

Counting Time

A Brief History of
the 24-hour clock



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1. Introduction

This is the story of the gradual adoption of the 24-hour system of representing time. In Britain, this small matter led to questions in the House of Commons, debates in the House of Lords, reports by Home Office committees, decisions by the Prime Minister and the Cabinet, lively letters to the Times, and thousands of complaints to the BBC.

It's also a story about human nature: our enthusiasm for new ideas and practical innovations, our distrust of novelty and fondness for tradition, our love of argument and our need to compromise, and our instinctive search for order to control chaos.

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2. Origins

We've had 24 hours in a day since ancient times. The Romans inherited the 12-hour day, and its dark companion, the 12-hour night, from the Egyptians and the Babylonians. It's probably the number of moon cycles in a year (about 12) that was originally the reason for the division of the night sky into 12 sections.

The Romans started counting their hours at dawn, reaching 12 by nightfall. Their sundials were accurate enough for daily use: by the sixth hour of the day (their *sexta hora*), it was time for a meal and a rest. It's still called a siesta today. Their 12-hour day was divided into two parts, *ante meridiem* (before the middle of the day) and *post meridiem* (after midday), abbreviated today as a.m. and p.m..

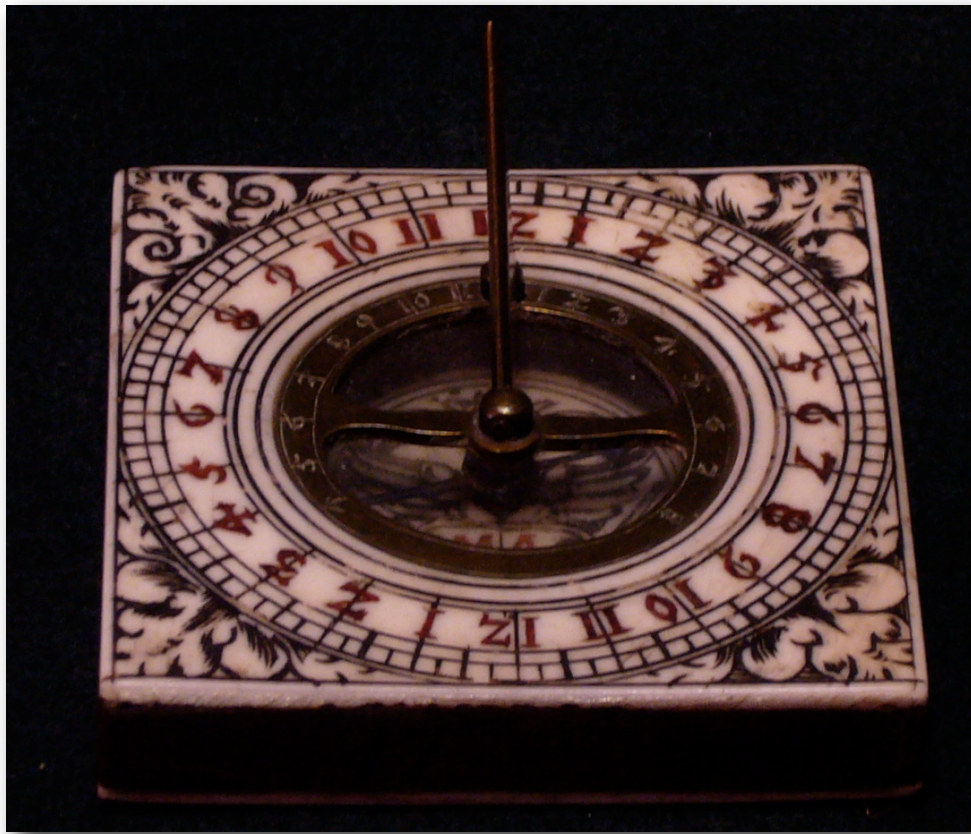
In countries north of the equator, winter days are noticeably shorter than winter nights, and summer days longer than summer nights. So hours used to vary in length: a winter daylight hour, a twelfth of 6 or 7 hours, could be half as long as a summer hour. The invention of the clock in the 13th century soon forced equal length hours by necessity, and the early clockmakers also moved the 12-hour counting cycle to start - not at indistinct and variable dawn - but at the measurable moment of midday. Midday was when the sun was at its maximum height in the sky. Solar observations were used for setting and adjusting clocks and watches until quite recently. As late as the nineteenth century, astronomers were still starting their day, and their hour-counting, at noon – which for them was effectively 0 o'clock.¹ This also saved them from having to change the date halfway through their night's work.

The dials of the earliest clocks, if they were numbered at all, usually showed both sets of 12 numbers, one after the other. Examples survive from the 14th and 15th centuries. The simpler 12-hour dial was easier to make: the roman numerals above 12 were unfamiliar, and harder to squeeze in. But the main reason was probably that the smaller table clocks chiming from 13 all the way up to 24 required almost twice as much precious clockwork energy as ones that repeated the 1 to 12 pattern twice.²

You can sometimes find sundials that show all 24 hours around the dial. It's not clear how this could be a functional design; it may be just an aesthetic choice.

¹ Roman numerals don't have a zero, so calling 0 XII technically makes some sense.

² assuming 24 chimes for midnight: 24-hour requires 300 chimes; 12-hour requires 156



24 hours on a sundial

The more complex astronomical clocks, like their predecessors the astrolabes, often used 24-hour dials, usually with the double 12 numbering. The famous Orloj clock in Prague shows the various styles in use.



The Prague Orloj³

The outer ring of gold numerals indicates the old Czech and Italian style of counting the hours, starting at sunset. The ring moves round back and forth during the year to follow the time of sunset. Inside the golden double-XII ring is another ring of hour numbers from 1 to 12, counting from dawn.

³ http://commons.wikimedia.org/wiki/File:Astronomical_Clock,_Prague.jpg



The Exeter clock, made in the 1740s by Jacob Lovelace

For a brief period after the French revolution of 1789, the French made clocks and watches that kept revolutionary time – 10 hours in one day.



A Revolutionary watch with both 10 and 24-hour dials

Written times using the 12-hour system must be accompanied by the Latin tags a.m. or p.m., otherwise the notation is ambiguous. Midnight is technically both 12 p.m. and 12 a.m., but noon can be neither, by definition, although it could perhaps be 12 m, for 12 meridiem, but then this is confused with 12 midnight.

THE AGE OF THE TRAIN

At the beginning of the 19th century, wherever you went, time was local, determined by the position of the sun above you. The time in Bristol was 10 minutes ahead of the time in London, 120 miles away, because the earth takes 10 minutes to rotate so that Bristol now sits where London was sitting. The time on the local church clock was the time for the town, and visitors

alighting from their horse-drawn carriages would adjust their watches to the town's clock when they arrived.

The arrival of the railways and the telegraph in the middle of the century transformed nearly everything, including time-keeping. The differences in local time across the country were a serious problem, and train timetables struggled to keep pace with constantly varying local time.



A Great Western Railway train leaving Paddington Station, May 20 1892 ⁴

The railways carried time with them, flowing outwards from the cities into every corner of the country, and the telegraph wires running alongside the tracks carried time pulses and messages.

⁴ <http://www.flickr.com/photos/nationalarchives/5078167983/>



Greenwich time transmitted by electricity

Many towns were reluctant to adjust their clocks just to agree with the railway timetables. In 1844 the Dean of Exeter Cathedral refused to move his cathedral clock by the necessary 12 minutes, and the authorities in Plymouth changed the clocks to railway time, only to change them back when they realised that the tide timetables used local solar time. For a brief period, some clocks had two minute hands, one to show local time, the other to show railway time.

Greenwich Mean Time was displayed to the public on the famous clock made by Charles Shepherd in 1852, installed outside the Royal Greenwich Observatory. This was a slave clock controlled by electric impulses sent

from the main building. By the end of the century, clocks throughout the world were electrically linked to the Greenwich master clock.



The Shepherd slave clock at Greenwich

In the US, railway companies faced even more complex problems: some central stations had to display three clocks with different times for each of the railway lines that originated from different longitudes. Sunday, November 18 1883, was the Sunday of Two Noons, when towns across the country adjusted their clocks by up to half an hour at noon to fit in to one of the four time zones.

With the coming of the modern age, Roman and medieval numbering habits were literally anachronisms. The potential for error caused by ambiguities of time was no longer a trifling matter of being late for lunch. It was inevitable that the old customs that had lingered through centuries of unthinking use were about to be questioned.

SANDFORD FLEMING

Sandford Fleming, a Scottish surveyor and engineer who had moved to Canada and worked on the Canadian Pacific Railway, had turned his inventive and practical mind to the problem of time standards in the 1870s.

When travelling in Ireland in 1876, he had missed a train – and the boat to England – because the railway timetable had inaccurately shown 5:35 *p.m.* as the departure time. The long uncomfortable night in the station before the train's actual departure 12 hours later, at 5:35 *a.m.*, gave him ample time to contemplate the problems of time notation, and possible solutions.



*Sir Sandford Fleming*⁵

Fleming's ideas were ambitious. He proposed a new reference time – Universal or Cosmic time – that would unify all local times. A series of 24 letters would describe the hour wherever you were in the world: if it's M:24 now for me in London, it's also M:24 for you in New York.

In 1884, delegates from most of the countries of the world met at the International Meridian Conference, Washington, USA to discuss various proposals for standardizing time and longitude, including a set of 24 time zones for defining local time according to longitude. The delegates agreed to adopt some of the proposals, including his idea of a universal day:

the universal day is to be a mean solar day; is to begin for all the world at the moment of mean midnight of the initial meridian [Greenwich], coinciding with the beginning of the civil day and date of that meridian; and is to be counted from zero up to twenty-four hours

His Universal Time wasn't accepted, but Greenwich was chosen as the Prime Meridian, despite objections from the French delegates.

By the end of the century the world had finally been organized into 24 time zones, and nearly every clock in the world beat in time with Greenwich, with the correct time distributed at the speed of electricity and soon to be broadcast wirelessly around the world.

THE 24-HOUR CLOCK HAS ARRIVED

After agreeing on time zones and coordinating the world's clocks, thoughts naturally turned towards updating time formats. The 1880s and 1890s saw the new system being adopted by many different companies and institutions, with the transport and communications companies leading the way. Some telegraph companies (such as the Eastern Telegraph Company) quickly adopted it, as did some railway companies.

This report from Canada was printed in the Times in 1886:

At 10 minutes past 15 o'clock yesterday afternoon the guard or conductor, as he is called, shouted "All aboard" on the Canadian Pacific Railway train at Port Arthur, and we resumed the western journey. The railway clocks west of Lake Superior and the time tables of this line mark the 24 hours consecutively, and the unusual circumstance causes a flutter among the passengers, and some difficulty in translating the record of watches. From midnight to midnight the hours are consecutively counted, so that what is ordinarily called 10 minutes past three in the afternoon, has become, through this novel stroke of railway enterprise, 10 minutes past 15 o'clock. The timepieces recording this have the ordinary dials, but with an inner circle of numerals marking the hours above 12.

The time is also reckoned westward of Port Arthur by the Central Standard time in the American railway system, which is one hour slower than the Eastern Standard time, which controls the eastward. This, by throwing the watches one hour too fast, being added to the computations necessary under the 24-hour system, made time-keeping among the travellers quite an abstruse system, and most of them gave it up.⁶



*Train arriving at Port Arthur, 1886*⁷

In Italy, King Umberto I introduced the 24-hour clock by a Royal Decree of August 10 1893, and the clock was introduced to the Italian public railways almost immediately on November 1 1893, followed quickly by other public authorities.

The French Army adopted it in 1909, and France followed soon after in 1912. Some of the railways in India had also switched to 24-hour time before the outbreak of the war.

At the Sixth International Congress of Chambers of Commerce, held in Paris on June 9, 1914, one of the subjects for discussion by delegates from 37 countries was the 24-hour system. With France, Italy, Spain, Portugal, and Belgium already using the new format, the Swiss representative agreed that the pressure was on Switzerland, Germany, and Austria to change. Soon Denmark (1916), Greece (1917) followed, although Turkey (1925), and Germany (1927) took their time. By the early 1920s, many countries in Latin America had also adopted the 24-hour clock. The New York Times reported in 1922 that:

In Argentina, for instance, it is compulsory to use this 24-hour system in connection with any public document, such as a theatre program, contract,

⁷ http://en.wikipedia.org/wiki/File:Canadian_Pacific_First_Train.jpg

mortgage or judgement of a court, and the old system is prohibited, excepting that in theatre programs it may be used concurrently with the 24 hour system.⁸

During the Great War, the adoption of the 24-hour system by the Allied armies was inevitably hastened as military precision was imposed on civilian life. With the trains moving troops and supplies across Europe, military time was everyone's time.

3. After the War

The first mention of the 24-hour clock in the twentieth century Times is in 1918. This item appeared a few weeks before the German High Command surrendered:

THE 24-HOUR CLOCK ADOPTED IN THE BRITISH ARMY.

An Army Order issued last night states that the Continental system of time, i.e., the 24-hour clock, will be brought into use throughout the British Army from midnight, September 30 – October 1, 1918.

The time of origin, that is, the time at which a message or dispatch is signed by the originator, will always be represented by four figures.

0000 and 2400 will not be used, but the message or dispatch will be timed 2359 or 0001.⁹

For obvious reasons of unambiguity and efficiency, all branches of the military had quickly standardized on the 24-hour clock soon after the war had started. The phrases *ack emma* and *pip emma* to indicate a.m. and p.m. had been used before the change to avoid ambiguity in spoken communications.

SIMPLER TIMETABLES

On Christmas Eve, 1919, the Times reported that an official committee had been set up by the Home Office “some little time ago” to consider “the introduction of the 24-hour method”. The committee, led by Major Baird

⁸ New York Times 1922, Jan 22

⁹ The Times: 1918, September 19, page 3

(later Lord Stonehaven) “had made good progress”. At this time, the focus was primarily on railway timetables:

SIMPLER TIME TABLES

[The Committee] has practically decided to recommend the substitution of the 24-hour clock for that now in use.

It was shown during the war that the new method was of great advantage to the Services. The Navy was the first to adopt it, and it was afterwards introduced into the Army and the Royal Air Force. The leading railway authorities have since unanimously approved the scheme.

In fact, the railways hadn’t switched over to the 24-hour clock. They may have approved of it in principle, but only a few lines connecting with Continental train services had implemented the new style in their timetables.

The Times went on to point out the advantages, such as how the system avoids the obvious mistakes in stating and understanding times, and suggested other minor benefits:

Another advantage which would result is the economy of telegrams. There would be no need to put a.m. or p.m. in expressing time in these and other express messages; and whereas now it is often necessary to express midnight as “midnight, 19–20 December,” it would be expressed in the new notation as “0 hour, 20 December.” Colloquially, during the war, the expression used was “zero”.

The new system would simplify matters wherever it is necessary to express or calculate time; it would assist business firms in assessing the wages of employees paid by time – an important point in these days when a man’s normal working day is fixed in so many trades, and where it is necessary to distinguish easily his ordinary time from overtime.¹⁰

On March 11, 1920, the Baird committee completed its report and submitted it to the Home Secretary. While it was waiting for approval, the Times published this short item on March 17:

Our Parliamentary Correspondent writes:– We are within sight of the adoption for official and other public purposes of the “twenty-four” method of expressing time. The Home Secretary has not yet decided whether to adopt it.

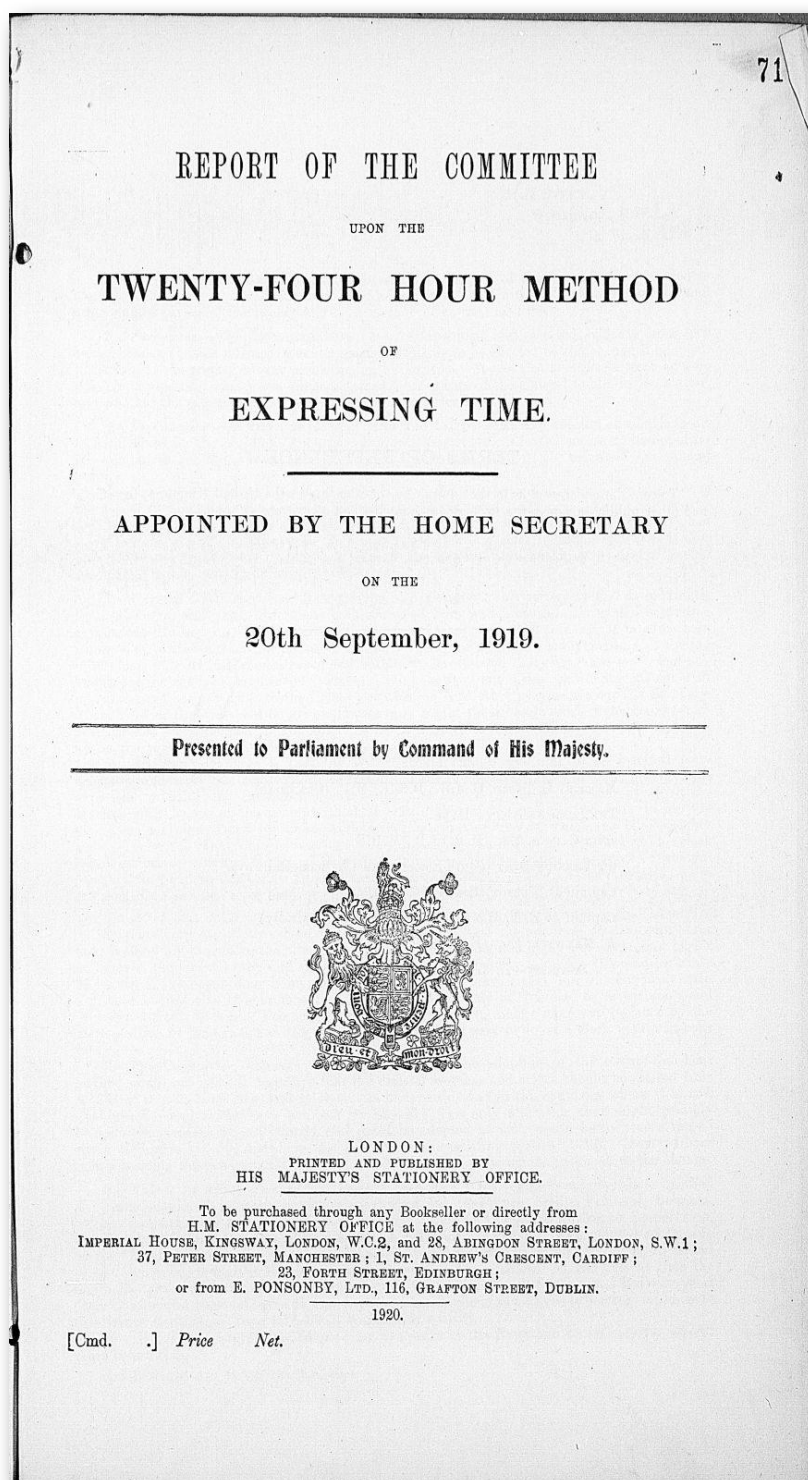
Legislation will not be needed to enforce the change. All that would be needed would be for the Government to give instructions that the “twenty-four” hour

¹⁰ Times 1919 December 24 page 10

clock should be adopted in post offices, on the railways, and in other public departments where confusion would be avoided by its use. The method has already been adopted in India, Italy, and France. Austria is considering it. It is familiar to everybody who has had to use a Continental railway timetable, and proved extremely useful to the Services during the war.

The method is the expression of the hours from noon to 11 p.m. in numbers from 12 to 23. Thus 1 p.m. will become 13 o'clock, 6.30 p.m. 18.30, and so on.¹¹

¹¹ Times 1920 March 17 page 16



The Baird Committee Report

THE BAIRD COMMITTEE

The Baird committee had been set up on 20 September 1919, with the following terms of reference:

To consider and report as to the advisability of adopting in the United Kingdom, for official and other public purposes, the twenty-four hour method of expressing time.

Major John Baird (later to become Lord Stonehaven, and Governor-General and Commander-in-Chief of Australia between 1925 and 1930) was in charge of the committee. Baird had fought in France (in the Intelligence Corps), and had been awarded the DSO before joining the War Office toward the end of the war. As an experienced military man, he would have been comfortable with the use of the 24-hour clock.



*Major Baird, later Lord Stonehaven*¹²

After explaining the basic mechanics of the notation, he immediately reassured those who thought that all the clocks and watches would require alteration under the new system:

7. Alteration of Time-Pieces.—A good many persons who have written to the Committee on the subject appear to have been under the impression that the adoption of the twenty-four hour method would involve the alteration of clocks and watches and many have expressed horror and fear at the idea that the dial

¹² <http://en.wikipedia.org/wiki/File:Ac.stonehaven.jpg>

and chiming of Big Ben would be altered. It would certainly be logical if the twenty-four hour method were adopted to have clocks and watches made with a 24-hour instead of a 12-hour face, but in practice they would be found to be very clumsy and probably difficult to read. People generally read the time on public clocks at a glance by the mere position of the hands and this would be not nearly so easy to do on a clock with a 24-hour face.

