskatchewan, Montana, Manitoba) and Barnett shale field in Texas were important. In the UK the Bowland-Hodder carboniferous shale under the Lancashire-Yorkshire industrial belt was the most promising, and the first to be investigated. The earthquakes caused by fracking are small (magnitudes -3 to 0 (presumably Richter)) : however Lancashire is riddled with earthquake faults, and test drills in Blackpool resulted in detectable movements in small areas (magnitude about -2), caused by injection of lubricating fluid into small faults (the spontaneous Manchester earthquake swarm of 2002, by contrast, had magnitudes 2.3-3.9). Fracking uses large volumes of water, limiting its use in arid areas. In non-arid areas the returned wastewater can be difficult to treat, as it contains salts and organic materials, and ^{222}Rn formed as an intermediate in the ^{238}U decay series (^{222}Rn has a half-life of only 3.8 days, so the problem disappears in settling ponds). If the pipe system is not drilled and maintained properly, the returned water can contaminate groundwater.

Professor Michael Sinnott
Chair, Science and Technology Committee
6th August 2016

Lectures arranged by the Social Philosophy Committee

The first lecture arranged by the Social Philosophy committee was given in September by Dr Susanne Shultz. She spoke with great clarity under the title *The African Rift Valley, Climate Rollercoaster and Human Evolution* explaining how the East African Rift Valley is undoubtedly the evolutionary cradle of hominins. In November Judith Wilshaw discussed Baronies, Manors and Royal Hunting Forests. To illustrate the ancient arrangements she described in some detail the Stockport and High Peak area - chosen because it is relatively close to Manchester and therefore familiar to many members.

December brought Sir Ivor Crewe, whose academic work focuses on British politics. In the annual Ramsden Lecture *Why Is Britain Badly Governed and What Might Be Done About It?* he explained why too many policy initiatives fail to meet their objectives, waste large amounts of money and cause widespread

dissatisfaction amounting, sometimes, to human distress. In January we heard Dr Mike Nevell talk about *Excavating Engels: Exploring the Archaeology of Manchester's Industrial Housing*. He explained how materials excavated from areas such as Angel Meadow, Ancoats and the New Islington area of Salford can illustrate issues raised by contemporary social commentators such as Engels.

A change of direction brought us, in February, to *Supertrams and Metros: Keys to Urban Regeneration or Vanity Projects?* in which Professor Richard Knowles told us about the wider gains for communities brought by modern tram systems. In April Dorothea Kazounis gave us *An Introduction to Non-Verbal Communication in Human Interaction*. She explained what is meant by non-verbal communication and pointed out how much of our communication is non-verbal as well as demonstrating our sometimes unintentional physical movements while speaking.

The beginning of May saw a visit by Elaine Griffiths who told *The Story of Manchester's Taj Mahal*. This is the name given locally to the Gorton Monastery during its regeneration into Manchester's Modern Day Monastery. She described the setting up of the Monastery Trust in 1996 and the subsequent struggle to rebuild one of Manchester's most beautiful buildings.

Unusually the committee had been asked to arrange eight lectures this season and the final one was given by Professor Hillel Steiner at the end of May. In *Silver Spoons and Golden Genes: Talent Differentials and Distributive Justice* he addressed the question of whether the demands of distributive justice can be brought to bear on genetic inequalities.

Sadly Professor Keith Ross, husband to Judith Ross, who chaired the Social Philosophy Committee, passed away suddenly mid-season, so the committee had to manage with an acting chairman for the remainder of the year.

N P Barnes

Acting Chairman - Social Philosophy Committee

Lectures arranged by the Young People's Committee

Our Section's programme consisted of the usual three lectures plus an extra lecture in conjunction with the University of Manchester and were delivered by high quality speakers who are equally at home giving talks to school students or the general public. Typically, our speakers were leaders in their fields with active involvement in research. Hence, they were well qualified to deal with current issues related to their topic and speculate on likely future developments and their importance both for science generally, and for applications of the technology for the benefit of society. Such speakers are attractive not only to students at the start of their careers but also to our membership, whose knowledge of the subject matter can be some years out of date.

On Wednesday, 11th November 2015, our speaker was Professor David Southwood, the immediate past president of the Royal Astronomical Society of London. He spoke on *The Huygens Probe at Titan, Philae at Comet 67P: Happy landings*. Most of his career was as a space scientist and eventually Head

of Physics at Imperial College, London. From 2001-2011, he was Director of Science and Robotic Exploration at the European Space Agency (ESA) and launched various space telescopes and spacecraft to targets including the Comet Churyumov-Gerasimenko, and Saturn's moon, Titan, in 2005. Formally retired, he retains a position at Imperial College, and on UK, European and US advisory bodies. During his time at the ESA, projects became more ambitious; they developed from hitching a ride with American satellites to purely European efforts that successfully landed satellites on their targets.

