ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abdefghijklm
nopqrstuvwxyz
1234567890 & ?!
–—— (paren:theses) [brack;ets]
Sentence, comma.
áéíóú àèìòù âêîôû ñŒÆæ
‘single’ and “double” quotes
VAN·KRIMPEN·COMMA
Also: Đđſß

Old Gary’s Quarry Dig

What is entropy?

Entropy is a measure of how organized or disorganized a system is: "Gain of entropy eventually is nothing more nor less than loss of information"[3]
Entropy is an important part of the second law of thermodynamics. Thermodynamic systems consist of objects, e.g. atoms or molecules, which "carry" energy. In applied thermodynamics, as a matter of convention, entropy is measured in Joules of energy per kelvin (a unit of temperature). If thermodynamic systems are described using thermal energy instead of temperature, then entropy is just a number by which the thermal energy in the system is multiplied. The resulting energy is an energy for which no information is available which would be required to convert the energy in technical systems from one form (e.g. electrical) into another form (e.g. mechanical). In technical applications, machines are basically energy conversion devices. Thus, such devices only can be driven by convertible energy. The same applies to biological organisms. The product of thermal energy (or the equivalents of thermal energy) and entropy is "already converted energy". This is the reason why Rudolf Clausius in 1850 coined the term "entropy" based on the Greek [entropía], from [en] and [trop] (turn, conversion).[4]

3 It was not easy for a person brought up in the ways of classical thermodynamics to come around to the idea that gain of entropy eventually is nothing more nor less than loss of information. Gilbert Newton Lewis, Letter to Irving Langmuir, 5 Aug 1930. Quoted in Nathan Reingold, Science in America: A Documentary History 1900-1939 (1981), 400. Source: www.todayinsci.com

4 "Entropy". Online Etymology Dictionary. Retrieved 2008-08-05.

Abstract objects and mathematics

Some philosophers endorse views according to which there are abstract objects such as numbers, or Universals. (Universals are properties that can be instantiated by multiple objects, such as redness or squareness.) Abstract objects are generally regarded as being outside of space and time, and or as being causally inert. Mathematical objects, fictional entities and worlds are often given as examples of abstract objects. The view that there really are no abstract objects is called nominalism. Realism about such objects is exemplified by Platonism. Other positions include moderate realism, as espoused by Aristotle, and conceptualism.

The philosophy of mathematics overlaps with metaphysics because some positions are realistic in the sense that they hold that mathematical objects really exist, whether transcendentally, physically, or mentally. Platonic realism holds that mathematical entities are a transcendent realm of non-physical objects. The simplest form of mathematical empiricism claims that mathematical objects are just ordinary physical objects, i.e. that squares and the like physically exist. Plato rejected this view, among other reasons, because geometrical figures in mathematics have a perfection that no physical instantiation can capture. Modern mathematicians have developed many strange and complex mathematical structures with no counterparts in observable reality, further supporting Plato's view. The third main form of realism holds that mathematical entities exist in the mind. However, given a materialistic conception of the mind, it does not have the capacity to literally contain the many infinities of objects in mathematics. Intuitionism, inspired by Kant, sticks with the idea that "there are no non-experienced mathematical truths". This involves rejecting as intuitionistically unacceptable anything that cannot be held in the mind or explicitly constructed. Intuitionists reject the law of the excluded middle and are suspicious of infinity, particularly of transfinite numbers.

Other positions such as formalism and fictionalism that do not attribute any existence to mathematical entities are anti-realist.