BIOMEDICAL CENTER

JOURNAL CLUB

Jiří Kroc

ENTROPY: ITS HISTORY AND USE WITHIN PHYSICS, CODING, INFORMATION, AND MEDICINE

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The concept of entropy was developed in statistical physics around 1872 by Stefan-Boltzmann and is relating microstates of the system to its microstates. It proved to be a very a useful concept since then, e.g. it was later used in decoding of encoded messages during the SWW. With growing understanding, it occurred that it can measure the information content within any system including abstract mathematical and computer systems. This will bring us directly to its latest way of use and to our main reason of interest about it, to biology and medicine, where it is applied to quantify the information carried out by any biological system. All will be explained on easy to follow examples.

This contribution pays tribute to Stefan-Boltzmann for his ingenious insights into physics. It is sad to mention that his stupid colleagues missed the point of the concept of entropy, accused him of ‚heresy' what consequently led to his suicide. Who remember them?

About JC: The goals of Journal Club are manifold. Primarily, it serves as a forum where every member of our Biomedical Center can present the latest results from his field and specialization in a way that is accessible to her/his colleagues. The first language of JC's is English. Additionally, it serves as a place to present results from own research and to train presentations. We would like to stimulate discussion across multiple scientific fields in order to reach wider and deeper insight of contemporary development of science. Researchers from outside of the center are welcomed to participate and/or to present their own topics. Please, do not hesitate to come or to contact us. Organizers: J. Kroc, L. Vistejnova and P. Klein.

G+ link to JC and its past events: plus.google.com/+JiříKrocCS/posts/EBwSWWR8z8K