8. The Committee, however, are of opinion that the adoption of the twenty-four-hour method would not make it necessary that the dials of watches and clocks should be altered from a 12-hour to a 24-hour face, and in fact it is understood that in the countries where it is now used watches and clocks have not been so altered. The only alteration that might possibly be found convenient by individuals, and could be adopted at will, would be to have a second circle of figures (13-00) added on the dial inside the existing figures (1-12). Even without such alteration the general public would, it is surmised, soon become accustomed to the change.

Baird made considerable efforts to research the background of the 24-hour system, and asked many groups and individuals for their opinions. The Report contains useful information about the system and its adoption in other countries. For example, paragraphs 9 to 13:

9. Extent to which Twenty-four-hour Method now Used.—The twenty-four-hour method is already employed in many countries in Europe, viz.:—France, Spain, Portugal, Belgium, Switzerland and Italy and also in India. It is not in use in Germany, Austria or Scandinavia, but its adoption in Austria is, it is understood, being considered. It was adopted in Canada on the Canadian Pacific Railway, but as that line touched other lines not employing it, it had to be abandoned, though it is still retained in working time tables. At the present time the South Eastern and Chatham Railway and the London, Brighton and South Coast Railway print their Continental time tables in the twenty-four-hour method, and anybody having recourse to the British Continental time tables will be familiar with it.

10. It has been exclusively adopted for five years in the Navy and tentatively for several years before that.

11. The 24-hour clock was adopted universally in the Army as from the 1st October, 1918, for the purpose of securing uniformity with the Allies who had been using it and also with our own naval forces, the disadvantage of two systems of reckoning time having become apparent with the progress of the war. For these same reasons it had previously been used during the war in the Egyptian Expeditionary Force and Salonican Expeditionary Force. It had also

been employed before the war in the Army in India, where, as has been explained above, it has been the official notation for several years.

12. The naval authorities declare that it is indispensable for Service communications and the old system would never be reverted to. In fact it was the Admiralty who raised the suggestion that the twenty-four-hour method should be used for all official purposes, and the present Committee owed its origin to that suggestion.

13. During the latter part of the war the British railway companies in the United Kingdom adopted the twenty-four-hour notation at the request of the War Office for trains moving troops about the country.

The report examines the use of the 24-hour clock on mainland Europe.

15. France.— It was first introduced into the French Army about 1909-10, in order to remove confusion and mistakes arising from the use of the twelve-hour notation, and to avoid delays in writing military orders.

16. In this matter the French language was at a disadvantage to the English, as it had no designation corresponding to the a.m. and p.m. notation, and the expressions “in the morning” and “in the afternoon” had to be written out in full.

17. After its introduction into the Army it became rapidly adopted for general official purposes. About 1912 it was introduced into the State Railways, and then it began to be used by other non-State railways. It received a great impetus from the war, because everyone in France was more or less concerned in military matters, and from the railway and Government officials downwards everyone began to fall in with it. It was adopted in the workshops and to a large extent in civil and private undertakings and even in ordinary conversation.

18. The peasants are said not to have taken to it, but neither are they said to have taken to summer time, nor do questions of time-reckoning enter greatly into their routine of life.

19. Italy.— It was introduced on the 1st November, 1893, on the Italian railways by a Royal Decree of the 10th August, 1893, and has since then been completely adopted by the public in commercial matters and by Public Authorities.

20. It is in fact the standard method of expressing time in all spheres, private as well as public, though the twelve-hour notation still holds its ground in ordinary social conversation. Thus one person will ask another verbally whether he will dine with him at 8, but in letters and written invitations the hour would be expressed as 20.

21. No disadvantages from the twenty-four-hour method have made themselves felt, and no alteration has been made to the faces of watches and

clocks, except that in some clocks a second circle of figures 13 – 00 have been added to the dial.

Baird summarizes the experience of the people in these two countries as follows:

23. The evidence shows in effect that the two systems can run side by side without any inconvenience or confusion being caused, the twenty-four-hour system being used for the railways, official, business and other public purposes, the twelve-hour system for ordinary purposes, domestic and social.

The primary focus for Baird is on the introduction of the 24-hour system for official and other public purposes. Apart from the Services, he sees the major groups to be consulted being the postal authorities, the railways, and shipping companies.

Baird suggests that some slight advantages would be gained when dealing with international telegrams, but that the Post Office would have to make some changes to the labels on letter boxes and to date stamps.

He considers that shipping companies would be generally in favour of the new system, particularly as the Admiralty tide tables had already adopted it.

As for the railways:

31. Railways. – Opinions have been sought from the railway companies, and while several are strongly in favour and a few opposed to any alteration, the bulk appear indifferent on the matter. It is significant, however, that those which have much Continental passenger traffic and therefore most experience of the operation of the system on the Continent are in favour of the alteration.

The Times had written “the leading railway authorities have since unanimously approved the scheme”, which appears to be a more positive view than Baird’s.

What about the general public?

45. Public Opinion – A considerable number of letters have been received from members of the general public, some for and some against the change. Those for it slightly outnumber those against it.

46. Those which favour the change are generally written by persons who have travelled on the Continent and in India and have had personal experience of the twenty-four-hour notation. Such persons, with few exceptions, seem to give

their testimony in its favour, and consider that it is much simpler and clearer than the twelve-hour notation, and eliminates possibilities of mistakes. Those who oppose the change generally oppose it out of conservatism, or because they think it would cause confusion or entail the alteration of time-pieces, or that it would yield no substantial advantage, as they consider that the mistakes arising under the present notation are few or none at all.

49. The absence of serious objection may justify the belief that if the change were made the general public would readily accommodate themselves to it as they have done on the Continent.

For notating the new system, Baird suggests that the current Admiralty notation (four digits) would be improved if a dot separated the hours and minutes. The current and proposed notations are summarized by the Home Secretary in his presentation to the Cabinet that accompanied the report:

1 Present Notation

7.5 A.M. 7.5 P.M. 12.1 A.M. 12.1 P.M.

2 War Office/Admiralty

0705 1905 0001 1201

3 Committee

07.05 19.05 00.01 12.01

4 Post Office

7.5 19.5 0.1 12.1

To modern eyes, the Present Notation (1) and the Post Office's suggested version (4) look strange, because they avoid the place-value system we learn in basic arithmetic. And since we're now familiar with decimal currency, the dots suggest prices – we tend to use colons for time notation now.

The recommendations of the Baird committee were these:

Conclusions and Recommendations.- We have come to the conclusion that the adoption of the system of calculating the time in one period of 24 hours instead of two periods of 12 hours each has considerable advantages, but we do not think it necessary or desirable to suggest the introduction of legislation at present to enforce the use of the system for all public and official purposes.

We recommend that the Ministry of Transport should be asked to call on the railway companies to adopt the twenty-four-hour system from a certain date. The railway time tables are used so generally that we think the benefit of the new method would soon appeal to all concerned, and that other public bodies and large commercial interests would see the advantage of its adoption.

We are satisfied that the alteration of the railway time tables could be easily effected without any great expense. From the opinions we have obtained it is evident that most of the railway companies are willing to adopt it, and that those who have much Continental passenger traffic and are therefore experienced in Continental practice are in favour of its adoption.

The work of the Post Office is so intimately bound up with the railway service that we feel that the adoption of the twenty-four-hour system by the railways would in practice entail its adoption by the Post Office. We therefore recommend that the twenty-four-hour system should be introduced into the Post Office simultaneously with its adoption by the railways.

If the public take to the alterations as we expect they will, we are of opinion that the shipping lines will readily adopt it.

Baird submitted the report to the Home Secretary on 11 March, 1920.



Edward Shortt, Home Secretary ¹³

The Home Secretary, Edward Shortt, presented the results to the Cabinet on 4th August, 1920, as a “MEMORANDUM by the Home Secretary with regard to the adoption of the 24 hour method of expressing time”:

¹³ http://en.wikipedia.org/wiki/File:Edward_Shortt_by_RG_Eves.jpg

The Committee recommend that the Ministry of Transport should call on the Railway Companies to adopt the 24 hour method from a certain date and that the 24 hour method should be introduced into the Post Office simultaneously with its adoption by the Railways. The Postmaster General has stated that he has no objection to the proposal and the Minister of Transport, after consultation with the Railway Companies, is prepared to request them to make arrangements for the introduction of the new system in their time tables and time bills next year.

There is general agreement as to the desirability of introducing the 24 hour system but the question of notation requires consideration.¹⁴

While the report had been sitting on the Home Secretary's desk, Viscount Curzon (later to become the more famous racing driver Francis Curzon) had asked the Home Secretary in the House of Commons whether any decision had yet been reached with reference to the adoption of the 24-hour clock. The Home Secretary had replied:

I am in communication with the Minister of Transport on the question of the application of the 24-hour system of notation to railways, and am not yet in a position to make an announcement on the matter.¹⁵

4. Enthusiasm wanes

The modest enthusiasm of Major Baird's report, which had been echoed both by the Home Secretary and in the columns of the Times, didn't last, and the Committee's recommendations were ignored.

A later memorandum to the Cabinet in 1934 suggests that, in 1921, the Government of the day thought that the change would be unpopular with voters. No written evidence has yet been found to confirm this.

¹⁴ Cabinet papers CAB 24/110

¹⁵ Hansard House of Commons 22 June 1920

In February 1921, Viscount Curzon followed up the absence of announcements or changes by asking the Home Secretary in the House of Commons:

whether any decision has been come to with reference to the general use of the 24-hour clock?

The Home Secretary responded:

His Majesty's Government has decided not to take any steps at present for the adoption of the 24-hour system in this country.¹⁶

By 1922, the following small news item hints that the army is finding the 24-hour clock problematic in daily use, four years after its official adoption:

THE 24-HOUR CLOCK.

USE IN THE ARMY RESTRICTED TO OPERATIONS

An Army Order (No. 447 of 1922) states that the method of expressing time by the use of the twenty-four-hour clock system will be employed in training manuals and during active or training operations only. For example, 12.10 a.m. will be written 0010. The normal twelve-hour clock system will be employed for the times of movements by rail or sea transport, and for all purposes other than those stated.

The Continental system of time, with the twenty-four-hour clock, was adopted in the Army on October 1, 1918, and has been retained since the Armistice for all official purposes.¹⁷

5. Astronomers lead the way

The 24-hour clock re-surfaces publicly in 1925. An anonymous correspondent writes the following piece in the Times:

A LONG-CONTEMPLATED ALTERATION

(FROM A CORRESPONDENT)

¹⁶ Hansard House of Commons 22 February 1921

¹⁷ Times 1922 December 13 page 14

Today there takes effect a long-contemplated alteration in the official publication known as the Nautical Almanac.

It has been the practice among astronomers and those whose business it is to use astronomical tables to consider the day as beginning at noon.

The obvious reason for the practice lies in the inconvenience of changing date in middle of a period of work, which to the astronomer is in the hours of darkness.

Forty years ago a vigorous effort, emanating from the other side of the Atlantic, but supported by the then Astronomer Royal, Mr Christie, was made to rearrange the numeration of the hours and 'unify' the astronomical and civil days. It was then proposed to introduce the 24-hour system into ordinary life and eliminate the abbreviations a.m. and p.m., which are clearly inconvenient, the beginning of the day to remain at midnight, as before. If this were done, it was argued that it would be undesirable to have two '24' hour days in use simultaneously, beginning one at noon, the other at midnight, and that hence a change was necessary.

Some, but not all, astronomers, were prepared to give way and change their mode of reckoning. The introduction of zone-time for the whole world dependent on the Greenwich meridian as now in use was an incident of that period, but no alteration in general astronomical practice ensued, though on January 1, 1885, the mean-time clock with the 24-hour dial exhibited outside Greenwich Observatory was altered so that it marked zero at midnight, and 12 at noon.



The Shepherd Gate clock outside Greenwich Observatory

The war had its effect, however, even on time reckoning, and as it had been found convenient by the Army and Navy to use a 24-hour clock counting from midnight, in 1919 the Home Secretary appointed a Committee to consider and report as to the advisability of adopting this scheme for official and other public purposes. The Committee recommended the scheme, and after consultation with the authorities concerned, the Lords Commissioners of the Admiralty gave instructions which have led to the following statement on the cover of the Nautical Almanac for the year which beings to-day:-

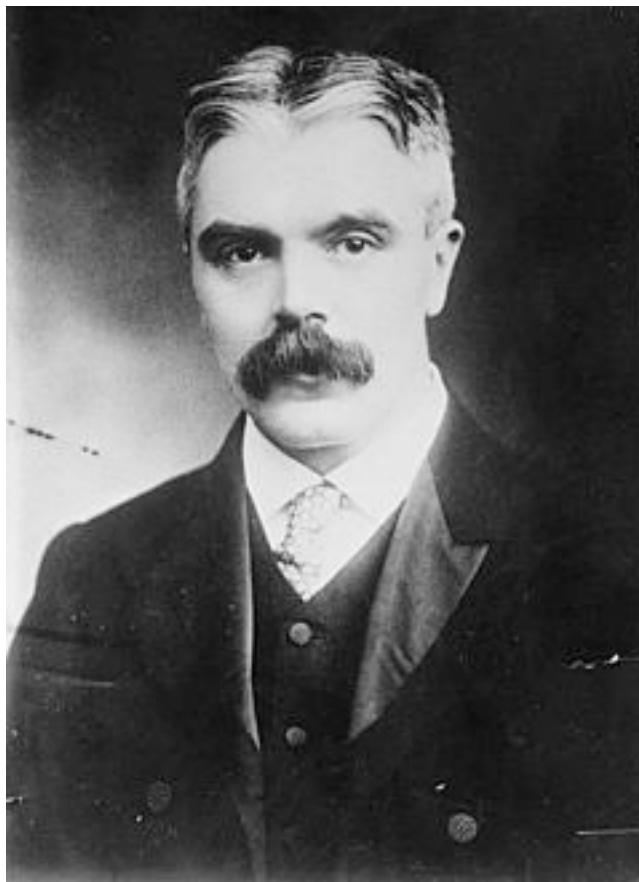
“In both the abridged and complete Nautical Almanacs the times styled G.M.T. are now reckoned from midnight, as in civil usage: but up to and including the year 1924 these times were reckoned from noon, in accordance with the then usual custom of astronomers.”

Whether this will lead to any alteration in the reckoning of hours for the general purposes of life in England remains to be seen.¹⁸

(The Baird committee report, published in 1920, had noted the intention to change the Nautical Almanac.)

SIR FRANK DYSON, ASTRONOMER ROYAL

It's tempting to think that the anonymous correspondent was the Astronomer Royal, Sir Frank Dyson, although there's no evidence for this.



Sir Frank Dyson

The previous year, Dyson had worked on the Greenwich “pips” with horologist Frank Hope-Jones, the system which relayed the Greenwich time signals to the BBC for broadcast over the air. In 1924 Dyson presented the idea to the listening public:

The clock of Greenwich Observatory will tick in the house of every one who has a wireless receiver. The last four seconds of the preceding minute will be heard as “clicks” when the time signal is about to be given, and the signal itself will be in the form of a final “click” which will be a little louder than the others.

An electrical contact will transmit a current direct to the 2LO aerial, so that the personal factor will be entirely eliminated.

Not even a “relay” will be interposed lest it should introduce a time-lag of a fraction of a second.¹⁹

The famous pips have since become a national institution, and Dyson always gets the credit for the idea, although others say that Frank Hope-Jones had the idea and did all the work, and that Dyson just took the credit.²⁰

DYSON ASKS THE PUBLIC

The Astronomer Royal, Frank Dyson, publicly addresses the matter of the 24-hour clock in 1928. He writes the following letter with two astronomer colleagues to the Times, published on December 8th:

Sir, - Does the British public think the time has come for the adoption of the 24-hour system in our railway time-tables, as is common on the Continent?

The reasons for asking this question are as follows:-

Until the year 1925 two methods of counting the 24 hours were in use by scientific men.

And he goes on to refer to the matters outlined by the anonymous correspondent three years earlier, and the way the astronomers had united their clocks with ordinary usage. The next obvious step, Dyson suggests, is to spread the use of the 24-hour clock into the civil and business worlds, and he cautiously suggests a plan:

It seems reasonable that astronomers who thus cleared the way for action should go a little farther by making enquiries whether such action is desired.

Dyson says that a small committee of the Royal Astronomical Society had already approached the railway companies to ask them what they thought:

We learn that they would not oppose the 24 hour system of notation, but that at the same time they regard the matter as of national rather than of railway interest, and feel that it would be out of place for the railway companies to take the initiative. They suggest that the Royal Astronomical Society might perhaps ascertain whether there is a general desire for the adoption of this system.

¹⁹ Times 1924 February 5, page 12

²⁰ <http://www.pykett.org.uk/frankhj.htm>

In other words, the railway companies had agreed to comply only if the public asked for the adoption of the 24-hour system – and that the astronomers should “set the ball rolling”.

Such inquiry is attended with some difficulties, and lies perhaps rather outside the functions of the Royal Astronomical Society.

Nevertheless, if the Society can help the public in this important matter it is scarcely for them to hang back. As the next step, therefore, we are making this inquiry in the public Press, hoping to obtain some light on the character of the public wishes in this respect.

We should like to make it clear that there is no suggestion at present of introducing the 24-hour system into ordinary life. Scientific men who have long used the 24-hour system in their work (where it is not merely convenient, but almost essential) have nevertheless been accustomed to lunch at 1 o'clock rather than “13 hours”, or to dine at 8 rather than “20 hours”.

The only question raised at present is that of our railway time-tables: should they be brought into line with those on the Continent and elsewhere?

Yours faithfully,

F. W. Dyson, Astronomer Royal.

T. E. R. Phillips, President of the RAS

H. H. Turner, Foreign Secretary, RAS²¹

THE ‘FIVOCLOQUER’

The Times leader writers, in an accompanying column, also reassure their readers that the proposed change is to affect only the railway timetables.

A Question of Time.

It will be interesting to learn what is generally felt about the question raised this morning in a letter from the ASTRONOMER ROYAL and the PRESIDENT and FOREIGN SECRETARY of the ROYAL ASTRONOMICAL SOCIETY. Does the British public think, they ask, that the time has come for the adoption in our railway time-tables (and for the present in our railway time-tables only) of the twenty-four-hour system of expressing time ? Is there any general desire that British time-tables should be brought into line with those on the Continent and elsewhere? The writers themselves express no opinion and make no proposal on the subject of their inquiry. Their letter is frankly a *ballon d'essai*.

²¹ Times 1928, December 8, page 13

On the other hand they point out that the twenty-four-hour system is the regular usage of scientific men for the purposes of their work. Three years ago the International Astronomical Union came in line with meteorologists and seismologists and with what is now the established practice of the National Ephemerides – the astronomical tables showing the daily position of the heavenly bodies – by agreeing to start the reckoning of the twenty-four hours from midnight instead of, as was formerly the custom with astronomers and sailors, from noon. Already, more than eight years ago, a Parliamentary Committee had reported to the Home Secretary in favour of the adoption of the twenty-four-hour system for official and other public purposes. But it was not till the scientists were all of one mind in fixing midnight as the zero hour for their calculations that the Royal Astronomical Society decided that the way was cleared for further action on their part, and appointed a committee of their chief officers to discuss the question with the authorities of the railways.

Without committing themselves to definite approval of the twenty-four-hour principle of time notation, the railway companies have stated that they will not oppose any steps taken with the object of facilitating its introduction into their time-tables. But, they say, it is not for them but for the nation to propose the change if it wants it, and it is on their suggestion that the Royal Astronomical Society are setting on foot the inquiry outlined in their letter. The issue which they place before the public is perfectly simple. It is confined to the possible desirability of altering the hours given in the time-tables for the departure and arrival of trains between noon and midnight, by numbering them thirteen to twenty-four instead of one to twelve. An obvious advantage of the system, which is familiar to every one who has travelled on the Continent, is that it does away with the confusion sometimes arising (especially in the case of trains running through the night) from the British use in the time-tables of the signs a.m. and p.m.

The Continental method was adopted by the Services during the War, and proved so convenient that its use has since been continued, and there are in this country large numbers of ex-Service men who are qualified by practical experience to judge of its merits. The ASTRONOMER ROYAL and his colleagues make the definite statement that there is at present no suggestion of its introduction into private life. There is, indeed, no reason why there should be. British scientists who use the foreign notation for their work still go to the play not at “twenty hours” but at eight, and *fivecloquer* is the term used by the Parisian hostess who asks her friends to come to tea with her. It should be clearly understood that the inquiry refers solely to the simplification of the

railway time-tables, and it is on this point that an expression of the opinions of the non-scientific world is invited.²²

It's not clear whether a recent epidemic of missed trains and cancelled appointments has caused the Astronomer Royal to start addressing the issue in public now, or whether he felt that it was just part of his job to introduce a more scientific approach to time-keeping to the general public. Dyson's letter doesn't mention the General Post Office or the BBC, and confines his proposal to the railway time-tables. He's aware that it's not his job to design time-tables for the railways, but nevertheless he stresses that it's only the railways he's concerned about.

