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Discussion of "A Multi-Objective Comprehensive Evaluation of Heat Transfer Performance of a Direct-Contact Heat Exchanger" (Li, B., Yang, P., Li, Z., Xu, J., and Wang, H., 2023, ASME J. Therm. Sci. Eng. Appl., 15(1), p. 011014)

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The units of entransy dissipation (G) in Nomenclature are wrong. Also, an opinion on the concept of entransy is presented.
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Li et al. [1] introduced the optimal direct-contact heat exchangers design. The researchers included the entransy dissipation in their analysis. They found that the lower the entransy, the higher the heat exchanger effectiveness.

Li et al. [1] defined the entransy dissipation rate (Eq. (8) in Ref. [1]) as [2]

$$G = \frac{1}{2} m_c C_{c,v} \left(T_{c,\text{in}}^2 - T_{c,\text{out}}^2\right) + \frac{1}{2} m_d C_{d,v} \left(T_{d,\text{in}}^2 - T_{d,\text{out}}^2\right) \quad (1)$$

Using the units of all terms on the right-hand side, we have [G] = kJ K/min.

However, Li et al. [1] mentioned that the units of entransy dissipation (G) in Nomenclature are kJ. Thus, the units of entransy dissipation (G) in Nomenclature are wrong.

Also, the entransy concept is incorrect. It is the against-nature claim that a heated block of solid stores energy in the same way as a spring stores energy. During stretching, the spring resists with a force proportional to the displacement. If entransy is to be taken seriously, then during heating the body accepts only a heat increment proportional to the body's Kelvin temperature! This is contradicted by all observations of heating.

This falsehood was explained in numerous publications. For example, Professor Adrian Bejan mentioned this fact in his papers and books [3–5]. In addition, the present author stated the truth about the entransy concept in seven different journals in the period 2014–2020 [6–13]. As shown by Bejan [14], Awad [13] indicated that the entransy concept publishing is regional not global. As indicated in the article on 70th birthday of Professor Adrian Bejan, it is written about him: "He sounds the alarm against publishing practices that give the impression of false science, citations cartels, nationalism, groupthink, unoriginal work, and lack of credit given to the original sources" [15].

In 2021, Professor Adrian Bejan showed that although some ideas in thermal sciences are wrong, the spreading of these wrong ideas is simplified by the national preferences of writers, editors, and organizations [16].

In 2022, Professor Rajesh Ransing [17] showed that there is a decay in number of publications and citations of papers about entransy at the end of December 2021 according to The Clarivate Web of Science. This is due to Liu et al. [18] who implied that entransy dissipation rate is a matter of the first law of thermodynamics rather than the second law of thermodynamics. The current author is unsure how their claim was allowed to get published in *International Journal of Heat and Mass Transfer*.

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Conflict of Interest

There are no conflicts of interest.

Data Availability Statement

No data, models, or code were generated or used for this paper.

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