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EDITORIAL

Precision in health care

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In 2015, President Obama launched the Precision Medicine Initiative (PMI). The promise of this Initiative is that in the future medicine will be unique and personalised. Healthcare providers can 'customize' treatment and prevention strategies to the unique characteristics of people. The mission statement of the PMI is: "To enable a new era of medicine through research, technology, and policies that empower patients, researchers, and providers to work together toward development of individualized care" (Whitehouse 2016). While the website of PMI presents hallelujah stories in which precision medicine is already saving lives (see: https://obamawhitehouse.archives.gov/precision-medicine), what is missing is information and research data concerning the interconnections between human biology, behavior, genetics and environment. The Initiative is now transformed into a research project ("All of Us"; see: https://allofus.nih.gov/) to collect genetic and health data from one million volunteers by 2022.

Following the Human Genome Project, the PMI is the next step in utopian visions for future medicine. As usual, promises are projected into the future. It is expected that the accuracy, predictive value and benefits of genetic tests will greatly improve in the years to come. This prophetic ethos is clearly visible in the subsequent stages of predictive medicine,—first personalized medicine, and now precision medicine. Personalized medicine promised that medical treatments can be tailored to the specific characteristics of each patient. The new medicine will not only be predictive but also personalized and participatory. It will empower individuals to manage their own health and illness. This is exactly the utopian future forecasted by medical prophets such as Silver and Harari. Who can be opposed to this? Every patient will receive the right drug at the right dose at the right time.

The problem is that it is not true. The name 'personalized medicine' is a misnomer (Doz et al. 2013). It is also deceptive since the focus will not really be on the individual but on the average person (Tutton 2012; Rose 2013). Patients will be categorized in classes of genetic risk, in various subpopulations, so that 'stratified medicine' will be a more appropriate name (Juengst et al. 2016). Advocated for two decades, personalised medicine has not fulfilled the expectations. Like earlier efforts to sell genetics and genomics, the real benefits still have to be realized. Personalised medicine has only limited applications in regular health services (Evans et al. 2011).

Even more astonishing is the launch of 'precision medicine,' more than a decade after the promotion of personalized medicine Again, it forecasts future miracles. Not only are the hype and promises projected into the future, but it also repeats the dominating reductionism (Savard 2010; Horne 2017; Chowkwanyun et al. 2018). The basic assumption is that genetics is the underlying factor in most health conditions. Disease is a genetic concept, and illness is not a subjective experience but the result of the genetic make-up. The focus is on biology, rather than behaviour, lifestyle, environment or context. Whilst the name has now changed, and personalization is de-emphasized, predictability continues to be founded on genetic reductionism. The genetic conception of the self is an unquestioned value. Moreover, the very idea of 'precision' suggests that there are facts to be discovered, "that there is a truth out there" (Weiss 2017). It furthermore revives the idea of the 'magic bullet:' an effective drug that can be specifically targeted for one purpose.

This issue includes two articles on precision medicine. Vegter (2018) is enthusiastic about precision medicine. She argues that it introduces a new 'medical cosmology', a new way of thinking and practicing healthcare that combines genomic research, population studies and big data. Precision medicine has moved away from genetic determinism and uses more complex models of disease, or so she argues. The future will show whether this positive interpretation is warranted. So far, genomics and precision medicine have not delivered much and had a very limited impact on medical

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practice. It is all in the stage of promises and expectations. In order to generate funds and grants this is to be expected. But it also implies that priorities are skewed. Big money is going into life sciences, genomic research and precision medicine while it is common knowledge that many diseases are the result of lifestyle and socio-economic conditions (Evans et al. 2011). Without the prospect of big returns in the future, state agencies, politicians and companies will no longer invest in this type of basic research.

A more critical view is presented in the contribution of Wiesing (2018). He analyzes the claim that precision medicine will improve the epistemological status of medicine, thus promoting it from art to science. First, he argues that this claim is not new. The discussion whether medicine is an art, a science, or both is as old as medicine itself. The claim became more articulated since medicine was reframed as a natural science. Wiesing demonstrates that precision medicine currently presents itself as the ultimate science that is precise, predictable, and reproducible. However, scientific knowledge needs to be applied in clinical care. The uncertainties of this care context cannot be eliminated. Wiesing concludes that the fundamental difficulty of practical medicine therefore remains: general knowledge needs to be applied in individual cases It is not likely that precision medicine will transform the nature of medicine. It is even dangerous to suggest otherwise since it extends the belief in medical utopias and prevents us to address the real health problems humanity is facing today.

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