It's worth remembering that the Astronomers Royal, the Greenwich Observatory, and the railway companies had had a long association in time-keeping. The coming of the railways in the previous century had highlighted the problem of unsynchronized and local times, and this had led a previous Astronomer Royal, Sir George Airy, to distribute Greenwich time by electric telegraphy, using the railway routes as corridors for the wiring, and supplying the companies with the vital signals to synchronize their clocks. As Dyson saw it, the railway companies were in an ideal position to be the agents of change, and distributors of scientific rationality. The more continent-facing operators had already introduced the 24-hour clock, and harmonizing the mainline and suburban railways was the logical next step.

6. Dear Sir

The Letters page of the Times is a national institution, and readers quickly rose to the challenge thrown down by the Astronomer Royal. The editor published about 25 letters, the usual mix of wit, pedantry, curmudgeonry, and pomposity. A majority, about 20, are in favour, pointing to the obvious advantages of an unambiguous system, and the use of the

²² Times 1928 December 8, page 13

system by the Navy and Army and in countries such as India and Switzerland.

One letter outlines the obvious typographical improvements that could be effected with the removal of the various clumsy techniques the designers used to differentiate morning and afternoon times. In Bradshaw's Railway Guide, for example, the words "mrn" and "aft" were sprinkled across the columns; in other places the letter "F" (for some reason) was inserted between the hour and minute figures to indicate evening times.

Bradshaw's reputation for poorly designed layout was probably justified. In this example from the 1920s, the times are 'aft' or afternoon times. There's an 8 30 aft train, and the 1130 aft appears to arrive at 12 2 aft.

Down.		Sundays—Continued.													
		aft	aft	aft	aft	aft	aft	aft	aft	aft	aft	aft	aft	aft	aft
Victoria (West End) ..dep.	8 48 30	....	....	....	9 09	59 30	9 50 10	0 10	18 10	30 10	40 11	0 11	30	....	....
Battersea Park	8 33	....	....	....	9 3	9 33	9 53 10	3 10	22 10	33	....	11 3	11 30	....	....
Clapham Junction *	8 11 8 37	....	....	....	9 7 9 13	9 37 9 57	10 7 10 27	10 37	10 47	11 7	11 40	....	....	....	....
Wandsworth Common †	8 40	....	....	....	9 10	9 40	10 0 10 10	10 31	10 40	....	11 10	11 43	....	....	....
Balham and Upper Tooting	8 16 8 42	....	....	....	9 12	9 42	10 2 10 12	10 34	10 42	....	11 12	11 45	....	....	....
Streatham Common	8 21	....	....	....	....	....	....	....	10 39	....	10 55	....	....	....	....
Norbury	8 24	....	....	....	....	....	....	....	10 42	....	10 58	....	....	....	....
Thornton Heath	8 28	....	....	....	....	....	....	....	10 46	....	11 2	....	....	....	....
Selhurst	8 31	....	....	....	....	....	....	....	10 49	....	....	....	....	....	....
Streatham Hill	8 45	....	....	....	9 15	9 45	10 5 10 15	....	10 45	....	11 15	11 48	....	....	....
West Norwood	8 49	....	....	....	9 19	9 49	10 9 10 19	....	10 49	....	11 19	11 52	....	....	....
Gipsy Hill †	8 52	....	....	....	9 22	9 52	10 12 10 22	....	10 52	....	11 22	11 55	....	....	....
Crystal Palace 217 ..arr.	8 55	....	....	....	9 25	9 55	10 15 10 25	....	10 55	....	11 25	11 58	....	....	....
Crystal Palace	dep.	....	....	....	9 33	....	....	....	10 33	....	11 25	11 58	....	....	....
Norwood Junction § .....	....	....	....	....	9 37	....	....	....	10 37	....	11 29	12 2	....	....	....
East Croydon (Local) .....	....	....	....	....	9 42	9 55	....	....	10 42	....	11 8	....	....	....	....
South Croydon 191 .....	....	....	....	....	9 45	9 58	....	....	10 45	....	11 11	....	....	....	....
Purley Oaks .....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Purley 245, 253, 268 .....	....	....	....	....	9 51	....	....	....	10 51	....	11 17	....	....	....	....
Coulsdon †	arr.	....	....	....	9 55	....	....	....	10 55	....	11 22	....	....	....	....
Crystal Palace	dep.	....	....	....	....	....	....	....	....	....	11 35	....	....	....	....
Norwood Junction § .....	....	....	....	....	....	....	....	....	....	....	11 38	....	....	....	....
West Croydon 215 ..	{ arr. 8 35	....	....	....	....	....	....	....	10 53	....	11 43	....	....	....	....
	{ dep. 8 39	....	9 10	9 44	....	....	....	....	10 57	....	....	....	....	....	....
Waddon **	8 43	....	9 12	9 46	....	....	....	....	10 59	....	....	....	....	....	....
Wallington †	8 48	....	9 16	9 50	....	....	....	....	11 4	....	....	....	....	....	....
Sutton 212, 214	arr. 8 53	....	9 23	9 57	....	....	....	....	11 9	....	....	....	....	....	....

Bradshaw: a train at 8 4 in the afternoon

As one letter writer concludes:

Moreover, if we add to this the inconveniences arising from indistinctness of printing, which is sometimes found, it may be almost a matter for surprise that a necessary improvement has been deferred so long.²³

The railway companies and travel agents write to assure the public that they already use the 24-hour system for long-distance continental services, and that everyone would quickly become accustomed to the new system if it were put into general use:

Both the London and North Eastern and the Southern Railway Companies have for a number of years past adopted the 24-hour system in their Continental time-tables.

A. L. Gibson, Continental Traffic Manager (South), London and North Eastern Railway.²⁴

THE MIDNIGHT PROBLEM

Another writer tackles the “midnight problem”:

On a pillar-box for posting letters near here it is sometimes stated that the next collection will be at 12 p.m. As midday is neither a.m. nor p.m. and midnight is both a.m and p.m., 12 p.m. might be supposed to indicate the latter time - there is, however, no collection at midnight.

With the Continental system these irregularities would disappear.²⁵

A few letters critical of the proposal were published. Why not make the astronomers adjust their time?

In view of the fact that astronomers are such a small minority of the population, would it not be better that they should commence looking through their telescopes at 7.30 p.m. instead of at 19½ hours, rather than that other persons should be obliged to catch the 19½ hours train to enable them to fulfill an 8 o'clock dinner engagement?

And here's a letter to confirm our stereotypes about Times letter writers:

Never in India or on the Continent have I been happy with a time-table. And one of the delights of returning to the Old Country has been that I can now discover without abstruse calculation when my train starts and when it will arrive. There is something more. Are we always to follow someone else? Our dances and even our language are becoming Americanized. For Heaven's sake let us stick to our railway timing. In this, and in other things, let England to herself be true.

In February 1929, Dyson and his co-signatories summarize the correspondence of the previous year in another letter to the Editor:

²⁴ Times 1928 December 12, page 17

²⁵ Times 1928 December 12, page 17

You kindly allowed us to ventilate in your columns of December 8 last the question, “Does the British public think the time has come for the adoption of the 24-hour system in our railway time-tables, as is common on the continent?”

We now hope that the Royal Astronomical Society, on whose behalf we have been acting, will more definitely approach the railway companies in the light of these responses. But it seems desirable that we should first attempt a summary of the letters in your columns, so that if our attempt should appear defective we may have an opportunity of removing its defects before submitting it for the consideration of the companies.

We regard 20 of the 26 letters as favourable to the change, six of them as against. If this is a representative vote, the majority in favour of change is considerable.

and, after dismissing the five objections in detail, he concludes:

Briefly, we suggest that a substantial case for change has been made out.²⁶

Dyson intends to use this sampling of opinion to persuade others to make some decisions.

LORD LAMINGTON

The issue of the 24-hour clock is taken up by Charles Wallace Alexander Napier Ross Cochrane-Baillie, second Baron Lamington (1860–1940), or Lord Lamington. He is described as having a ‘scientific mind and manner of thought’²⁷. He was governor of Queensland, Australia, from 1895 to 1901, and a popular Australian cake is probably named after him – a small, rectangular, plain sponge cake, dipped in chocolate and rolled in desiccated coconut – the ‘lamington’.

²⁶ The Times, 1929 February 5, page 15

²⁷ Oxford Dictionary of National Biography



Lord Lamington, in the 1890s

On March 20, 1929, Lord Lamington asks the Government in the House of Lords:

whether they would consult the railway companies as to the desirability of introducing the twenty-four hour system, a change recommended in *The Times* by a distinguished body of signatories on behalf of the Royal Astronomical Society

After summarizing the arguments in favour of the proposal, he concludes:

I need hardly tell your Lordships that since the War both the Navy and the Army have adopted the 24-hour system. It has been in use for some time on the Indian railways, the Continental railways and in the United States, and I should imagine that the various aviation companies serving the Continent have either adopted it or are about to do so. I am told also that the Southern Railway uses the system in relation to Continental traffic. I would remind your Lordships that my proposal deals only with railways, and not with the general details of our ordinary life.

I am quite confident that the system will be introduced at no distant date, and I do not know why – since it would solve the problem so readily – it should not be introduced now for the benefit of the public. I hope that I shall have a satisfactory reply from the Government.²⁸

For the Government, the Postmaster-General replies to the effect that it's not worth asking the railway companies again, because they've already said they'll happily adopt the 24-hour system when everyone asks them to, but that the public had not expressed any desire for change.

7. Proposal abandoned

In July 1929, Dyson writes to the Times again, with obvious disappointment:

RAILWAY TIME-TABLES

THE 24-HOUR SYSTEM.

PROPOSED ALTERATION ABANDONED

The whole correspondence was summarized in your columns on February 5 with the suggestion that a substantial case for change had been made out.

Copies of this letter were sent to the railway companies with an inquiry whether they considered that sufficient support for the change had been forthcoming. In reply, the following letter has been received, with permission to publish it:—

*Great Western Railway,
Board Room,
Paddington Station, W.2,
May 22, 1929.*

Dear Sir Frank,—The letter signed by yourself, the Rev. T. E. R. Phillips, and Dr. H. H. Turner regarding the adoption of the 24-hour clock has, as promised in mine of February 27, again been considered by the railway companies in conference.

The position is that, whilst the adoption of the 24-hour system would involve certain additional expense, the companies would be quite willing to admit this method in the event of its being applied to the country as a whole, but they are not prepared to alter the existing arrangements until the 24-hour system is adopted nationally.

*Yours very truly,
Churchill.*

Later in his letter, Dyson quotes the original response from the railway companies that encouraged him to write to the Times.

The council was encouraged in its preliminary inquiries by the following statement on behalf of the railway companies :—

“If the Royal Astronomical Society could set the ball rolling, and there is found to be a general desire for the adoption of the 24-hour system, you may take it, that the railway companies will be prepared to fall into line. (Letter of October 10, 1928.)”

Our council accordingly endeavoured to “set the ball rolling,” as already mentioned; but the attitude of the railway companies seems to us to have changed a little in the meantime.

He concludes by saying that if the railway companies fail to take the lead, it's not the place of the Royal Astronomical Society to push them forward:

However that may be, the council does not see its way to urge the adoption of the 24-hour system by the country as a whole, which is now stated to be a necessary condition for action by the railway companies; in other countries the railway companies have generally taken the lead.

We therefore once more ask the hospitality of your columns in order to explain why the Royal Astronomical Society must leave the matter at this point.

We are, &c.,

F. W. DYSON, Astronomer Royal.

T. E. R. PHILLIPS, ex-President, Royal Astronomical Society.

H. H. TURNER, Foreign Secretary, R.A.S.²⁹

Dyson is clearly unhappy that the railway companies had had second thoughts since being asked the first time.

And with that, the idea of the 24-hour clock being officially sanctioned by the English Establishment was quietly forgotten. Dyson had tried to persuade the railways that the public wouldn't mind the change, the public (those who read the Times, at least) said they wouldn't mind if the railway companies changed, but he was unable to persuade anybody to make a decision.

8. 1931: Another attempt

By 1931, the idea of adopting the 24-hour system had embraced the possibility that the Post Office should also switch. References to letter boxes and telegrams in the 1929 correspondence had encouraged the proponents of the 24-hour clock to suggest improving more aspects of daily life, not just railway timetables.

The case for the 24-hour clock was taken up by Thomas Wodehouse Legh, 2nd Baron Newton (18 March 1857 – 21 March 1942), Lord Newton, an assistant under-secretary at the Foreign Office during the war, and a politician and peer with a track record of pioneering reforms. Newton proposes to move a resolution in the House of Lords to persuade the Post Office and the railway companies to adopt the 24-hour clock.

The Astronomer Royal, Frank Dyson, writes to the Times again, and repeats the familiar arguments:

**THE 24-HOUR CLOCK
FOR RAILWAYS AND THE POST
FOLLOWING THE CONTINENT
TO THE EDITOR OF THE TIMES**

Sir,— Lord Newton has given notice of the following resolution, which he will move in the House of Lords on May 6 :—

That in accordance with the recommendations of the Home Office Committee appointed in 1919 to report upon the advisability of adopting, for official and other purposes, the 24-hour method of expressing time, the Ministry of Transport should invite the railway companies to adopt this system from a certain date, and that it, should be simultaneously introduced into the Post Office.

Your readers may remember that between two and three years ago this subject was brought to public notice by a letter written on behalf of the Royal Astronomical Society and signed by the Rev. T. E. R. Phillips (president), the late Professor Turner, and myself. It was hoped that the scheme might recommend itself to the railway companies, and although they appreciated some of the advantages of the proposal, they were unwilling to take the initiative.

Scientific people constantly use this system and find it much the most convenient. In issuing instructions the Army, Navy, and Air Force have

employed this system for 15 years. It is used on the Continent in railways and Post Offices. It is familiar to many in the issue of gale warnings from the Air Ministry through the B.B.C. It is adopted for times of high-water, sunrise, and sunset and other astronomical phenomena in Whitaker's Almanack.

Adoption by the Post Office, the railway and other transport companies in this country would, I believe, be a real convenience. Most people have to think twice before they are quite sure what 12.30 p.m. means. I imagine that some trains missed by a mistake of 12 hours arising from the a.m. and mrn. nomenclature.

It is, I think, only inertia which prevents the introduction of the 24-hour system. The adoption of Lord Newton's resolution by Parliament would give a definite lead which would be beneficial to the transport and allied services. I hope the resolution will be strongly supported.

I am, Sir, your obedient servant,
F. W. DYSON, Astronomer Royal.
Royal Observatory, Greenwich.
Times 1931 May 2, page 13

FROM THE UNDERGROUND

A letter from Frank Pick, joint managing director of the London Underground and known for his promotion of public art and design, added a new perspective:

UNDERGROUND PREPARED FOR ACCEPTANCE

TO THE EDITOR OF THE TIMES

Sir,— I note that on Wednesday next Lord Newton is to move in the House of Lords for the adoption of the 24-hour clock recommended by the Home Office Committee as far back as 1919.

To the general inconvenience, we still proceed to reckon time, not by days, but by half-days. This is, perhaps, forced upon our attention most in railway timetables, for railways run continuously round and round the clock, and in international broadcasting programmes where all times of the day become one time.

The Underground day, although it has defined limits, is odd, starting about 5 a.m. and closing about 1 a.m., some 20 hours later. Numerous devices of type and symbol are employed for distinguishing anti- and post-meridional time, but they are often uncertain and sometimes clumsy. It would therefore be a gain if the convention of the 24-hour clock, covering the entire day, were commonly adopted so that 2.30 a.m. would be plain 2.30 and 2.30 p.m. would become 14.30. On the Underground Railways we should be prepared to make the

change. Certainly the transit of the sun across the meridian has no visible significance underground. For one, however, to change is only a gesture, and has its awkward reactions. If all who use time for time-tables were to change, then we should have rationalized one further detail of living.

Yours faithfully,

FRANK PICK.

55, Broadway, Westminster, S.W.1³⁰

THE TIMES APPROVES

On the day of the vote, May 6, the Times leader writer shows strong support for Lord Newton's proposed change in the law, which urged the Post Office and the railway companies to use a day consisting of one set of twenty-four hours instead of two sets of twelve hours.

The advantages of this particular means of rationalizing our measurement of time have so often been advocated—as by the Home Office Committee of 1919—that a less robust optimist might despair of success.

The change could be made easily and expeditiously. The system is in general use abroad and for astronomical purposes at home.

This country, which advances its clocks by one hour at the beginning of summer with scarcely a murmur and with a minimum of preliminary notice, would have no difficulty in accommodating itself to a change that is permanent and not recurrent.

So far as the citizen is concerned, all that is needed is the ability to count up to twenty-four.

Those who always suspect movements for reform may be assured that behind the present proposals there lie no plans for the fixation of Easter, or for the robbing of the British people of another eleven days.

Then the Times pursues an interesting line of argument: the 12-hour clock is not well founded in history and should be replaced, but its old arithmetical basis should be kept.

Perhaps the best method of discrediting the present system is to show its origin. The use of the numbers 60 and 24 for the measurement of time arose among the Babylonians and needs no apology. They are far superior to the decimal units – the Babylonians had a decimal notation alongside the sexagesimal – in being exactly divisible by several factors. A working day of twenty-four hours, for example, can be divided into equal shifts of twelve, eight,

³⁰ Times, 1934 May 4, page 15

six, four, three, or two hours, which should find place for the desires of every one from the most hard-hearted of slave-drivers to the most visionary of trade unionists.

A summer day hour was long and a summer night hour short; and the water-clocks had their output ingeniously regulated to meet this variation in length. In time the absurdity of dividing up day and night in this fashion was recognized and the whole day and night was regarded as a single unit of twenty-four equal hours. But the practice of using two sets of twelve hours continued, although its basis had been taken away; and it has continued with all its anomalies to the present time.

The forward-thinking writer ends:

The custom is a relic of a long-gone past; it has no foundation to-day and leads to much confusion. A simple alternative is ready at hand and should be adopted forthwith.³¹

With the establishment in favour of the 24-hour clock, it seemed as if change was now certain.

9. The Lords debate: May 1931

In the House of Lords, on May 6 1931, Lord Newton proposes a motion that would ‘invite’ the railway companies and the Post Office to adopt the 24-hour clock:

Moved, that in accordance with the recommendations of the Home Office Committee appointed in 1919 to report upon the advisability of adopting, for official and other purposes, the twenty-four-hour method of expressing time, the Ministry of Transport should invite the railway companies to adopt this system from a certain date, and that it should be simultaneously introduced into the Post Office.

I presume that I can assume that everybody here is well acquainted with the fact that when we entered upon hostilities in the Great War, our present system

³¹ Times 1931 May 6 page 15

of computing time was shown to be thoroughly impracticable, and we were obliged to resort to the system that is advocated in my Motion – namely, what is called the twenty-four-hour system. That system proved to be so satisfactory that it has since been permanently adopted by the Navy, partially adopted, if I am not mistaken, by the Army, and almost completely adopted by the Air Force. The results were so satisfactory that, apparently at the instigation of the Navy, the Government in 1919 appointed a Joint Committee for the purpose of considering whether this new system should be adopted for what were termed “official and public purposes generally.”

The Committee, which was presided over by my noble friend Lord Stonehaven, examined a large number of witnesses of all kinds, scientific, commercial, persons interested in the shipping trade, military and naval authorities, and railway authorities. They reported – I will not read their recommendations in full – that this system had been found completely satisfactory wherever it had been tried, and that it caused no inconvenience because the old and the new systems were quite easily worked together. They recommended that the railways should be invited to put the new system into effect, and that at the same time the Post Office should give the railways the necessary lead by introducing it into their services. They further pointed out – and this is of importance to note – that no legislation was required for the purpose and that, in effect, no public expenditure was required because the railways were prepared to make such expenditure as was necessary in view of the greater convenience that would result. The sole expenditure of public money related to the Post Office, and this would only involve the alteration of date stamps and of the hours on pillar boxes. I might add that as the pillar boxes have to be repainted at regular intervals, no additional expenditure would be involved and it might even turn out in the long run to be an economy, because they would be able to do away with the word “midnight” after twelve o’clock, which is at present added.

But so far from anything being done, the recommendations of the Committee were completely ignored. To use a phrase which is common with regard to this Assembly, “the subject dropped,” and it dropped to such an extent that it was not revived for eight years.

He went on to refer to the recent correspondence in the Times, and, noting the general air of approval, commented that:

Opposition to the change proceeded solely from persons of what I might venture to call a more insular character – such persons, for instance, if I may say so without offence, as my noble friend Lord Banbury, who, I believe, has never ventured further from this country than Boulogne, and who quite

conceivably, I should think, has never undertaken a night journey in the course of his life.



