

The Year of Grace, 1751:

Adoption of the Gregorian Calendar into English Law, and Supputation of Time under the Act of 24 Geo. II, ch. 23

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According to tradition, William Shakespeare was born on St George's day, 23 April, in 1564, and died on his 52nd birthday. The accuracy of these dates cannot be verified. It is quite possible that they were invented by a posthumous biographer, who conceived it to be fitting that England's greatest playwright should have been born, and died, on the feast day of England's patron saint.

By a quite remarkable coincidence, the supposed date on which England's greatest playwright died - 23 April 1616 - is also recorded as the date of death of Spain's greatest playwright, Miguel de Cervantes. Some, of course, would say this is not a coincidence: John Michell, in *Who Wrote Shakespeare ?*, tells us that¹:

The Baconian cult at its most luxuriant is an awesome and awful thing. Its adherents credit Bacon not only with the whole of Shakespeare, but with all the great literature of his time, including the works of Montaigne and Cervantes."

Yet, whilst Shakespeare and Cervantes supposedly died on the same date, paradoxically they did not die on the same day. 23 April 1616 was a Saturday in Madrid. Ten days later, 23 April 1616 fell on a Tuesday in Stratford-upon-Avon².

¹ John Michell, *Who Wrote Shakespeare ?* (Thames & Hudson, 1996) at p.129

² G.J. Whitrow, *Time in History* (Oxford University Press, 1989) at p.119

The explanation for this paradox is quite simple. Spain, along with most of Catholic Europe, had adopted the Gregorian Calendar in 1582; England, as a non-Catholic country, maintained the Julian Calendar until the middle of the 18th century.

Lunar and Solar Calendars³

Since the beginning of human civilisation, mankind has measured the passing of time principally by reference to three natural phenomena which recur at regular intervals - the rising and setting of the sun, the phases of the moon, and the cycle of the seasons. Of course, the causes of each of these phenomena are astronomical - the revolution of the earth on its axis, the orbit of the moon around the earth, and the orbit of the earth around the sun. The basic problem for calendar-makers is that the periods demarked by these phenomena are not readily divisible into one another - the lunar month occupies approximately 29 days, 12 hours and 44 minutes; the solar year equates to approximately 365 days, 5 hours and 49 minutes; and there are 12 lunar months in the solar year, plus about 10 days, 21 hours and 1 minute.

A strictly *lunar* calendar - one based on the actual phases of the moon - necessarily

³ General reference sources for this and the four succeeding sections of this paper include Whitrow (*op. cit.*); Alexander Waugh, *Time: From Micro-Seconds to Millennia - A Search for the Right Time* (Hodder Headline Group, 1999); David Ewing Duncan, *The Calendar* (Fourth Estate, 1998); Christopher Rawlence (ed.), *About Time* (Jonathan Cape, 1985); Kristen Lippincott, *The Story of Time* (Merrell Holberton, 1999); Raymond Flood and Michael Lockwood (eds.), *The Nature of Time* (Basil Blackwell, 1986); Margot Westrheim, *Calendars of the World* (Oxford, 1993); Samuel L. Macey (ed.), *Encyclopedia of Time* (Garland Publishing, 1994); Clark Blaise, *Time Lord* (Weidenfeld & Nicholson, 2000).

falls out of kilter with the cycle of the seasons. Such calendars were common in ancient civilisations, but fell out of use as more advanced techniques of agriculture required a more reliable means of predicting the times for planting and harvesting crops. However, one example of a lunar calendar still exists; namely the Islamic Calendar, which is used mainly for religious purposes amongst the followers of Islam, but remains the civil calendar in Saudi Arabia and other countries of the Gulf region. The Islamic year, of 12 lunar months, is about 10 days shorter than the solar year. The result is that a particular month, such as *Ramdhaan* (the month of fasting), may fall at any time of the solar cycle.

As ancient civilisations sought to co-ordinate their lunar calendars with the cycle of the seasons, their first solution was to introduce additional or “intercalated” months at periodic intervals. Various formulae were devised in different civilisations - the Babylonians devised a 19-year cycle with seven additional months; the ancient Egyptians had a 25-year cycle with nine extra months; and the ancient Greeks had an 8-year cycle with three extra months. In the modern world, there remain some surviving examples of *lunar-solar* (or *lunisolar*) *calendars*, which, through the regular intercalation of additional months, attempt to reconcile the actual lunar and solar cycles. These include the Hebrew calendar, used by people of the Jewish faith principally for religious purposes, the Chinese calendar, used by Chinese people throughout the world to set the dates for traditional festivals, and the National Calendar of India.

However, it seems that the Ancient Egyptians were the first to develop a true *solar* calendar, in which the year is divided into 12 arbitrary periods which have only a nominal correlation with the phases of the moon. What is known as the “Young-Avestan calendar”, introduced in 503 BC, adopted a 365-day year divided into eleven 30-day months and one 35-day month.

The Ancient Roman Calendar

Prior to 46 BC, the calendar in use in ancient Rome was, by modern standards, a very peculiar one. It is traditionally attributed to Romulus, the legendary founder and first king of Rome. It comprised only 10 months, with the first month - March - commencing with the new moon prior to the vernal or Spring equinox. Each of these months had a fixed length of between 29 and 31 days, so that the first day of each month roughly coincided with the next succeeding new moon. The first four months were given the names *Martius* (honouring Mars, the god of war), *Aprilis* (apparently honouring the love-god Venus, although the word *Aprilis* is a corruption of her Greek name, Aphrodite), *Maius* (honouring the goddess Maia, a daughter of Atlas), and *Junius* (honouring the goddess Juno). The remaining months were merely numbered from *Quintilis* (the fifth) to *Decembris* (the tenth).