Our second speaker, (Professor Matthew Cobb, University of Manchester) gave a fascinating talk on *The Sense of Smell* on 13th January 2016. The sense of smell, or olfaction, is the oldest sense there is, and yet we still do not fully understand how it works. There are essentially an infinite number of potential smells, but unlike visual or auditory stimuli, we cannot describe how they vary. To understand how smells are initially processed by the nervous system Professor Cobb studies genetically modified maggots with a single smell cell. Although maggots and humans are very different - a normal maggot has just 21 smell cells, while a human has 4 million - the wiring diagram of the way our brains process smells is essentially the same.

Audience participation showed that humans can detect differences between smells consisting of a single atom, and audience responses to one particular smell can be used to identify the precise DNA sequence of each individual. The DNA sequences of extinct humans, such as Neanderthals can be used to understand how these populations were able to smell.

Our third talk, on 2nd February 2016, was titled *Anaesthesia & Critical Care in Action*. It was a team effort by Peter Nightingale, Brendan McGrath and Peter Alexander, a group of Consultant Anaesthetists from the University Hospital of South Manchester. They have a special interest in caring for critically ill patients (they are often called Intensivists since they work predominantly on the Intensive Care Unit). Anaesthetists are doctors tasked with taking care of patients in many parts of the hospital and undergoing many different procedures, usually under sedation, general anaesthesia, local and regional anaesthesia. Their job is to protect the patient from the environment and any damaging effects of the procedure they are undergoing. To do this, anaesthetists receive a comprehensive medical training (about 14 years from leaving school to becoming a consultant). During this time, they learn many practical procedures to help them maintain a patient's well-being. Daily, they use a number of tools and skills to diagnose and monitor patients who are very sick on the Intensive Care Unit or undergoing major or complex surgery of many types. Several of these techniques were demonstrated in the course of the evening.

Our fourth talk, on 3rd March 2016, was in addition to our usual three talks. It was planned jointly with the University of Manchester's Student Recruitment (Widening Participation and Outreach Section). The Presenter, Dr Amy Hughes (Clinical Academic Lecturer in Emergency Response at the Humanitarian and Conflict Response Institute (HCRI), at the University of Manchester) spoke on *Healthcare in Humanitarian Emergencies*.

Dr Hughes is heavily engaged in development of the UK International Emergency Trauma and Medical registers. These were established to draw together clinicians interested in responding to sudden onset disasters and humanitarian emergencies as part of a medical/trauma team. The aim is to provide a structured approach to training and deployment of multi-skilled health care teams to ensure a needs-based, co-ordinated response. Amy is completing a PhD on the role of foreign medical teams in sudden onset disasters and contributes to the WHO Foreign Medical Team Working Group.

She is a course convenor for the HCRI Emergency Humanitarian Assistance module and Global Health Diploma. She is also an emergency medicine clinician in Derriford Hospital, Plymouth. Previous clinical work includes British Air Ambulances as part of a pre-hospital care team; a seven month mission with Médecins Sans Frontières in Northern Sri Lanka; retrieval registrar with Careflight and The Royal Flying Doctors, Australia.

Amy completed the Diploma of Tropical Medicine in 2006 and has a European Masters in Disaster Medicine. Her major interest is improved training and knowledge for health care professionals wishing to work in complex humanitarian environments.

When foreign medical teams provide emergency aid, a variety of other factors – such as culture, politics, logistics, and anthropology – influence the effectiveness of the humanitarian response. Drawing on examples from post-conflict in Northern Sri Lanka, Typhoon Haiyan in the Philippines, the West Africa Ebola outbreak and the recent Nepal earthquake, Dr Hughes explored the complexities, challenges and approaches to delivering healthcare during and in the aftermath of humanitarian emergencies.

This lecture provided an insight into the world of healthcare in humanitarian emergencies, highlighting the multiple factors affecting the outcome and gave attendees an opportunity to consider career pathways available for those interested in working in health, logistics and the humanitarian environment.

Dr Stuart Thompson
Chairman, Young People's Committee
5th August 2016

Treasurer's Report

I have included a simplified income and expenditure account for the year ended 30th June 2016 in the old familiar format. The Statutory Accounts are presented overleaf and comply with the new Charity SORP (FRS102). Some additional information may help your understanding.

Subscriptions

I included a note last year to explain that the subscriptions in 2015 included an accounting adjustment, which increased the comparative figure by £5000.