*Lord Banbury*³²

Lord Newton goes on to despair of the attitude that, as the public was not demanding change, change should not happen. In a long speech:

When does the public signify its desire for any legislation?

In order to convince the house that I am not a kind of solitary crank urging your Lordships to accept an impracticable proposal, I should like to quote certain witnesses in my favour.

The Astronomer Royal, in a letter addressed to *The Times* only last Saturday, I believe, pointed out that the 24-hour notation is universally used by scientific bodies, the Army, the Navy, the Air Force, for meteorological warnings, by the B.B.C. and all the Continental railway and Continental Post Offices as well as by the most valuable book of reference in this country, *Whitaker's Almanack*.

The railway companies are only waiting for a lead, and are perfectly prepared to act and to incur the necessary expense provided the Post Office will give them a lead.

To turn for a moment from the railways, it seems to me a singularly ludicrous circumstance that at the present moment when we are hysterically imploring foreign tourists to come to Britain, when they come they should find a perfectly unintelligible labyrinth, representing the British railway time-tables, which even

³² http://en.wikipedia.org/wiki/File:Frederick_George_Banbury,_1st_Baron_Banbury_of_Southam_-_Punch_cartoon_-_Project_Gutenberg_eText_17596.png

natives find it difficult to explain, in place of their own sensible and easily understandable time-tables.

Lord Stonehaven, whose committee had proposed the change in 1919, didn't need persuading:

The real substance of the change is to eliminate the letters a.m. and p.m. and to come into line in that respect with the other countries of the world that have adopted this change—France, Spain, Portugal, Belgium, Switzerland, Italy and India; while among ourselves, as my noble friend has stated, the change has been adopted by the Navy, the Army, and the Air Force.

As we now have in office a Government which is not opposed to changing anything – indeed rather likes change – I hope we shall have a favourable response this afternoon.

Lord Trenchard observes that Government departments aren't always opposed to change:

We know that three Government Departments have adopted the 24-hour system.

LABORATORY LANGUAGE

Some of the other lords were unconvinced. Despite the fact that the motion is restricted to the railway companies and the Post Office, Lord Moynihan has got the impression that all clock faces are to be changed. He provides an excellent example of how to attack an argument by arguing against something that hasn't even been proposed:

If we are to have a 24-hour day, I would ask your Lordships to consider what the more numerous divisions of the clock face may mean. Even if you took so large a clock as that attached to Big Ben, I think you would find great difficulty in distinguishing exactly to what hour the hour hand pointed, the figures would lie so close together. I think we should be replacing what is an unsubstantial grievance by a real difficulty in distinguishing the time. It is true that very high, perhaps the highest, scientific authority in this country, the Astronomer Royal, has on two occasions forcibly expressed himself as in agreement with the noble Lord, Lord Newton. I have every consideration for the opinion of my old friend Sir Frank Dyson, but I would like to point out that the language of the laboratory is not the language of the every day common room. We do not speak ordinarily in the language of the laboratory.

He then attempts another argument which is even less convincing:

There is a feeling that there is a division of your day into two parts, one of increasing activity as the morning goes on reaching an altitude, and from then suffering a decline when a period of repose is due. I feel myself that this division of the day into two parts is not only in consonance with the wishes of the people of this country but is a recognition of a profound biological truth that there are these two periods in each 24-hour day, a period of what should be activity and a period of what should be repose. I think it is the common sense of the people of this country as against the lack of common sense in the people of other countries which keeps them wishing to have the double cycle in the 24-hour day. I hope very much that the Government will stand firm upon this. We are told that we are in isolation so far as the nations are concerned. I hope we are. I hope that neither for the first time nor yet for the last time shall we have stubborn, infrangible British common sense opposed to the freakishness and vapourishness of some other nations on the Continent.

Viscount Churchill, the Chairman of the Great Western Railway, one of the Big Four national railway companies, comments:

I must assure the noble Lord that he made one grave error when he said we were opposed to anything new. I happen to have, amongst the few things that under various Chancellors of the Exchequer have been left to me, two most treasured possessions in two grandfather clocks of about the year 1747. Both of those clocks have the dials numbered to 24 o'clock, which shows we are not discussing any newly-discovered suggestion.

If the Government, the Post Office, and the country generally adopt the 24-hour system the railways will naturally fall into line, and, I hope, do all that they generally try to do to accommodate themselves to the convenience of the public who are their patrons. But until that is a fait accompli we naturally are not in a hurry to spend money and alter our time-tables, preferring to wait until the suggestion, if it is adopted, is in universal use.

The proposal wasn't opposed by many. For the government, Lord Marley, no stranger to military service as a former Royal Marine and Secretary of State for War, agreed that the 24-hour system had many merits:

It is true that the more advanced Departments do use the 24-hour system. The War Office, which is always in the van of progress, uses and has used for many years, the 24-hour system, and its younger sister, the Air Force, has had to come into line, and in civil aviation it is bound to be universal.

The leader in to-day's Times is one of great thoughtfulness, and must carry conviction to many that there is at least a case for inquiry.

I can say that the Government are prepared to examine this question with sympathy.

Lord Newton Yes, but how long are you going to take over it?

Lord Marley Perhaps the noble Lord will put down a Question in six weeks' time if there has been no Report before then.

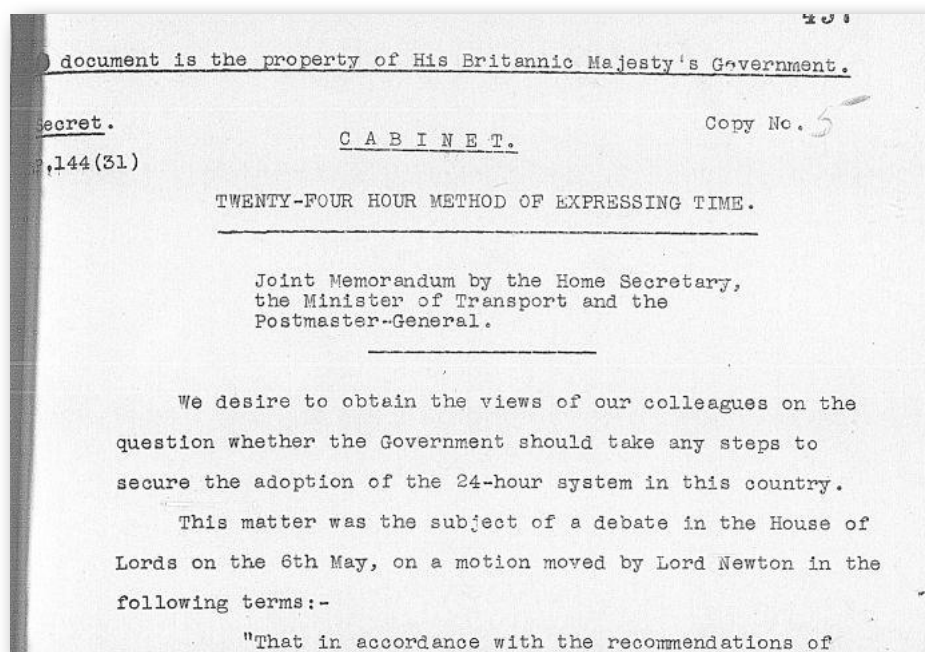
Lord Newton On the understanding that I am at liberty to question the Government again on the subject I will not insist on a Division now. I ask leave to withdraw the Motion.³³

Lord Newton hasn't made any progress, but he has at least established that there are no particular objections to the change in principle. In the race to be the last to do anything, the government, the Post Office, and the railway companies are all winning.

10. The cabinet: June 1931

After the Lords debate, the Home Secretary (John Clynes), the Minister of Transport (Herbert Morrison) and the Postmaster-General (Clement Attlee, later to become Prime Minister) prepared a Joint Memorandum about the 24-hour system for presentation to Ramsay MacDonald's cabinet.

³³ Hansard 06 May 1931



Cabinet memo, 5th June 1931 ³⁴

We desire to obtain the views of our colleagues on the question whether the Government should take any steps to secure the adoption of the 24-hour system in this country.

This matter was the subject of a debate in the House of Lords on the 6th May, on a motion moved by Lord Newton.

In replying to the motion, the Government Spokesman promised that the matter would receive careful and sympathetic consideration.

On the 12th May, the Prime Minister, in reply to a question by Mr, Smithers, said that the Departments concerned would consider the matter in the light of the discussion which had taken place in the House of Lords.

This matter concerns all Departments of the Government, but the General Post Office and the transport services have a special interest.

The 24-hour system, as it is popularly called, is merely a method of expressing time in writing, and the advantage claimed for it is that it eliminates the necessity of using a.m. and p.m. which may be a possible source of error and confusion. Thus 7.30 p.m. is expressed as 19.30.

The system is already in use in this country for service purposes in the naval, military and air forces of the Crown. It is also used on the Continent in railway time tables and in the Continental time tables (or some of them, e.g. Bradshaw) published in this country. Where long distance journeys covering more than one day's travelling are in question, the system is obviously simple and more convenient than ours.

In 1920, the General Post Office and the railway companies were prepared to adopt the system, but the Government of the day decided not to act on the Committee's recommendation on the ground that there was no public demand for the change, and that it would be unpopular.

No trace of this 1920 discussion has yet come to light. This is the first time that unpopularity has been mentioned.

It is for the Cabinet to decide whether, in view of the debate in the House of Lords and the support which the demand for the change has received in the public press, it is desirable that action should be initiated by the responsible Government Departments. As regards the General Post Office, the change could be made properly effective only by general adoption throughout the Post Office service. This would involve the use of the 24-hour system not only in postmarks and in the timing of telegrams, but in the plates displayed on Pillar boxes, in all references in the Post Office Guide and in the notices exhibited at Post Offices. In the case of the railway companies the change will affect only the time tables apparently, it is understood that while they would not oppose the adoption of the 24-hour system they hold the view that it is not for them to take the initiative in the matter.

As regards the attitude of the general public, it is impossible to say that there is any general support for the change. Distinguished persons have expressed themselves in favour of the change, and distinguished persons have expressed themselves as opposed to it. It can confidently be said that the great body of public opinion is entirely apathetic. In this country there are few journeys of sufficient duration to make the use of the system in time tables of outstanding advantage, and on the other hand a large number of estimable people whose mathematics are not their strong point will be sadly worried to find an expression like 19.30 in place of the familiar 7.30 p. m. Perhaps in time they would come to understand, but the authors of the change will come in for many heartfelt maledictions before that happens.

Legislation was not recommended by the 1919 Committee, nor is it necessary. If the Government decide that the limited change asked for in Lord Newton's motion should be made it can be done by administrative action on the part of the Postmaster General, and the system could be used by Government departments in their correspondence and in documents, public notices, etc., issued by them or on their behalf. As regards railway companies, the Minister of Transport is not in a position to compel them to make the change, but he could of course invite them to do so. No mention was made in the House of Lords debate of other bodies operating sea, air and road transport services, but it could be left to them to follow suit or not, as they liked.

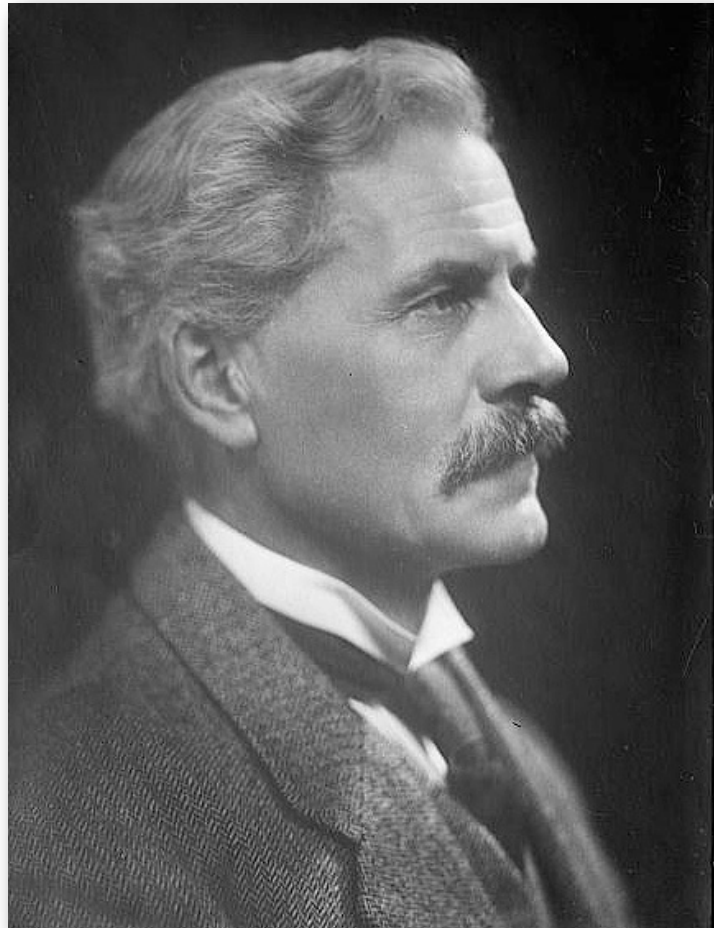
J.R.C.

H.M.

C.R.A.

5th June, 1931.³⁵

These astute politicians know that the public is apathetic but might not be kindly disposed to a Government-imposed change to some of the basic aspects of British life, such as the time on pillar boxes. Considering the economic climate – they were also considering large public-sector wage cuts and cuts in public spending (notably in unemployment benefits), a 25% devaluation of the pound, and the abandonment of the gold standard – it's surprising that the matter was considered important enough to bring before the cabinet.

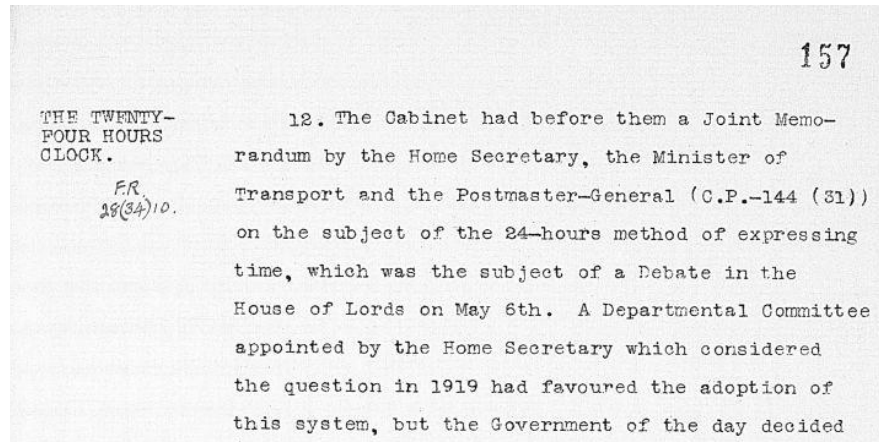


Ramsay MacDonald in 1929³⁶

³⁵ National Archive Cabinet Archive CAB 24/221

³⁶ http://commons.wikimedia.org/wiki/File:Ramsay_MacDonald_ggbain.37952.jpg

But it was. According to the minutes for the meeting of June 1931, Ramsay MacDonald and his cabinet considered the memorandum of the Home Secretary, the Minister of Transport, and the Postmaster-General. Who knows what was said? But the official record shows the lack of interest of these preoccupied politicians:



THE TWENTY-FOUR HOURS CLOCK

12. The Cabinet had before them a Joint Memorandum by the Home Secretary, the Minister of Transport and the Postmaster-General (CP-144 (31)) on the subject of the 24-hours method of expressing time, which was the subject of a Debate in the House of Lords on May 6th. A Departmental Committee appointed by the Home Secretary which considered the question in 1919 had favoured the adoption of this system, but the Government of the day decided not to act on the Committee's recommendation, on the ground that there was no public demand for the change and that it would be unpopular. The Memorandum stated with confidence that the great body of public opinion is entirely apathetic at the present time.

The Cabinet agreed –

To take no action in the direction of changing the present method of expressing time.³⁷

That was the first – but not the last – time that the Prime Minister and the Cabinet were asked to decide on whether to introduce the 24-hour clock.

³⁷ National Archives Document Ref CAB 23/67

THE HOUSE OF LORDS: JULY 1931

In July, Lord Lamington returned to the question of the 24-hour system in the House of Lords. Lords Newton and Lamington had been told to wait six weeks or so before asking again, and they've waited eight.

Lord Lamington asked whether His Majesty's Government have come to a decision as to the introduction of the 24-hour system according to the undertaking given on May 6.

My Lords, I will not trouble the House for more than a few moments at this hour, as we had a debate upon this matter when the question was brought forward by my noble friend Lord Newton not, long ago. I hope the noble Lord, Lord Marley, who, I understand, is going to reply, will be able to give a definite and favourable answer. In his speech on the occasion to which I have referred he really raised no objection to this proposal, except that the Government did not think there was any great public demand for the change. I agree it is not a matter that excites the masses of the people, but I think everybody who has had any experience of the working of the 24-hour clock approves of it. It has been introduced into the Army and Navy and Air Force, and on the Continent it is universal. Therefore, although there may be no great public demand for it, I do not think it would be objected to by the public. The only valid objection that I have heard was the opinion expressed that it would cost the railways something if introduced on the railways. I am very unwilling that any act of the Government should put a further burden on the railways in addition to those burdens which have been imposed in past years, but if a good time limit were given there would be no objection.

The noble Viscount, Lord Churchill, said on May 16 that if the Government would give a lead he would not object. I think this is a case where the Government might well give a lead by introducing it into their post offices, and having envelopes and telegrams stamped on the 24-hour clock principle. I think that would be a very great convenience. I believe that cable-grams already are stamped on the 24-hour system, and, therefore, it might well be adopted for ordinary letters and telegrams. Under the present system, one often has difficulty in deciding at what time a letter has been posted. It is generally badly stamped, and you cannot find out whether it has been posted a.m. or p.m. If you had one time to deal with it would simplify the matter. I trust this afternoon that we are going to have a favourable reply from the noble Lord, and that this 24-hour system will be adopted as regards the Post Office.

For the Government, Lord Marley had been briefed, no doubt, that the Cabinet had decided to take no further action. All that remained was to try to head off the Lords Newton and Lamington:

Lord Marley My Lords, I promised when I dealt with this question a few weeks ago that the Departments concerned should re-examine the matter. The Departments have re-examined this question, and have taken into account the discussion which took place in your Lordships' House the month before last. I am bound to say that I personally very much regret that as a result of that re-examination the Government have decided that they are not able to take any action in the direction of changing the present method of expressing time. In coming to this decision the Government were influenced by the fact that they have no evidence of any general or widespread desire for the change suggested. They do recognise, however, that a number of very distinguished authorities have expressed themselves in favour of the change – persons like the Astronomer Royal, for instance—but they also have to recognise that other authorities have also expressed themselves in a contrary sense, and that is one of the difficulties which any Government have to face when there is no widespread desire for a change.

The Government have further taken into account the question of the railways, and it is a fact in this country that there are very few journeys of sufficient duration to make the use of the 24-hour system in time-tables a real necessity. Of course in regard to Continental travelling the matter is entirely different, and I understand this system is used in certain Continental time-tables printed in this country. As regards the railways here, however, it is felt that there is nothing to prevent the railway companies, if they particularly want this change, making it themselves without any question of Government intervention. The railway companies really said that they are prepared to accept it if the Government wished to make a move, but are not particularly anxious to have it.

Marley thinks it's a good idea:

Of course your Lordships know that I feel – and there is no doubt – that the proposed change would be advantageous, but, on the other hand, it would cause worry to a number of people whose mathematics are very weak. I do not, of course, refer to members of your Lordships' House in that connection. Perhaps when the school-leaving age has been raised and children have more facility in mathematics a different interpretation may be given to the question. Personally I hope so, but I am sorry that we cannot do anything more at the present time.

MATHS CHALLENGE

This idea that the mathematics of the 24-hour clock are too complicated recurs frequently in this story. It's possible that a few mathematically challenged people might genuinely have trouble performing the calculations; others (like people today who pretend they're hopeless with technology) are feigning lack of ability for comic or rhetorical effect. It's unlikely that any educated person finds the necessary mathematics difficult or "abstruse", the word used by a Times letter writer.

Another objection to the notion that the mathematics are too complicated is that time arithmetic is probably easier in a 24-hour system. For example, to subtract 08.30 from 17.30 is a simple sum, $17 - 8$, or 9 hours. However, to subtract 8.30 a.m. from 5.30 p.m. requires more thought. Then there's the interesting parallel of the duodecimal currency Britain had at the time: adding 6 pence to 9 pence to get 15 pence (1 shilling + 3 pence) is effectively the same as adding 6 hours to 9 o'clock and getting 15:00, or Noon + 3 hours.