Within each month, days were not numbered consecutively. The first day of the

month was called the *Calends*, from which our word “calendar” is derived. The day of the full moon was called the *Ides*, and the *Nones* fell approximately mid-way between the *Calends* and the *Ides*. Other specific days were identified as occurring a number of days before the *Calends*, the *Ides* or the *Nones*.

After ten lunar months, a period of several weeks remained until the *Calends* of March would occur on the new moon before the Spring equinox, signalling the commencement of the new year. The period between the end of the tenth month (December) and the beginning of the first month (March) was simply omitted from the calendar, apparently “because there was little agricultural work to be done”⁴.

If this was not sufficiently bizarre, a series of so-called “reforms” are (perhaps unkindly) attributed to the semi-legendary second king of Rome, Numa Pompilius. At first, the month of February was added to follow immediately after December, and then January was added to follow February. But then it was decided that the year should commence on the first day after the end of December, rather than the first day of March; February, being named for the gods of the underworld, was not considered a very propitious month to begin the year, so the order of February and January was reversed. By adding two additional months of fixed length, the calendar no longer conformed with the true solar cycle. So the Pompillian reforms also included the introduction of an intercalary month, variously known as *Mercedinus* or *Intercalaries*,

⁴ Whitrow (*op. cit.*), at p.68

of 22 days every second year. Extraordinarily, this additional month was inserted between the 22nd and 23rd days of February⁵.

Another consequence of the Pompillian reforms was that the calendar no longer reflected, even approximately, the actual phases of the moon. The one feature of the pre-Pompillian calendar which was retained was the peculiar Roman system of counting the days backwards from the *Calends*, *Nones* and *Ides*. But these days became nominal, rather than coinciding with the actual phases of the moon. The first day of each month continued to be called the *Calends*. In the months of March, May, July and October, the fifteenth day was designated as the *Ides*; but the *Ides* was the thirteenth day in all other months. The *Nones* was the day falling eight days before the *Ides*.

The Julian Calendar

It is little wonder that, in 46 BC, Julius Caesar conceived that a further reform was due. The calendar devised and implemented under his authority - the *Julian Calendar* - was a remarkably fine piece of mathematics for its time. Indeed, save for two

⁵ This seems to be the most commonly accepted understanding of how the month *Mercedinus* or *Intercalaries* was intercalated. Plutarch, in his *Numa Pompilius*, says that *Mercedinus* was inserted after February; but Livy seems to suggest that the insertion was made to correspond with the "traditional" last day of February, February 23, so that the remainder of February followed after *Mercedinus*. The ancient sources are examined in detail in *Calendarium*, by Thomas Hewitt Key, M.A., Professor of Comparative Grammar in University College, London, at pp. 222-233 of William Smith, D.C.L., LL.D., *A Dictionary of Greek and Roman Antiquities* (John Murray, London, 1875).

differences, it is virtually the same calendar that we use today. It is a feature common to all great calendrical reforms that the credit is usually given to the political leader under whose patronage the reform was adopted, rather than the brilliant mathematician who devised it. The Julian calendar was in fact the work of a Greek-Egyptian astronomer, Sosigenes.

Sosigenes calculated the length of the solar year as 365 and one-quarter days. Thus, by adopting a regular year of 365 days, with an additional or “leap” day being intercalated every fourth year, the calendar achieved a very close approximation to the cycle of the seasons. It did, however, involve the abandonment of any pretence that the arbitrary periods known to us as “months” corresponded with the phases of the moon. Initially, the Julian Calendar comprised months which alternated between 31 days (January, March, May, July, September and November) and 30 days (April, June, August, October and December), with February having 29 days in ordinary years and 30 days in leap years. The traditional names for the months were retained, with the exception of *Quintillis* - originally the fifth month - which was renamed as *Iulius*, or *July*, to honour Julius Caesar.

Unfortunately, this orderly arrangement of the months was interfered with under Augustus, who esteemed himself to be deserving of an equivalent honour, and therefore renamed *Sextilis* (originally the sixth month) as *August*. Of course, the month named in his honour could not have fewer days than the month named in

honour of his great-uncle, so an additional day was added to August. But, to avoid having three successive months each of 31 days, September and November were each reduced to 30, and October and December were raised to 31. This resulted in the disorderly jumble of 30-day and 31-day months, which still survives 2000 years later, and has produced the result that the only reliable way for most people to remember the length of a given month is by recalling the verse which commences “Thirty days hath September”.

We should be grateful, though, that only two members of the Roman Imperial family have been honoured in this way: at various times, there were proposals to rename April in honour of Nero, May in honour of Claudius, June in honour of Germanicus, September in honour of Tiberius, and October in honour of Livia. It was Tiberius who put an end to this business when the Senate offered him September: “What will you do when there are 13 Caesars?” he asked⁶.

The Julian Calendar during the Dark and Middle Ages

Despite some imperfections, the Julian calendar continued in use throughout Western Europe until 1582, and was exported by European traders, conquerors and settlers to the New World and elsewhere. Thus, for almost 16 centuries, the so-called civilised world was in agreement, at least as to what day of the month it was.

⁶ Waugh (*op. cit.*), at p.100

Still, there remained some regional variations throughout Western Europe, principally relating to the numbering of the years, and the date taken as the first day of the year. The Julian reforms reinforced those attributed to Numa Pompilius, in selecting 1 January - a date close to the (Northern) Winter Solstice - as the first day of the year. But, throughout the Middle Ages, different dates were selected in different parts of Europe.

The Catholic Church, at a time when Catholicism was dominant throughout Western Europe, adopted the Feast of the Annunciation, on 25 March. Apart from its religious significance - occurring on the supposed date of Christ's conception, precisely nine months before Christmas - this date was in close proximity to the (Northern) Spring Equinox. Ironically, after the Protestant Reformation, non-Catholic England was one of the few places to continue this practice. The supposed date of Shakespeare's death, 23 April 1616, occurred within the first month of that year, according to the official calendar then used in England. Had he died a month earlier, the date would have been given, officially, as 23 March 1615.