Investment portfolio

We have followed standard accounting rules by showing the portfolio dealing account balance as if this were a bank balance. This year the balance for the year was some £20K higher than in previous years, which was just a temporary position. This unfortunately gives a slightly unusual effect on the accounts, in that our bank balances are some £20K higher, whilst the portfolio value is £20K lower than expected.

You will see that our investment managers, Brewin Dolphin increased our indirect investments (collective investments) and slightly reduced the level of investment assets in the UK. Also, whilst there were changes in the investments during the year there were major disposals and acquisitions in the final quarter to June 2016 of approximately £650K in this quarter.

Overall, you should be pleased to see that the fall in the portfolio value of about £42K on the Balance Sheet, although close to the Brexit vote effect, is partially explained by the £20K bank balance, part explained by our need to extract extra funds and part by other factors.

Expenditure

I have identified aside, new expenditure of nearly £30K. Incidentally, the comparative is the theoretical rent costs at MMU.

The rent costs are for our stay at the St James Club and the commencement of service charges at Church House. We have negotiated a three month rent free period at Church House.

The website costs were slightly in excess of £11K and whilst the database set up costs are low there is an annual cost for the database which will continue.

PayPal costs, bank charges for the new BACS service and removal expenses were expected. However two office relocations were not predicted.

The promotional expenses of £731 include the Dalton medal costs, as well as those for an upright printed banner and a printed society tablecloth for events, which was much lower than envisaged.

Looking at our standard expense costs, our printing costs are also lower than expected, for a number of reasons. However our main costs for functions & office staff have risen.

Overall, we budgeted for additional costs of £50K, our actual costs are much lower than this. I trust that members will be encouraged by the fact that despite a difficult year of many changes, the financial position of the society is satisfactory and trust that this additional information gives further insight to members.

D S Brown
Honorary Treasurer

The Manchester Literary & Philosophical Society
Income and expenditure account for the year ended 30 June 2016

	2016 £	2015 £
INCOME		
Subscriptions and Gift Aid	32,333	34,442
Sponsorship	-	6,000
Investment income	48,736	47,900
Sundry Income and Donations	2,099	747
TOTAL INCOMING RESOURCES	<u>83,168</u>	<u>89,089</u>
EXPENDITURE		
Rent & meeting costs	6,040	6,000
Legal & professional fees re: Lease	2,350	-
Website & database implementation	13,418	-
Credit/debit card discount - PayPal	401	-
Removal costs	6,271	-
Promotional expenses	731	-
Bank charges	484	-
	<u>29,695</u>	<u>6,000</u>
Heat & light	60	-
Maintenance expenses	50	223
Staff costs	33,866	30,003
Functions and meeting costs	22,128	17,558
Computers & internet costs	842	801
Library	-	102
Printing of memoirs & programmes	1,756	7,359
Stationery and photocopying	1,372	2,395
Postage, telephone and equipment hire	2,261	2,309
Insurance	1,703	1,650
Depreciation	536	664
Audit fee	3,000	3,000
Investment management fee	11,432	11,880
Sundries	788	748
	<u>109,489</u>	<u>84,692</u>
Net operating (deficit)/surplus	<u>(26,321)</u>	<u>4,397</u>
Net investment Profits	<u>4,041</u>	<u>1,611</u>
Net Movement in Funds	<u>(22,280)</u>	<u>6,008</u>

The Manchester Literary & Philosophical Society
Balance Sheet for the year ended 30 June 2016

	2016 £	2015 £
<i>Fixed Assets</i>		
Tangible assets	1,300	375
Investments	1,305,703	1,347,646
	<u>1,307,003</u>	<u>1,348,021</u>
<i>Current Assets</i>		
Debtors	3,133	2,226
Tax repayment due	6,875	9,880
Prepayments and accrued income	170	520
Cash at bank and in hand	46,125	18,295
	<u>56,303</u>	<u>30,921</u>
<i>Creditors:</i>		
Amounts falling due within one year	<u>24,733</u>	<u>18,089</u>
<i>Net Current Assets (Liabilities)</i>	<u>31,570</u>	<u>12,832</u>
<i>Net Assets</i>	<u>1,338,573</u>	<u>1,360,853</u>
<i>Funds of the Charity</i>		
Unrestricted funds		
Expendable endowment fund	<u>1,338,573</u>	<u>1,360,853</u>
<i>Total Funds</i>	<u>1,338,573</u>	<u>1,360,853</u>

These financial statements were approved and authorised for issue by the Trustees at a Council meeting held on 22nd August 2016 and signed on its behalf by:

JOHN S BUCKLEY

Secretary

D S BROWN

Treasurer

Company Registration Number 9330

Officers and Council 2015-2016

President

Sir Netar Mallick

Vice-President and President-Elect

Diana Leitch

Vice-President

Constance Holland

Honorary Secretaries

John Buckley David Astbury

Honorary Treasurers

David Brown Trevor Rees

Memoirs Editor (Ex-Officio)

Graham Booth

Members of Council

Chris Baker Peter Barnes David Brailsford
Joanna Lavelle Kenneth Letherman Angus McDougall
Patricia McWilliam-Fowler David Shreeve

SECTION OFFICERS

Arts

Chair: Patricia McWilliam-Fowler

Minutes Secretary: Tony Jackson

Science and Technology

Chair: Michael Sinnott

Secretary: Chris Baker

Social Philosophy

Chair: Judith Ross Acting Chair: Peter Barnes

Secretary: David Brailsford

Young People

Chair: Stuart Thompson

Secretary: Angus McDougall

Administrators

Julie Brockenshaw Kathryn Slater

Presidents of the Society

Date of Election

1781	Peter Mainwaring, MD; James Massey
1782-1786	James Massey, Thomas Percival, MD FRS
1787-1789	James Massey
1789-1804	Thomas Percival, MD, FRS
1805-1806	Rev George Waler, FRS
1807-1809	Thomas Henry, FRS
1809	*John Hull, MD, FRS
1809-1816	Thomas Henry, FRS
1816-1844	John Dalton, DCL, FRS
1844-1847	Edward Holme, MD, FLS
1848-1850	Eaton Hodgkinson, FRS, FGS
1851-1854	John Moore, FLS
1855-1859	Sir William Fairbairne, Bart, LLD, FRS
1860-1861	James Prescott Joule, DCL, FRS
1870-1871	Edward William Binney, FRS, FGS
1872-1873	James Prescott Joule, DCL, FRS
1874-1875	Edward Schunck, PhD, FRS
1876-1877	Edward William Binney, FRS, FGS
1882-1883	Sir Henry Enfield Roscoe, DCL, FRS
1884-1885	William Crawford Williamson, LLD, FRS
1886	Robert Dunkinfield Dabishire, BA, FGS
1887	Balfour Stewart, LLD, FRS
1888-1889	Osbourne Reynolds, LLD, FRS
1890-1891	Edward Schunck, PhD, FRS
1892-1893	Arthur Schuster, PhD, FRS
1894-1896	Henry Wilde, DCL, FRS
1896	Edward Schunck, PhD, FRS
1897-1899	James Cosmo Melvill, MA, FLS
1899-1901	Horace Lamb, MA, FRS
1901-1903	Charles Bailey, MSc, FLS
1903-1905	W. Boyd Dawkins, MA, DSc, FRS
1905-1907	Sir William H. Bailey, MIMechE
1907-1909	Harold Bailey Dixon, MA, FRS
1909-1911	Francis Jones, MSc, FRS
1911-1913	F.E. Weiss, DSc, FRS

1913-1915	Francis Nicholson, FZS
1915-1917	Sydney J. Hickson, DSc, FRS
1917-1919	William Thomson, FRSE, FCS, FIC
1919	G. Elliot Smith, MD, FRS
1919-1921	Sir Henry A. Miers, DSc, FRS
1921-1923	T.A. Coward, MSc, FZS, FES
1923-1925	H.B. Dixon, CBE, PhD, FRS, FCS
1925	†Rev A.L. Cortie, SJ, DSc, FRAS, FInstP
1925-1927	H. Levinstein, DSc, MSc, FIC
1927-1929	W.L. Bragg, OBE, MA, FRS
1929-1931	C.E. Stromeyer, OBE, MInstCE
1931-1933	B. Mouat Jones, DSO, MA
1933-1935	John Allan, FCS
1935-1937	R.W. James, MA, BSc
1937-1939	R.H. Clayton, MSc
1939-1940	D.R. Hartree, PhD, MSc, FRS
1940-1944	H.J. Fleure, DSc, FRS
1944-1946	M. Polanyi, PhD, DSc, MD, FRS
1946-1948	T.B.L. Webster, MA
1948-1950	E.J.F. James, DPhil
1950-1952	H. Hayhurst, FRIC, AMIChemE, FRES
1952-1954	Sir Geoffrey Jefferson, CBE, LLD, FRCS, FRS
1954-1956	P.F.R. Venables, PhD, FRIC
1956-1958	F.C. Toy, CBE, DSc, FInstP
1958-1960	C.E. Young, MSc
1960-1962	H. Lipson, DSc, FInstP, FRS
1936-1964	L. Cohen, BCom, FBIM
1964-1966	Margaret Pilkington, OBE, MA, FMA, JP
1966-1967	H. Hayhurst, MSc, CEng, FRIC, AMIChemE, FRES
1967-1969	Brian Rodgers, BSc(Econ)
1969-1971	G.N Burkhardt, PhD, FRIC
1971-1973	G.J. Kynch, PhD, MScTech, ARCS, DIC, FIMA
1973-1975	E.N. Abrahart, PhD, FRIC, FSDC
1975-1977	A.E.R. Goulty, MA
1977-1979	H. Lipson, CBE, DSc, FInstP, FRS
1979-1981	H.M. Fairhurst, MA, FRIBA
1981-1983	D.G. Wilson, OBE, DL, FIB, FBIM
1983-1985	L.J. Postle, PhD, FInstP, FInstMC

