But, in order that I may be understood by all classes, it will be requisite that I should make a few preliminary remarks, and also that I should avoid all technicalities. For instance, instead of saying that the earth turns on its axis in 24 siderial hours, I shall remark that the sun goes round the world in 24 hours, and it will be necessary to take a few other liberties with the known laws of the universe, that the subject may be treated in a popular manner, but which will in no way prevent the most learned from fully understanding the scientific mode that was pursued.

First, then, to explain how it is that longitude may either be reckoned in hours and minutes, or in degrees and minutes.

As the sun goes round the world in 24 hours it passes over 360 degrees in that time, or over 15 degrees in one hour, and as it is 12o'clock when the sun is south or north of a place, it is evident that all places that are north or south of each other keep the same time, and all their clocks should shew the same second; and for the same reason all those places that are not north and south of each other have different times, and their corresponding clocks should not agree.

Now, when the sun is south of Greenwich, it is noon by the sun-dial, and in one hour after that the sun will have passed over 15 degrees, and it will be noon at all those places that are north and south of each other in 15 degrees west longitude, or what is the same thing, in all those places that are situated in one hour of longitude.

If, for instance, when the sun was due south of a place, one of the inhabitants could call out loud enough to be heard at Greenwich, and ask how long it was since the sun was due south of them, and that he was told that the sun had passed just two hours, then, as we know that the sun travels at the rate of 15 degrees an hour, we know that the longitude of that place is 30° degrees west, or two hours. From this, it is clearly seen that the difference of longitude is nothing more than the difference of time between two places, and that it may be either counted in time or in degrees.

Although there may be no great harm in a city being ten minutes out of its longitude, yet, if a ship were out of her reckoning to that amount, the result would very likely prove fatal. The sailor of former times might have called never so loud and still not have been heard at Greenwich. It is true that he could easily have ascertained the correct time of his ship by measuring the height of the sun, but getting the time of Greenwich was quite beyond his reach. Astronomy comes to the aid of the present generation, and by its means a clock has been discovered in the heavens that keeps exact Greenwich time, and which can be seen from all parts of the world. The duty of the hands of this clock is performed by the moon, and the dial is no other than the starry heavens, but instead of the hands going round the face of the clock in 12 hours, the moon takes 28 days to go round the heavens.

To use this clock, when the mariner wants to know the time at Greenwich, he has only to measure how far the moon is from a bright star, and then consult his almanac, and he sees that when the moon is so far from that star, it is half-past 11 P. M. at Greenwich, and as it is only 9 o'clock P. M. at the ship, he finds his longitude to be 2h. 30m. or 37° 30′ west of Greenwich.

If then this clock could be easily read, nothing more could be wanted; but, unfortunately, the hands of this clock are so far from the face, that is to say, the moon is so far from the stars, that unless you are standing opposite the hand you do not see the correct minute it is over. For instance, if you are standing much to the right of a clock, and the hands are some distance from the face, you will make the clock a minute or so slow. In a similar manner the position of the observer with respect to the moon alters her apparent distance from the star. The difficulty of reading this clock, has however, led to the improvement of watches to that degree that a chronometer keeping Greenwich time may now be obtained and taken on board, when at any time the difference between ship and Greenwich time may be known, or in other words the longitude of the ship.

Although a chronometer, with care, is sufficient for the navigation of a ship, still, when determining the relative position of places on the earth, a chronometer cannot be trusted to keep exact time, particularly when taken long journeys by land, and something more accurate is wanting; and this want is fully supplied by the electric telegraph.

In the recent determination of the longitude of the city of Chicago, the following arrangement was made:—Col. Graham, of the Topographical Engineers, U.S A., consented to take charge of the Observatories at Chicago, and the Telegraph Company gave free use of their line, and lent every assistance in their power, in the most obliging manner.

On the night of 15th May, at 10 p. m., the end of the telegraph wire was in the Observatory, an operator, Mr. Henderson, was in attendance, and all was ready to send signals.

