Earth/matriX: Science Today

Symmetry on the Earth/matriX Thermodynamic Temperature Scale:
Absolute Zero | Melting Point | Boiling Point | Critical Point of Selected Elements, Together with Triple Points

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Abstract

The Earth/matriX Thermodynamic Temperature Scale I reveals a centrosymmetry of numerical values for the various points on the scale: absolute zero and the melting/boiling/critical points of water. This pattern of centrosymmetry also occurs with regard to selected elements as of these same gradation points. However, a second pattern of translation symmetry appears with regard to other selected elements. This study examines these two main patterns of symmetry on the Earth/matriX thermodynamic temperature scale I, measured in energy-matter units [em]*, and the relationship of these patterns to the various groups and families of the elements.*

Throughout the Earth/matriX essays, emphasis has been placed upon the relational nature of spacetime/motion and its specific forms of matter-energy in understanding the thermodynamic temperature scale from a purely theoretical perspective. In this regard, various temperature scales have been proposed whereby the boiling/freezing points of water on the scale have been assigned the numerical value of unit 1.0, in ***energy-matter units [em]***.

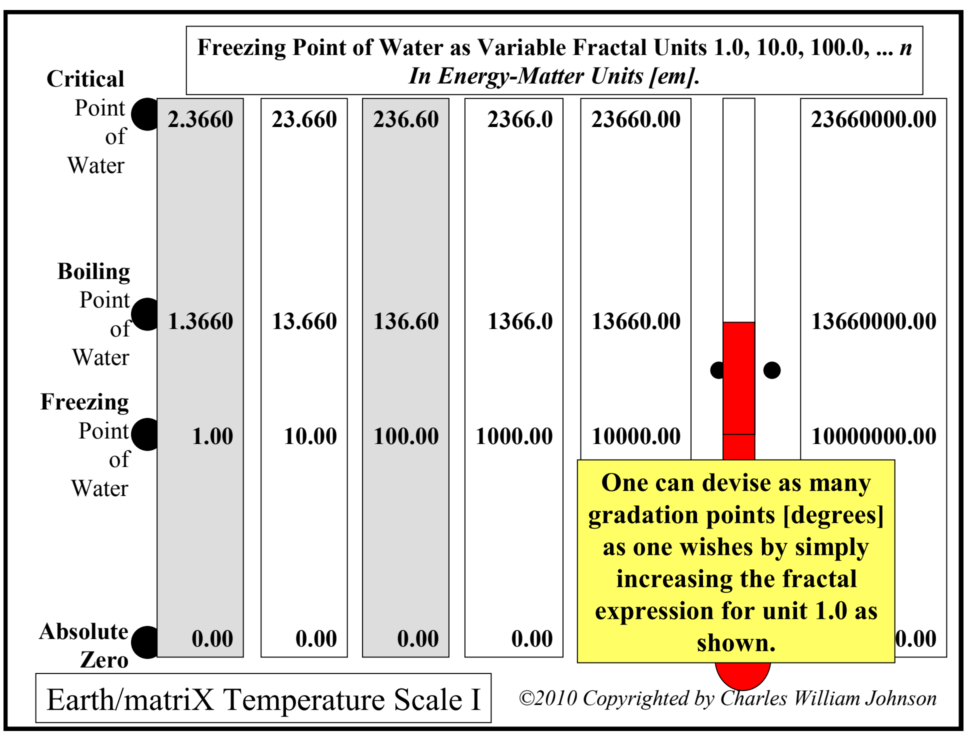
For example, on the first Earth/matriX temperature scale the *freezing point* of water [FPW] was assigned as **energy-matter unit 1.0** *[em]*, which then causes the *boiling point* of water [BPW] to have the gradation value of 1.3660 em, and the *critical point* of water [CPW] to be around 2.3660 em. On the second main Earth/matriX temperature scale, the *boiling point* of water is assigned the *em* unit 1.0 value, thus causing the *freezing point* of water to have the numerical value of around 0.732 em, and the *critical point* to be around 1.732 em *[near the square root of three value]*.