1985-1987	Sir Netar Mallick, MB, ChB, FRCP
1987-1989	B.S.H. Rarity, PhD, FRAS
1989-1991	P. G. Livesey, FCA
1991-1993	D.S.L. Cardwell, PhD
1993-1995	E.F. Cass, MA, ACIB
1995-1997	A. Donnachie, PhD, CPhys, FInstP
1997-1999	Dianne Wilson
1999-2001	I.E. Gillespie, MD, MSc, FRCS
2001-2002	A.G.D. Yeaman, JP, CEng, MIMechE
2003-2005	K.D. Buckley
2005-2007	Vivienne Blackburn, BSc
2007-2009	Mary, Lady Mallick, JP, BA
2009-2011	David J Higginson, LI B
2011-2014	Kenneth M Letherman, BSc, MSc, PhD, DSc, CEng, FIEE
2014-2016	Sir Netar P Mallick, BSc, MB, ChB, FRCP

* Elected 28 April, resigned office 5 May 1809

† Died 16 May 1925

*Honorary Members***As at 30 June 2016**

1990	Professor Sir J M Ashworth
1989	Mr M N G Evans
2013	Professor M Hall
1992	Professor S Hawking
1968	Reverend Dr R L Hills
2013	Professor L Merrick
1999	Professor Sir Ghillean Prance
1990	Sir M Richmond
2013	Professor Dame N Rothwell
1990	Dr R Schlich
1994	Sir R Scott
2004	Dame J Smith
1987	Dr T Sommer

*Elected Corresponding Members***As at 30 June 2016**

1972	Professor A Thackray
1946	Mrs R Williams

The Dalton Medal

The Dalton Medal is the Society's highest award and a distinction only rarely bestowed. It is given to those who have made a distinguished contribution to science.

The Medal has been awarded to:

- 1898 Edward Schunk, FRS
- 1900 Sir Henry E Roscoe FRS
- 1903 Professor Osborne Reynolds FRS
- 1919 Professor Sir Ernest Rutherford, OM, FRS
- 1931 Sir Joseph J Thomson, OM, FRS
- 1942 Sir Lawrence Bragg, CH, MC, FRS
- 1948 Professor P M S Blackett, OM, FRS
- 1966 Professor Sir Cyril Hinshelwood, OM, FRS
- 1981 Professor Dorothy Hodgkin, OM, FRS
- 1997 Professor Sir Harold Kroto, FRS
- 2002 Sir Walter Bodmer, MA, PhD, FRCPATH, FRS
- 2005 Professor Sir Roger Penrose, OM, FRS
- 2009 Professor Sir Bernard Lovell, OBE, FRS
- 2012 Professor Lord Martin Rees, OM, Kt, FRS
- 2016 Professor Sir Konstantin Novoselov, FRS, FRSC, FInstP

Ordinary and Corresponding Members as at 30 June 2016

* Denotes corresponding members † Deceased

We are not including Members' addresses due to the requirements of the Data Protection Act, but these are being published in a separate booklet for Members.