Quebec began by sending a dot at the commencement of each minute, and this was repeated seven times. Chicago listened to these dots, and to the tick of a chronometer that was keeping mean solar time, or the correct time of Chicago. And, as Quebec was sending dots from a siderial clock, which gains one second on a solar chronometer in six minutes, Chicago listened for a coincident beat, and noted the second, minute, and hour at which the Quebec dot coincided with the tick of their chronometer. After this Chicago sent dots from their chronometer, and Quebec listened for a coincident tick and dot, the exact time of which was noted, and these signals were repeated until we were satisfied that we had the exact difference of time between Quebec and Chicago. All that remained now to be done was to turn Chicago mean solar time into siderial time, and, as a precaution against error, to turn Quebec siderial time into mean solar time.

The difference between the mean time and the difference between the siderial time should agree, and this difference is the difference of longitude between Quebec and Chicago. A remarkable thing is, that although three lines were joined together, by making the end of one line meet the end of the next line, only two-tenths of a second were occupied by the signal going along the line.

DIFFERENCE OF TIME BETWEEN QUEBEC AND CHICAGO.

	H.	M.	S.
By first signal from Quebec	1	5	41 44
By second signal from do	1	5	41 44
Mean	1	5	41 44
By first signal from Chicago	1	5	41 64
By second do do	1	5	41 55
Mean	1	5	41 60
Mean of both	1	5	41 52
Longitude of Quebec	4	44	48 49
Longitude of Chicago	5	50	30 01

E. D. ASHE, Director.

Observatory, Quebec, June 10th, 1857.

DEATH OF MR. DOUGLAS JERROLD.

The intelligence conveyed by the above heading will probably take the whole literary public of England completely by surprise. But few days ago Mr. Douglas Jerrold was a prominent figure in London life. An assembly of 'wits' would hardly have been deemed complete without his presence, and his last *bon mot* was one of those items of news that everybody was glad to hear. To the special world in which he chiefly existed it is scarcely necessary to say that his illness was of short duration. On the night of Sunday, June 7th, he took leave of several of his intimate friends, and shortly after the noon of Tuesday his earthly career had terminated.

Mr. Douglas Jerrold was in a great measure what may be styled a "self-educated" man, and the celebrity he attained with every class of his countrymen that is capable of appreciating intellectual worth may be cited among the many instances that show how distinct is the path to fame from any of those beaten tracks of instructions that time and usage have prescribed. He was born in London on the 3rd of January, 1803, and to the fact that his father was manager of the Sheerness Theatre may be attributed that predilection for the stage which forms a leading characteristic of the greater portion of his life. However, his earliest expressed passion, fostered no doubt by the scene which Sheerness presented during the height of the war was for a maritime life, and he obtained a midshipman's appointment through the good offices of Captain Austen, brother of Miss Austen the novelist. With the war ended his nautical career, and on quitting the service he was apprenticed to a printer in London. His leisure hours were now devoted to self-instruction, Shakespeare being his chief author. An essay on the opera of Der Freischntz which he dropped into the editorial box of a newspaper on which he was employed as a compositor, is the reported beginning of his literary labor. The *copy* was handed over to him to put in type, and shortly afterwards appeared an editorial notice soliciting other contributions from the unknown correspondent.

The sharpness of Mr. Jerrold's satire has caused many persons to attribute to him a character of misanthropic ill-nature; but never was a more egregious mistake committed. The large light blue eye of Douglas Jerrold beamed nothing but benevolence, and to this expression the feeling of his heart fully responded. Like wits, he loved his joke, and if any opportunity for uttering a repartee presented itself he was not the man to let firelock escape his grasp. Hence, some unfortunate personage who obtruded his egotism or his pedantry might chance to get an unlucky *hit* if Douglas Jerrold was in company, and as the weapon was of first rate quality, the mark of the wound might remain unobliterated for years. But to suppose that Douglas Jerrold ever deliberately intended to inflict pain proves a total ignorance of his large and philanthropic nature. Wrong and oppression he hated in the abstract, but he had a friendly grasp for all individuals, even among his adversaries.