Errata in "Statistical Mechanics in a Nutshell" Second edition

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Thanks to D. Dardani.

Chapter 5. Phase Transitions

5.2 van der Waals equation

- Page 161, line 21, exercise 5.2. Read:
  of the derivatives $\partial p_{\rm liq} = \partial v_{\rm liq})_T$ and $\partial p_{\rm vap} = \partial v_{\rm vap})_T$ of the equation of state at coexistence,
  correct to:
  of the derivatives $\partial p_{\rm liq}/\partial v_{\rm liq})_T$ and $\partial p_{\rm vap}/\partial v_{\rm vap})_T$ of the equation of state at coexistence,

Chapter 6. Renormalization Group

6.6 Renormalization in Fourier Space

6.6.3 Critical Exponents at First Order in ϵ

- Page 243, line 6 from bottom. Read:
  When the lengths are rescaled by a factor $1/b$ at the fixed point... that defines the exponent η.
  correct to:
  When the lengths are rescaled by a factor $1/b$ at the fixed point, the correlation function in real space is rescaled by a factor $b^{2d}\zeta^{-2}$, where the factors ζ come from the rescaling of the field ϕ and the factors b^d come from the fact that one spin in the rescaled model corresponds to b^d ones in the original one. Therefore

$$G(\boldsymbol{r}/b) = b^{2d}\zeta^{-2}G(\boldsymbol{r}) = b^{d-2}G(\boldsymbol{r}). \tag{6.128}$$

  This implies $G(\boldsymbol{r}) \sim |\boldsymbol{r}|^{-(d-2)}$, which should be compared with the relation $G(\boldsymbol{r}) \sim |\boldsymbol{r}|^{-(d-2+\eta)}$, that defines the exponent η.

Chapter 10. Stochastic Thermodynamics

10.7 Fluctuation Relations

- Page 400, line 12 from bottom. Read:
  $\Delta S^{\rm tot}$ has a distribution

correct to:
ΔS^{tot} has a Gaussian distribution

Appendix B. Convex Functions and the Legendre Transformation

B.1 Convex functions

- Page 478, line 4 from bottom. Read:
expansion and by the weighted mean-value theorem
correct to:
expansion with the remainder in the Lagrange form