Metric Time and The Speed of Light
[ 259,020.6837 kilometers/metric-second ]

*Time Systems, Clocks and Spacetime Measurement*

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**Extract**

Metric time is the expression of unitary time for time reckoning on Earth. The conventional 24-hour time system employed today is actually an alternative method of measuring time and telling time. However, scientists have it backwards and call metric time the alternative method, as though the current 24-hour system were the base system. It is the base system because they refuse to employ the unit metric system. This essay explains the difference between metric time and alternative time systems, such as the 24-hour conventional time system employed today. The conventional 24-hour time system is based on the Earth’s rotation as is the proposed metric time system. Efforts to overcome these systems by using the number of pulses in an atom of Cesium-133 is discussed regarding methodology and consequences for the measurement of the speed of light.

Today is the tenth of February of 2009, and I was reading about some scientist who tackles the concept of time and its possible definition as of two dimensions of space and one dimension of time. He considers that therein may lie a resolution of the T.O.E. [the theory of everything]. Ho-hum. But what was interesting is that it made me think about the concept of time and its measurement.
We mark time by numbers of seconds, minutes, hours, days, weeks, months, and on years, decades, centuries, millennia which all reflect movement in placement. These are impositions arbitrarily chosen by our conceptualizing a number system. The untenable nature of impositions becomes obvious when one examines the unending debates about when a new millenium begins/ends.

The number-based system we have chosen for measuring and telling time results from the divisions of Earth’s rotational period in (24) hours/day, (60) minutes/hour, (60) seconds/minute. This system of telling time is called a 60-base system, which in fact is a misnomer. More precisely, it is a 24-60-60-base system. [One could stretch the 60-base point by dividing 24 by 4 = 6 in order to obtain a fractal 6, but again that is stretching the point.]

Yet, the time concept of day reflects a divisional movement of the 24-hour division of the day, Earth’s rotation on its axis, into years, which on Earth vary as sidereal, tropical, anomalistic, etc., days/years. Each reflects a position and placement/motion of the Earth in relation to the Sun (and its solar system and the Universe).

**The Metric System of Measuring Time**

In the face of the 24-60-60 conventional time system, many scientists today propose an alternative approach to create a *metric method of time* measurement (*metric* time) and of telling time (*decimal* time). One often cited method is based on multiples of ten (10.0): a 10-100-100 base time system. They present it as follows:

- 10 metric hours in one day
- 100 metric minutes in one metric hour
- 100 metric seconds in one metric minute

They also propose 10 metric days as constituting one metric week (*dekade*); but, this is of little interest here. One may observe however that the ancient Egyptians-Kemi divided their 360-day year into 36 *decans*, each consisting of ten days, with five remainder days added on at the end in order to achieve the 365-day calendar.
In this case, one metric hour would equal 2.4 hours of current time measurement on a 24-hour clock. There would be 144 minutes of the 24-hour minutes making up a metric hour of 100 minutes. And, there would be 8640 seconds of the 24-hour clock in one metric hour.

A metric second would then be 1/100000th of one day, or 0.864 of our second.

One could employ a consistently base-10 metric system, such as 10-hours | 10-minutes | 10-seconds. The lengths of each unit would be greatly increased compared to the conventional 24-hour time system. However, in terms of unit 1.0 considerations, the numerical expressions would remain the same, since 10 x 10 x 10 = 1000 and 10 x 100 x 100 = 100000. No matter which one is chosen, the numerical values remain as of unit 1.0 fractal values. Today’s scholars consider apparently mainly the 10-100-100 metric alternative, although a 20-100-100 method is also suggested.

The metric second, then, being 1/100000th of one Earth day, would represent 1/100000th part of Earth’s rotation. This is important to comprehend the analysis presented in this essay. The 24-hour conventional time system basically takes the Earth’s rotation as its foundation as well, but when analyzing the speed of light, for example, inconsistencies make their appearance as we shall discuss below.

The speed of light is given today by NIST [National Institute of Science and Technology] and being exactly 299792.458 kilometers per second [ the second being the lapse of time on the 24-hour clock of course]. In analyzing the speed of light in a vacuum, problems arise because the second of time is taken for granted. When discussing the possibility of a distinct time system, such as the metric time system, the length of the second is no longer taken for granted.

Personally, I have always wondered why would the speed of light be expressed in such a strange number: 2.99792458 or any one of its fractal expression. I have considered subtracting that value from 3.0 in order to see if the difference holds a key to a better understanding of its value.

3000000 minus 299792.458 = 207.542

Search as I might, the 207.542 value does not really speak to the substance of my research into reckoning time, either by the ancients or by scientists of
today. The value 207.542 does double to 136.01472, but beyond that I see little in its value as relates to the physical and chemical constants of today, or to the ancient reckoning numbers.

So, the question remains, how to explain the strange nature of the 2.99792458 exact fractal value for the speed of light in terms of matter-energy, first, and then in terms of the time system reflected in its terms [the second of the 24-hour time system].

By considering the concept of metric time, certain light is shed upon the speed of light and the measuring and telling of time itself. In metric time, [on the 10-100-100 time system] then, the speed of light would be registered as: 0.864 x 299792.458 kms/s equals 259020.6837 kms/metric second.

