

## Philosophical Foundations of Thermal Physics

- Does the assumption of the existence of entropy in the geometric formulation of thermodynamics amount to a case of theft over honest toil?
- Is thermodynamics worryingly anthropocentric?
- How can equilibrium thermodynamics represent the temporal concept of equilibrium?

## References

- Adkins, C. J. 1983. *Equilibrium thermodynamics*. Cambridge University Press.
- Arnold, V. I. 1990. “Contact Geometry: The Geometrical Method of Gibbs’s Thermodynamics.” In *Proceedings of the Gibbs Symposium: Yale University, May 15-17, 1989*, edited by D.G. Caldi and G.D. Mostow, 163–180. American Mathematical Society.
- Bridgman, Percy W. 1961. *The Nature of Thermodynamics*. New York: Harper & Brothers.
- Burke, W.L. 1985. *Applied Differential Geometry*. Cambridge University Press.
- Callen, H.B. 1960. *Thermodynamics*. J. Wiley.
- Gibbs, J. W. 1873. “A Method of Geometrical Representation of the Thermodynamic Properties of Substances by Means of Surfaces.” *Transactions of the Connecticut Academy of Arts and Sciences*.
- . 1878. “On the Equilibrium of Heterogeneous Substances.” *Transactions of the Connecticut Academy of Arts and Sciences* (3): 108–248 and 343–524.
- . 1902. *Elementary Principles in Statistical Mechanics*. New Haven: Yale University Press.
- Hermann, R. 1973. *Geometry, Physics, and Systems*. Lecture Notes in Pure and Applied Mathematics. M. Dekker.
- Mrugała, R. 1978. “Geometrical Formulation of Equilibrium Phenomenological Thermodynamics.” *Reports on Mathematical Physics* 14 (3): 419–427.
- Myrvold, Wayne C. 2011. “Statistical Mechanics and Thermodynamics: A Maxwellian view.” *Studies in History and Philosophy of Science Part B: Studies in History and Philosophy of Modern Physics* 42 (4): 237–243.
- . 2020. “The Science of  $\Theta\Delta^{cs}$ .” *Foundations of Physics* 50, no. 10 (August): 1219–1251.
- Tisza, László. 1961. “The Thermodynamics of Phase Equilibrium.” *Annals of Physics* 13 (1): 1–92.

- Tschoegl, N.W. 2000. *Fundamentals of Equilibrium and Steady-State Thermodynamics*. Elsevier Science.
- Uffink, Jos. 2001. "Bluff Your Way in the Second Law of Thermodynamics." *Studies in History and Philosophy of Science Part B: Studies in History and Philosophy of Modern Physics* 32 (3): 305–394.
- Wightman, Arthur S. 1979. *Introduction to Convexity in the Theory of Lattice Gases* by Robert B. Israel. Vol. 64. Princeton University Press.