Lord Newton has had enough:

Lord Newton My Lords, I have listened to the noble Lord's statement with mingled surprise and disappointment. I have been engaged in politics now for many years, and I ought to be inured to disappointment, but I confess that when the noble Lord not so long ago expressed himself in favour of the change and assured the House that it would be considered in a careful and, above all, a sympathetic spirit by the Departments concerned, I did hope that something really was going to happen. I can only say that I have never listened to a more unconvincing statement than that which has just proceeded from the noble Lord. This is an obvious and a petty proposal against which there is nothing whatever to be said. It is admitted that it is conducive to accuracy in all exact operations. It was unanimously recommended by a Joint Committee of the two Houses of Parliament something like 13 years ago. It has been adopted by all the Forces of the Crown. It is in operation in all European countries. And when the noble Lord advances as an argument against it that it would be hard on the railways, he must, surely, have forgotten the fact – of which I hoped I had been able to convince him – that the railways actually want it. The railways know as well as the noble Lord that it would cost them something, but the point is that they are quite prepared to incur that expense in consequence of the greater convenience which would result. I quoted from railway authorities in support of

this statement. Therefore, that particular argument falls to the ground altogether.

He has two other arguments. When I say “he” I presume he represents the view of the Cabinet—a Cabinet which seems in some respects to possess a very retrograde nature. He says that there would be difficulty in calculation. There is no more difficulty in calculating the time of day under the 24-hour system than there is in calculating what half a crown means. He might just as well say that if you use the term half a crown, nobody would know that you meant two shillings and sixpence. There is just as much force in the argument.

Then he had a final argument, that there is no demand for it. I admit that there has not been any demonstration at the Albert Hall or on Tower Hill or in Hyde Park or anywhere else. Nobody has gone to prison and nobody has gone on hunger strike in favour of this 24-hour day. But is the opinion of scientific authorities and the experience of professional men to count for nothing? Are the Government only to be influenced by processions of people carrying red flags or black flags or symbols of that kind? Surely equal attention might be paid to persons of experience and common sense who have had a proper education. There is really no argument of any sort or value that can be adduced against it.

The only argument that suggests itself to me is that the Government have been influenced by a desire to placate – a perfectly hopeless undertaking – people like my noble friend Lord Banbury. That really is the only explanation I can think of for this apathy. This proposal is so sensible, so simple and I may add so cheap – it is not going to cost anybody anything except the railways – that it is bound to come. I hope my noble friend Lord Lamington will persist in this crusade and continue to worry the Government on the subject. I can assure him and the noble Lord opposite that if he does not do so I shall be quite ready to take his place, and I shall hope to see it in operation before I depart this life.³⁸

The Earl of Onslow My Lords, as nobody has said a word on behalf of the Government on this occasion, may I be allowed to congratulate them on the conservative spirit in which they have treated this important question? Personally, I am one of those placated by the speech of the noble Lord. I much prefer to have my day cut up into a.m. and p.m., as I have been in the habit of doing for so many years, and not have to make mathematical calculations. I do not say that I cannot, with the assistance of pen and paper, find out that 15 h. is really 3 p.m., but prefer to see 3 on the clock or in the time-table.

³⁸ Sadly, Lord Newton died in 1942, some 24 years before British Rail finally introduced railway timetables that used the 24-hour clock.

We are told that the railway companies want it, but there seems to be some confusion there. I gather that the railway companies would acquiesce in it, but are not clamouring for it with red, black, green or white flags which the noble Lord advocates to press the cause. The noble Lord said that it was no more difficult to understand that 15 h. meant 3 p.m. than that half a crown meant two shillings and sixpence. Perhaps it is not, but I am surprised that he should use the half crown argument because we are told that our coinage system is as bad as our time and that we ought to divide our coinage into decimal parts. Therefore, when one got half a crown it would be two shillings decimal five or something like that.³⁹

Then the noble Lord said there was no great demand for it. Is not that a good reason for the wise decision come to? If there is no demand why upset everybody's habits? I should like to express my agreement, not with the noble Lord – because I do not think he was in agreement with himself – but with the very wise advisers he has behind him.

Lord Lamington May I, by leave of the House, ask the noble Lord whether he has any definite statement from the Post Office Advisory Council on this matter?

Lord Marley Perhaps I ought to wind up this by saying that the question was not referred to the Post Office Advisory Council, but it was carefully considered by the Postmaster-General. Personally, in many ways, I would much rather placate the noble Lord, Lord Newton, than the noble Lord, Lord Banbury, if I have to placate somebody. I wish I had more influence in this matter. I find myself in total disagreement with the noble Lord who supported me in what he said in this connection. There are several Departments concerned and one of the difficulties when several Departments are concerned in a matter is that very often they do not see eye to eye. I do not agree that this is a petty proposal. I think it is an important proposal, and the Department in which I work—the War Office—has shown that it does not consider this a petty proposal by actually adopting it. Nevertheless, the position is, I am sorry to say, as I have already stated, and I can only hope that the noble Lord, Lord Newton, will go on hunger strike. By that means, perhaps, we shall get a further move in this matter.⁴⁰

And with that, the debate ended, without a vote.

It was the wrong time to be addressing the issue. In 1931, the government was struggling with a major political and economic crisis, and it was soon to become more serious.

³⁹ Britain adopted a decimal currency in 1971. The half-crown was never decimalized - it would have been the equivalent of 12.5 new pence.

⁴⁰ Hansard 21 July 1931

The Astronomer Royal is obviously aware of this when he writes to the Times again:

Sir, – It is with some hesitation that I write to you again on the 24-hour time nomenclature when many more important questions are occupying public attention. Lord Marley gave only trivial objections against the use of a 24-hour division of the day for official purposes. I am glad to see that Lord Newton proposes to raise the question again on some future occasion.

Dyson addresses one of the misconceptions voiced by Lord Moynihan:

There may be a misunderstanding that clock dials would need division into 24 hours. This is not the case. On the Continent many public clocks have the figures 13, 14, &c., put inside the I, II, III, &c., but even this is unnecessary.

One convenient alteration could be made without any difficulty. The hour of midnight might be given as 0h on post-boxes and in time-tables, and 12h at midday. This would save a great deal of confusion.⁴¹

In August, the Prime Minister, Ramsay MacDonald, was unable to persuade his colleagues on the best way to address the political crisis, and resigned. The Labour government, and the Labour party, collapsed. Britain had many serious economic problems to address, and the formatting of train times in railway timetables wasn't one of them.

11. The Lords return

The next year, with a new National Government in power, Sir Frank Dyson again writes to encourage the Government to agree to the change to 24-hour time:

To the editor of the Times

Sir, – I understand that a motion is coming before the House of Lords for the introduction of a continuous numeration of the hours instead of the a.m. and p.m. at present used in post offices. As far as I know no valid objection has been advanced against a system of numeration which is certainly less confusing and

⁴¹ Times 1931 July 27 page 11

has long been in use on the Continent. It is not necessary to recapitulate the arguments in favour of this change. I venture to express the hope that the Government may be willing to comply with this demand.

I am, Sir, your obedient servant,

F. W. DYSON

Royal Observatory, Greenwich, S.E.10⁴²

In the House of Lords, Lord Newton outlines the arguments again, clearly exasperated with the lack of response from the government. Aged 75, and despite having just recovered from an accident, he's full of energy, and jumps into the debate with more evidence to add to his usual list:

The arguments are perfectly familiar. The sole object of the Motion is to simplify railway timetables and to make date marks upon letters and telegrams more intelligible than they are at present.

The [Baird] Committee pointed out that there would be no public expense if this proposal were carried out, that the railway company were prepared to adopt the system if it were adopted by the Post Office, and that any expense involved would be recouped by the economy resulting from the adoption of the new system. They examined representatives of scientific bodies and the representatives of the Army, Navy and Air Force, and pointed out that all these bodies had adopted the practice. They further pointed out that it is in use in every country in Europe, in India and in some of the Colonies, and that in no instance where it had been adopted was there any question of abandoning it. It is employed by the B.B.C., it is used for meteorological reports and it is also used in Whitaker's Almanack.

In the circumstances, as no public expense was to be incurred, and in view of the unanimous recommendations of the Committee, one would have thought that something would have been done, but now, fourteen years after the Report, the Government in the shape of the Post Office have stolidly refused to look at the proposal favourably.

I have approached every Government since the War and in no single instance have I or my noble friend Lord Lamington ever received a reasonable or adequate reply.

He addresses the objection that the general public will find it hard to convert times from a 12 basis to a 24 basis:

I do not consider it adequate or reasonable to be told that the people upon whose education perhaps five or six thousand pounds have been spent, are

unable to do a common sum in subtraction. I class such an objection with another which I understood was raised in certain quarters against the introduction of summer time by certain people who believed it to be the cause of wet summers.

He goes on to refer back to an earlier statement of his, saying that it shouldn't be necessary for people to go on hunger strike before the need for general improvements are recognised and acted upon by governments:

The fact is that nobody can adduce any reasonable arguments against the proposed change. No attempt has ever been made to bring forward any reasonable argument. I have been told till I am sick of hearing it that the Post Office decline to undertake this experiment because there is no general demand for it. Why on earth should there be? In the first place, the general public has not sufficient imagination ever to think about such a question, and whoever heard of a general demand for anything unless it was for some political or pecuniary advantage?

Last time I brought this subject forward I was answered by the noble Lord opposite, Lord Marley, who was, I am bound to say, more sympathetic than any of his predecessors. When I complained of this hollow argument that there was no public demand, he suggested to me that I should go on a hunger strike myself and produce a public demand in that way. Quite frankly I am not prepared to do anything of the kind, and I am afraid I should not be successful if I endeavoured to persuade the Astronomer Royal to parade the streets outside here with bills asking for a twenty-four-hour day. Nor would it be much good to ask a prominent gentleman in the railway world, Mr. Pick, for example, to burn down a church, one of the recognised methods of drawing attention to an alleged grievance.

There's a contribution from Lord Monkswell:

I wish in a few words to support the Motion. To my mind the question of railway time-tables is far the most important one in this connection. Until the moment when some genius discovered the twenty-four-hour system there was always trouble with the question of railway time-tables. Every country that has accepted the twenty-four-hour system, I believe, has no more trouble at all. All kinds of dodges have been tried instead of the twenty-four-hour system, such as specially dark-printed italics and things of that kind; but, like all conventional signs, they are not the slightest use unless you know what the conventional signs mean, which most people do not.

Lord Newton then proposes to move the resolution:

Moved, that in accordance with the recommendations of the Home Office Committee appointed in 1919 to report upon the advisability of adopting, for official and other purposes, the twenty-four-hour system of expressing time, it is desirable that the system should be introduced into the Post Office, and that the railway companies should be invited to adopt it in their time-tables from a certain date.

Lord Marley, who had formerly spoken for the government, indicates his agreement with obvious understatement:

I think the House will admire the persistence with which Lord Newton has continued to press for this very important reform.

and there are no objections from anyone else. However, the Government representative, the Earl of Lucan (grandfather of the notorious disappearing lord, Lord Lucan), repeats the objection that there is insufficient demand:

The present is certainly not a time to spend money, even a small amount of money, on experiments of this nature, and the Government could not undertake to introduce this change or to ask the railway companies to do so unless they were convinced of the existence of a much stronger public feeling than there is any-reason to imagine exists at the present time.

Lord Newton doesn't give up without a fight, and even conjures up an anonymous official with an irrational hatred of the 24-hour clock to explain the inexplicable:

The noble Earl's statement is the speech I have listened to now for about five years and surely the House must have observed that not one single argument is brought forward against the proposal itself.

It therefore comes to this, that there must be some senseless opposition somewhere or other. Nobody has a higher respect for the permanent officials than I have, but it is quite evident to me that there is a solid and unreasoning opposition on the part of some official and that unfortunately he has so far been successful. I am sorry to trouble the House, but, as I think my noble friend is very unreasonable in not accepting my suggestion, I shall therefore propose to take a Division on the question.

Hansard for House of Lords, 21 December 1932

The motion was rejected, and so ended the first vote on the 24-hour clock in the Houses of Parliament.

1933: SPENCER JONES TAKES OVER

Sir Frank Dyson retired from the post of Astronomer Royal during the summer of 1933, and his successor, Harold Spencer Jones, took over all his unfinished tasks, including that of writing to the Times about the 24-hour clock. He immediately addresses the issue by anticipating a forthcoming debate in the Lords and tackling the primary objection that scuppered all previous attempts: that the public has never asked to a change in clock numeration.

THE TIME OF DAY

ADVANTAGES OF 24-HOUR SYSTEM

IN-LINE WITH THE CONTINENT

TO THE EDITOR OF THE TIMES

Sir, As far back as 1919 a Home Office Committee presided over by Lord Stonehaven was appointed to report upon the advisability of adopting the 24-hour system of expressing time for official and other purposes. The Committee, after an exhaustive inquiry, found no objection to the proposal and recommended unanimously its adoption by the Post Office and the railway companies. But in spite of the obvious advantage of the system, and of the fact that neither legislation nor any expenditure of a public money is required, nothing whatever has been done.

The question has been raised on various occasions in the House of Lords with inconclusive results, and will again come up on December 7, when a motion urging the adoption of the recommendations of the Stonehaven Committee will be discussed.

The 24-hour system of reckoning is used in the Army, Navy, and Air Force. The reason for its use by these Departments is that it eliminates the possibility of error through confusion of a.m. and p.m., which might have serious consequences, particularly in time of war. It has been adopted in the Nautical Almanac, used by seamen, in meteorological warnings and in other information issued by the Meteorological Office and is in general use for scientific purposes. It is used by Post Offices and in railway time tables of all Continental countries, and also in Whitaker's Almanack, the most useful book of reference in this country.

My predecessor, Sir Frank Dyson, has constantly advocated the change. The purpose of urging the adoption of the same system by the Post Office and in railway time tables is to avoid ambiguity and the possibility of confusion of a.m. and p.m., which undoubtedly exists at present. It may be pointed out that the new system and the present system can easily be used together without

inconvenience. No alteration of clocks is required, and it is not suggested that instead of “four o'clock tea” we should in future speak of “sixteen o'clock tea.”

The objections which have in the past been raised to the 24-hour system are mainly two.

In the first place it has been argued that there is no public demand for it. But it is only to be expected that the general public, having had no experience of the advantages of the system, should show no desire for it. Summer-time was adopted in the first place as a War-time expediency, without any strong public demand for it. The public were quick to realize its advantages, and there would now be strong opposition if it were proposed to repeal the Act which made summer-time permanent in Great Britain. In the second place, it has been said that the ordinary citizen would have difficulty in transposing time from the present to the new system and vice versa. If this were so, it would be a striking commentary on public education in this country. But are we to suppose that the British public will find so much difficulty with a system which presents no difficulties on the Continent, in India, and in some of the Colonies? I am confident that if this reform were adopted the public would rapidly get accustomed to the new system and would be quick to realize its simplicity and advantages.

If the motion is approved by the House of Lords, I hope that the Government will decide to act upon it.

I am, Sir, your obedient servant,

L. SPENCER JONES

Astronomer Royal. Royal Observatory, Greenwich, S.E.10.⁴³

Spencer Jones' letter was followed by a number of letters, mostly in sympathy with the proposed change, from ex-Servicemen, astronomers, the editor of “Cook's Continental Timetable” – who claims to be the first in the country to use the 24-hour system for scheduled services – and this contribution from S. B. Jackson from the Central Electricity Board:

Sir, It might be of interest and encouragement to the Astronomer Royal to know that the 24-hour system has been adopted by the Central Electricity Board in the operation of its schemes. In the South-East England district it has been employed for three years. Before adoption, the Board's managers and chief engineer gave full consideration to its advantages and disadvantages, and it is, therefore, evident that the Board are employing every device to enable its systems to be operated to the utmost advantage and in accordance with the best modern practice in every way.

Considering the number of generating station staffs with which the Board are in contact, and the number of persons not only in intimate touch with the Board but in the Board's service, there has been an appreciable increase in the users of this time-keeping system. Previously I was in the service of the North Metropolitan Electric Power Supply Company, where the method has been in existence for a number of years, and, having become accustomed to its use, on joining the staff of the Board I made the proposal to the district manager. It is now becoming more generally used throughout electricity supply undertakings. The new control-room clock in the South-East and East England districts is scaled off for 24 hours.

The system has many advantages in addition to those enumerated by Dr. Spencer Jones. Some of them are not so obvious until it has been used, and I am of the view, which I think would be confirmed by those who have experienced this form of timekeeping, that there are more objections to returning to the old time than to the adoption of the new. The existing 12-hour clock is advantageous in permitting the graduations to be twice as large as those on a pure 24-hour clock with one revolution of the hour hand. They can therefore be retained. If all clock manufacturers agreed to include the additional figures on all clocks to be manufactured in the future, in advance of, and irrespective of any legislation that may be required, the transition would be much more smoothly effected.

I am, yours obediently,

S. B. JACKSON.

37, The Ridgeway, W.1⁴⁴

Frank Pick writes again from the Underground:

Sir,—I note the Astronomer Royal's letter in The Times of December 2.

As it happens, the London Passenger Transport Board has to consider the reprinting of its time-tables for its railway and coach services, and the problem of distinguishing between a.m. and p.m. once more arises.

It seems strange that there should be any reluctance to adopt a proposal which has been found necessary in all those spheres of activity in which exactitude is essential. That there is a need for a solution of the problem must be apparent to anyone who studies time-tables. For it will be found that all kinds of typographical devices are used in an attempt to avoid any confusion between a.m. times and p.m. times.

I therefore once more urge that we should now adopt a common practice in this matter. Once it is adopted and made a common practice, no more, I am sure, will be heard in criticism of it.

Yours faithfully,
FRANK PICK.

55, Broadway, Westminster, S.W. 1⁴⁵



A 24 hour linear clock in Picadilly Circus underground station

13. Finally – success

In the House of Lords, there was a predictable replay of previous debates. Lord Newton proposed to move a resolution introducing the 24-hour clock. The Times reports the discussion:

Lord Newton moved that in accordance with the recommendations of the Home Office Committee appointed in 1919 to report upon the advisability of adopting, for official and other purposes, the 24-hour system of expressing time, it was desirable that the system should be introduced into the Post Office, and that the railway companies should be invited to adopt it in their time-tables from a certain date. The noble lord referred to the correspondence on the subject of the 24-hour system in *The Times*. He drew particular attention to the letter from the Astronomer Royal, and Mr. Frank Pick, who urged the reform, and said that it could be put into effect at no cost.

Lord Lamington had given notice of his intention to move "That the system known as the '24-hour system' already in use by the Post Office in connexion with cablegrams be brought into general use for Post Office purposes and thereby co-ordinate its services with those of all important countries in the world." He supported Lord Newton's motion.

The Lord Chancellor said, that, speaking personally and not as Lord Chancellor, he was very greatly in sympathy with the proposal of Lord Newton and Lord Lamington. The Earl of Desart and Lord Monkswell supported the motion.

The Earl of Lucan, for the Government, while agreeing with the proposal in principle, repeated the objection that:

The Government has seen no signs that the public had any desire for the change. We were a conservative people, and did not take to change gladly. If my noble friend could bring any further evidence of public bodies or any other associations formed in support of this change, I am not at all sure he would not strengthen his case. Unless the change was going to be a real help to the public, the Government's view was that there was no point in making it.

Despite this reluctance, however, everyone was generally agreed that the Post Office had to be encouraged to make the change, if they did not object to the change on its merits. Lord Rankeillour, speaking for the government, said:

Apparently the only argument is that the Post Office are asking to be kicked. They do not object to this on the merits, but they say that no one has made it uncomfortable for them. I suggest that the obvious answer is that it shall be made uncomfortable for them.

Lord Newton's motion was agreed to.

Lord Lamington did not move his motion.

Their lordships rose at eight minutes past 7 o'clock.⁴⁶

Effectively, as from December 7th, 1933, the 24-hour clock became part of government policy, at least in regard to the Post Office and the railway

companies. However, although in theory the reform had been accepted as a motion in the House of Lords, no practical legislation or action had been specified.

KICKING THE POST OFFICE

Spencer Jones quickly wrote to the Times again, recording the Lords' acceptance of the 24-hour clock, and urged the reform's supporters to continue the fight, to continue to "kick" the Post Office. He was obviously disappointed that such tactics should be necessary:

It remains for the supporters of the reform to proceed to do this, by writing to the Postmaster-General or by asking their members of Parliament to raise the matter in the House of Commons when the Post Office Estimates come up for consideration. Only by such methods, apparently, will the Government realize that there is a widespread demand for the reform.⁴⁷

From this point, the action moves away from the House of Lords, into "the other place" (as the Lords refer to the House of Commons), and over to that other national institution, the BBC.

14. An experiment is announced

On March 5, 1933, in the House of Commons, Sir Arnold Wilson submits the following written question to the Postmaster-General, who is responsible for both the Post Office and the BBC:

What action, if any, he proposes to take with regard to the adoption by the Post Office of the 24-hour system of expressing time, as recommended by a Departmental Committee in 1919?