In this sense, the metric second is shorter than the 24-hour second. It is in fact 0.864 percent of the 24-hour second. So, the measurement of 2999792.458 kms/sec on the 24-hour clock reflects the same speed as the 259020.6837 kms/metric-second on the metric-10 time system, but each reflects a distinction in the amount of time measured and hence a distinct amount of distance that the light photon has traveled. In both cases, the light photon is traveling at the same speed/velocity, for both 299792.458 kms/sec and 259020.6837 kms/metric-second represent specific expressions of the same spacetime/motion event.

By now, it has become visible that the difference between the number of seconds in one metric day (100000) and one of our day-counts of today (86400) is 13600 seconds. This difference is highly significant for the 1.36 - 1.366 - 1.37 relationships that we have been calling attention to in the Earth/matrix series of essays. [www.earthmatrix.com] And again, remember the difference between the speed of light and the 300000 ideal value cited above: a multiple of 136.01472.

Multiply 0.864 times 300000.0 kms/sec and obtain 259200.0 kms/sec for the speed of light in the metric system of measurement. One necessarily notices the presence of a fractal expression of the ancient precession cycle number, the Platonic Year, or the Great Cycle of 25920 years. The cut-off marks on the metric system are then in relation to the historically significant numbers/values. [For 756c metric seconds would represent 195955200 kms traveled by light then; 756c being the side measurement of the Great
Pyramid of Giza and 195955200 being a fractal expression of the Nineveh number.]

The varied combinations of computations are mind-boggling.

Some metric clocks have been shown to have ten hours registered on the face of the clock, meaning that in fact the day would be divided into twenty hours, not ten. So, that particular metric time system would be rather a 20-100-100 base; 10 metric hours for day-time, and ten metric hours for night-time, each hour consisting of 100 minutes and each minute consisting of 100 seconds. The total number of seconds on this clock is 200000, double that of the metric-10 clock \[10 \times 100 \times 100 = 100000\]. The length of the hours/minutes/seconds on either clock would be distinct from one another in length.

Neither of these two alternative methods of time measurement and of telling time have been significantly adopted for use in today’s societies. And, it does not appear that in the near future either one of these systems (the 10-100-100 or the 20-100-100) will become popular throughout the world. Further, it appears that ancient China employed a ten-base system of time measurement for millennia, but it was discarded by the intervention of the Western countries into China.

One could probably make a case, as many have been made and are still being made, to adopt a metric system of time measurement in order to be congruent with today’s SI metric system of measurement for other aspects of matter-energy such as length, area, dry volume, liquid capacity, weight and/or mass, even currency.

With a metric time system, one would not only be aligned with the measurement of spatial events of matter-energy, rather one would be aligned with temporal events of matter-energy. And, further, as seen ever so briefly above, one would be aligned with ancient methods of measurement as well.

**Alternative Systems of Measuring and Telling Time in the Light of the Metric-10-100-100 Base System**

One would expect to have a measuring system of time and the method for telling time based on the metric system given all of the other kinds of measurements in physics and chemistry based upon the metric system [the
SI standards of measurement]. In other words, if **space** (matter-energy) is measured as of the metric system (10-base system), then one would expect the same 10-base system to be used for measuring **time**; inasmuch as space is time and time is space, *spacetime is one*. You measure one, you measure the other.

There is still another telling alternative. These alternative methods, which were possibly employed by the ancients (remember, we are told that ancient China used a metric system for thousands of years) reflect distinct procedures. In my view, the metric and the English system are products of their time; they have been historically inherited from the ancients. But, the explanation of this proposition would require yet another lengthy essay similar to the present one.

Consider a **20-60-60** time system, similar to the one in vogue today only the number of hours in a day has changed. In such a time system one hour would be equal to 1.2 hours of our time-keeping of today (24 hours divided by 20 equals 1.2). One Earth day would contain 72000 seconds, instead of the 86400 of the conventional 24-hour clock. The Earth day is then divided into twenty hours (instead of twenty-four), *but* one retains the 60-base system for minutes and seconds. In other words, examine the values corresponding to a time measuring system of 20-hours/day | 60-minutes/hour | 60-seconds/minute. I am going to call this the **20-60-60** base system. [*The Mesoamericans employed two main day-count calendars where the days of a month were twenty* (13 x 20 = 260 days; and 18 x 20 = 360 days).

Now, consider a **20-72-72** base system. In such a time system one hour would be equal to 1.2 hours of our time-keeping of today (24 hours divided by 20 equals 1.2). The gradation of 60 minutes and 60 seconds remain the same as our clocks of today. But, the number of minutes and of seconds in a minute now change since the hour is 1.2 longer in length. So, there would exist 60 minutes in one corresponding hour, but each minute is 1.2 in length as compared to the minute on the 24-hour clock. And, similarly with the 60 seconds to each corresponding minute.

One Earth day on this clock would then contain 103680 seconds (20 x 72 x 72 = 103680). The 20-hour hour is 1.2 times longer than the 24-hour hour, but its internal divisions are based on the same 60-base counts. Only there are twelve additional minutes to each hour, and 12 additional seconds
to each minute. The length of the seconds in this case, however is equivalent to the length of the 24-hour conventional clock.