2011	Mr G P Abraham
2014	Mr J W Adams
2016	Mrs B Adams
1955	Mrs M E Ainsworth
1989	Professor S T S Al-Hassani
2015	Mr L Allan
1981	Mr V J Andrews
2000	Mrs J E Argust and Mr J P Argust
2015	Miss S Arif
2009	Mr D Astbury
2008	Mr G Baker and Mrs C Baker
2008	Mr C E J Baker and Mrs J Baker
2011	Dr R Baldwin and Mrs C Baldwin
2002	Mr N P Barnes
2010	Dr P C Barnes
2015	Mr P Bateman
2009	Mr W Bates*
2015	Miss A Batool
1991	Dr B Benster*
1986	Mr P K Berry
2012	Mr C Bezer
2015	Miss G Bezzubovaite
2011	Dr A Bingham
2014	Mr K Blackburn
1994	Mrs V Blackburn
2013	Mr W Boardman
2008	Professor J G Booth and Mrs M C Booth
2009	Mr E Bor
2014	Mr A Bowen and Mr M Knowles
2014	Mrs A Bowes
2010	Professor Sir R Boyd
1999	Mr C J Boyes
2008	Mr I Bradford
2003	Mr D Brailsford
2009	Mr J Brandrick
2005	Mr D Brooks

2015 Mr H Brooks
2014 Mr D Brown
2011 Mr M R Brown
2003 Mrs L Brown
2012 Mr D Brown
2012 Mr GR Bruce
2016 Mr M Brzozowski
2014 Mr C Buckley
1990 Mr K D Buckley and Mrs N Buckley
2000 † Mr J S Buckley
2009 Dr C Burke
1985 Dame Sandra A V Burslem
2003 Dr R Butler
2006 Mr D Caldwell and Mrs J Caldwell
2010 Mr I C Cameron
2015 Mrs S Cameron
2009 Mr N O Campbell
2014 Mrs E Carmichael
1981 Mr J L Carroll
2015 Mr P and Mrs L Carstensen
2012 Dr M Carter
2015 Mrs H Carter
2007 Dr J E Cassidy
1981 Dr R E Catlow
2012 Mr J Cave
2014 Dr R Chisholm
1997 Professor M Chiswick and Mrs C Chiswick
2011 Mr R Chiverton
2009 Ms L Clarke and Mr R Turner
2004 Mr J Clegg
1998 Dr P J Collier*
2010 Mrs C Collins
2015 Mr A Conway
2012 Professor C Cooper
1995 Mr G A Corkill
2014 Mr D Costley-Wood
2015 Mrs S Crawford and Dr A Crawford
2010 Mr B C Crebbin
2012 Mr A Crowther
1999 Professor D Crowther and Mrs M Crowther
2013 Dr M Cunningham
1993 Mr R A da-Costa
2014 Miss B Dalela
2010 Dr W Darlington

2011 Mr S Datta*
1968 Mr J H W Davidson
2012 Mrs J Davies and Mr W Davies
2009 Professor J K Davies
1959 Mr D H de Maine
2014 Mr C J Deacy
2014 Miss N Dean
2013 Mr A Dean and Mrs L Dean
2014 Ms L Deane
2004 Dr A Deiraniya
2014 Mr Delcloque
2016 Mrs D Densham
2013 Professor M Desai
2008 Dr J Dewey
2012 Mr P Dixon
1986 Professor A Donnachie and Mrs D Donnachie
2006 Dr P Donnelly and Mrs A Donnelly
2016 Mr T Doyle
2014 Ms B Duffy
2013 Mrs E Dyson
1978 Mr J C Eagle and Mrs Eagle
2016 Mr J Earnshaw
2014 Mrs E J Eastwood
2010 Ms B Eliot
1984 Mr T A Elliot
1994 Professor M Elstein and Mrs C Elstein
2013 Dr N Emekwuru
1988 Mr P Emerson Jones
2003 Mrs V Fahey
1983 Professor P G Farrell*
2015 Ms S Faulkner
2013 Miss A Fazackerley
2012 Mr B Fazakerley
2012 Dr P Fenn
2010 Mr F L Fernley
2004 Mrs A Fitzpatrick
2015 Professor J Frame
1990 Mr R Frost
2011 Professor C Galasko
2014 Dr G Galli
2009 Ms C Gandey Briggs
2013 Mr D Gane
2012 Dr G V Garner
2015 Mr A Gilbertson

1986 Professor I E Gillespie and Mrs M Gillespie
2015 Mrs A Glover and Mr R Glover
2012 Mr S Glover
2010 Mr W Godwin
2014 Mr P Good
2015 Mr D Gorman
2015 Mr M Gourley
2011 Mr I W Grant and Mrs A M Grant
2011 Professor J Gray
2007 Professor J Green
2016 Mr S and Mrs E Haddock
1994 Mr S H Halsall and Mrs M Halsall
2014 Ms H Hampson
2010 Mr M Hancocks
2014 Mr M Hanson
2014 Mr A Harrison and Mrs S Harrison
1971 Dr M G Hartley and Mrs C Hartley
2003 Mr G Hayes and Mrs A Hayes
2009 Judge T B Hegarty and Ms I L Hegarty
1989 Professor J R Helliwell
2008 Mr P Hewitt
2009 Miss G Heyworth
2010 Mr C H Higgins
1989 Mr D J Higginson
2011 Mrs EB Hill
2014 Mr C Hilliard
1988 Mr A Hillier and Mrs D Hillier
2007 Mrs J Hillier
1986 Mr P G Hilton and Dr S R Hilton
2008 Mr R Hirschkop
2015 Dr B Hoffmann
2015 Miss O Hoggard
2003 Mrs C L Holland
1970 Mr V St G Holt
2014 Mr J Hook
2009 Mr B Hooley
2014 Mr J Horner
2009 Mr J Howell
2015 Mrs J Howells
2015 Mr I Howells
2006 Mr P E Hulme
2014 Mr J Hunt
2012 Mr M Hunt
2009 Mrs G Irvine

