

Makers and users

I suggest a simple thought experiment. Science fiction occasionally mention an imaginary device: a replicator. It consists of two boxes; you put an object in a box, close the lid, and instantly get its undistinguishable fully functional copy in the second box. In particular, a replicator can replicate smaller replicators.

Now imagine the economy based on replicators. It needs two groups of producers: a very small group of engineers who build and maintain the biggest replicator and a very diverse, but still small, group of artisans, designers, and scientists who produce *a single original prototype* of each object. This hypothetical economy also needs service sector, mostly waste disposal.

Next, try, if you can, imagine a sustainable, stable, equal, and *democratic* model of education that supports this lopsided economy.

But this apocalyptic future is already upon us -- in the information sector of economy, where computers act as replicators of information. In my talk, I will argue that *mathematics*, due to its special role in the information technology, *is the most affected part of human culture*. The new patterns of division of labour split *mathematics for makers* from *mathematics for users* and trigger a crisis of mathematics education. The latter increasingly focuses on mathematics for *users* and undermines itself because sustainable reproduction of mathematics requires teachers educated as *makers*.