With this exercise, it should become noticeable as to why the 24-60-60 time keeping is not a 60-base system, but rather a 24-60-60 base system. Just as the alternative time systems mentioned represent a 20-60-60 and 20-72-72 base system; neither is the 20-60-60 a 60-base system, nor is the 20-72-72 a 72-base system.

They are what they are as illustrated. In the 24-60-60 and the 20-60-60 base clocks, the length of the measurement of the hours would change, but the minute/second units of measurement would remain the same. In the 20-72-72 the length of the measurement of the hours change as well as the concepts of minute and second.

A clock that would have a 10-100-100 system is frequently referenced as a 10-base system, meaning multiples of ten. But, a clock that would have its face with 10 hours, would be actually a 20-100-100 base clock, ten hours for daytime and ten hours for night-time; this particular clock for telling time would not be a metric clock as such, but rather a metric-like clock based on multiples of ten. The metric 10-base time system would have to be a 10-10-10 clock.

In the 10-100-100 and 20-100-100 base clocks, the length of the measurement of the hours would change, but the minute/second units of measurement would remain the same in relationship to themselves.

In my view it is unwise to refer to any of these clocks as either a 60-base time system or clock (the first two examples) or as a metric 10-base clock (the latter two examples).

With the adoption of any one of the clocks enunciated above, the values of the physical and chemical constants would undergo change. But, I am most interested in the change regarding the 10-100-100 base time system in relation to the speed of light, for example, 299792.456 kilometers per second [24-base clock].

In order to illustrate this point, let me offer what the speed of light would be for each clock cited in this study. Again, the speed of light, of a light photon is everywhere the same [as far as scientists know today]. For
that reason, the speed of light is given as one of the physical/chemical constants in today’s sciences. It is constant everywhere throughout spacetime [all matter-energy].

The following values are derived as of the theoretical divisions in each one of the cited time systems and each one’s corresponding theoretical clock. To be clear, the distance of one kilometer remains the same for all time systems of measurement. What changes is the length of the second for each time system, and therefore the values are modified accordingly for each system. In our 24-hour conventional time system, generally, the concept of a “second” is taken for granted.

When one considers the speed of light, one generally muses over the 299792.458 number, taking for granted the concept of kilometer and second tagged on at the end of those numbers. However, if one modifies the distance measurement [kilometer] or the time measurement [second], then those numbers are going to change as well. This is easier to understand when we think about another measuring system, as in 186282 miles/second. The concept of “miles” is readily understandable, but again the concept of time, “second”, is taken for granted.

Now, within the apparently same measuring system of metric measurements for distance [kilometers] and metric time [second], it becomes more difficult to visualize the modifications and how to read them. This is probably one of the reasons that it has been so difficult to adopt a metric system of measurement of time as of the metric system for measuring distance.

Now, if we examine the different theoretical possibilities of time systems within both the 24-hour system and the 10-hour metric system, we may be able to shed some light as to why such difficulties in conceptualization make their appearance.

Strangely enough, the 24-hour/60-minute/60-second clock is often referred to as a 60-base system. This flows from the concepts in geometry and the base number of a 360c degree circle (60 x 60 = 360), and so on. What is significant is the fact that in reality the 24-60-60 base time system is a mixed system precisely of a 24 | 60 count. And, as we have discussed above, the metric 10-base system so often quoted in the literature is actually a 10-100-100 base system, or a mix of fractal 10 | 100 counts. In my mind, a 60-base system would be 60-60-60, as well as one could understand such a
system of time measurement as a 10-base itself expressed in multiples of ten [60].

This entire discussion, regarding what is a 10-base and a 60-base time system, I find without merit and irresolvable other than as it is solved, as a mix of base numbers. The question is to comprehend what the different base time systems reflect in terms of spacetime/motion. To that end, let me offer a few observations about some theoretical possibilities in creating systems for measuring and telling time.

In a sense, the 24-hour time system stands alone precisely because it is the only explored here that contains a number [24] that is not a multiple of base-10. The other theoretical clocks contain either 10 or 20 hours, although the number of minutes and seconds vary.

### Theoretical Time Systems and the Speed of Light
**Listed Decrementally for Each Particular Clock**

<table>
<thead>
<tr>
<th>Clock Type</th>
<th>Speed of Light</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>20-60-60</strong></td>
<td>359,750.9496 km/s</td>
</tr>
<tr>
<td>20 x 60 x 60 =</td>
<td>72,000 seconds/day</td>
</tr>
<tr>
<td><strong>24-60-60</strong></td>
<td>299,792.458 km/s</td>
</tr>
<tr>
<td>24 x 60 x 60 =</td>
<td>86,400 seconds/day</td>
</tr>
<tr>
<td><strong>10-100-100</strong></td>
<td>259,020.6837 km/s per metric-10 second</td>
</tr>
<tr>
<td>10 x 100 x 100 =</td>
<td>1,000,000 seconds/day</td>
</tr>
<tr>
<td><strong>20-72-72</strong></td>
<td>249,827.0483 km/s per mesoamerican sec</td>
</tr>
<tr>
<td>20 x 72 x 72 =</td>
<td>1,036,800 seconds/day</td>
</tr>
</tbody>
</table>
As one may observe, essentially the different clocks are dividing the rotational period of Earth into different sectors/divisions (called seconds): 72000, 86400, 100000, 103680, 200000, etc. After noting this characteristic of the different clocks, one may realize that the fact that today a division of 86400 seconds/sectors is employed pertains to historical reasons. We could just as easily have been working with some other alternative clock (number of divisions), just as it has happened throughout history; i.e., the ancient Chinese having employed a metric system.