2014 Mr I Irving
1985 Professor I Isherwood and Mrs J Isherwood
2011 Dr B Isherwood
2014 Ms F Jackson
2001 Mr J S Jackson and Mrs M Jackson
2009 Professor J D Jackson and Mrs L A Jackson
2010 Professor A R Jackson
2013 Mr S R Jackson
2013 Mr T Jackson-Baker
1991 Professor M I V Jayson
2010 Mr D W Jenkins
2002 Mr S Jennings
2003 Dr G Jessup
2013 Mr R S Johnson
2007 Mr L Jowsey and Mrs D Jowsey
2014 Mr Y Kansal
2016 Ms D Kazounis
2016 Ms M Keane
2012 Mr B N Kendrick
2008 Mr J Kennedy CBE, KSG, DL
1997 Mr M P Kershaw and Mrs E Kershaw
2013 Dr J King †
2016 Mr N Kirkby
2010 Professor P M Kumar
2014 Mr W Lamb
2008 Dr J Latchford
2012 Professor B E Launder
2010 Mrs J Lavelle*
2007 Mr M J Lees
1988 Mr W R Lees-Jones
2008 Dr D Leitch and Dr D M Leitch
2003 Professor K M Letherman and Mrs R Letherman
2000 Ms B M Lett
2012 Professor G Levermore
2010 Mr R Lewis
2014 Mr M Lindsay
2012 Mr G Lloyd and Mrs J Lloyd
2008 Dr M Lloyd
2011 Dr E S Long
2015 Mrs M Lord and Mr P Lord
1962 Miss S J Lowe
2012 Dr P Lund
2016 Mr B Lund
1990 Mr N M MacPhail

2008 Mrs P Mainprize and Mr I Mainprize
1981 Mr C E Makepeace and Mrs H Makepeace
1999 Dr P J Makin
2010 Mr C Malkin and Ms C Brice
1975 Professor Sir N Mallick and Lady M Mallick
2013 Dr H Mamtora
1971 Mr R G Manders*
2008 Professor J Marsden
1994 Mrs R Marsh
2009 Dr M A Martin
1975 Miss M R Mason †
2016 Mr L Massey
2013 Mr G Mauchline
2006 Mr D McAuley*
1983 Mrs M McCauley
2012 Mr D McCulley
2010 Dr A McDougall
2013 Mr A McMenemy
2014 Mr T McNicholls
2013 Mrs P McWilliam-Fowler
2014 Mr D Mehta
1988 Dr J P Miller
2014 Mr B Millward
2013 Mr G Mitchell
2004 Mrs G Mitchell
2012 Mr D Morris
2016 Mr A and Mrs H Morris
1988 Dr J J Moscrop and Ms C Orgell-Rosen
2002 Dr J G Mosley and Mrs J Mosley
2015 Mr D Mott
2014 Mrs M Mulholland
1979 Professor I H Munro
2015 Dr H Naghavi
2001 Mr J D Naylor
2005 Mr G A Needham
2009 Mrs Y Neild
1997 Dr P Newton and Mrs K Newton
2014 Miss C Noone
2014 Mr P Noone and Mrs J Noone
2014 Dr L Norbury
2013 Miss E Nowell
2008 Mr M Oglesby and Mrs J Oglesby
2015 Mr A O'Neill
2007 Mr J O'Neill

