

Intervals and Increments of Space and Distance and Inferred and Implied Harmonics

(my friend ROY G. BIV)

In the same way that we have
fiat values for economies and for values,
we have fiat values for intervals and for increments
of space and of distance.

Whether we consider inches or meters,
these are fiat values.

Standards may reference
a preserved master interval or increment,
operationally we divide or we multiply
these fiat values.

So, we have a foot (12 inches).

We have a yard (36 inches).

We have a mile (5,280 feet).

We have a kilometer (1,000 metres).

We have a decimeter (one tenth of a meter).

We have a centimeter (one hundredth of a meter).

We even have an equivalence between the two systems:
1,760 international yards is exactly 1,609.343 metres.

However, these are all fiat values.

They are values without a reference to nature.

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Were we to see such an interval or an increment,
we would need to look at
interatomic dimensions
or wavelengths of electromagnetic radiation
in terms of whole units.

Between 1960 and 1980, an international agreement
defined the meter length
emitted from the krypton isotope ^{86}Kr .

The meter is presently defined
as the distance, traveled by light,
in a vacuum,
during a time interval
of 1 / 299,792,458th of a second.

This interval of time uses a cesium atomic clock,
which is accurate to 1 second in 60 million years.

We have calibrated our fiat value
to an odd increment of natural time.

How can we expect
to harmonize with nature
when we use fiat values
to govern or to regulate
human activity and undertakings?

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Here, in the case of the use of a cesium clock,
we interface between fiat intervals and increments
and true intervals and increments of time.

The other significant value is mass.

We need to see
that the excluded and included
intervals and increments
in the orbitals of electrons in atoms
are foundational to our standards.

We can interactively use
atomic elements, increments of time and of mass
as multiples of single atoms,
and use them as standards.

This interactive nesting of values
puts forward the possible discoveries,
even the revelations,
that nature has in store,
as a vector of evolution.

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We will and can see relationships,
natural harmonics!
When I learned physics,
ROY G. BIV was the name used
to remember red, orange, yellow, green, blue, indigo and violet.

In recent years, indigo has been excluded.

I still like ROY G. BIV as a memory device for the colours
in the spectrum.

This takes us to a future subject:
THE NATURE OF LIGHT,
light reflected, absorbed, transmitted,
refracted and diffracted.