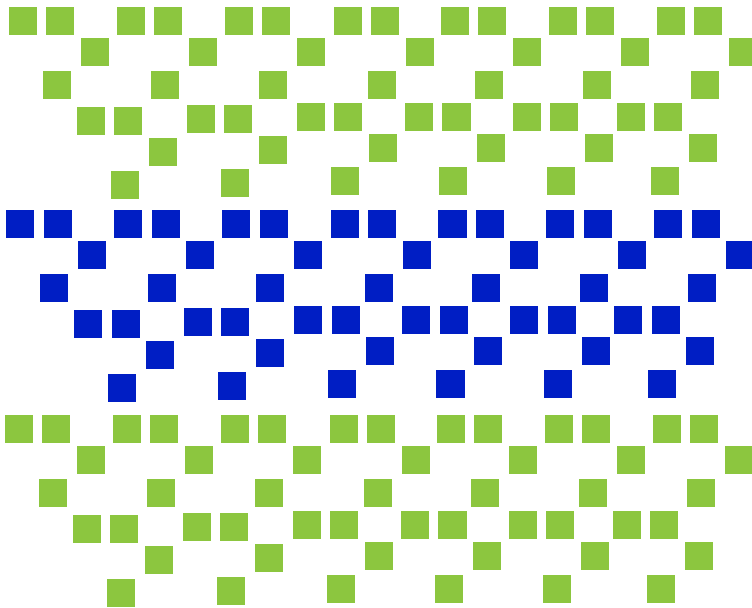
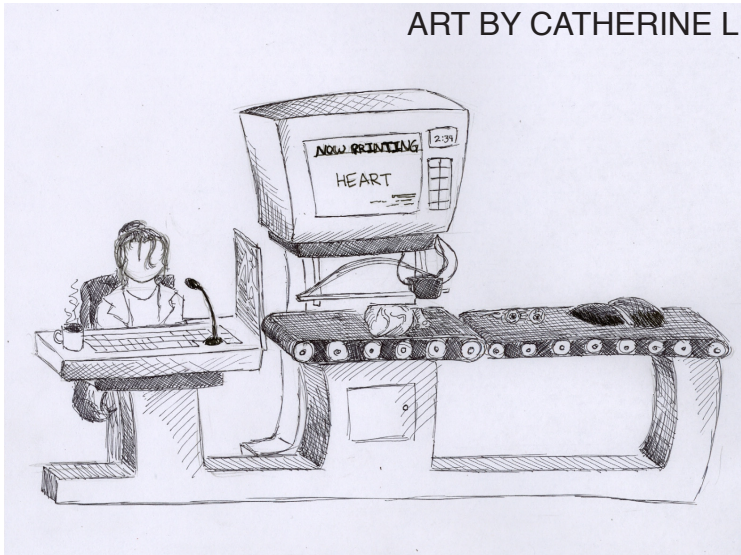


# PRINTING OF THE FUTURE

BY STANLEY LIU  
ART BY CATHERINE LI



Imagine a world virtually free of all cancers and organ failures, where war victims could regain their lost limbs instead of using awkward prosthetics, and where burn victims could replace their skin without skin grafts donations. It may sound more like science fiction today, but such a world may be in the near future, thanks to the development of a new technology called organ printing.

This innovation, through utilizing the basic technologies of the ink printer, literally prints organs configured to the DNA of the ailing person. Using a simple ink printer that has been modified to print in three dimensions, the recipient's cells are slowly added on to a gel in a Petri dish layer by layer to form the shape of the organ or tissue. Because the new organ composes of the receiver's own cells and perfectly matches in genetic makeup, the possibility of the receiver's body rejecting the organ is excluded. Moreover, it also virtually eliminates the inconvenience of the long wait that comes with a donor list.

Organ printing has already proven successful in heart transplants trials in mice. With humans, however, there are some complications. For instance, scientists do not know how to keep the inner cells of an organ alive when printing large human organs, a problem not present in the previous trials with mice. The maximum thickness that the scientists are currently capable of printing, in order for the cells inside the organ to obtain nutrients, is only two inches. Though it may be half a century before organ printing is used everyday to save human lives, the sheer fact that this technology is becoming available is greatly promising. At the least, it could still be used to save small endangered species or any injured small animal.

Organ printing may one day have the capability to revolutionize the future of healthcare. Its effects would equal those of a panacea, significantly diminishing, and perhaps even eradicating, the risks of many life-threatening conditions. With the potential of replacing deteriorating body parts, organ printing could lead to a longer average lifespan for people, and perhaps even be the first step towards attaining immortality.