


From: merhav@ee.technion.ac.il 
Subject: Re: Your recent arXiv post 1507.01537 : Identifying Functional Thermodynamics ...
Date: August 1, 2015 at 11:54 PM
To: James P. Crutchfield chaos@cse.ucdavis.edu
Cc: Dibyendu Mandal dibyendu.mandal@berkeley.edu, Alexander Boyd abboyd@ucdavis.edu



Gentlemen,

FYI, the attached document will be posted on arXiv on Tuesday, August 4th. I would like to stress that my critique does not reduce the value of the paper in any other aspects.

Sincerely,
Neri Merhav

Quoting merhav@ee.technion.ac.il:

Dear Prof. Crutchfield,

Thank you for this update. The new version indeed reads better, but it is still a bit misleading.

You write: "Other bounds that account for correlations have been analyzed in the context of a memoryless channel driven by a memoryful process [57]."

Well, first of all, it is not really *other* bounds in section 4 of [57]. It is the very *same* bound (with the only exception that I didn't take the limit over l). Secondly, as I already said in my second e-mail from July 17 (the P.S.), although I had a memoryless channel in mind throughout [57], it takes just a minute to realize that the derivation of the bound in section 4 therein is valid as is, not only for memoryless channels, but for every causal channel without feedback (which actually means in full generality), namely, every channel of the form $p(y_1, \dots, y_n | x_1, \dots, x_n) = \prod_{i=1}^n p(y_i | x_1, \dots, x_i)$ (where the x 's are the channel inputs and the y 's are the channel outputs, in my notation), so it is fair to say that the bound in [57], which preceded yours, is even more general.

Sincerely,
Neri Merhav

Quoting "James P. Crutchfield" <chaos@cse.ucdavis.edu>:

Dear Prof. Merhav,

A new version of arXiv 1507.01537 appeared several days ago.
It deletes the original reference to your arXiv paper.
It includes a sentence later that cites it, pointing out that it considers memoryless transduction of correlated input.
The citation itself was updated to indicate it has been published.

These address the substantial concerns you raised.

Sincerely,

James P. Crutchfield, Professor

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