However, even by Shakespeare's time, the general public had given up on the inconvenience of the official calendar, and printed calendars and almanacs generally showed the year commencing on 1 January. To distinguish the common or popular year from the official year, commencing on the Feast of the Annunciation, the latter came to be known as the "Year of Grace". The pragmatic Scots would have none of

this nonsense, and, a century and a half before the English calendar reform, the Privy Council of Scotland under James VI decreed that, from 1 January 1600, the year should commence on that day⁷. The official calendar of Scotland continued to treat 1 January as the first day of the year, even after the passing of the Acts of Union in 1706.

Elsewhere in Europe, different communities reckoned their years as commencing on different dates. In 312 AD, the Emperor Constantine had sought to reimpose uniformity, by adopting the “Byzantine Year” commencing on 1 September: this was taken up in various parts of Continental Europe, and remained the official year of the Holy Roman Empire until its abolition by Napoleon in 1806. But Constantine’s attempt to achieve uniformity proved fruitless as the power and influence of Imperial Rome waned. As one writer has suggested⁸:

“If we suppose a traveller to set out from Venice on March 1, 1245, the first day of the Venetian year, he would find himself in 1244 when he reached Florence; and if after a short stay he went onto Pisa, the year 1246 would already have begun there. Continuing his journey westward he would find himself again in 1245 when he entered Provence and on arriving in France before Easter (April 16) he would once again be in 1244.”

⁷ Register of the Privy Council of Scotland (1st series), vol VI, p.63; see Walker, *A Legal History of Scotland* (T & T Clark, 1996), vol. IV, p.18

⁸ R.L. Poole, *Medieval Reckonings of Time* (SPCK, 1918) at pp.46-47, quoted in Whitrow (*op. cit.*) at p.84

Just as different communities throughout Europe selected different days as the beginning of the year, so they also had different systems for numbering the years. In most instances, the years were numbered according to the reign of the local ruler. Of course, this practice survives with the use of “Regnal Years” in Acts of Parliament and some other official documents.

Rome’s system of numbering years began from the year in which the Eternal City was supposedly founded. After some debate and disputation, the year eventually chosen for this purpose was the year which corresponds with that now known as 753 BC, so that the thousandth anniversary of the city was celebrated in 247 AD.

However, in 525 AD, a Scythian monk, Dionysius Exiguus, or Dennis the Little, was commissioned by Pope John I to formulate an algorithm to ascertain the date of Easter in any year. Diminutive Dennis saw that his task would be made very much easier if years were counted consecutively from a common starting-point, and for this purpose he chose the year now known as 1 AD. It is far from certain that he intended this year to represent the historical date of Christ’s birth; it is more likely that he simply chose a year which happened to fit comfortably with his proposed algorithm, and which coincided approximately with the beginning of the Christian era. It seems that it was the English cleric and historical scholar, the Venerable Bede, who began to use the abbreviation AD (*Anno Domini*, or “Year of our Lord”) when applying the system devised by Dennis, thereby popularising the assumption that the year 1 AD

was the year in which the historical personage of Jesus Christ was born. In fact, modern historians (both secular and theological) now accept that the Child of Nazareth was probably born between the years 6 BC and 4 BC.

The Bissextile

It will be recalled that the pre-Julian Calendar of Ancient Rome included an intercalary month of 22 days, inserted every second year between the 22nd and 23rd days of February. Under the Julian Calendar, a single intercalary day was to be inserted every fourth year. But, as a throw-back to the pre-Julian practice, this insertion continued to be made between the 22nd and 23rd days of February.

Strictly, though, the intercalated day was not regarded as a separate day at all: under Roman law, it and the preceding day, the *sextilis* or sixth day before the Calends of March, were counted as one. Thus, once in every four years, the *sextilis* occupied 48 hours. Because this nominal day comprised two natural days, it was known as the *bissextilis*.

Over the space of 16 centuries following the adoption of the Julian Calendar, the Roman system of numbering days - working backwards from the *Calends*, the *Nones* and the *Ides* - seems to have been gradually supplanted by the modern system of numbering days consecutively from the first day of the month. With the

disappearance of the Romans' peculiar system for numbering days, the concept of the bissextile being a single day also faded from consciousness. But not completely.

By a Statute of Henry III, entitled *de Anno et die Bissextili*, it was provided that, in a leap year, the bissextile day "and the Day next going before, shall be accounted for one Day". The rational compulsion behind this legislative fiction has been lost in the mists of time. Indeed, it is not even certain when it was enacted: some references assign to it the regnal year 21 Henry III (that is, 1236), whilst others assign to it the regnal year 40 Henry III (that is, 1256)⁹.

In the time of Lord Coke, at least, the fiction of treating the bissextile and the preceding day as a single day was alive and well¹⁰. In England, the Act of Henry III was not repealed until 1879¹¹. In some Australian States, it has also been expressly repealed: for example, in New South Wales in 1969¹². Where it has not been expressly repealed, the suggestion is that it has no continuing application, perhaps because it was impliedly repealed by the adoption of the Gregorian Calendar in 1751.

The point arose before Burchett J. in *Re Clubb; ex parte Clubb v. Westpac Banking*

⁹ See *Re Clubb, ex parte Club v. Westpac Banking Corporation*, (1990) 93 A.L.R. 123, per Burchett J. at p.127

¹⁰ Co. Litt. 135b.

