

## Roderick + Shakespeare

This is an unusual and nicely scholarly piece of work which should be published, more or less as is.

It is interesting to discover that the Soret effect has received so little experimental investigation. In that regard, I note that philosopher Nancy Cartwright in her book *How the Laws of Physics Lie* uses the Soret effect as an established example of a coupled-flux process in discussing causal inference. Perhaps less established than she thought.

I have really only two comments.

The first is to wonder if the authors might spend a little more time in discussing the boundary layer structure in evaporation: how does the temperature vary across it? ... Can we assume that there is local kinetic (thermal) equilibrium within the boundary layer? What are reasonable boundary layer thicknesses and temperature gradients? There is brief mention only in lines 170-173.

The second is to ask what is the connection between the the framework/ analysis set out in this paper and the description of thermal diffusion in porous media (water, liquid and vapour) originally set out by Philip and de Vries (1957) and later papers (perhaps Luikov too around the same time). Have I missed something here or should these analyses all be consistent?