

Review of: "We have a very small machine that knows how to produce similar to itself , which is interpreted as a "nano assembler" in nano science."

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Potential competing interests: No potential competing interests to declare.

Nano-microelectronics deals with new methods for making nano-transistors on a small scale, whose dimensions are in the range of tens of nanometers, which is derived from the science called nanotechnology. Unlike today's nano-transistors, which behave based on the movement of a mass of electrons in matter, new devices follow the phenomena of quantum mechanics at the nano scale, in which the discrete nature of electrons cannot be ignored.

By reducing all the horizontal and vertical dimensions of the transistor, the electric charge density in different areas of the nano-transistor increases, or in other words, the number of electric charges per unit area of the nano-transistor increases. This event has two negative consequences: First, with the increase in electric charge density, the possibility of electric charge discharge from the insulating areas of the transistor increases, and this event causes damage to the transistor and its failure. This event is similar to the discharge of excess electrical charge between the cloud and the ground in the phenomenon of lightning, which causes the ionization of air molecules into negative and positive ions. Secondly, with the increase of the electric charge density, the electrons may leave the range of the radius of one atom and enter the range of the neighboring atom's radius under the influence of repulsive or abduction forces, which have now increased in value. This is called tunneling in quantum physics. Electron tunneling from one atom to the adjacent atom is a phenomenon that happens a lot between electrons in small dimensions. This phenomenon is the basis of the work of some electronic components and some nanoscopes. But in a nanotransistor, this phenomenon is not a useful phenomenon because electron tunneling from one atom to the adjacent atom may continue and cause an electric current. Although this electric current may be very small, because it is unwanted and unanticipated, it acts as a leakage path for electric current and changes the electrical behavior of the nano-transistor.

The concept of the nanoassembler Nano-assemblies is summarized in all the information and codes necessary to produce an entity similar to itself. We have a very small machine that knows how to produce something similar to itself, which is interpreted as a "nanoassembler" in nanoscience.

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