The Postmaster-General, Sir Kingsley Wood, replies:

I understand that the British Broadcasting Corporation intend at an early date to adopt the 24-hour system of expressing time for general use and on an

⁴⁷ Times 1933 December 14 page 15

experimental basis. This will afford an opportunity for testing the attitude of public opinion, and I propose therefore to await the result of the experiment before coming to a decision.⁴⁸



A wireless receiver

Lord Lamington, in the House of Lords two days later, is unimpressed by this idea. He points out that the motion of the previous year was passed, and that what is expected now is action, not another delay while the BBC runs an experiment. In his opening remarks, he again provides his list of forward-thinking organizations who have adopted the 24-hour clock:

In the first place the Navy, Army and Air Services have the system in use. I wrote to the Astronomer Royal, and he replied that, having expressed his opinion already, he did not think it necessary to take any further action. Among those supporting the proposal are the President of the Royal Society, the President of the Royal Astronomical Society, the President of the British Astronomical Association and also Mr. Frank Pick, a great authority on the Underground railway system of London. Support is also given by a number of publications, including *Nature*, *Modern Transport*, and the *Electrician* and, to my surprise, I received a letter—it was quite unsolicited by me—from the Editor of the *Nautical Magazine*, a very well got-up journal.

⁴⁸ Hansard 1934 March 5th

In The Times yesterday there was a letter from Mr. Dennis Handover, the traffic manager of Imperial Airways, advocating the change. The British Chamber of Commerce have sent me a copy of a letter which they addressed to the Government strongly supporting the change. The Meteorological Office uses the twenty-four-hour system, and the Royal Geographical Society now ask their correspondents and anyone who is sent abroad under their auspices to keep their diaries and records on that system. I asked my noble friend Viscount Bridgeman what was the attitude of the British Broadcasting Corporation and he very kindly wrote to me and said: “The British Broadcasting Corporation are favourably disposed towards a twenty-four-hour system.”

People from every quarter – land, sea and air – all ask for a change, but the Government apparently are content to ignore these representations.

Lamington considers the BBC experiment to be nothing more than delaying tactics.

I think it is an absolutely unnecessary, dilatory move on the part of the Government to say that they are going to wait for the British Broadcasting Corporation. Suppose the British Broadcasting Corporation – I think it quite improbable – report adversely; does that mean that the Government would then drop the matter and not carry out the proposal? I think if they did they would find themselves very much abused.

The Home Office, represented by the Earl of Feversham, explains how the BBC experiment will operate:

The [24-hour] system would be used both in internal work and external work. That means that the twenty-four-hour system would be adopted in the announcements at the microphone, it would be used in the programmes in the journals published by the Corporation, and it would be indicated on the correspondence of the Corporation.

LADY CONFUSION

But the Home Office isn't optimistic about the abilities of the average citizen to adapt to the new clock. He slyly refers to a throwaway line three years earlier in the 1931 May 6 debate, in which Lord Lamington had said, in passing:

As to those who offer objection to the change, I think they are chiefly ladies who pretend that they are lacking in mathematical knowledge.

Now, Feversham throws it back:

The noble Lord referred to the confusion that might arise amongst the female population of the country, which I understand is larger than that of the male, and I think it is quite possible that one would find, particularly in country districts, that there would be utter confusion, in regard both to travelling and to the Post Office.

I think that persons who have not had the opportunity of a lengthy military training, and who are typical of the man in the street, continually get confused through the difference from the ordinary timing to which they have been accustomed.

Lamington has already said previously that such a claim spoke poorly of the standard of education in Britain.

The debate ends with a wonderful example of how progress can be held back if you're prepared to consider the worst possible case. Lord Cranworth says:

My Lords, I venture to suggest that this Motion would be intensely unpopular in the country districts. I only rise to say that in my part of the country there are very many of the older people who are firmly convinced – and who knows whether they are right? – that the drought of last year and the floods of previous years are entirely due to the imposition of summer time. If that was the result of summer time I shudder to think what the result of this change in the clock would be.

Lord Lamington might have had his suspicions that this idea of a BBC experiment was a shrewd move on the part of the government. While scientists, industrialists, professionals, transport companies and international travellers are at ease with change and new ideas, what happens if you try to push a novel system for telling the time directly into people's houses via the wireless? Apparently, the poorly-educated, superstitious, elderly, and the legions of mathematically-challenged ladies will unite to combat the forces of modernism.

It's not clear who instigated the experiment. Was the BBC keeping an eye on the public debate in the House of Lords and the Times, or responding to the apparent legal adoption of the system? Or was it asked to test the waters by a shrewd Home Office official – perhaps that secretive individual that Lord Newton accused of “solid and unreasoning opposition”?

15. This is the BBC

On March 16 1934, a week after the debate in the Lords, the Times announces the BBC experiment:

24-HOUR CLOCK SYSTEM

ADOPTION BY THE B.B.C.

The B.B.C. announces that it will inaugurate on April 22 next, with the change-over to British Summer Time, the 24-hour clock system in connexion with its programme timings and all other phases of its work.

The system has the advantage of avoiding confusion between a.m. and p.m., and is considered particularly applicable to broadcasting, as British programmes start at 10.15 a.m. and go on until midnight, while Empire programmes and occasional foreign relays occur at practically all hours.

The 24-hour system will be adopted by the B.B.C. in all its announcements, whether spoken over the microphone, printed in its journals, or issued to the public in other forms. Both this system and the old will be used conjointly until listeners have become accustomed to the change. The cooperation of listeners is invited in this experiment.⁴⁹

INFORM, EDUCATE, ENTERTAIN

The same week's issue of the Radio Times showed, in the leading article, a picture of an annotated clock, and announced the imminent arrival of the new format.

⁴⁹ Times 1934 March 16



The Radio Times 24-hour clock (redrawn)⁵⁰

The BBC's mission was "to inform, educate and entertain", and in those days it was very much in that order. The Radio Times informs and educates its readers as follows:

The clock-face reproduced below will look unfamiliar to most of our readers. Each division on the dial has two sets of figures instead of one: one set runs from 1 to 12 in the ordinary way, though the numbers are given as 01, 02 instead of 1, 2, etc.; the other set begins at 13. On this second set, however, there is no 24; 00 takes its place. This is, in fact, the twenty-four-hour clock.

Once you get used to it, this system of reckoning the time is much simpler than the ordinary way. The chief thing is that there is no more confusion between 'a.m.' and 'p.m.' In everyday life this confusion does not often arise; we know that if we are asked to tea at 4.30 it means 4.30 in the afternoon and not 4.30 in the morning. But in such things as railway time-tables it does often occur. Times just after twelve are the chief source of trouble; when you see that a train starts at '12.5 a.m.', you have got to think for a minute before you realise that it starts just after midnight. That is why continental railways, on which there are many more all-night trains, use the twenty-four hour system, in which 1 p.m. is called 13 hours, 2 p.m. 14 hours, and so up to twelve midnight, which is called '00.00'.

⁵⁰ Radio Times March 16 1934; redrawn

Broadcasting hours extend beyond any twelve hours. British programmes start at 10.15 a.m. and go on until 12 midnight. Empire programmes and occasional foreign relays (such as Test Match broadcasts) happen at all hours. The B.B.C. has therefore decided to use the twenty-four hour system in all its announcements, whether spoken over the microphone or printed in its journals. The change is not coming just yet: the first date on which the new times will be used is April 22 – the day when Summer Time begins. You will have further explanation of it before then. This advance announcement is merely to give you a chance of getting used to the idea. The Children's Hour at 17.15; the First News at 18.00; 'Music-Halls' on Saturdays at 20.00; Dance Music from 22.30 to midnight. These are times you will get to know well, and they will convey their own unmistakable meaning without any help from those old friends 'a.m.' and 'p.m.'.⁵¹

Notice that there's no mention of the word "experiment" in this article. It gives the impression that the new system is here to stay. Further clarification as to the details of the experiment comes from the Earl of Feversham (the Government whip) in the House of Lords on March 22:

The method employed will be the four-figure method. That is to say, 2.5 a.m. will be printed as 02.05 and announced over the microphone either as 2 hours 05 minutes or 2.05 hours. Similarly 2.5 p.m. will be printed as 14.05 and announced as either 14 hours 05 minutes or 14.05 hours. The noble Lord said he was strongly in favour of the twenty-four-hour system but I wonder whether, with that announcement, there will not be certain confusion existing in the countryside. For the time being, however, they will announce simultaneously both the twenty-four-hour system and the ordinary time as we know it today, so that the public can have an opportunity of getting used to the new system.

A HISTORY LESSON

In the Radio Times of April 13, a whole page is devoted to the imminent change to tradition and the nation's habits. The author, Felix Goodwin, begins as follows:

There are twenty-four hours in a day.

So why not number them accordingly? That is what the BBC proposes to do by the introduction, in the near future, of the twenty-four-hour system of timing all programmes.

⁵¹ Radio Times March 16 1933

As from Sunday, April 22, the B.B.C will start putting into operation a system of dividing up the day based upon the so-called twenty-four hour clock, and will thus be the first public body to inaugurate and popularise in Britain and the Empire a long-desired reform, and a much-needed one, for even now it is claiming the serious attention of Parliament. Let us try and understand why such a change could be so necessary, and why it suddenly appears to be urgent.

He starts at the very beginning, outlining the history of the 24 hour day, the sundial, Ptolemy, and the early clockmakers.

The Persians divided their day into the orthodox twenty-four hours and started it at sunrise, whereas the Athenians began and finished it at sunset, as do the Jews and the Italian peasantry even now. Either is a good working timetable to get up and go to bed, but of very little use with a train to catch, for sunsets are so very susceptible to seasons.

In explaining the origin of the “twice around the clock” idea, and that there’s nothing new under the sun, he includes a picture of Wells Cathedral clock:



*Wells Cathedral Clock*⁵²

and then explains why this style of clock didn't become the standard:

But – and this is a curiously small, but considerably influential, factor in the history of time-telling – twenty-four figures in Roman characters set round the inside of a small circle make a confusing jumble, and clock-makers quickly saw that a dial having twelve figures only marked upon it made it a more workable and convenient showing. So that a.m. and p.m., indicating the first and second times round the clock, came, from that moment, to have a dominating importance.

The conclusion arrived at by the clock-makers was reasonable, and if there is one change the B.B.C does not propose to make it is to set aside the long-established rule that once round the clock is twelve hours, and twice round is a day.

⁵² http://en.wikipedia.org/wiki/File:Wells_cathedral_clock_dial.jpg

But why in that case change anything at all? Even though to split a day into two equal parts is an arbitrary arrangement without complete astronomical justification, we have all grown used to it, and it surely works very well.

Modern life, however, is not so easy as all that. The civilisation of today is in slavery to time-tables, and progress is more than ever controlled by the clock. Inter-communications between nations, whether by sea, land, cable, air, or ether, are now so heavy, constant, and universal, that local, antiquated methods of reckoning time will no longer serve their turn. They must give way to a reckoning that science can alone recommend for general usage. Our old friend meridian will have to put off his purple, while *ante* and *post*, his chamberlains, will have to go altogether.

All the more because the twenty-four-hour system is already very much in use. On the continent of Europe, and, incidentally, already in India, it is, for all official purposes, practically universal.

Abroad, it is impossible to escape from the system even if there were the remotest desire to do so, which, of course, there is not.

NUISANCE OF TWO SYSTEMS

Under this heading, the author turns to radio matters:

As a consequence, our own public services are plagued with two systems, the British and the European, and are constantly put to the nuisance of translating. While this nuisance was confined to marine transport and meteorological reports, the public could scarcely be expected to show interest. But that stage is now past; the ether has turned the sensitive scale in favour of a change. Nations no farther apart than the half-turn of a knob must clearly speak the same time-language.

In reality, the inauguration of the new system will present next to no difficulties. It merely involves a habit of mind, and a habit is easy to come by. Already there are time-marks in British broadcasting that will make the simple calculation simpler still.

What more easy than to memorise the Children's Hour at seventeen-fifteen, Variety at twenty hours, and Sunday's Orchestral Concert at twenty-one-oh-five? What more natural to catch the thirteen-forty up to town for the matinée at fourteen-thirty, to be followed by a little tea at shortly after seventeen hours, with just nice time to catch the eighteen-nineteen home?⁵³

⁵³ Radio Times issue dated April 13 1934

ALL THIS FUSS

In the following week's issue of the Radio Times, another leading article gives yet another explanation of the daunting mathematical challenges ahead, and some reassuring advice to the reader. This extract gives an idea of how difficult the BBC thinks it's going to be:

From this Sunday onwards you will be able to start getting used to the twenty-four-hour clock. The announcers will use it when they have occasion to mention the time; but, so as not to confuse listeners who are still quite unfamiliar with the system, they will add the time according to the old style. For instance, 'The time is now twenty-one-o-two hours – that is, two minutes past nine.' They will continue to give the two alternatives for several weeks.

When listeners look through the programmes in advance, they might at first be confused by the unfamiliar figures. We do not want any of our readers to be forced to do mental subtraction sums. With a little experience, twenty-four hour times will become as easy to understand as the times on an ordinary watch. We do not have to do a conscious sum before we know that the figure '5' on our own watch stands not merely for 5 hours but also for twenty-five minutes past the hour.

In the early stages there might be some difficulty, if we made too sudden a change. So, in these first weeks, the times in the programme columns will not be altered. At certain key points in the day, however, you will find the twenty-four-hour times given as an alternative. That is just to remind you that 6 p.m., for instance, when you expect the First News, will soon be given definitely as 18.00 hours, which the announcer calls 'eighteen hours'. And, in case any of the other times worry you, you will find a scale on which you can instantly convert new times into old, at the foot of each programme page. This is to save you the trouble of taking twelve away from the twenty-four-hour time.

As a matter of fact, we expect that listeners will very soon get used to the new system, and probably many of them will wonder what we are making all this fuss about. But we want to make sure that the change does not interfere with the enjoyment even of those who are not quick at picking up new ideas, so we are introducing it gradually. When listeners have had every chance to understand the new scheme, we shall bring it into full force, and twenty-four-hour time will become standard for all B.B.C. programmes, both print and on the air. We believe that it will not be long before other public bodies follow this example, and twenty-four-hour time becomes an accepted feature of our nation's life.⁵⁴

⁵⁴ Radio Times issue dated April 20 1934

Again, there's no indication that this is in any way a temporary experiment.

NEW LAWS BY STEALTH?

That last sentence raised a few eyebrows. This letter to the Times from H. M. Ross is a warning of trouble to come:

B.B.C OR PARLIAMENT?

TO THE EDITOR OF THE TIMES

Sir, – An editorial article in the current issue of the Radio Times concludes with the sentence:–

"We believe that it will not be long before other public bodies follow this example, and 24-hour time becomes an accepted feature of our national life."

These words clearly reveal the ambition of the B.B.C. to engineer the general use of the 24-hour day. By what authority are they assuming this function? Summer Time required the sanction of Parliament ; is the introduction of the 24-hour day, a not less important interference with the community's established time system, to be at the whim of Broadcasting House ?

Yours, &c.,

H. M. Ross

The Athenaeum.⁵⁵

FREE IN EVERY ISSUE

The leading article in the Radio Times for May 4 is optimistic about the results of the new system, in operation for nearly a fortnight, and the BBC is worried in case people think they are moving too cautiously into the brave new world of counting past 12:

The new system has been welcomed by influential sections of opinion outside broadcasting, and clocks marked with twenty-four-hour figures are already to be seen in places quite unconnected with the BBC.

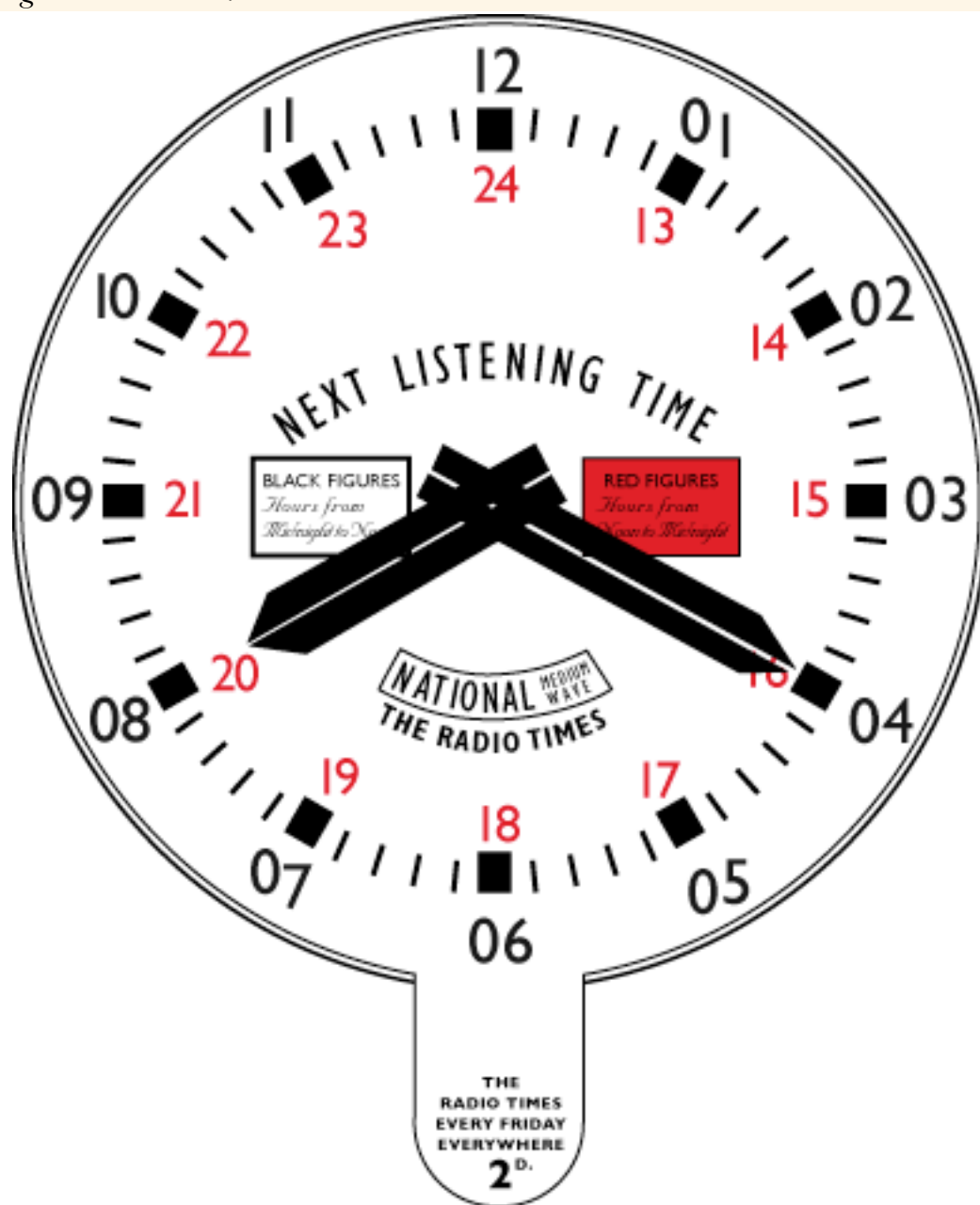
Most listeners, as was to be expected, have found it quite easy to understand the new times, and they may be inclined to wonder why we are advancing so gradually. The answer is that amongst the millions who read the Radio Times there must be many who are not quick at picking up new ideas. The speed of a fleet is the speed of the slowest ship, and, in a matter affecting the enjoyment of their broadcast programmes, the more conservative-minded of our readers

deserve as much consideration as the rest. Hence our decision to introduce the new system by degrees.

However, a few weeks should be enough time to enable anybody to get accustomed to so simple a change.

In our issue of May 18, therefore, we shall start printing twenty-four-hour times throughout the programme pages.

With every copy of that issue, we shall present *the Radio Times clock-face and programme reminder*.



The Radio Times clock-face and programmer reminder (redrawn)

Somewhere in Britain a few copies of this cardboard clock may have survived the 70 or more years since they were distributed, out of the million

or so that were issued. The illustration here is redrawn from the original illustration in the Radio Times. It gives an indication, at least, of how much effort the BBC was putting in to the task of educating the public. The stated purpose of the clock was twofold: to show the new and old times at a glance, and to allow listeners to set a reminder when their favourite programme was to be broadcast.



21.00 (9.0)	Time Signal, Greenwich
	'The Second News'
	Weather Forecast
	Second General News Bulletin
21.15 (9.15)	An Introductory Talk to the Promenade Concerts By SCOTT GODDARD
21.25 (9.25)	THE B.B.C. ORCHESTRA (Section C) (Led by LAURANCE TURNER) Conducted by WARWICK BRAITHWAITE
	Symphony in E flat Franz Beck (1731-1809), ed. Sondheimer
	1. Allegro con brio; 2. Andante; 3. Funebre—Menuett I and II— Funebre
	Franz Beck, a German-born musician, died in his late thirties

What those radio times looked like⁵⁶

On May 4th, the Times announced that official programmes would start to follow the 24-hour notation only, without the 12-hour equivalent, from the middle of May.