Nonetheless, there is only one particular clock that reflects unit 1.0 for the rotational period of Earth. That pertains to the metric-10-100-100 system, which is a fractal expression of the unitary rotational period of Earth around its axis. Unfortunately, scientists today do not employ a metric unitary clock for their computations of the physical and chemical constants, and therefore the numerical expressions of the constants are themselves obscured at times.

Today scientists have come to settle on the 299792.458 kms/sec expression for the speed of light reflected in the 24-60-60 time system for dividing up Earth’s rotational period. The 299792.458 figure represents 1.157407407 times the fractal expression of Earth’s rotational period, which is 259020.6837, as enunciated in this study. In other words, light travels 25902068370.0 kilometers per rotational period of Earth.

1.157407407 times 259020.6837 = 299792.458

Again, the 2.99792458 figure employed today for the speed of light is merely expressing 1.157407407 times greater than the number of kilometers that light travels during one rotational period of Earth. Hence, light travels 259020.6837 kilometers/metric-second during one rotational period of Earth. While light travels 299792.458 kilometers during 1.157407407 rotational period of Earth.

With that, one can stop wondering why the speed of light is represented by such a strange number: 2.99792458 and all its fractal
expressions. That value is derived as such since the 24-hour time system is designed as of Earth’s rotational period, but instead of being metric based, it is based on the historical division of combined 24 | 60 numbers. By employing a metric-10-100-100 time system, one is still linked to the Earth’s rotational period, but now that linkage is derived as of unit 1.0 representing one rotational period. Hence, the metric-second is 1/100000th (259020.6837) of that rotational period (25902068370.0 kilometers). **Light travels 25902068370.0 kilometers while the Earth rotates once on its axis.** The 10-100-100 metric time system’s *second* reflects 1/100000th of that distance (259020.6837 kilometers).

With that, one can only imagine for now all of the adjustments regarding the physical and chemical constants that are required when these metric measurements of spacetime/motion events are modified. The determining question, as shown above, is to know which numbers reflect which particular spacetime/motion events of matter-energy.

The previous examples assist in distinguishing between measuring a matter-energy event and telling time. Each modification of the existing 24-hour clock undergoes a lengthening of the hour inasmuch as the hours of the three alternative clocks are reduced in number (from 24 to 10 or 20) and therefore increase the amount of time measured for the different units (from 60 to 72, 100 or 200).

The length of the Earth day remains the same for all clocks; only the internal units have suffered modification in the amount of time measured. Each of the alternative clocks reveal a shorter length of the second for the rotational period of Earth. The 20-60-60 clock divides the Earth’s rotational period into 72000 sectors (or seconds); our current 24-60-60 clock divides the rotational period into 86400 sectors (seconds); the 20-72-72 clock divides it into 103680 sectors; and the two metric clocks [10-100-100 and 20-100-100] divide the rotational period of Earth into 100000 and 200000 seconds respectively. A larger number of seconds per rotational period means a correspondingly lesser distance of that light travel in that shorter time frame (i.e., less time).

The metric-20-100-100 system as shown above is simply a doubling of the metric-10-100-100 system and is offered for the sake of clarity only. One could obviously triple, quadruple or create any number of 10-base multiples of the metric-10-100-100 system in order to create ever smaller
sectors in the division of the rotational period of Earth; say 100-1000-1000, for example. Such multiples are in fact superfluous, inasmuch as one manages a 10-base system, any multiple thereof will follow in the computations and adds nothing to the original computations; only smaller more precise units of measurement are derived. One must simply move the decimal place as needed as in fractal numbers.

Now, the speed of light remains the same everywhere no matter which particular time system/clock is employed to measure the distance traveled. However, since the definition of one second on each clock varies regarding the amount of time measured, then the speed of light for each clock appears distinct accordingly. [Although less obvious, it is the same as saying that car is travelling 60 miles per hour or one mile per minute; only in this case we have changed the length of hours/minutes instead of distance, as in 60 miles or 1 mile.]

And, inasmuch as the alternative theoretical clocks register a greater number of seconds in their internal division as shown above, then the speed of light expression will be less for each one of these clocks. This occurs because the definition of one second on each of the alternative clocks is measuring how fast light travels for a shorter distance. Hence, for each one of the modified clocks the speed of light appears to increase/decrease, when what has happened is that one is only measuring the speed of light over a greater/lesser distance (= for a greater/lesser length of time).

The speed of light remains the same. Its expression in relationship to distance traveled varies (i.e., increases/decreases) in these instances.

