Cyborg pathology and Humanity 2.0- What will pathology be like in a world where fixing your body and fixing your computer become the same thing?

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Biological evolution is slow. Brain implants and bio-artificial organs will be part of the near time evolution of human beings through technological improvements. As carbon based systems and silicon based systems increasingly merge in human patients of the future pathologists will learn to interpret the interface (brain computer interface) and combination of these two disparate worlds that they suddenly see looking down the microscope. There is already a very large cadre of people examining processed silicon under the microscope so it is not such a stretch to imagine this being incorporated into the job description of pathologists. The most promising bio-artificial kidney uses silicon filter. Microscopic examination is a logical way to assess the “health” of the filter. It works both ways as increasingly cells are also being incorporated into computers. Right now the cell component of bio-artificial organs are encapsulated to prevent their escape into the body and therefore hard to examine. But the health of these cells is very important to the function of the bio artificial organ so eventually there will be means to examine them morphologically and this task will add to the richness of the pathologist’s work experience. The brave new pathological world of Humanity 2.0!

Biography

Sina Marzoughi is a student in undergraduate neuroscience at the University of Alberta. He is the Founder and Executive Director of the Edmonton World Health Organization Simulation (Edmonton WHO), a global health conference that provides opportunity for students to explore pragmatic global health challenges, approaches and solutions. He also has an interest in creating Smartphone applications for health education and already has two such applications published for the iPhone and iPad.

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