¹¹ *Civil Procedure Acts Repeal Act 1879*

¹² *Imperial Acts Application Act 1969*

*Corporation*¹³, in which the respondent bank sought to rely on the statute of Henry III to justify its method of charging interest on customers' accounts. The evidence showed that the bank had divided its annual interest rate by 365, and added this amount of interest to the customer's account for each day, producing the result that, in a leap year, the customer was charged an extra day's interest over the agreed annual rate. Not surprisingly, Burchett J. held that this was impermissible, observing¹⁴:

“There is nothing nominal about 29 February; it takes its place in the succession of days of the week as a Sunday or other designated day - there are not two Sundays (allowing the added day to be nominal) because one is an intercalary day. It is the year which is conventional, its length being adjusted artificially to correct an error of approximation in the calendar.”

The Gregorian Calendar

Although the Julian Calendar was accurate to about 11 minutes per year, this discrepancy compounded over the centuries, with the calendar falling out of kilter with the cycle of the seasons at the rate of about 3 days every four centuries. At the time of Julius Caesar, the (Northern) Spring Equinox fell on 25 March; by the time of the Council of Nicaea in 325 AD, it fell on 21 March; and by 1582 it fell on 11

¹³ (1990) 93 A.L.R. 123

¹⁴ *ibid.*, at p.129

March. Pope Gregory XIII proposed that the calendar be re-calculated, to bring it into closer conformity with the solar year. Once again, although the new calendar bears the name of the Pope under whose patronage it was adopted, the real credit belongs to the Jesuit astronomer Christopher Clavius.

The Julian Calendar, as devised by Sosigenes, was based on a year of 365 days and 6 hours. It is likely that Sosigenes was aware that this exceeded the actual solar year, but took the pragmatic attitude that the minor discrepancy would not be manifested for many centuries to come. If this seems a little irresponsible on the part of Sosigenes, it shows a great deal more foresight than was exercised by computer manufacturers in the 1970s, 1980s and early 1990s, who built computers which were incapable of ascertaining the correct date after 1 January 2000. At least the calendar devised by Sosigenes proved reasonably effective for more than one and a half millennia.

In devising the Gregorian Calendar, Clavius replaced the Julian year of 365 days and 6 hours with a Gregorian year of 365 days, 5 hours, 49 minutes and 12 seconds. This reduced the difference between the calendar year and the solar year from about 11 minutes to about 26 seconds, and thereby brought the calendar to a degree of synchronisation with the Earth's orbit of the Sun which, for all practical purposes, is very nearly perfect. Whereas the Julian Calendar fell behind the solar cycle by 1 day in every 135 years, the Gregorian Calendar will lose one day in about every 3300

years.

All of this was achieved by the simple expedient of deleting three leap years every four centuries, so that the years 1500, 1700, 1800, 1900 and 2100 were not leap years, whilst the years 1600 and 2000 remained leap years.

At the same time, the Gregorian reforms addressed two other calendrical anomalies. The first was to delete 10 days (4th to 15th October, 1582) so as to restore the (Northern) Spring Equinox to 21 March, the date on which it fell at the time of the Council of Nicaea. The second was to adopt 1 January as the beginning of the year.

Under the Pope's authority, these reforms were rapidly adopted throughout Catholic Europe. But, in light of the Protestant Reformation, non-Catholic countries were not so willing to accede to papal authority on such a fundamental issue as the calendar. Gregory XIII had not endeared himself to Protestants, through his promotion of the Counter-Reformation, including the ruthless campaign of Philip II against the Protestants in the Spanish Netherlands, and his celebration of the St Bartholomew's Day massacre of French Huguenots in 1572. It was widely contended, in non-Catholic Europe, that the Pope's calendrical reforms were an attempt by Gregory XIII - "with the mind of a serpent and the cunning of a wolf" - to reimpose papal authority throughout Christendom.

Even in Catholic Europe, the Gregorian reforms were not received with universal equanimity. In France, where the year had traditionally commenced on 1st April, many people stubbornly continued the custom of exchanging gifts on this date. Those who did so became the target of jokes and tricks, and came to be known as “April Fools”¹⁵.

Although all of Catholic Europe had adopted the Gregorian Calendar by 1587, non-Catholic Europe was very slow to follow. The first countries to “break ranks” were Denmark, the Protestant Netherlands, and the Protestant German States, in 1699 to 1700. The United Kingdom, as we will see, followed suit in 1752; Sweden in 1753; Switzerland in 1812; Japan in 1873; Egypt in 1875; most of Eastern Europe between 1912 and 1917; Russia, following the Soviet Revolution, in 1918; and Greece - the last European country to maintain the Julian Calendar - in 1923.

The Gregorian Reforms in England¹⁶

*Holdsworth*¹⁷ records that, in 1583 - the year after the Gregorian Calendar was

¹⁵ Westrheim (*op. cit.*) at p.67

¹⁶ Historical information in this section is taken largely from the sources identified in footnote 3, together with E. Stewart Fay, *Discoveries in the Statute-Book* (Sweet & Maxwell, 1939) at pp.176-178

¹⁷ Holdsworth, *A History of English Law*, 3rd ed., vol. IV, p.306

adopted in Catholic Europe - a proclamation¹⁸ was drafted to reform the English calendar, but was never issued.

Subsequent attempts to adopt the Gregorian reforms in England, under Queen Elizabeth I, foundered due to opposition on all sides. On the one hand, Anglican bishops were opposed to any reform, which they regarded as smacking of Papism. On the other hand, there were those who contended for a reform similar to the Gregorian Calendar, but argued that Clavius had miscalculated, and suggested an 11-day correction rather than the Gregorian 10-day correction. This proposal was supported by the Queen's most powerful ministers, Burghley and Walsingham, but the principal proponent was Dr. John Dee - a shadowy figure, who combined the role of court astronomer with those of a mystic, spiritualist and astrologer, and who is said to have been the inspiration for Prospero in Shakespeare's *The Tempest*¹⁹. A committee of mathematicians was commissioned to investigate the matter and make recommendations. This committee, whilst agreeing with Dee's calculations, proposed that it would be more convenient for England to have the same calendar as Catholic Europe. Of course, this solution did not satisfy anyone.