⁵⁶ Radio Times issue dated August 4 1934

16. I wish to make a complaint

More people complain when they dislike something than display approval when they like something. If they couldn't care less – often the case – they say nothing. Even today, a few hundred letters of complaint indicate only that a minority of listeners felt compelled to communicate their displeasure, not that a majority of listeners were displeased. British institutions often side with a minority of complainers – it's better to be safe than sorry. So it was to be expected that the BBC's experiment attracted public criticism, both in the press and in parliament.

The Radio Times didn't publish too many complaining letters (although it probably received quite a few), but they did publish approving or humorous letters:

I earnestly hope that the B.B.C is in no way discouraged by the inept and thoughtless criticism of the 24-hour clock system, which has appeared in the Press. This is the deplorable way, unfortunately, in which ideas new to this country are generally received, and it does us no credit. I trust that you will continue to use and advocate the 24-hour clock system with all your power and influence.

H.E.B., Boulton, Bath ⁵⁷

This came from a precocious young reader:

Please don't change the time of our Hour. I always have tea at 6.0, and I don't think they will let me stay up to 18.00; besides, none of Grannie's clocks go beyond 12.0, and she says there isn't any such time. – 'Wallie', Wimborne⁵⁸

An anonymous correspondent reminds us that the only reason the 12-hour clock is comfortably familiar is that children spend so much time learning it, and adults never remember how much time they themselves had spent learning it:

I have been amused by many of the grouses that have appeared in the papers at the introduction of the twenty-four-hour clock, and also that the idea should seem strange to people at all. Most children when learning to tell the time ask,

⁵⁷ Radio Times, issue dated May 11 1934

⁵⁸ Radio Times issue dated May 18 1934

‘Why do we have to start again at one after twelve; why don’t we go straight on, thirteen, fourteen, fifteen?’ And I think that most people, if they will think back, will remember doing the same themselves. As the wife of a railway officer who has been used to the system for many years, I can assure your readers that if they will only give it a fair trial they will find it such a convenience that their only grouse will be that it was not introduced before.

– ‘Vingt-quatre Heures’. ⁵⁹

Another railway worker writes in support:

As a number of, to my mind, foolish people are cavilling at the action of the B.B.C., may I, who have had experience of the system, offer my thanks and appreciation of it. I was twenty-seven when, as a member of the staff of an Indian railway, I had to use the twenty-four-hour clock. For about a week I had at times to deduct twelve, after noon, but soon found no difficulty and got to appreciate the system – as I am sure the majority of this country will.

R. H. Sears, New Milton⁶⁰

TRY IT ON THE DOG

But the following letter to the Times on May 17, from someone who might have been considered a potential supporter must have ruffled the Astronomer Royal’s feathers:

THE ASTRONOMICAL DAY TO THE EDITOR OF THE TIMES

It is with profound regret that I see it announced that the B.B.C. intend “to drive the experiment home.” Twenty-four hour notation may be useful in its proper place, but it is exactly this driving it “home” which is not wanted.

Large administrative organizations such as the Navy, Army, and the Air Force, may find it convenient as a matter of internal management. It is also justified in Continental timetables, but our railway journeys are too short to require it. Every attempt to introduce it into general use during the last 40 years has failed.

The origin of this last attempt has been rather overlooked. In 1925 the astronomers who habitually use 24 hour notation brought the astronomical day into conformity with the civil day by beginning at midnight instead of at noon. The astronomers felt that the greatest objection to the use of the 24 hour day was removed, and they advocated it in your columns. But in civil life there are no advantages to justify the real inconvenience involved in the endeavour to accustom oneself to these unwieldy figures.

⁵⁹ Radio Times issue dated May 18 1934

⁶⁰ Radio Times issue dated May 18 1934

My sympathy is with the B.B.C., who have been instructed to “try it on the dog”; their loyal efforts to do so must have aroused the sympathy of all of us. The figures 13 to 23 have been added on all their clocks at Broadcasting House to assist the staff to get the new figures into their heads.

The crowning absurdity is to be found in a public clock just erected in the Euston Road, with the 24 hours in a single ring such as the astronomers use to indicate sidereal time, with the inevitable result that it ceases to be a clock, since no one reads the time from figures, but only from the angle of the hands.

Yours faithfully,

F. HOPE-JONES, MIEE FRAS &c. (Ex-Chairman, British Horological Institute).

Synchronome House, 32-34, Clerkenwell Road,
E.C.1⁶¹

As a professional horologist, Frank Hope-Jones worked on electric time-keeping, and had developed, with William Shortt, the Synchronome system – the most accurate clock ever made at that time. As an astronomer, he would have been well-aware of the genuine historical precedent for that ‘absurd’ public clock in the Euston Road: the Shepherd Gate clock in Greenwich, which had a similar dial, showing, not sidereal time, but civil time. In fact, some of the Shortt-Synchronome clocks made with Hope-Jones’ technology have similar 24-hour dials.

Hope-Jones had been a colleague of Frank Dyson, the previous Astronomer Royal. They had worked on the Greenwich pips system together. It’s been suggested⁶² that Hope-Jones had engineered the system, but that Dyson had merely supplied the marketing and prestige necessary to present it to the BBC and the public.

⁶¹ The Times 1934 May 17 page 12

⁶² <http://www.pykett.org.uk/frankhj.htm>



Sir Kingsley Wood, Postmaster-General

LAUGHTER IN THE HOUSE

The BBC experiment had other critics. Questions were asked of the Postmaster-General in the House of Commons. The Times records the following exchange in June, adding the ‘Laughter’ note, which is a detail missing from the verbatim transcripts in Hansard.

Mr. White Is the right hon. Gentleman aware that the experiment has brought to light the fact that a great number of people are opposed to it?

Sir K. Wood I am aware that some differences have been expressed.

(Laughter)

Lieut.-Colonel Acland-Troyte Is it not a grave abuse of the British Broadcasting Corporation's privileges to carry on this experiment?

Sir K. WOOD I do not regard it otherwise than as an experiment.

Major Jesson Is it not rather ridiculous to find the British Broadcasting Corporation announcer saying that something will happen at 19 o'clock when your own timepiece is chiming seven?

(Laughter)

No answer was given.⁶⁴

The laughter is a good indication that the notion of the 24-hour clock was swiftly becoming a subject of ridicule. The B.B.C was in an uncomfortable position: they were running an unpopular experiment, they

⁶³ http://en.wikipedia.org/wiki/File:Sir_Kingsley_Wood.jpg

⁶⁴ Times 1934 June 01 page 8

were being accused of trying to push through changes in everyday life without authority, and people were laughing at their serious programmes.

RATHER SILLY

In the Commons debate about the Post Office finances on June 6, Mr. Temple Morris takes a detour from the main business of the day to talk about the 24-hour clock:

We have to face the position that the 24-hour clock does irritate a large section of the British public. They find it somewhat illogical and rather silly when they have a watch in their pocket or a clock on their mantelpiece giving one reading of the hours, to hear, by means of the British Broadcasting Corporation, an entirely different system. It only means an ordinary mental calculation, but at the same time if we are going to have a revolution in the giving of times in this country, if we are going to adopt the continental timetable, surely it should come from quarters other than over the waves of the British Broadcasting Corporation.

Sir E. Bennett said in reply:

I should like to say that in my opinion the Governors of the British Broadcasting Corporation deserve the thanks of the community for bringing before them the meaning and the method of the system which, whether you agree with it or not, is in use among the peoples of Europe and in the great Dominion of India. I do deprecate some of the unreasoning attacks on the British Broadcasting Corporation in this connection. Terms like autocracy, dictatorship or even impertinence seem to me completely out of place in connection with what my right hon. Friend described as a very interesting and useful experiment. The position of the Postmaster-General in the matter is that he has an open mind on the question. We shall await the report of the British Broadcasting Corporation; then he will consider it and reach a decision.⁶⁵

17. And that's final

In July 1934, while the BBC experiment was still running, the Home Secretary and the Postmaster-General wrote the following memorandum to the Cabinet.

SECRET

TWENTY-FOUR HOUR METHOD OF EXPRESSING TIME.

Joint Memorandum by the Home Secretary and the Postmaster General.

We desire to obtain the views of our colleagues on the question whether the Government should take any steps to secure the adoption of the 24-hour system in this country in view of the recent experiment by the British Broadcasting Corporation.

This experiment has now been in operation for nearly three months, and the Corporation have represented that in the light of their experience the question of extending the system in public use should be considered by the Government.

A number of Governments have considered the 24-hour notation since its adoption was urged by Lord Stonehaven's Committee in 1919 but have decided against it.

In 1919 the grounds for the rejection of the system were stated by the Committee of Home Affairs as follows:-

"It was pointed out that no economy in writing would be effected ... that there was no demand in the country for a change ... and that while it was open to the Government to require the Army and the Navy to use whatever system the Government might favour, it was not open to them to interfere with the established habits of the public for no tangible advantage. Nothing was likely to cause greater offence to the voter than to force on him a new and, at first sight, complicated method of expressing the time of day, and by doing so the Government would lose many thousands of votes, while no real benefit would accrue to the country."

The Labour Cabinet of 1931 also agreed to take no action.

So far as the British Broadcasting Corporation's experiment is concerned, the Corporation states that taking into account the difficulties attending the innovation, it regards the experiment as successful. But it has received over 3,000 written protests against only 400 appreciations and the circulation of the "Radio Times" suffered a definite set-back when the 24-hour notation was adopted in its programme. We understand that a number of public bodies have expressed themselves in favour of adopting the new method, including the Association of British Chambers of Commerce, the Federation of British Industries, the Central Electricity Board, Imperial Airways, the Railway Companies Association, as well as the War Office, Admiralty and Air Force.

The House of Lords recently passed a motion proposed by Lord Newton in favour of the adoption by the Post Office of the new system. A majority of the

Post Office Advisory Council was also in favour of the change. If the matter is to be pursued with the expressed approval of the Government the 24-hour notation would have to be adopted sooner or later for pillar boxes, postmarks, time-tables and other media in common use. The total cost to the Post Office would be of the order of £20,000. There would also have to be a preliminary conference of the various interested parties, but action would no doubt have to be initiated by the responsible Government Departments. Legislation would not be necessary.

7th July, 1934

John Gilmour

Kingsley Wood ⁶⁶

The memorandum is tantalizing. There is a reference to a statement made in 1919 by the Committee of Home Affairs to the effect that the 24-hour system was a vote-loser. And yet the Baird Committee was appointed on 20 September 1919, reported on 11 March 1920, and the Home Secretary's attached memorandum presenting – and recommending the acceptance of – the report was dated August 4 1920. Had the system been labelled as a vote-loser before the report had been written?

The BBC's attitude is also interesting. Despite the large number of complaints (which hadn't been mentioned publicly), the BBC – “taking into account the difficulties attending the innovation” – “regards the experiment as successful”.

In the House of Lords, on July 26, the indefatigable Lords Lamington and Newton continued their struggle to obtain some commitments from the Government.

THE 24-HOUR CLOCK

PROGRESS OF B.B.C. EXPERIMENT

Lord Lamington asked whether there would be laid on the table of the House before the adjournment a report on the working of the 24-hour system from the B.B.C. He moved for papers. He said it was very unfair of the Government to make the system the subject of an experiment when they could have inquired from the Navy, the Army, and the Air Force, who had had the system in operation for years, whether it had been advantageous or not.

Lord Newton said that before the Government made their usual unsatisfactory reply, he wished to comment upon the vacillation which had

characterized their action on the matter. Sixteen years ago a specially appointed Committee inquired into the subject and recommended the system unanimously. So far as he knew, every Postmaster-General was in favour of the change, and the Postmaster-General as the head of his department could act without consulting anybody.

It was merely a question of a time-table, and nothing else. As nobody had been able to make any valid objection to the proposed change, it was a little exasperating that nothing could be done because of the ignorance and prejudice that prevailed.

The Earl of Crawford said he agreed that the opposition to the 24-hour system was largely based on prejudice and inadequate information. He hoped that this innovation by the B.B.C. would not discourage those interested in this great reform from continuing their efforts to bring it about.

Lord Templemore, Captain, Yeomen of the Guard, said that no formal report had been received by the Government from the B.B.C. in regard to the experiment which had been going on now for some one or two months, but the Postmaster-General understood that the Corporation would, before very long, make a statement on the subject. As regarded the general question, the Government had had under consideration the question of extending the use of the 24-hour method of expressing time in the light of the information given them by the B.B.C., following the experiment carried out by the Corporation.

The Corporation considered that, taking into account the difficulties attending the experiment, the results warranted further investigation by the Departments concerned. The Government appreciated the action of the Corporation in the matter, but he was authorized to say that, after carefully reviewing the whole question of adoption the 24-hour notation for official purposes, they had come to the conclusion that there was still no sufficient evidence of a general public demand for the change to justify any action in the matter. There were no papers which could be laid on the subject.

The motion was, by leave, withdrawn.⁶⁷

THE LAST DITCH

In the August 3 issue of the Radio Times, the leading article adopts a different tone than we've seen up to now. Gone are the confident and reassuring notes of April and May:

The question of the twenty-four-hour clock and the experimental use of it by the B.B.C. was recently raised in the House of Lords. We trust that all those

⁶⁷ Times 1934 July 26 page 7

who still accuse the B.B.C. of attempting to impose an unwanted change on the public without authority or due consideration will have made a note of the statement made on that occasion on behalf of the Government. The adoption of the system for all public purposes has long been seriously advocated both in Parliament and in the Press. A Government Committee of Enquiry, presided over by Lord Stonehaven, recommended its use for official purposes as far back as 1919. For several years the B.B.C. has used the system in its engineering and 'outside' broadcast branches; and in the Empire Service, which operates throughout twenty-four hours in the day, its advantages were particularly obvious. Having first consulted various Government departments and numerous public bodies and secured their general approval, the B.B.C. arranged to conduct a public experiment with the system, by using it for the timing of all broadcast programmes. Correspondence received by the B.B.C. has shown that there has been, perhaps inevitably, a certain amount of misunderstanding regarding the intention behind the experiment. For example, many people have assumed, quite wrongly, that the system was intended to apply to domestic use. The Stonehaven Committee encountered the same misapprehension fifteen years ago.

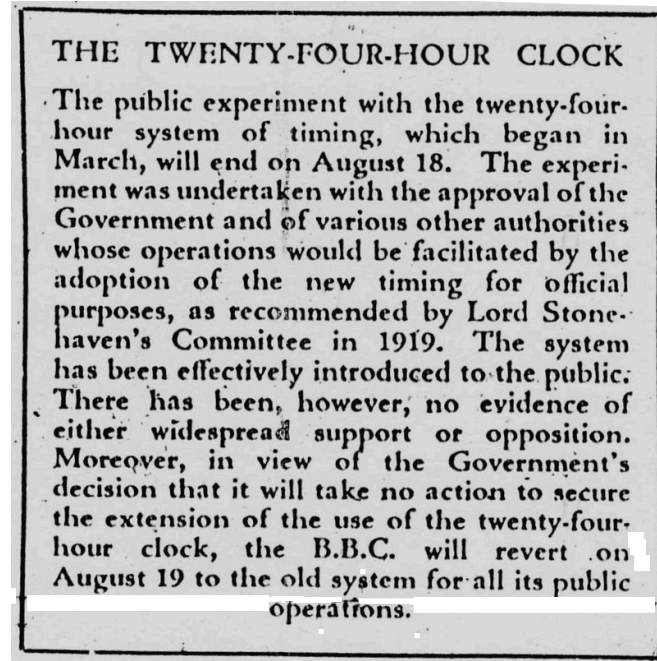
The path of the reformer is always slow and uphill. It took a world war to convince the public of the advantages of Summer Time. Misunderstandings apart, the correspondence of the B.B.C. on the subject reveals no evidence of either widespread opposition or support; and in due course, the B.B.C. will announce to what extent, if at all, the system will be continued.⁶⁸

The BBC's position is that opposition and support have balanced each other out, leaving only apathy. Yet the Cabinet memorandum had claimed that the BBC had received "over 3,000 written protests against only 400 appreciations", and that the circulation of the Radio Times had "suffered a definite set-back".

⁶⁸ Radio Times issue dated August 3 1934

18. The end of the news

On August 10, 1934, the following paragraph appeared in the Radio Times:



The Radio Times announcement ⁶⁹

The public experiment with the twenty-four-hour system of timing, which began in March, will end on August 18. The experiment was undertaken with the approval of the Government and of various other authorities whose operations would be facilitated by the adoption of the new timing for official purposes, as recommended by Lord Stonehaven's Committee in 1919. The system has been effectively introduced to the public. There has been, however, no evidence of either widespread support or opposition. Moreover, in view of the Government's decision that it will take no action to secure the extension of the use of the twenty-four-hour, the B.B.C. will revert on August 19 to the old system for all its public operations.⁷⁰

The initial announcements had been much more decisive – no mention of Government approval or committees, or those ‘various other authorities’, and those two uses of the word ‘experiment’. The statement also hints that it was the Government who had failed to keep faith with the spirit of progress.

⁶⁹ Radio Times issue dated August 10 1934

⁷⁰ Radio Times issue dated August 10 1934

In August, the BBC published the result of the experiment in the Radio Times:

BBC AND 24-HOUR CLOCK

12 hour system restored

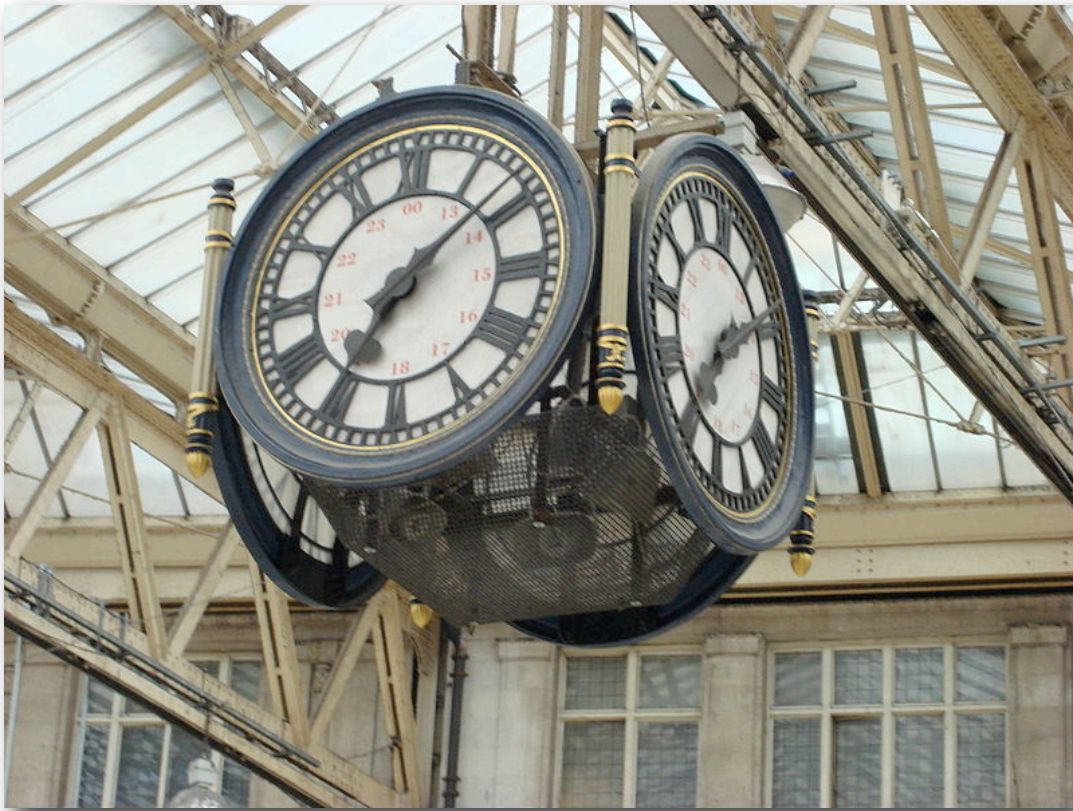
From tomorrow onwards the 24-hour system of timing will have vanished from the microphone and from the pages of the Radio Times. So far as broadcasting is concerned, the 24-hour clock is dead. From Sunday onwards listeners will hear no more of it. So ends an experiment that was begun by the B.B.C. last March, with the approval of the Government, designed to introduce the system to the public and test the public's reaction to it.

An experiment of this nature can succeed only if it is a spectacular success. An open verdict condemns the innovation and upholds the established usage. Twenty-four-hour time was welcomed by many listeners, by many of our readers, and by many public and semi-public bodies – those, for instance, engaged in operating transport services – whose work is run on a time basis.

