Is A(G)I dangerous?

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Nowadays, we often read how AI can become both potentially useful and dangerous. Frequent references are made to 75-year-old psychologist and computer scientist Geoffrey Hinton, called the godfather of AI. A few weeks ago, he resigned from Google because of his age, but also because he thinks AI like ChatGPT4 could potentially spell the end of humanity. Hinton's warning appeals strongly - I must admit - to my imagination too. Perhaps precisely because I have the same study background as Hinton. The dangers are now well known and widely discussed. In this column a line of argument that I never hear.

Living organisms have the special property that they form a “resistance” against ”entropy”, that is, the decay of complex cohesion. Take a few skin cells that are no longer part of a living organism. They decay (measure of disorder, or entropy) after just a few days, while these cells can last almost 10 years in a living organism. Albeit temporarily, the organism forms a resistance to decay, even develops and shows an increase in complex cohesion (negative entropy: negentropy). Products of human activity - culture, technology, for example societies and cities - are also characterized by negentropy, as are natural phenomena, such as whirlpools, weather systems, hurricanes, fire, etc. After they have passed out, they have established a greater state of "decay" (entropy).

In our world, technologies have taken on a 'life of their own', for example as cities, as food industry, as road networks, infrastructures, internet, blockchain, and AI, in countless directions. All these developing technologies show increasing complexity. They have "greed", using materials and energy to develop (negentropy), just like living organisms do. An important difference between organic life (negentropy) and inorganic systems concerns their conversion of raw building blocks and energy to exist and/or grow (metabolism). What's up with that?

Kleiber’s Law

In organic life, size is inversely linked to metabolism (Kleiber’s Law): the larger the animal, the slower the metabolism. An elephant has a much slower metabolism compared to a mouse. A human is somewhere in between. So evolution has, as it were, built in an inhibiting factor (a “brake”), as a result of which very large animals do not convert a correspondingly large amount of energy. This allows a diverse selection of organisms in many sizes, colours and scents. However, in inorganic systems, this brake is not present. A fire or a hurricane develops until all available resources are consumed by the "greed" of the system, then collapses completely. Cities have "greed" for materials, residents or visitors. The bigger the city, the faster its heart beats, reflected in the fact that stress, and the average walking pace seem to be directly related to the size of the city, as Bornstein & Bornstein showed (1976). So the metabolism does not decrease with increasing size, as in animals, but continues to increase as in a hurricane or forest fire

As a cognitive psychologist, Hinton's first goal was to understand human cognition, in which he says we have failed. It is clear that Artificial General Intelligence like ChatGPT works very differently, like a chain reaction. Unlike living systems, where the bigger the slower (r-factor well below 1), this is not true in inorganic systems. So they are uncontrollable. Scalable technology increases our planetary footprint to unjustified proportions precisely because the r-factor is greater than 1. Inorganic "fortresses" are characterized by this. Chain reactions don't stop their growth until everything is gone. When all technological fires are extinguished, it will be too late for us, precisely because we need basic techniques to survive. Fortunately, we have our Being (IDG1), Sense (IDG2), Sense of Responsibility for the Planet and Each Other (IDG3), and Will to Collaborate (IDG4), with which we can Change Course (IDG5).

Bornstein, M. H., & Bornstein, H. G. (1976). The pace of life. *Nature,* 259(5544), 557-559.