Playful laboratories: the significance of games for knowledge production in the digital age

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Playful Laboratories
The significance of games for knowledge production in the digital age

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INTRODUCTION

All work and no play makes Jack a dull boy,
All play and no work makes Jack a mere toy.

This common-knowledge balanced relationship between play and work, expressed by the 17th century English proverb, seems to be going through a major shift in the contemporary digital era. The division between leisure time and labour time is no longer clear-cut. Nowadays, games may be serious, express purpose, or even contribute to the advancement in science. Such is the case of eteRNA (2010), one among many other recent examples of digital online games, through which players around the world contribute to scientific research. Similar collaborative projects exist in the fields of astronomy (Galaxy Zoo), linguistics (Metropol Italia), or physics (Higgs Boson Machine Learning Challenge).

Interestingly, contemporary professional scientific research has also a lot more to do with games than it may seem at the first glimpse. High Energy Physics, for instance, perfected the process of the ludification of work practices within the framework of the digital production of knowledge. In CERN (Centre Européen de la Recherche Nucléaire) at the Franco-Swiss border near Geneva, thousands of physicists collaborate to solve the mystery of the beginnings of our universe. In their hybrid virtual-actual research rooms a sharp eye of a skilled ethnographer may observe forms of community coming into being, where humans from all nations, races and classes collaborate. The laboratory itself is a theatre of screens and interfaces displaying simulations of particle collisions and depicting machines and objects at interplay. The influence of playful virtual worlds seems apparent. CERN is a space where *ora at labora* meets *panem et circensis*.

At their structural cores, both eteRNA and CERN operate according to a similar principle – competition in large collaborative environments. While 10.000 high-energy physicists at CERN competitively search for the „God Particle“, more than 38.000 players worldwide participate in an online challenge of synthesising molecules. It is only in the digital age that we have the chance to witness the emergence of such big data collaborative play forms. We have been lead onto new playful paths, which appear at the intersection between playfulness and seriousness. But what made the link between games and the production of knowledge possible? And why have such ludic experiments as eteRNA gained a true momentum only in the recent years?

NETWORKED COMPUTING MACHINES

This *ludic turn* (Raessens 2014) seems to have been triggered by the arrival of the digital computing power and the World Wide Web. As Sicart notices, "[i]t is no surprise that the so-called ludic century is happening in the era of computing machinery" (Sicart 2014: 99). Computers have the capacity to process fast big amounts of data, and exchange communication in a vast network. And those two primary qualities seem to be changing the face of games and play. The alliance of computation and play allows for the rise of new forms of playful expression.

We may have played mimicry games from the dawn of humanity but a fantasy shared by millions of players simultaneously was virtually summoned only with the arrival of the Internet. The rise of the World Wide Web in 1989 (invented in CERN by Tim Berners-Lee) contributed to the development of a new gameplay phenomenon – a massively multiplayer online game (MMOG). The first multiplayer real time virtual worlds, such as multi user dungeons (MUDs) rose at the end of 1970's and 1980's. They could be, however, played online only as experiments in the ARPANET network or within internal university networks. It is only in the 1990's and the beginnings of 2000's that MMOGs became available to a worldwide audience. One of the most recognisable titles, World of Warcraft (2004), in its peak had 12 million active players.

What if those millions, instead of performing fictitious online battles, were united in order to solve existing and/or potentially problematic scenarios? Jane McGonigal questioned the usage of the power of games solely for escapist entertainment. Instead, she proposed to turn collaborative gameplay into socially positive ends (McGonigal 2011). McGonigal's vision of using games collaboratively to solve global social issues was first put into practice already in 1961 when Buckminster Fuller designed a World Game in order to address the problem of overpopulation and uneven distribution of global resources. Just as McGonigal's digital counterparts (World without Oil 2007 or Evoke 2010), it encouraged the players to cooperatively solve a set of potential scenarios.

WHERE TO?

Playfulness is not a new phenomenon; it is an inherent feature of *homo ludens*, and "one of the main bases of civilisation" (Huizinga 1992: 5). However, due to the developments in science, technology, and mathematics, it has taken on new forms that alter the work-play, and human-machine relations. The above examples of playful collaborative citizen and professional science illustrate the human capacity to solve puzzles and predict patterns. But maybe this unparalleled human brain will soon face another contestant. Powerful algorithms are already simulating the beginnings of the universe as we envision it, and predicting our biochemical constitution at the level of a single gene. Will the humans of the future, instead of competing against one another, or the machine, serve in playful factories simulated by the digital brains?

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