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The analogy between algorithmic entropy and entropy in statistical mechanics are discussed by several authors [*C. H. Bennett* et al., IEEE Trans. Inf. Theory 44, No. 4, 1407–1423 (1998; Zbl 0964.94010); *G. J. Chaitin*, J. Assoc. Comput. Mach. 22, 329–340 (1975; Zbl 0309.68045); *E. Fredkin* and *T. Toffoli*, Int. J. Theor. Phys. 21, 219–253 (1982; Zbl 0496.94015); *A. N. Kolmogorov*, Select. Transl. Math. Stat. Probab. 7, 293–302 (1968; Zbl 0214.46902); *A. K. Zvonkin* and *L. A. Levin*, Russ. Math. Surv. 25, No. 6, 83–124 (1970); translation from Usp. Mat. Nauk 25, No. 6(156), 85–127 (1970; Zbl 0222.02027); *R. J. Solomonoff*, Inform. and Control 7, 1–22 (1964; Zbl 0258.68045); ibid. 7, 224–254 (1964; Zbl 0259.68038); *L. Szilard*, Z. f. Physik 53, 840–856 (1929; JFM 55.0488.06); *K. Tadaki*, Math. Struct. Comput. Sci. 22, No. 5, 752–770 (2012; Zbl 1250.68136)]. The authors propose boldly that the former is a special case of the latter, which enables them to import the basic techniques of thermodynamics into algorithmic information theory. In particular, they claim that not only the length of the program (analogous to the volume of the container) but also its output (analogous to the number of molecules in the gas) and the logarithm of its runtime (analogous to the energy of a container of gas) should be regarded as important observables. An analogue of the basic thermodynamic relation

$$dE = TdS - PdV + \mu dN$$

is derived. The randomness described by Chaitin and Tadaki [loc. cit.] arises as the infinite-temperature limit.

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