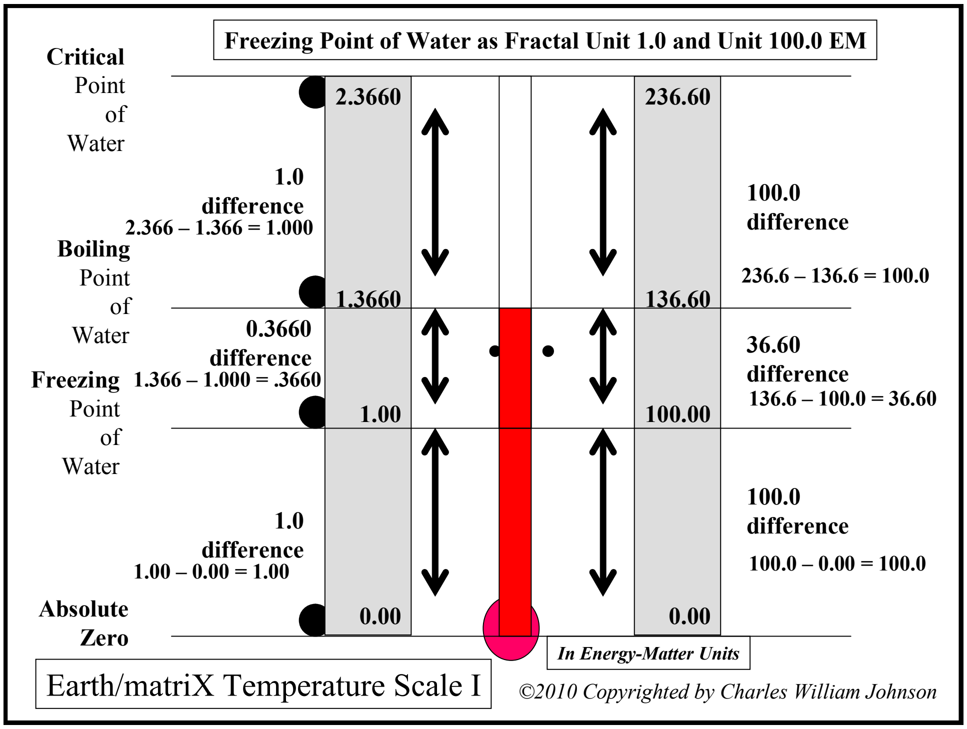
The analytical advantage of assigning unit 1.0 to specific event points on the gradation scale of temperature allows for comparing different numerical values to the boiling/freezing points of the elements. More recently, it became evident that this unit assignment also distinguishes a basic ***centrosymmetry*** within the thermodynamic temperature scale itself.

Such a distinction is either unavailable or difficult to discern on the existing Celsius and Kelvin temperature scales, given the fact that their unitary significance is assigned to their mid-range centigrade gradations. Also, the numerical values on these scales are rather difficult to compare to one another as of the FPW 273.15 kelvin and the BPW 373.15 kelvin values, or as of the positive/negative Celsius degrees.

In this essay, the centrosymmetry distinguished on the first Earth/matriX temperature scale is analyzed in relation to the boiling/melting/critical/triple points of selected elements.

In order to understand the centrosymmetry among the elements, first consider the centrosymmetry on the Earth/matriX temperature scale I as of the event points of ***absolute zero***, and the ***boiling/freezing/critical*** points of water.





Freezing Point of Water as Fractal Unit 1.0 and Unit 100.0 EM
Critical Point of Water
2.3660
236.60
1.0 difference
2.366 – 1.366 = 1.000
100.0 difference
236.6 – 136.6 = 100.0
Boiling Point of Water
1.3660
136.60
0.3660 difference
1.366 – 1.000 = .3660
36.60 difference
136.6 – 100.0 = 36.60
Freezing Point of Water
1.00
100.00
1.0 difference
1.00 – 0.00 = 1.00
100.0 difference
100.0 – 0.00 = 100.0
Absolute Zero
0.00
0.00
In Energy-Matter Units
Earth/matriX Temperature Scale I
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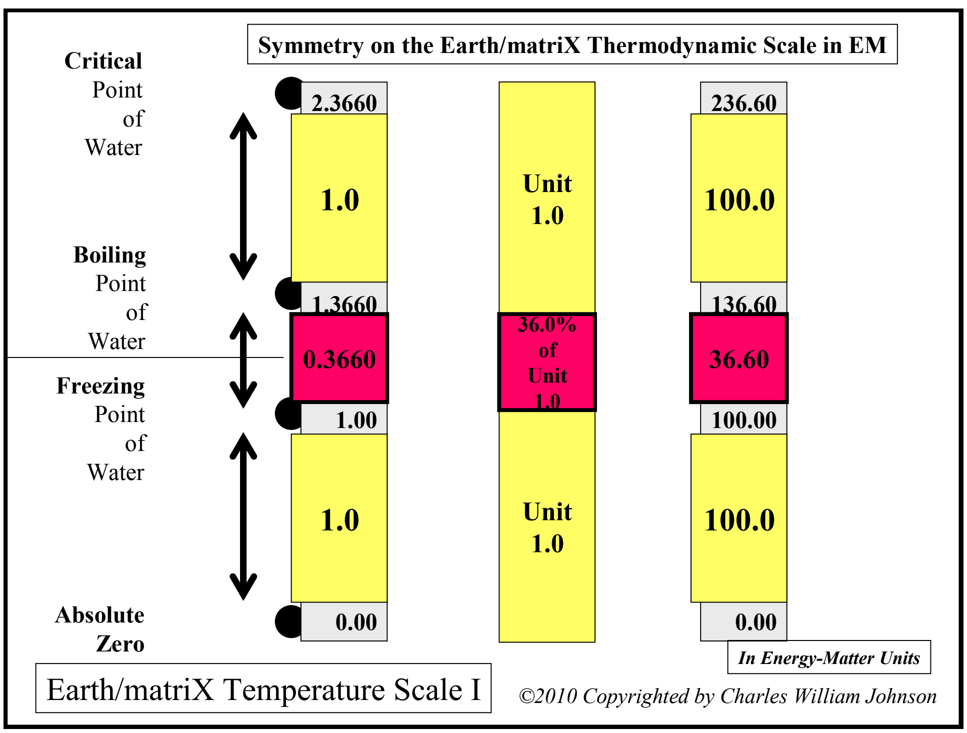