There the matter rested, with English calendars remaining 10 days apart from those of Continental Europe, until 1700. In that year, the discrepancy increased to 11 days,

¹⁸ Tudor and Stuart Proclamations i, no. 769; see Holdsworth (*loc.cit.*)

¹⁹ Michell, *supra*, at p.206

since 1700 was a leap year under the Julian Calendar, but not under the Gregorian Calendar.

During the first half of the Eighteenth Century, the United Kingdom - particularly England - was one of the greatest trading nations on Earth. Business-people who complain about the inconvenience caused by daylight saving, especially when neighbouring jurisdictions disagree on when to adjust their clocks or whether to do so at all, will readily understand the commercial inconvenience of the United Kingdom's having a calendar which was 11 days behind the calendars of its major trading partners. Many commercial documents of this era - business letters, bills of lading, promissory notes, and the like - show that English merchants and traders often used both the Julian and Gregorian dates when dealing with business-houses in Continental Europe.

However, the impetus to reform the calendar was not merely commercial. For a variety of practical reasons, time-keeping became something of a national obsession. The first scheduled stage-coaches to traverse England operated to a strict timetable - for example, leaving Bristol at 4 pm, and driving through the night at a standard speed of 10 miles per hour, to arrive in London at 8 am the following morning. Clocks and watches, which had hitherto been prohibitively expensive and hopelessly inaccurate, were increasingly reliable, and became common possessions amongst the industrial middle classes. In 1714, Parliament passed an Act "for Providing a Publick

Reward for such Person or Persons as shall Discover the Longitude at Sea”, with a prize in the enormous sum of £20,000, and a Board of Longitude to determine the winner. The solution was found in the construction of the first reliable marine chronometer, by John Harrison of Yorkshire²⁰. Over coming decades, Greenwich would rival Paris - and would eventually defeat Paris - to be recognised as the site of the world’s Prime Meridiem. In an age of increasing scientific enlightenment, it must have seemed perverse that the United Kingdom - which led the world in the science and craftsmanship of time-keeping - should continue to labour under a primitive calendar, for which there was no scientific justification, its retention being merely a by-product of sectarian prejudice, mistrust and ignorance. Voltaire’s chiding remark, that “The English mob preferred their calendar to disagree with the Sun than to agree with the Pope”²¹, must have stung deeply.

When the push for reform came, things happened very quickly. It began with an address to the Royal Society on 10 May 1750, by George Parker, the Second Earl of Macclesfield, an amateur astronomer. Amongst the audience was a prominent politician of the day, Philip Stanhope, the Earl of Chesterfield, by whom the campaign for reform was embraced with enthusiasm. After meeting resistance, even from the leaders of his own Party, Chesterfield enlisted the support of the popular press, and pseudonymously contributed to the debate which he had begun.

²⁰ See, generally, Dava Sobel, *Longitude - The True Story of the Lone Genius Who Solved the Greatest Scientific Problem of His Time* (Fourth Estate, 1996)

²¹ Duncan (*op. cit.*), at p.307

Thereby winning over the approval of his Party's leaders, it fell to Chesterfield to introduce into the House of Lords a Bill "for Regulating the Commencement of the Year; and for Correcting the Calendar now in Use". That the Bill was passed in record time, with unanimous support, is a testament more to Chesterfield's own political wiles, than to the intelligence of contemporary legislators. As Chesterfield wrote to his son²²:

"I consulted the best lawyers and the most skilful astronomers, and we cooked up a bill for that purpose. But then my difficulty began: I was to bring in this bill, which was necessarily composed of law jargon and astronomical calculations, to both of which I am an utter stranger. However, it was absolutely necessary to make the House of Lords think that I knew something of the matter; and also to make them believe that they knew something of it themselves, which they do not. For my own part, I could just as soon have talked Celtic or Slavonian to them, as astronomy, and [they] could have understood me full as well: so I resolved ... to please instead of informing them. I gave them, therefore, only an historical account of calendars, from the Egyptian down to the Gregorian, amusing them now and then with little episodes They thought I was informed, because I pleased them; and many of them said, that I had made the whole very clear to them; when, God knows, I had not even attempted it."

The Act of 1751

A reproduction of the Act of 1751, omitting the schedules and tables which were annexed to it, accompanies this paper. Because the Act was drafted in the style of

²² Duncan (*op. cit.*), p.310

the time, without section numbers and other divisions, I have caused this copy to be prepared in a form intended to make it intelligible to the modern reader, whilst still preserving the essential features of the historical document.

As will be observed, the Act is a remarkable artifact of its era. Stylistically, it is very much a period piece, characterised by lengthy and argumentative recitals, archaic language, and oppressive prolixity. Yet, as contrasted with modern enactments, it is a remarkably concise document to achieve such a fundamental change as the omission of 11 days from the calendar, and the implications of this for every aspect of the nation's commercial and legal affairs. And it contains some distinctly modern features, such as definitions, provisos and saving provisions. To identify the principal features of the Act, I will refer to the paragraph numbers which I have inserted in the version accompanying this paper.

Sections [1.1] to [1.5] abolish the "Year of Grace", providing that the year 1752, and all subsequent years, are to commence on 1 January.

Sections [1.6] to [1.8] provide for the suppression of 11 days between 2nd and 14th September, 1752.

Section [1.9] provides (subject to certain exceptions) that, from 2 September 1752, the "new Method of Supputation" is to be adopted for all purposes, "whether

Ecclesiastical or Civil, Publick or Private”, including all courts apart from those held with fairs or markets, and all “Meetings and Assemblies of any Bodies Politick or Corporate”.