359,750.9496 kilometers per a 20-60-60-base second

299,792.458 kilometers per a conventional 24-60-60-base second

**259020.6837 kilometers per a metric-10-100-100-base second**

249,827.0483 kilometers per a 20-72-72-base second

129510.3419 kilometers per a 20-100-100-base second

Each of the five cited velocities for light per x second reflect the same spacetime/motion event of how fast light travels in a vacuum, only the
measured amounts of distance | time are distinct for each case. The difference in numerical expressions reflect the different amounts of time | distance represented by each one of the clocks referenced. One second on any one of the five systems/clocks cited is distinct from the other four shown, and therefore obviously the numbers vary. Historically we use the numbers related to the 24-60-60 base system/clock. Had history itself been different, say in Mesoamerica, we could have been using the 24-72-72 system/clock which involves numbers related to the Maya Long Count [72, 144, 288, etc.].

Also, theoretically, were we to create a time system/clock of 48-hours/30-minutes/30-seconds, then the speed of light would be 599584.916 kms/48-30-30-second, exactly double that of the 24-60-60 times system/clock. The theoretical options are endless.

But, the distinction among the different time systems/clocks becomes visible when we respond to the question of how many kilometers does light travel during one rotation of the Earth on its axis. In order to discover this with the conventional 24-hour clock, the following procedure is generally carried out:

86400 seconds/day times 299792.458 kms/sec light-speed equals 25902068000.0 kilometers

Now consider that same expression as of each one of the alternative time systems/clocks presented here, where a specified number of type-seconds times the speed of light equals the number of kilometers traveled by light during one rotational period of Earth:

7200 (20-60-60-type seconds) times 359750.9496 = 25902068000.0
86400 (24-60-60-type seconds) times 299792.458 = 25902068000.0
100000 (10-100-100-type) seconds times 259020.6837 = 25902068000.0
103680 (20-72-72-type) seconds times 249827.0483 = 25902068000.0
200000 (20-100-100-type) seconds times 129510.3419 = 25902068000.0
In the previous listing by the progressive values of the number of seconds (sectors) into which the rotational period of Earth on its axis is divided, the specific value for kilometers traveled by light changes. The number of kilometers traveled by light during one rotational period of Earth obviously remains the same: \textbf{25902068370.0} kilometers ---\textit{irrespective} of the theoretical number of divisions imposed upon Earth’s rotational period.

One could conceptualize the previous figures better by thinking of them as of the rotational period of Earth \textit{and} its numerical divisions/sectors. In a progression, from a single rotation of Earth to an infinite number of divisions (seconds/sectors) imposed upon that rotation, the following would come into view:

<table>
<thead>
<tr>
<th>Number of Divisions (seconds) in the Rotational Period of Earth</th>
<th>Kilometers/rotational period of Earth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>\textbf{2.590206837} E10 kms/rotation</td>
</tr>
<tr>
<td>2</td>
<td>1.2951034 E10</td>
</tr>
<tr>
<td>3</td>
<td>863402790.0</td>
</tr>
<tr>
<td>4</td>
<td>1475517093.0</td>
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<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>10</td>
<td>25902068370.0</td>
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<td>...</td>
<td>...</td>
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<tr>
<td>100</td>
<td>259020683.7</td>
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<td>...</td>
<td>...</td>
</tr>
<tr>
<td>1000</td>
<td>25902068.37</td>
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<td>...</td>
<td>...</td>
</tr>
<tr>
<td>10000</td>
<td>2590206.837</td>
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<td>...</td>
<td>...</td>
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<tr>
<td>43200</td>
<td>\textbf{599584.916}</td>
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<tr>
<td>...</td>
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<tr>
<td>72000</td>
<td>\textbf{359750.9496}</td>
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<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>86400</td>
<td>\textbf{299792.458 conventional 24-60-60}</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>100000</td>
<td>\textbf{259020.6837 metric 10-100-100}</td>
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<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>103680</td>
<td>\textbf{249827.0483}</td>
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<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>200000</td>
<td>129510.3419</td>
</tr>
</tbody>
</table>
As suggested in the previous table, one could divide the rotational period of Earth into any number of divisions (seconds/sectors) and the values in the second column would change accordingly. A significant point, in my view, is to understand that the 24-60-60 time system/clock employed today along with the corresponding 299792.458 kilometer-value is the product of an historical accident [enter the so-called 60-base ancient computational system.]. Another significant point is to note the unit 1.0 values [1, 10, 100, 1000, etc.] for the metric system, regarding the distance [fractal 259020.6837] traveled by light during one rotational period of the Earth on its axis or fractions thereof.

With the previous alternative measurements, it becomes obvious why the metric-10-100-100 time system would be chosen as a unit 1.0 measuring system, since its expression of 259020.6837 kms/metric-second corresponds fractally to the 25902068370.0 kilometers in one rotational period of Earth. Whereas the conventional system has the kms/sec value set at 299792.458 against 1/100000th of the Earth’s rotational period at 25902068370.0.

Metric 10-100-100 Time System Second

One metric-second is 1/100000th of Earth’s rotational period.

