in a coherent unit system, the relationship formula on which the system rests is expressed in the most succinct way (specifically, in such a way that the coefficients of the formula are in the simplest form) .

So then, what comes next?

Of course, we can consider going beyond the framework of the earth and defining units with concepts for which agreement can be reached within a broader scope. The quantities that then become available to serve as the standards for defining units include the quantities of the 'fundamental physical constant' category, quantities such as 'the speed of light in a vacuum', 'the quantum of action', 'the Boltzmann constant', and so on. These quantities are believed to have values that remain constant everywhere in the universe. When trying to construct a coherent unit system, however, it is not reasonably possible to use all of the fundamental physical constants in the definitions of units. Then, wouldn't we expect the fundamental physical constants that were not used in defining units have fractional magnitudes of unit quantities of the same dimension?

By a surprising coincidence,[3] however, if the dozenal number system is used to express 'the speed of light in a vacuum' and 'the quantum of action' as the defining constants such that these constants are strictly multiples of integer powers of 12 of the unit quantities, it is possible to construct a coherent unit system in which not only the constant that was used in the definition, but the Rydberg constant (R_∞), the atomic mass unit (u), the Bohr radius (a_B), and half the value of the Planck length ($l_P = (1/2)\sqrt{G\hbar/c_0^3\alpha}$) as well, can be approximated to within an error of 1% by a multiple of integer powers of 12 of the unit quantities. In that case, many other physical constants, including the charge of an electron, the mass of an electron, the fine structure constant, the molar volume of an ideal gas under standard conditions, the black-body radiation at the ice point, the density of water, and others, can be approximated by multiples of integer powers of 12 of the unit quantities. Moreover, by adding the Boltzmann constant and using it in the definition of thermodynamic temperature, the gas constant of an ideal gas can be approximated by a multiple of an integer power of 12 of the unit quantity and the Stephan-Boltzmann constant and the specific heat of water can be approximated by multiples of integer powers of 12 of the unit quantities with a factor 2 remaining.

We define the Universal Unit System as "the unit system that is constructed by using the dozenal system and using 'the speed of light in a vacuum', 'the quantum of action', and 'the Boltzmann constant' as the defining constants in such a way that these constants become strict multiples of integer powers of 12 of the unit quantities and 'the Rydberg constant', 'the atomic mass unit', 'the Bohr radius', and 'half the value of the Planck length' can be approximated by multiples of integer powers of 12 of the unit quantities". This Universal Unit System is described in the remainder of this paper.

[3] To prevent any misunderstanding, let me emphasize that these are simply accidental coincidences as far as physical science is concerned. Also, please understand that the author has no intention to promote the use of the "Universal Unit System" in the real world.