Section [2.1] provides for the omission of three leap days in every four centuries, whilst section [2.2] confirms that years divisible by 400 continue to be leap years. (It may confidently be assumed that section [2.2] was the first enactment ever to make specific reference to the year 2000, as well as the years 2400 and 2800.)

Sections [3.1] to [3.3] are concerned with fixing the date for Easter, and effectively adopt the Catholic methodology for doing so. These sections provide that the “Table prefixed to the Book of Common Prayer”, and the “Column of Golden Numbers”, are to be “left out in all future editions of the said Book of Common Prayer”, and that the “new Calendar, Tables and Rules, hereunto annexed, shall be prefixed to all such future Editions of the said Book, in the Room and stead thereof”.

Sections [3.4] to [3.6] deal with “Feast-days Holy-days and Fast-days, which are now kept and observed by the Church of England, and ... the several solemn days of Thanksgiving, and of Fasting and Humiliation”. In essence, fixed feasts - those which traditionally fall on a particular calendar date, such as Christmas Day - are to be observed “On the same respective nominal Days on which the same are now kept and

observed; but which according to the Alteration by this Act intended to be made ... will happen eleven Days sooner than the same now do”. But the dates for movable feasts are to be reckoned in accordance with the new methodology for fixing the date of Easter. Specifically, by clause [3.36], this is to include the Easter and Trinity Court Terms, and all other courts, meetings, assemblies, markets and fairs “which by any Law, Statute, Charter, Custom or Usage are appointed, used or accustomed to be holden and kept at any movable Time or Times depending upon the Time of Easter”.

The remainder of the Act, sections [4] to [6], consists of provisos, or what we would call “saving provisions”, to preserve matters which are to continue to be reckoned “according to the same natural Days, in case this Act had not been made; that is to say, eleven Days later than the same would have happened, according to the nominal Days of the ... new Supputation of Time”.

Section [4.1] comprises a miscellany of saving provisions. It covers the Court of Sessions, and the Terms of the Court of Exchequer in Scotland; the “April Meeting of the Governor, Bailiffs and Commonalty of the company of Conservators of the great Level of the Fens”, and all markets and fairs which are fixed to a nominal day of the month, or depending upon the beginning or any certain day of a month - as opposed to markets and fairs for which the date is fixed by reference to a movable feast. This was perhaps the most ill-conceived aspect of the Act. If a particular market had traditionally been held on (say) the 10th of June, the nominal date of the

market would become the 21st of June. But if the traditional date for a market was, say, the third Saturday in June, it became necessary to calculate which Saturday would have been the third Saturday in June under the old calendar.

Section [5] is concerned with those “divers Customs, Prescriptions and Usages, in certain Places within this Kingdom, [according to which] certain Lands and Grounds are, on particular nominal Days and Times in the Year, to be open for Common of Pasture, and other Purposes”, and “other Times, [when] the Owners and Occupiers of such Lands and Grounds have a Right to inclose or shut up the same, for their own private Use”. Under the Act, those rights and obligations are to be exercised “upon the same natural Days and Times on which the same should have been ... in case this Act had not been made; that is to say, eleven Days later than the same would have happened, according to the ... new Account and Supputation of Time”.

Finally, sections [6.1] to [6.4] attempt to address a variety of anomalies which might otherwise have arisen from the suppression of eleven days in September 1752. It is provided that “nothing in this present Act contained shall extend, or be construed to extend, to accelerate or anticipate” the time for payment of any rental, annuity, or other sum of money, or increase the interest on any loan, or bring forward “the Time of the Delivery of any Goods, Chattles, Wares, Merchandize or other Things whatsoever”, or affect the “Time of the Commencement, Expiration of Determination of any Lease or Demise of any Lands, Tenements or Heriditaments,

or of any other Contract or Agreement whatsoever”, or of “any Grant for any Term of Years, of what Nature or Kind soever”. The section also deals with “the Time of the attaining the Age of one and twenty Years, or any other Age requisite by any Law, Custom or Usage, Deed, Will or Writing whatsoever, for the Doing any Act, or for any other Purpose whatsoever, by any Person or Persons now born, or who shall be born before the said fourteenth Day of September”; and also “the Time of the Expiration or Determination of any Apprenticeship or other Service, by virtue of any Indenture, or of any Articles under Seal, or by reason of any simple Contract or Hiring whatsoever”. In all of these instances, time is to be computed according to “the same respective natural Days and Times, as the same should and ought to have been ... , or would have happened, in case this Act had not been made, ... any Thing herein before contained to the contrary thereof in any wise notwithstanding”.

Implementation of the Act

One can only imagine the confusion and anxiety which occurred when the citizens of the United Kingdom went to bed on the evening of 2 September 1752, and awoke the next morning to find that the date was 14 September. There were riots in London and elsewhere. Business-people were naturally perturbed by the complexity of having to re-calculate interest, and the dates for the repayment of loans, the expiration of leases, and such-like; though one might hazard a guess that the commercial inconvenience was nothing compared with that of implementing a “New Tax System”.

Perhaps the most strident opponents of the reform were those who felt it was a sacrilege to change the dates of religious feasts and celebrations. One correspondent wrote to a popular journal regarding the Glastonbury Thorn, which was reputed to blossom every year exactly on Christmas Day, that it had “contemptuously ignored the new style” and “burst into blossom on the 5th January, thus indicating that Old Christmas Day should alone be observed, in spite of an irreligious legislature”. Yet the reforms found an unlikely ally in the Church of England, which was principally responsible for the fact that they had not been adopted 170 years sooner. The English Church discovered that, well before Gregory XIII and Christopher Clavius, an Englishman - Roger Bacon - was amongst the first to propose such a reform. The Church’s motto became “The New Style the True Style”.

The Act had anticipated, and provided for, most of the consequences of the calendrical reform. But a few anomalies were not anticipated.