Conventional 24-60-60 Time System:

One 24-60-60 second is 1/86400th of Earth’s Rotational Period

When one metric-second is translated into the distance of kilometers traveled by light, the value is 259020.6837, or 1/100000th of Earth’s rotational period on its axis [25902068370.0 kilometers].

When one conventional 24-60-60-base second is translated into the distance of kilometers traveled by light it registers 299792.458, or 1/86400th of the Earth’s rotational period on its axis [25902068370.0 kilometers], which is 1.157407407E-5 thereof.

Now, the metric-10-100-100 time system second lies in correspondence to the measuring system based on the Metric System for
measuring other aspects of matter-energy as pointed out earlier. Logically enough, to be consistent in the measurements, one would expect to measure space and time with the same gauge (the metric divisional system).

However, today’s scientists continue to measure spatial features of matter-energy with a metric ruler and temporal features by a different gauge. The temporal ruler may be viewed as a 60-base, or as a 24-60-60 base or, more precisely as a 24-1440-86400 base [given 24, 24 x 60 = 1440, and 24 x 1440 = 86400].

Now, were one to employ the metric time system, as of the 259020.6837 kms per metric-second, instead of the conventional 299792.458 kms/sec value, then all of the known physical and chemical constants that involved said temporal measurement would undergo change in their numerical values.

Today’s scientists, then, measure the speed of light [and tell time] on Earth as of the distance traveled by light within one second on the 24-60-60 clock. Obviously, that is not a very scientific parameter for measurement, given its fractal basis being that of 1.157407407 instead of 1.0 unit. More exactly, the metric-10-100-100 time system [and its fractal expressions] measures the speed of light as of the rotational period of Earth on its axis as unit one, and not as of an arbitrary fractional percentile unit.

In this sense, the constant value cited of 299792.458 kms/sec is an arbitrary choice, representing a fractional expression of Earth’s rotational period. Whereas the 259020.6837 kms/sec reflects the fractal distance light travels during one rotational period of Earth on its axis (i.e., 1/100000th of 25902068370.0 kilometers. Supposedly the conventional 24-60-60 time system is concerned with measuring time and telling time on Earth, yet it does not employ the unit measure of Earth’s rotational period for its numerical expressions as shown above.

Obviously one could employ any of the cited alternative time systems and their respective values as a system of measurement, and the computations would be correct as long as the computations are effected in an exact manner. The reason being is that light-speed is measured correctly in each instance, only a lesser/greater amount of distance/time is measured and thus reflected in each value. In theory any one of the systems illustrated would suffice as a system of measurement, historically, however, it was the
24-60-60 time system that has been passed down from generation to generation. Historical custom and now common-day convenience are strong reasons to overcome in supplanting the 24-60-60 time system with the 10-100-100 metric time system ---even if the latter proves to be more advantageous than the former.

Now, to isolate the fact that light travels at a speed of 259020.6837 kilometers per metric-second or at 25902068370.0 kilometers per Earth rotation remains to represent an imposed choice, arbitrary in that it is bound by the Earth’s rotational period. It would appear to be more logical to measure the possibly constant distance that light travels in relationship to something other than an arbitrary rotational period of an inner planet with a particular solar system.

Scientists have attempted to abandon the time system of measurement based on the Earth’s rotational period by adopting a specified number of pulses of the Cesium-133 atom (9,192,631,770), which supposedly will vibrate at that rate forever; as they put it. The reason the atomic clock has been proposed and adopted has to do with the concept of an ever-changing wobbling Earth, which rotational and revolutionary time periods are inconstant. However, one would expect to measure spacetime/motion and related matter-energy events as of the planet which one occupies. We could imagine in the infinitely-so distant future that by the Cesium-133 clock we may be sunbathing at midnight and wanting to watch a late-night movie at mid-day. An extreme observation, no doubt, but I am emphasizing the need to maintain a time system/clock based on our ever-changing rotational period of our planet. We need to keep adjusting our time system to the changes that the planet that we live on undergoes as well.

I shall present a few examples of computations involving the 259020.6837 metric-second in relation to some of the other planets in our solar system.

The orbital period of the planet Mercury is 87.970 days.

87.970 x 86400 sec = 7600608 sec x 299792.458 = 2.2786049E12 kms

Light travels 2.2786049E12 kilometers in one orbital period of Mercury.
2.2786049 kms / 259020.6837 kms/sec light metric-10 = 8.797000.002 [88c]

<table>
<thead>
<tr>
<th>orbital period</th>
<th>seconds</th>
<th>total seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>87.970</td>
<td>x</td>
<td>7600608</td>
</tr>
<tr>
<td>Earth day</td>
<td>86400</td>
<td></td>
</tr>
</tbody>
</table>

Total seconds Mercury orbit = 7600608

Light speed Total kilometers light travels during Mercury orbit = 2.2786049

Total kilometers light travels during Mercury orbit = 7600608 x 299792.458 = 2.2786049

Ratio of kms light travels during Mercury orbit to kilometers light travels during Earth’s rotational period is 8.797000002, same fractal expression as Mercury’s orbital period of 87.970 days