Such supporters of the new system will be inclined to regret the discontinuance of the B.B.C.'s experiments and the Government's decision to take no action to secure its extension, and they will trust that it will not have been without its effect in propagating the merits of the system. Meanwhile, the familiar 12 hours are reinstated on the air, and Big Ben need no longer feel reactionary when he signalizes midnight by booming 12 times.⁷¹

The BBC's statement made no mention of any adverse comments. There didn't seem to be any obvious reason why the experiment had been discontinued.

⁷¹ Radio Times 18 August 1934, reprinted in the Times 1934 August 18 page 8



72

Waterloo station clock: a famous rendezvous, with 24-hour numbering

And so comes to an end the attempts of the British establishment to persuade the rest of the country to count up to twenty-four when telling the time. At least, officially.

19. Modern times

In other countries, the adoption of the 24-hour clock followed different pathways.

GERMANY

In Germany, where there is sometimes a reluctance to change, the 24-hour clock wasn't enthusiastically received at first. An international congress for standardizing the railway time tables of continental Europe

72 http://commons.wikimedia.org/wiki/File:Waterloo_Station_clock.jpg

had been held at Basle in Switzerland early in the 1920s, and recommended the 24-hour clock as essential. Although the surrounding countries, Switzerland, Italy, France, and Austria, had switched before or during the war, the German railway companies maintained that the expense of installing the system was too great. The proposed change affected a few traditions, including the expression “wenn die Uhr dreizehn schlägt”, or when the clock strikes thirteen – i.e. never.⁷³

The railways (and the Reichstag) finally switched to the 24-hour clock on May 15 1927.

THE USA

In the USA, the 24-hour clock was originally adopted by the Navy in 1920. The US Army had encountered it during the war, as the other Allied forces in Europe had standardized on it.

By 1934 some of the US airline companies were adopting the system. Pan American airlines had already switched when it was reported that US Western Airlines were also changing.⁷⁴

The US Army officially adopted the system on July 1 1942, and it caught the attention of newspapers throughout the country. The Pittsburgh Press wrote an article starting like this:

You gotta get up at 0545 at United States Army Camps these days. Taps, when you're supposed to be tucked in for the night, is sounded at 2200 (10 p.m.). Dropped from the military record book, at least for the duration, are the well-known symbols, a.m. and p.m.

Under the 24-hour system adopted July 1 by the Army, Tin Pan Alley's Chattanooga choo-choo leaves the Pennsylvania Station, not at “a quarter to four” but at 1545.

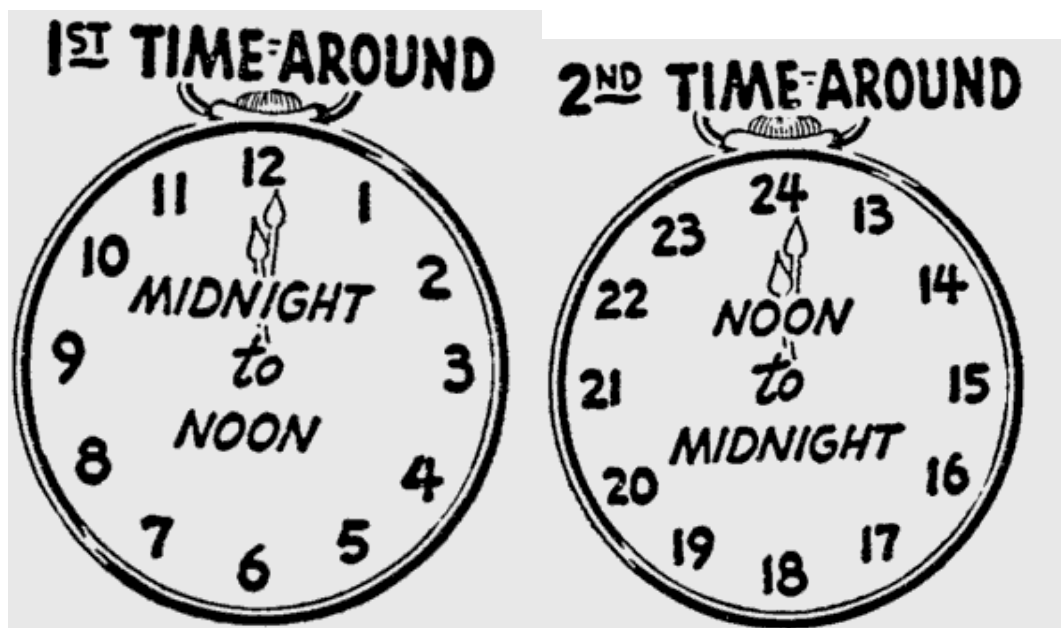
To experienced travelers there is nothing new about the Army's new time. It has been in use by governments, railways, steamship companies and airlines throughout continental Europe for many years. The Navy adopted the 24-hour system in 1920, and has used it continuously since. Local Navy communiques show time according to the local International Time Zone, while its long-distance messages use Greenwich time.⁷⁵

⁷³ <http://www.eurotrib.com/story/2007/1/29/183327/233>

⁷⁴ Sarasota Herald Tribune 1943 May 14

⁷⁵ The Pittsburgh Press, July 19 1942

The accompanying drawings explained the system to their readers:



Of course, just as in Britain, the new system apparently posed serious problems for mathematically-challenged ladies:

Military Time Puzzles New Employee at Galena



Ordinarily a gal ought to know what time it is, but this pretty young lady had to learn the art of time-telling all over again, as do all other employees at the Spokane army air depot. Gloria Hunt, receptionist at the air depot, is trying to figure out this 24-hour military clock installed in back of her desk in the headquarters building at Galena. Telling time by the army clock is easy—so they say. The time Miss Hunt sees before her is 1521 hours, or 3:21 p. m. 0 is midnight and 1200 (12 as you see it on the clock) is noon. The dark hands are for

Pacific war time; the short white hand is Greenwich (International) time. The new clock eliminates any possible mistake in timing, a major factor in waging war. For instance, if General Eisenhower and Joseph Stalin were to start a simultaneous offensive, one in Italy and the other in Russia, military international time would be used, eliminating all doubt and any possible telegraphic or decoding slip in which a. m. might be confused with 6. m., or vice versa. Hence the clocks at Galena. (Army photo.)

US army girl puzzled by 24-hour clock⁷⁶

The US Army also adopted the use of Greenwich Civil Time when it was necessary to specify a time for operations involving multiple time zones. These times were formatted 190225Z, meaning 02:25 (2.25 a.m.)

Greenwich Time (Zero degrees longitude), on the nineteenth of the current month.

UP IN THE AIR

Pilots and aviation workers throughout the world were enthusiastic proponents of the 24-hour style, and the renewed popularity of the old medieval 24-hour dial (“once round in a day”) during the twentieth century was due partly to their demand for multiple dials and universal worldwide time-keeping. By setting one pointer or dial to Zulu time (zero time or Greenwich Time – UTC, as it is now), another to the time at the destination, and possibly even a third to the time of the departure point, the pilot could keep track of multiple time zones on a single dial, and match them up with the 24-hour times on their flight plans. An increased awareness of time was thought to help minimize the effects of jet lag. Some aircraft workers today keep their watches set to Zulu time all the time – close in spirit perhaps to Sandford Fleming’s Universal Time.

Of the dozens of different manufacturers and models of watches with some 24-hour capability, probably the most famous are the Rolex GMT Master, created after consultation with PanAm pilots in 1954, and the Glycine Airman, which became the watch of choice for many United States Air Force and commercial pilots.⁷⁷

⁷⁷ Glycine Airman: a 24hour timeline of flight André Stikkers, 2010 <http://24hourwatch.info>



The dial of the Glycine Airman (redrawn)

BACK IN BRITAIN

In Britain, few attempts have been made to encourage the use of the 24-hour clock, since the BBC's experimental summer of 1934. In 1940, at the start of the Second World War, this question was asked in the House of Commons:

Mr. Joel asked the Financial Secretary to the Treasury whether, in view of the large number of people in the country concerned with the Defence Forces, both civil and military, who are now using the 24-hour clock, he will consider the desirability of making the use of this system general for all Government Departments and their activities?

Captain Crookshank The adoption of a 24-hour time system by Government Departments is regarded as a matter to be decided by the head of each Department in accordance with the requirements of its work.⁷⁸

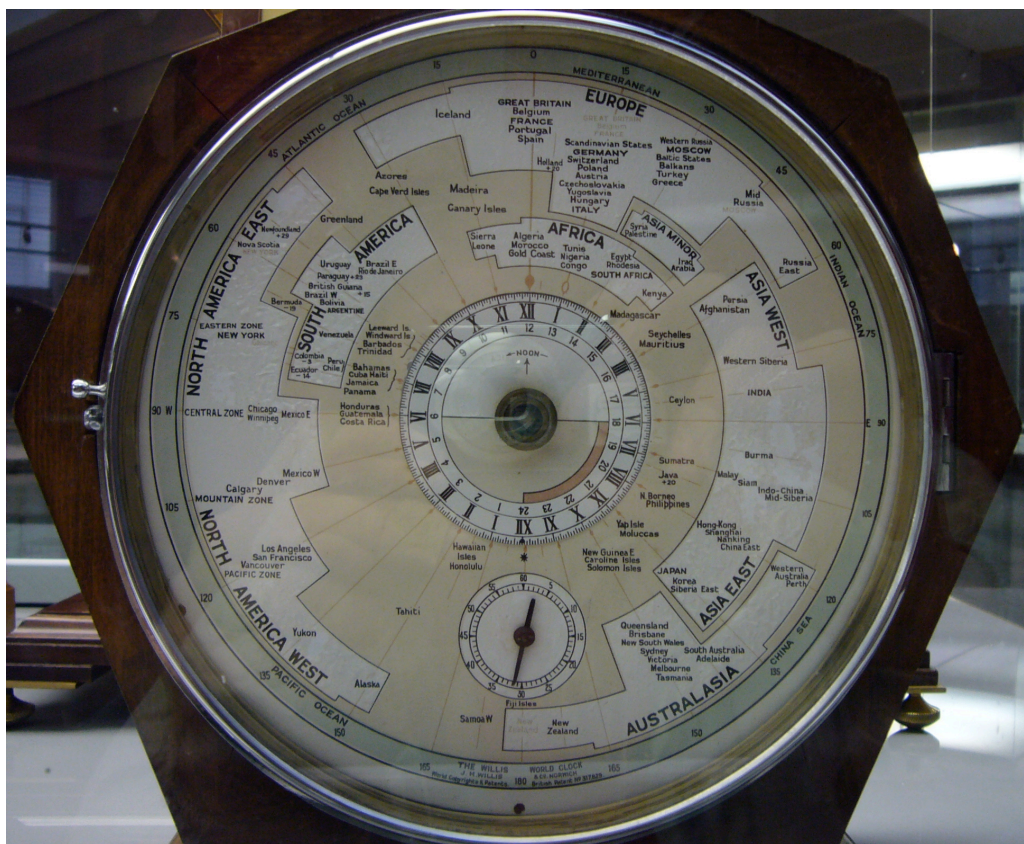
which is one way of saying no.

Here's another way:

Sir J. Langford-Holt asked the Minister of Power whether he will give a general direction to the boards of the nationalised industries for which he is responsible that the 24-hour clock is to be used wherever it will reduce confusion in publications by them.

*Mr. Peyton No.*⁷⁹

After World War II, you were more likely to find the members of the House of Lords struggling to keep up with the times, rather than trying to change them. But as Britain became less insular as a nation, and begun to move grudgingly towards closer relations with Europe, it became easier to adopt some of the conventions more widely used in other countries.



The Willis World clock, from the 1930s

Even in the 1960s, the 24-hour clock was considered to be “continental”, along with decimal currency and metric units, as can be seen in this exchange between Harold Macmillan, Prime Minister, and Irene Ward, MP for Tynemouth, in 1963:

⁷⁹ Hansard House of Commons 23 July 1962

CONTINENTAL TIME AND MEASUREMENTS

Dame Irene Ward asked the Prime Minister if he will give an assurance that Parliament will be consulted before nationalised boards or Government Departments adopt Continental timing or temperature measurement.

The Prime Minister No, Sir. People are becoming increasingly familiar with the 24 hour time system and the centigrade scale, and I am sure that whenever there is any question of extending their use the authorities concerned have full regard to the convenience of the public.

Dame Irene Ward Without wanting to prejudge the issue, does my right hon. Friend think it wise for the British Railways Board to support experiments on the North-East Coast and in the South-West without Parliament being made aware of them and without any discussion on the subject? Is he aware how difficult it is for people, particularly old people and children, to turn up at a railway station and find the trains announced by Continental timing when probably they have not even been abroad and do not know anything about it? Is it not a matter for Parliament?

The Prime Minister I understand the difficulty. I believe that the train we used to call the 3 o'clock is now called the 15 o'clock. I would have thought that after ninety years of free and compulsory education and after two wars there were a lot of people who would understand this.⁸⁰

Another MP, Henry Hynd, summarized this British attitude with some insight in 1965:

While we are well ahead technically and scientifically in many things in this country, and are at the moment considering such things as the introduction of the metric system and a 24-hour clock and one or two other things which have been in operation elsewhere for a long time, we are very loath to adopt systems which are operated elsewhere. We like to inaugurate new systems, but we do not very much like to adopt other people's ideas, I suggest that we ought to benefit from the experience of others, and that while it may be painful for us to do so here is an opportunity to adopt something which would be of real public service.⁸¹

As the steam trains started to disappear from the Britain's railways, to be replaced with diesel and electric services, 24-hour times started appearing in the timetables. After some initial experiments proved acceptable, British Rail Western Region introduced the system on 15 June 1964, and

⁸⁰ Hansard House of Commons 02 July 1963

⁸¹ Hansard House of Commons 21 July 1965

throughout the rest of the country on 14 June 1965 – forty-five years after the Baird Committee had recommended its adoption.

London Transport announced on Jan 7 1964 that they were switching to the 24-hour clock after a trial on the Green Line coach route timetables in 1963 proved successful:

Public reaction to the new system has been overwhelmingly favourable.⁸²

On September 7, 1964, Frank Pick's proposals were finally implemented: London Underground introduced the 24-hour system for its timetables.

THE DAY TODAY

As of 2011, the BBC's Radio Times still displays times in the 12-hour system, as do many other newspapers. The BBC and the Radio Times no longer have a comfortable monopoly and are more concerned with profits and ratings than with promoting innovations or standards. Even the smallest change to programme times or weather forecasts generates hundreds of angry letters and emails, and there's little possibility of a repeat performance of the 1934 BBC's battle with tradition.

The BBC currently uses the 24-hour system for TV listings on some of its websites but not on others. On BBC News, the News at Six starts when the clock at the bottom of the screen shows 18:00. Electronic programme guides are distributed with 24-hour times only, and most video recorders require them, not having the more complex interface for handling a.m. and p.m.. A good excuse for someone who failed to record a programme is that they confused a.m. and p.m. when setting the time.

The BBC TV weather forecasts now use 24-hour times and Centigrade temperatures:

⁸² Times Jan 7 1964 page 4



The Post Office has been split into separate parts, British Telecom (BT) and the Royal Mail. Both use either the 24 or 12 hour clock depending on the whim of the person doing the work.



Collection times at Truro station: still 12-hour today?⁸³

In schools, the 24-hour clock is part of the curriculum in every primary school. 11-year olds are expected to be able to answer questions that had once been considered as ‘abstruse’ by members of parliament:

What is the time 19.45h on the 12 hour clock?

THE STANDARD

There is, of course, an international standard for date and time formats: ISO 8601, which was first approved in 1988. It uses the 24-hour clock, and arranges the year, month, day, hour, minute, and second components in decreasing order of size: for example 2007-04-05 13:45:37. This format is often used internally by software programs. What it lacks in poetry and tradition it makes up for in clarity and ease of manipulation.

⁸³ http://commons.wikimedia.org/wiki/File:Truro_station_letter_box.jpg

UNLUCKY FOR SOME

Now that both 12-hour and 24-hour systems are in daily use, most people develop the ability to convert between them without error. But mistakes do happen. Consider the story of Edward O'Brien.

On the evening of February 16 1996, he was taking his bag, which contained five pounds of Semtex wired up to an electronic timer and detonator, to the Law Courts in the Strand, where it was to explode at 10:30. Unfortunately for him, it exploded at 10:30 p.m., while he was on the 171 bus at Aldwych, rather than at 10:30 a.m. the next day. He, or more likely a bungling IRA colleague, had mistakenly set the detonation time using the 12-hour clock earlier that evening, and had failed to spot the a.m./p.m. setting. He was the only fatal casualty of the explosion that ripped the London bus apart that evening.⁸⁴

TRISKAIDEKAPHOBIA STRIKES

An intriguing explanation for the reluctance to adopt the 24-hour clock is the bizarre survival into modern times of the traditional superstition regarding the number 13, which definitely qualifies as an abnormal psychological condition with a suitably long name. Buildings are still numbered to avoid a 13th floor, and in the high-tech world of Formula 1 cars you won't see a car numbered 13.⁸⁵

The relevance to the 24-hour clock is that 13 is the first point at which the 12 and 24 hour clocks really part company. 13 is the number that goes too far, that steps outside the accepted range. A clock that sounds 13 must be announcing unlucky times.

Mark Twain:

The thirteenth stroke of the clock is not only false of itself, but casts grave doubt on the credibility of the preceding twelve.

George Orwell, in the opening sentence of the novel 1984:

It was a bright cold day in April, and all the clocks were striking thirteen.

Adolf Hitler (in 1942):

⁸⁴ The Times February 29 1996

⁸⁵ <http://joesaward.wordpress.com/2009/12/01/why-there-is-no-number-13-in-formula-1/>

I make it a principle not to stop until the clock strikes thirteen.

Of course, none of them knew that town clocks originally did strike up to 24. One of the most famous examples was in Milan, Italy. In 1335, Galvano Fiamma wrote:

There is there a wonderful clock, because there is a very large clapper which strikes a bell 24 times according to the 24 hours of the day and night, and thus at the first hour of the night gives one sound, at the second two strokes, and so distinguishes one hour from another, which is of greatest use to men of every degree.

In 1925, the clock in St Georges church, Freienwalde, in Brandenburg, Germany, was adapted to mark the 24 hours correctly, striking 13 times at 13:00, and 24 times at midnight.

TIME FOR BED

Sometimes changing from 12-hour to 24-hour time can improve your health. Here's a story from the Birmingham Post in May 2002.

Timely idea wakes up a new venture

Night after night Mark and Taryn Freemantle faced the same torture.

Come 4am, without fail, they would find themselves abruptly wrenched out of their peaceful slumber.

There, standing at the edge of the bed would be - horror of horrors - their two-year-old daughter Saffron, ready to start the day.

Anyone who has suffered the nightly sleep interruption faced by new parents will sympathise with the Freemantles.

As young professionals struggling to hold down demanding jobs, not getting a good night's kip can be devastating, undermining one's performance at work and making domestic life far from bliss.

Mark, however, decided to do something to end the nightmare.

He put to use his university training as a product design degree student to invent what he believes is the world's first clock that helps children sleep. "I was racking my brains to find ways to get my daughter to stay in her bed," said the 38 year-old who works as a commercial manager in the automotive sector.

"She would wake up at 4am and wouldn't understand she needed to wait another three hours before we woke up. We tried having a light that switched on in the morning, but if she woke up and the light wasn't on she got very frustrated."

“The trouble is most children cannot tell the time until they are over five years old and struggle to read numbers.”

Mark decided what was needed was something that clearly showed the difference between night and day in a way that children could understand.

So, he cobbled together a number of clock parts to make a 24-hour one that split the face into a yellow-coloured day section and a dark blue night section. The difference between night and day was clearly indicated by the position of a star-tipped hour hand. To finish off, Mark gave the clock a mechanism, allowing parents to adjust the size of the night and day period. “I thought if my daughter could visually see how long she had to wait before getting up and get a sense of time, it would help,” said Mark.

“It needed to be very pictorial for young children to understand.”

The clock worked a treat and little Saffron stayed in her own bed giving the Freemantles the greatest gift known to parents - uninterrupted sleep.⁸⁶

I’ve been unable to find a good picture of this clock, but here is my impression of what it might have looked like:

⁸⁶ The Birmingham Post May 8, 2002

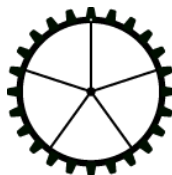


20. And finally...

As modern life becomes ever more challenging, some of us like to take refuge in comfortable certainties: miles, feet and inches, gallons and pints, the pound sterling, the World at One and the News at Ten, and a.m. and p.m.. Their familiarity reassures us that there are things that we can rely on, even as the world around us changes every hour.

Neither side of the 12 or 24 debate won. Instead of having just one time system, we have two, and they're both going to be with us indefinitely. So whether you're an American in Paris, or a French visitor to New York, you have to know both the 12-hour and the 24-hour clocks.

Metric time, anyone?



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