It is said that bankers in the City of London, in protest at the inconvenience caused to their industry, refused to pay their taxes on time. They had a persuasive argument that, since the Act provided for interest to be calculated and loans to be repaid according to the number of “natural days” rather than the “nominal days” of the new calendar, the banking industry should have a similar indulgence in meeting its

obligations to the exchequer. Taxes which would ordinarily have been paid on 25 March - the first day of the “Year of Grace” under the old calendar - were not paid until eleven days later, on 5 April. This quite possibly explains why, to this day, 5 April remains the first day of the English fiscal year²³.

In Eighteenth Century England, it was common for the dates in leases - particularly agricultural leases - to be fixed by reference to the standard “quarter days”, being Lady Day (25 March), Midsummer Day (24 June), Michaelmas Day (29 September) and Christmas Day (25 December)²⁴. Less commonly, reference was made to “half-quarter days”, namely Candlemas (2 February), 9 May, 11 August and Martinmas (11 November)²⁵, though in some instances Whitsuntide is taken as “the first of the four cross-quarter days of the year”²⁶. Whitsunday, or the Feast of Pentecost, was traditionally celebrated in England on the fiftieth day after Easter, and was therefore a movable feast for the purposes of the Act²⁷. In Scotland, where the usual “quarter-days” were Candlemas (2 February), Whitsunday, Lamass (1 August) and Martinmas (11 November), this problem was addressed by adopting a nominal “Whitsun Day” for secular purposes, falling on 15 May in each year, which was dissociated from the

²³ Duncan (*op. cit.*), p.315

²⁴ *Vanston v. Mackarty*, (1674) 2 Lev. 99 [83 E.R. 468]

²⁵ *Halsbury's Laws of England*, 4th ed., vol. 45, para. 1106 (p.530)

²⁶ *Wharton's Law-Lexicon* (7th ed.), p.870

²⁷ *R. v. Inhabitants of Newstead*, (1770) Burr. S.C. 669; *R. v. The Inhabitants of Ulverstone*, (1798) 7 T.R. 564 [101 E.R. 1134]

church feast²⁸.

For all other purposes, where the parties' rights were fixed by reference to a religious feast, the courts consistently insisted that the date of the feast should be ascertained in accordance with the new calendar. Examples include St Thomas' Day²⁹, Martinmas³⁰ and Michaelmas³¹. Yet, at least in the case of parol agreements, extrinsic evidence was admissible to show that, according to the custom of the locality, a reference to a particular feast day was intended to mean the day on which the feast was celebrated prior to the Act, rather than the nominal date on which the feast was celebrated after the commencement of the Act³². In *Doe d. Hall v. Benson*³³, Abbott C.J. said:

“The real question in this case is, what the parties meant when they used the expression, Lady-Day, in their original agreement; and whether we are at liberty to ascertain that by extrinsic evidence. In *Doe d. Spicer v. Lea*, the letting was by deed, and the rule of law is, that evidence is not admissible to explain a deed. Now reading the deed in that case, as lawyers, the Court could not but consider Lady-Day there as meaning new Lady-Day. But in the *Nisi Prius* case of *Furley, d. Mayor of Canterbury v. Wood*, ... where the letting was

²⁸ *Wharton's Law-Lexicon* (op. cit.); Walker, *The Oxford Companion to Law*, p.1023

²⁹ *Smith v. Flower*, (1826) 3 Bing. 401 [130 E.R. 567]

³⁰ *Smith v. Walton*, (1832) 8 Bing. 235 [131 E.R. 391]

³¹ *Doe d. Spicer v. Lea*, (1809) 11 East 311 [103 E.R. 1024]; *Hogg v. Norris & Berrington*, (1860) 2 F. & F. 246

³² *Doe d. Hall v. Benson*, (1821) 4 B. & A. 588 [106 E.R. 1051]; *Doe d. Spicer v. Lea* (*supra*); *Smith v. Walton* (*supra*)

³³ *supra*, at p.589 [E.R., p.1052]

by parol, evidence of the custom of the country was admitted by Lord Kenyon. I think that was a correct decision; and I am therefore of opinion that, in this case also, the evidence of the custom of the country was properly admitted, and the verdict was right.”

The Present Situation

The fact that England’s calendrical reform occurred in the middle of the Eighteenth Century - before the American War of Independence - and the fact that the Act was expressed to apply “throughout all his Majesty’s Dominions and Countries in Europe, Asia, Africa and America, belonging or subject to the Crown of Great Britain”, meant, in practical terms, that all of the English-speaking peoples of the world underwent the same reform at the same time. In Philadelphia, Benjamin Franklin wrote³⁴:

“Be not astonished, nor look with scorn, dear reader, at such a deduction of days, nor regret as for the loss of so much time, but take this for your consolation, that your expenses will appear lighter and your mind be more at ease. And what an indulgence is here, for those who love their pillow to lie down in peace on the second of this month and not perhaps awake till the morning of the 14th.”

In the case of Britain’s American colonies, the reform brought their calendars in line with those of other European colonies in the Americas, upon whom the Gregorian Calendar had previously been imposed by their Spanish, French and Portuguese

³⁴ Duncan (*op. cit.*) at pp.317-18

masters.

No such problem occurred in Australia. Whilst the indigenous inhabitants of this country had a very acute understanding of the cycle of the seasons, they had no formal calendar. With British colonisation came the Gregorian Calendar, the first and only calendar ever used in this land.

It is unlikely that any further calendrical reforms will be required or attempted. The last concerted effort to alter the Gregorian Calendar occurred in France, following the Revolution in 1792. Consistently with that country's mania for decimalisation, the French Revolutionary Calendar comprised weeks of 10 days, each day comprising 10 hours, each hour comprising 100 minutes, and each minute comprising 100 seconds. Three of these 10-day weeks comprised a month, and there were twelve 30-day months in the year. The remaining five or six days were reserved for holidays. The new days and months were given new names. But almost nobody bothered to use the new system, and Napoleon dismantled it in 1806.

