

Review of: "Clausius' thermodynamics, engineering thermodynamics based on the entropy principle by discarding the energy premise"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

I do always find contributions in history of thermodynamics to be of great interest, so I was looking forward to review this potentially interesting paper.

BUT unfortunately after having read this draft several times (and now checking the new version) - the author totally fails in explaining me - as well as other potential readers - WHY the issue dealt with is important at all.

What is it that the author sees as so important that it is worth this lengthy paper?

Much of this deals with

1. use of several more or less self-constructed terms
2. and among these many of them suffers from lack of rigid definition or being very (read: too) loosely defined
3. A non consistent use of already established concepts or references - so the reader get confused and for sure wonder if the author is referring to the same concepts or one/several new ones
4. In addition many relevant concepts are never considered and just left out - the reason to this remains unclear

The following attempts to give some examples:

I understand that much that the works with a view of a "conceptual differentiation" - a dichotomy/split in the world of thermodynamic laws - OR whatever he/she means with this, this never becomes totally clear.

This is somehow linked to something referred as the "energy premise" - which in spite of the fact, that the author uses a whole paragraph (around page 2-3) on explaining this, and seemingly offers many words in order to be very pedagogical - it does not come out clear - whatever is meant exactly.

Considering myself to be a heretic within thermodynamics - I do wonder what is meant by "orthodox thermodynamics", OR what is a "monolithic drive for work" etc.etc.

Other observations

I believe the way some of the theories are described - but again the reader can not be sure - for instances the Clausius-

Kelvin theory normally Planck is mentioned also! Why is only Gibbs mentioned under Gibbs'ian Thermodynamics and not Boltzmann.

Also the energy definition used here comes too close for my taste to the definition of exergy - a difference which I think is a the crux of the problems the author attempts to address

Last but not least the equations come out in very strange formats on my printer. Although being able to recognize most of it, it is not optimal for understanding or rather clarification of a controversy which really never becomes clear.

My attitude to figure legends is that they should be much more explanatory than is the case here.