<table>
<thead>
<tr>
<th>Earth days to one Mercury day</th>
<th>Number of seconds in one Earth day</th>
<th>Number of seconds in one Mercury day</th>
</tr>
</thead>
<tbody>
<tr>
<td>175.942</td>
<td>x</td>
<td>86400</td>
</tr>
</tbody>
</table>

Number of seconds in one Mercury day = 175.942 x 86400 = 15201388.8

Light speed Kilometers light travels in one Mercury day = 15201388.8 x 299792.458 = 4.5572617

Fractal kilometers Ratio light traveled by light in one Earth second rotation

Kilometers light travels in one Mercury day = 4.5572617 / 259020.6837 = 1.759419995
The ratio of kilometers that light travels during one Mercury day to the fractal number of kilometers that light travels in one Earth second/rotation is 1.759419995, similar to the number of Earth days 175.942 in one Mercury day.

175.942 Earth days for one Mercury day!

175.942 x 86400 sec = 15201388.8 seconds in one Mercury day

15201388.8 x 299792.458 = 4.5572617E12 kilometers traveled by light in one Mercury day, doubles to 9.1145234E12, i.e., fractal for Hydrogen spectral baseline 9.112+

45572617 / 259020.6837 = 175.9419995

<table>
<thead>
<tr>
<th>Venus orbital period</th>
<th>Seconds in one earth day</th>
<th>Total seconds in Venus orbital period</th>
</tr>
</thead>
<tbody>
<tr>
<td>224.70069 x</td>
<td>86400</td>
<td>19414139.62</td>
</tr>
</tbody>
</table>

Total seconds in Venus orbital period x Light speed in kilometers = Total kilometers light travels in Venus orbital period

19414139.62 x 299792.458 = 5.8202126E12

Or, simply proceed as follows:

Total kilometers light travels in Venus orbital period / Kilometers light travels in Earth second/rotation = Ratio

5.8202126 / 259020.6837 = 22470069.01

Because the 86400 | 299792.458 figures are employed, the previous computations must be effected in order to know the relationship of kilometers of Earth’s rotation to another planet’s orbital period. But, if one employs the 259020.6837 figure as above, then the ratio is derived immediately. This obtains because 259020.6837 is .864 of 299792.458.
One could immediately know that Venus’ 224.70069 days orbital period times the Earth’s rotational/second factor (259020.6837) would cause one to know that light travels 5.8202126 kilometers during Venus’ orbital period.

Now, take Venus’ solar day of 116.75 earth days [sunrise to sunrise]:

116.75 times 259020.6837 = 30240664.82 kilometers that light travels during Venus’ solar day. Confirm:

Venus solar day 116.75 days x 86400 x 299792.458 = 3.0240664E12

Therefore, the use of the metric-10-100-100 factor for the speed of light, 259020.6837, in discovering how many kilometers are traveled by light in specific day counts results much more directly in this manner than employing the computations of the 24-60-60 time system of today.

3.0240664 / 2 = 1.5120332, 7.5601662

Venus synodic period/year in earth days 583.92
583.92 x 259020.6837 = 151247357.6 / 2 = 75623678.8

176 less days than Mercury’s solar day
176 x 259020.6837 = 45587640.33, 91175280.66

Sidereal rotation Venus 243.0185 days x 259020.6837 = 62946818.02
Venus sidereal rotation plus Venus solar day:

243.0185 + 116.75 = 359.7685 [~360c]

224.70069 +| 116.75 = 341.45069, 682.90138, 1365.80276

365.256 x 86400 x 299792.458 = 9460885885 kilometers light travels in one year [= light year]

365.256 x 259020.6837 = 9460885885 kms [light year]

From the previous computations one may realize that as scientists multiply 86400 times 299792.458 times some unknown value/factor, they are in fact already employing the metric time system, only in an
unrecognized manner. It would result much faster to simply multiply the day-count in question by the 259020.6837 kms/time factor of the metric-10-100-100 time system. With that procedure, one would immediately observe the direct relationship between Earth’s rotational period and whatever distance/time period is being examined [light-year, planetary orbital time, etc.].

One Earth metric-10-100-100 second for each orbital day-count of the planets in our solar system.

<table>
<thead>
<tr>
<th>Orbital period in Earth days</th>
<th>times 25902068370. Earth rotational period</th>
<th>Mercury Unit 1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>87.970</td>
<td>2278604955000.0</td>
</tr>
<tr>
<td>Venus</td>
<td>224.70069</td>
<td>5820212635000.0</td>
</tr>
<tr>
<td>Earth</td>
<td>365.256</td>
<td>9460885885000.0</td>
</tr>
<tr>
<td>Mars</td>
<td>686.971</td>
<td>17793969810200.0</td>
</tr>
<tr>
<td>Jupiter</td>
<td>4331.572</td>
<td>112196674093600.0</td>
</tr>
<tr>
<td>Saturn</td>
<td>10832.327</td>
<td>28057967456020.0</td>
</tr>
<tr>
<td>Uranus</td>
<td>30799.095</td>
<td>79776026442410.0</td>
</tr>
<tr>
<td>Neptune</td>
<td>60190.0</td>
<td>1559045495190300.0</td>
</tr>
<tr>
<td>Pluto</td>
<td>90613.305</td>
<td>2347072021341600.0</td>
</tr>
</tbody>
</table>