2015 Mr D Orwin
2002 Mr J Owen*
2011 Mr A Parsons and Ms K Parsons
2014 Mrs M Patel
2016 Dr J and Dr J Patterson
2013 Mr D Peat OBE
2013 Dr J Peel †
2009 Dr R Pickering and Mrs J Pickering
2001 Mrs B Piper
1981 Dr J E B Ponsonby
2014 Mr R Poole
1998 Mrs V C Poole and Miss H M Poole
1986 Dr T Porter and Mrs MR Porter
2013 Mr A Postill
1985 Reverend Dr W P Povey
2008 Mr D Poyner and Mrs J Poyner
2016 Mr D Preston
2011 Mr S Procter and Miss C Rigg
2014 Dr J Proctor
2014 Mr R S Pryor
1998 Dr B R Pullan
1982 Mr F R Purslow
2014 Mr B Purvis
1986 Mr D L Raffle*
2015 Dr R Rafiq
2005 Mr A Rahman
1981 Mr R C Rees
2002 Professor B Richards
1981 Mr R W Richards
2004 Mr W N B Richardson
2014 Mr J A Riley
2012 Mr D Riste
2009 Mrs M E Riste
2014 Dr DRoberts
1981 Professor T E Roberts
1966 Professor A C Rose-Innes and Mrs B Rose-Innes
2006 Mr I A Ross
2007 Mrs E M Ross
1983 Mr R K Ross
1992 Dr P Rowlands
2004 Mr P Rubery
2005 Mr M R Sanderson
2008 Dr R Sandler and Mrs L Sandler
2013 Mr J B Sangster

2015 Mr R Santhanakrishnan
1971 Mr M H J Sargent
2008 Dr C Saunders
1992 Mr P G Schaefer
2016 Mr W Schnurr
2004 Mr R Schofield
2015 Mrs K Schofield
2003 Mrs S M Sharp
2016 Mr M Sharpe
2014 Professor J Shaw and Mr N Taylor
2015 Professor P Shenton
1995 Mr G A Shindler
2011 Dr D R Shreeve
2010 Professor M L Sinnott
2015 Dr A Siriwardena
2016 Mr J Skuse
2014 Miss R Smith
2013 Dr A Smith
2007 Dr T F Smith
2009 Mr T Smurthwaite
2016 Dr B and Mrs P Soper
2015 Ms J Speller
1989 Mr J Spencer
1986 Miss D J Stenson
2012 Mr M Suss
2001 Mr R N J Sutton
1998 Mrs P Swanston*
2014 Mr G Taylor
2014 Mr D Taylor
2011 Ms M Taylor
1975 Mrs M A Taylor
2000 Ms W Taylor
2012 Mrs C Taylor-Bruce
2000 Mrs N E G Tennant
2009 Professor D G Thompson and Dr H F Thompson
1981 Dr J S Thompson and Mrs H Thompson
1988 Dr J M Thomson*
2011 Dr J Tipping
2014 Mr J Townsend
2015 Mrs E Tunbridge
2015 Mr M Turner and Mrs J Turner
2014 Mr R Turner
2010 Mrs H M Turner
2010 Dr B J Tyler

2015 Ms I Valade
2015 Ms J Vale
2004 Mrs P Verdin
2005 Mrs J M Wainwright
2015 Mr J Ward
2009 Professor T W Warnes
2014 Mr Wasajja
2008 Professor J Waterton
2013 Mr B Watson
2014 Mr N P Webb
1964 Professor G Wedell
2014 Dr C Weinkove
2011 Dr F P Wheeler and Dr F Wheeler
1999 Mrs S A Whitaker and Mr P N Whitaker
2015 Mr T Whitehead
2015 Mr C Whittall
2015 Mr N Wilkins
2015 Mrs S Wilkinson
2014 Mr M Williams
2015 Miss V Williams
2010 Mr B D Williams and Mrs E M Williams
2012 Dr P C Williams
2001 Mr E R Williams
2004 Dr G Wills and Mrs J Wills
2008 Mr P Willson
2015 Mr M Windridge
2008 Mrs B Wingard
2013 Professor D Winterbone
2014 Mrs S Wisniewski
1994 Mr A J Wood*
2014 Ms B Woodyatt
2015 Mrs R Wright
2013 Mrs C F Wright
2009 Mr B Yates
1981 Mr A G D Yeaman
2014 Mr G Yeo
1983 Mr R O Yeo and Mrs C M Yeo
2013 Mr R F H Young and Mrs B Young
2010 Mr L Zastawny



The Manchester Literary and Philosophical Society was founded in 1781 for the advancement of literature and science and the widening of interest in public affairs.

The Main Society meetings are open to the public as guests of the Society, as are the Society's Young People's Lectures.

The Memoirs have been published since 1785.
A combined author and subject index up to 1999 is available.

Cover illustration: The layout of a tennis court, as illustrated in Major Wingfield's *Rules of Sphairistike or Lawn Tennis*.
Taken from Peter Barnes' article: *A History of Tenys and Racquets: a romp through several centuries of Esoteric Small Ball Games*