riety, and complexity of phases and components, and for constancy of temperature, while equally important and unique relationships between the properties of water and carbonic acid and their vapor or gas pressures exist, and exert much influence upon the meteorological cycle.

Thus, judged by the phase rule, the actual characteristics of the environment may be shown to contribute the factors which make for complexity and regulation of material systems. Now there can be no doubt that, when feasible, the ideal method — from the physicochemical point of view — to describe a material system is in the terms of the phase rule.[1] Hence the characteristics which that

[1] "Ten years after the law of mass action was propounded by Guldberg and Waage, Willard Gibbs, Professor of Physics in Yale University, showed how, in a perfectly general manner, free from all hypothetical assumptions as to the molecular condition of the participating substances, all cases of equilibrium could be surveyed and grouped into classes, and how similarities in the behavior of apparently different kinds of systems, and differences in apparently similar systems, could be explained.

"As the basis of his theory of equilibria, Gibbs adopted the laws of thermodynamics, a method of treatment which had first been employed by Horstmann. In deducing the law of equilibrium, Gibbs regarded a system as possessing only three independently variable factors — temperature, pressure, and the concentration of the components of the system — and he enunciated the general theorem now usually known as the