The latter example would be read as light travels 23470720213.416 kilometers in Pluto’s orbital period as of the speed of light in one Earth metric-10 second. Or, it would read as light travels 2,347,072,021,341,600.0 kilometers during the orbital period of Pluto of 90613.305 days, when the 259020.6837 value is multiplied by 100000 seconds in one Earth rotational period.
<table>
<thead>
<tr>
<th>Planet</th>
<th>Period</th>
<th>Rotation Period</th>
<th>Sidereal Rotation Period</th>
<th>Times in Earth Days</th>
<th>Mercury Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>87.970</td>
<td>58.646</td>
<td>58.646</td>
<td>1519052700000.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Venus</td>
<td>224.70069</td>
<td>243.0185</td>
<td>243.0185</td>
<td>6294681800000.0</td>
<td>4.14</td>
</tr>
<tr>
<td>Earth</td>
<td>365.256</td>
<td>0.99726968</td>
<td>0.99726968</td>
<td>25831347000.0</td>
<td>0.0170</td>
</tr>
<tr>
<td>Mars</td>
<td>686.971</td>
<td>1.025957</td>
<td>1.025957</td>
<td>26574408000.0</td>
<td>0.0175</td>
</tr>
<tr>
<td>Jupiter</td>
<td>4331.572</td>
<td>0.413541667</td>
<td>0.413541667</td>
<td>10711584000.0</td>
<td>0.0070</td>
</tr>
<tr>
<td>Saturn</td>
<td>10832.327</td>
<td>0.439</td>
<td>0.439</td>
<td>11371008000.0</td>
<td>0.0075</td>
</tr>
<tr>
<td>Uranus</td>
<td>30799.095</td>
<td>-0.71833</td>
<td>-0.71833</td>
<td>-18606232000.0</td>
<td>-0.01225</td>
</tr>
</tbody>
</table>

Difference:
- Mercury: 1.55
- Venus: 2.55
- Earth: 1.6
- Mars: 3.65
- Jupiter: 73.89
- Saturn: 226.97
- Uranus: 334.10
- Neptune: 345.79
- Pluto: 1030.00

Mean Difference: 34.97
Observations

With those computations, it becomes apparent that the metric 259020.6837 distance/time factor is of great significance, while the 299792.458 is an indirect application of that metric baseline established by the Earth’s rotational period.

With metric time system as enunciated in this study, one must now examine the different physical and chemical constants offered in the literature today.

By laying bare the manner in which different theoretical time systems and time clocks are feasible, and how each one works according to its internal divisions (sectors: hours, minutes, seconds), the adoption of the metric time system does not appear to be so overwhelming. Quite the opposite, once each theoretical option for constructing a time system is understand as in this essay, then it would be possible to explore employing the metric-base system. The advantages of measuring spacetime/motion and telling time as of the rotational period of Earth are obvious. The advantages of measuring spacetime/motion as of the metric time system in relation to some other spacetime/motion event [that is not the rotational period of Earth] are also obvious. One does not exclude the other.

Again, quite the opposite, scientists should be able to employ different time systems/clocks for different spacetime/motion events, different matter-energy events. For example, a metric time system-clock as of the Sun in our solar system would be an excellent starting point. This would serve as a basis for understanding how to create time systems/clocks for other stars, galaxies, and so on throughout the Universe.

There should be no difficulty [even without the assistance of computer] of comparing and contrasting different time systems/clocks as has been presented in this brief essay. After having carried out this study, I find no difficulty in conceptualizing a time system-clock as of the metric-second
[as defined herein] and comparatively as of the conventional second as it is defined. When one changes reference frame, one should be able to make the smooth transition from one spatial reference frame to another, and from one temporal frame to another; in other words, from one spacetime reference frame/level to another, and so on.

In this analysis, I have limited the observations to the speed of light and to a few references to orbital features of some of the planets. All of the physical and chemical constants should now fall in line, along with the Newtonian gravitational constant and so on. The time systems/clocks presented in this essay are based upon the Earth’s rotational period because that is how the conventional time system was developed that we employ today. Other time systems/clocks may be developed in relation to other baseline events. I have analyzed that baseline in relation to the speed of light. One could now do that in relation to the gravity constant.

Then, one could change the baseline of Earth’s rotational period for the rotational period of one of the other planets, and proceed from there. The theoretical options are endless, just as spacetime/motion is itself an unending realm of inquiry. After completing this study, however, that the 299792.458 value for the speed of light has had a little more light shed upon it. I searched on Google for the 259020.6837 value in its main fractal expressions and found only one citation in Japanese [www.wdic.org/w/SCIJ]. However, when I clicked on the icon, a window popped up telling me that it was no longer available. Outside of the ideograms in Japanese, the only text that I could understand was “299792.458km/s(259020.6837km/cBeat)”.

Other than that single reference, it would appear that none of the scientists of today have given much significance to the 259020.6837 factor as explained in this essay. This factor serves as the basis for the metric time system in relation to Earth’s orbital period. What else might one add, but that we possibly should begin thinking “metric” in a different manner.

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