In 1928, the United Kingdom Parliament passed the *Easter Act*, by which Easter Day was to be fixed as the first Sunday after the second Saturday in April: however, that Act is to commence on a day to be fixed by Order in Council, and no such Order in Council has ever been made.

One of the last remaining calendrical peculiarities of the English legal system has gradually been erased from most common law jurisdictions over the course of the last century, namely the concept of a so-called “lunar month”, as opposed to a “calendar month”.

The use of the expression “lunar month” to describe an arbitrary period of 28 days is entirely misleading, given that the actual lunar cycle is about 29½ days. Blackstone³⁵ suggests that the adoption of a conventional 28-day month for legal purposes can be justified for two reasons: first, that references to a period of one month will always denote the same number of days; and secondly, that the number of days thus denoted comprises precisely four weeks. Yet, as long ago as 1795, Lord Kenyan C.J. confessed a “wish that, when the rule was first established, it had been decided that ‘months’ should be understood to mean calendar and not lunar months”³⁶.

Any supposed convenience arising from the adoption of a so-called “lunar month” for legal purposes is far out-weighed by the consideration that it simply does not accord - and has never accorded - with the popular view of what a “month” is. The so-called “lunar month” is shorter than every month of the calendar, with the

³⁵ 2 Bl. Com. 141

³⁶ *Lacon v. Hooper*, (1795) 5 T.R. 224, at p.226 [101 E.R. 522, at p.524]

exception of February in common years. There are not 12, but 13 so-called “lunar months” in a calendar year, leaving a remainder of one day in common years and two days in leap years. Most people would be extremely surprised to learn that an agreement entered into for 12 months, commencing on 1 January, should expire on 2 December, or 1 December if it is a leap year.

Yet, well within living memory, this was the law. In a 1971 case³⁷, Dr. B.H. McPherson (as he then was) succeeded in convincing Matthews J. that, where a contract provided for the purchaser to obtain subdivisional approval from a shire council “within four months from the date hereof”, it should be construed as referring to four “lunar months” of 28 days each, rather than four “calendar months”. However, less than a year later, even the same learned counsel’s ingenuity failed in a similar argument before the Full Court³⁸. As the contract in that case contained another clause referring specifically to a period of 28 days, the Court was able to conclude that the expression “month” must have been intended to have its popular meaning, saying that³⁹:

“ ... having regard to modern usage, the term ‘month’ may readily be construed as calendar month, if there is even a slight indication in the context to that effect.”

³⁷ *Development Underwriting (Queensland) Pty Limited v. Weaber*, [1971] Qd.R. 182.

³⁸ *Carpentaria Investments Pty. Ltd. v. Airs and Arnold*, [1972] Qd.R. 436

³⁹ Lucas J., with Hanger C.J. and Douglas J. concurring, at p.463

Shortly afterwards, the *Property Law Act 1974* (Queensland) was enacted, which included in s.48(1)(a) the provision that, “In all deeds, contracts, wills, orders and other instruments executed, made or coming into operation after the commencement of this Act, unless the context otherwise requires ... ‘month’ means calendar month”.

For most practical purposes, the law has also dispensed with the proposition that it takes no cognisance of fractions of a day - and the concomitant of that proposition, that a legislative or judicial act takes effect from the first moment of the relevant day. Where there is an issue as to “a sequence of events happening on the same day”⁴⁰ the law does take cognisance of fractions of a day - for example, to determine priority, or where a contractual stipulation requires that something happen by a particular hour on a particular day. Even the retroactive operation of legislative and judicial acts, to the first moment of the day of enactment or pronouncement, has yielded to the common sense proposition that “this ancient rule should be given its quietus insofar as it operates to require the court to assume something that it knows to be untrue”⁴¹.

It is likely, therefore, that a person could be successfully prosecuted for bigamy, having gone through a marriage ceremony in the morning, before a judicial dissolution of a prior marriage is pronounced on the afternoon of the same day. On

⁴⁰ *Eaglehill Ltd. v. J. Needham Ltd.*, [1973] A.C. 992, per Lord Cross of Chelsea (Lords Reid, Diplock and Simon of Glaisdale, and Viscount Dilhorne, concurring) at p.1010

⁴¹ *Re Palmer*, [1994] Ch. 316, per Balcome L.J. (Evans and Roch L.JJ. concurring) at p.345

the other hand, were the Battle of Bosworth Field to occur today, it is unlikely that the supporters of Richard III would face the same consequences as they did in 1485: it is said that they were executed for treason on the pretext that Henry VII, having won the battle, thereupon became king with effect from the first moment of that day.

One of the few remaining practical implications of the principle that the law takes no cognisance of fractions of a day is the rule - which the High Court of Australia reaffirmed as recently as 1961⁴² - that a person is taken to achieve a particular age from the first moment of the day preceding the person's birthday. Yet even this rule has been called into question by Sir Gerard Brennan⁴³. On the day preceding his Honour's retirement from the High Court, a prominent member of the Sydney Bar made the suggestion - no doubt in a jocular way - that the effect of the decision in *Prowse v. McIntyre* casts "some doubt about the validity of the farewell tomorrow".

Sir Gerard replied in these terms:

"If I might say so, Mr. Bennett, although I am conscious of the reported case to which you refer, the practice of this Court - and of course the practice of the Court is the law of the Court - quite clearly establishes that the 70th year is attained on the last moment of the eve of one's birthday. Tomorrow's ceremony, therefore, I judicially declare, if it be the last function that I perform, will be a valid ceremony."

⁴² *Prowse v. McIntyre*, (1961) 111 C.L.R. 264

⁴³ Transcript of proceedings in the High Court of Australia, C00/1998, 20 May 1998