

Choosing between different AI approaches? The scientific benefits of the confrontation and the new collaborative era between humans and machines

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There are two main approaches to Artificial Intelligence (AI) research: *top down* and *bottom up*. Both approaches have offered great results and both solve difficult problems, one the main aims of scientific activity (according to Laudan). We can also infer from last decades that the diverse AI efforts are not the contemporary version of medieval *perpetuum mobile* debates, this time in the field of robotics, cognition and computation, with the idea of ‘intelligence’ as the main subject of analysis. Philosophical argumentations against classical AI (Searle’s Chinese Room ...) are far from the reality and scope of its development. Philosophers are fighting with a *chimera*, while AI is more and more crucially embedded on scientific practices and discourses.

AI is being successfully implemented on scientific reasoning by several ways. So, beyond philosophical academic arguments against or in favour of AI, there is a rational and framework space in which we can analyze and talk about the results Artificial Intelligence over several scientific disciplines. Bioinformatics, expert systems (such as DENDRAL, MAXIMA, MYCIN,...), or lab robots like *Robot Scientist*, are examples of it. We must think about other contributions of computer science and its meaning for daily activity and new ways of thinking: hypertextual forms (webcrawlers, websites, hypertext, e-mail, chats, cyberspace forums, blogs), computer-aided education (Tarksi’s World, Hyperproof, hypermedia), online databases, digital media or leisure spaces. As I will defend, we are assisting to a computerization of science (thanks to the result of different AI approaches) and life (virtual communities, hacktivism, e-democracy, flash mobs, book-crossing,...). And we can find as first time in human history, cooperation between scientists and civil society through distributed computation (*seti@home*, *genome@home*,...).

The efforts of computer and AI scientists are changing completely our societies, our science and our own thoughts. Perhaps we have now “Technothoughts”.