Symmetry on the Earth/matriX Thermodynamic Scale in EM
Critical Point of Water
2.3660
1.0
Unit 1.0
236.60
100.0
Boiling Point of Water
1.3660
0.3660
36.0% of Unit 1.0
136.60
36.60
Freezing Point of Water
1.00
100.00
1.0
Unit 1.0
100.0
Absolute Zero
0.00
0.00
In Energy-Matter Units
Earth/matriX Temperature Scale I
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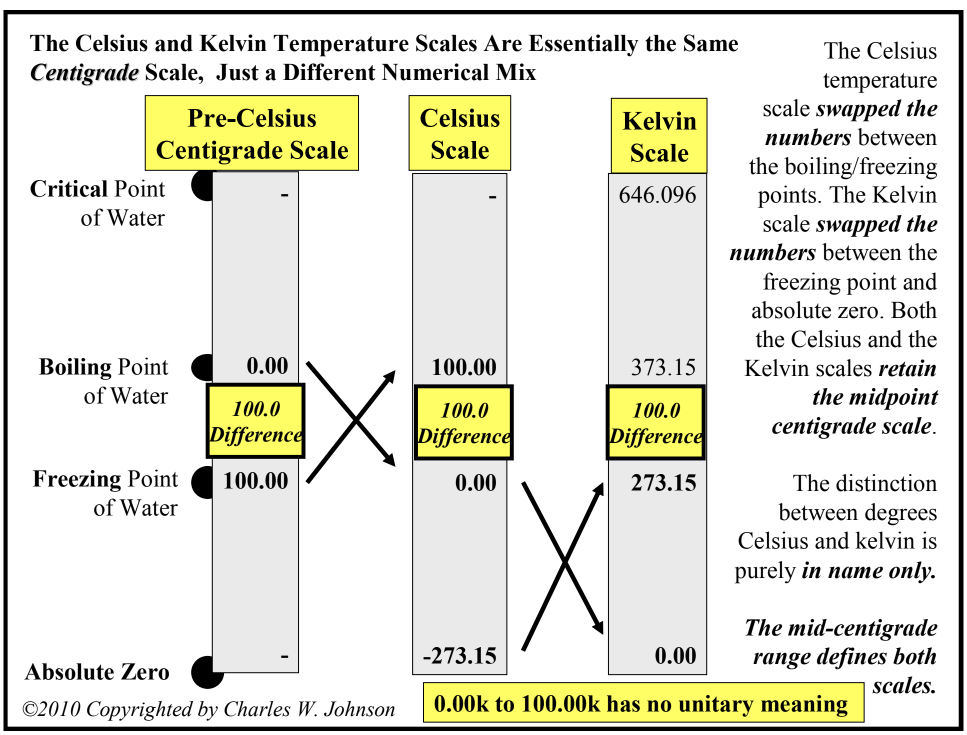
The ideal Earth/matriX thermodynamic temperature scale employs the range between the begin-point of the scale, absolute zero, and the first significant point, the **freezing point of water** as unit 1.0 or a fractal thereof. In this manner, the mid-range between the freezing and boiling points of water takes on its material significance, as a 36.60 percentage of the unit 1.0 range measurement.

As seen in many of the Earth/matriX studies, the fractal **0.3660** and the fractal **1.366** share relationships to many physical and chemical constants. *[www.earthmatrix.com]*

From this comparison, one can see how Lord Kelvin did not overcome the general logic of the Celsius scale, as far as numerical values are concerned. The center-point area of the scale reproduces the 100 unit gradation, a centigrade scale; when it is the 0.3660 proportion that is analytically significant. In other words, the Celsius and Kelvin scale have their unit centigrade scale placed within the midrange of their scale, *between the freezing/boiling points of water [100 degrees or kelvin]*. The Celsius scale was more obvious in representing the centigrade scale, as the FPW is given as 0.00 and the BPW is given as 100.0 *[although prior to that the values were reversed]*.



manner that the temperatures of the elements can be effectively illustrated as shown in this study.

The Earth/matriX thermodynamic temperature scale I reflects a centrosymmetry relation of 1.0 | 0.3660 | 1.0 as differences among the gradations of **absolute zero | freezing point | boiling point | critical point of water**. Further, some elements reflect similar patterns regarding these same four gradation points. However, they reveal two different patterns of symmetry, one centrosymmetric and the other a tyranslation pattern. Further, some elements reflect a similar centrosymmetric pattern as of their four gradations of **absolute zero | triple point | boiling point | critical point.**

Although not included in this study, a quick review of some of the elements as of their gradations points of **absolute zero | melting point | maximum temperature | boiling point** also show a similar centrosymmetric pattern. However, such a study of the additional elements requires an additional, extensive essay.

In conclusion, the Earth/matriX thermodynamic temperature scale has proven to be relational to the patterns of symmetry found in some of the temperature points of selected elements. Additional studies of other elements will become available shortly.