

Panta Rhei: Medicine 2.0

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Abstract

From ancient times, doctors have been seen as highly skilled and trained professionals, but the human nature of these professionals makes them susceptible to error. Nowadays, the rapid growth of information's availability and the changes of guidelines are impossible to be followed by one specialist. Instead, medicine is transforming to a team-work effort to reduce the possibility of error and to deliver the most accurate results.

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Rezumat

Din cele mai vechi timpuri, medicii au fost văzuți ca profesioniști cu înaltă calificare și bine pregătiți, însă natura lor umană îi face susceptibili la erori. În prezent, creșterea rapidă a disponibilității informațiilor și schimbarea orientărilor sunt imposibil de urmat de un singur profesionist. În schimb, medicina se transformă într-un efort de lucru în echipă pentru a reduce șansele de eroare și pentru a obține cele mai precise rezultate
Cuvinte-cheie: *Medicina 2.0, erori medicale, schimbări medicale*

A pillar of philosophy attributed to the ancient scholar Heraclitus of Efes, the Latin expression “panta rhei – everything flows”, doesn’t just reaffirm the fluids, obvious propriety but abstractly synthesizes the fact that, despite any intervention, from the inert matter into living things, everything transforms with the flow of time and does not return to the initial state. The society and the people forming it fit this ancient philosophical concept best. We actively participate (or just witness) to various transformations, each with unique impact and intensity, we discover and learn more and more, and we skill ourselves grinding the knowledge of our social experience gaining or dropping virtues and vices, living and transforming.

One cannot estimate the impact of being contemporary with Plato, Pitagora or Hippocrates for a simple aspirant to mastery and knowledge, but being contemporary to Stephen Hawking, Gordon Moore or William Campbell, in the 21st century, means an immense exposure to the dissemination of research. A mean of almost 3000 articles is being sent to review each working day⁽¹⁾, leading to a hallucinating approximation of 1.346.000 (!!) of scientific work revised and published annually⁽²⁾.

No matter what percent of this immense volume of publications is attributed to medical research, it is a certitude that a single professional, even an extremely capacitive one, cannot process, understand and apply knowledge from all the published resources.

A banal example seems eloquent: a scientific research update on asthma. Conducting a simple search, of all articles published and indexed by PubMed having “asthma news” as keywords, in 2016, the search engine returned already over 5000 articles⁽³⁾ – a number impossible to go through by a professional needing to stay up-to-date on every-

thing relating asthma. Of course, channeling research and the possibility of filtering narrow the volume of information significantly, but the rhythm of updates and re-refreshment is so alert, that only experience, precise problematics, and affinity to a journal or an author or the affiliation of authors to an academic institution or research facility make a reader to choose discretionarily. And trying not to abandon the philosophical approach of the matter, dissecting more into this information one must ask if there is any sense in publishing research anymore, since there is no unanimous rule of filtration and the choice of a title is at the empirical or even emotional latitude of the reader. Adding to all this the fact that only a small part of research can be accessed free of charge, the paradoxical conclusion would be that, even there is an immense source of published research, a big part of it remains insufficiently disseminated or accessed by the great mass of readers in the domain.

Still, these facts don’t always lead to correct conclusions. Medicine does not belong to a single person anymore, to a single omniscient, all-knowing “orchestra-man” professional. I like to think that we have entered the era of Medicine 2.0, and the success of the therapeutic act belongs to a team sustained by knowledge and technology. All the medical knowledge, from the guidelines (updated more and more often) to the systematized research, does not fit into one physician’s mind anymore. This physician needs interdisciplinarity to assess the correct and complete diagnostic and to rapidly, efficiently and budget-cautiously treat a patient.

Not randomly we refer to financial efficiency. There is a growing idea of the healthcare systems’ shortfalls and deviations, the sub-financing being at the top of incriminated factors, mainly referring to the Romanian healthcare system. It is obvious

that at this point – in 2017 – it is absurd to compare ourselves with other countries' healthcare achievements, since the current poor state of our healthcare facilities, the insufficient funding, and low salaries are no enigma. But the society is accustomed to amending the “whole” looking with superficiality at single cases, omitting the multitude of factors leading to the prosperity of Western European hospitals, the therapy abundance or complex paraclinical availability: private insurances, reporting the healthcare personal contribution to much higher incomes, different percentages of contribution and the “much-blamed” co-payment.

Far from advancing the comparison of healthcare systems polemic, we must underline the fact that every country considers its healthcare system being imperfect because, as opposed to any other domain, it is absurd “*ab originem*” to monetize the human health, a fact perceived as unnatural from an instinctive point of view deeply carved into the human genetics. But society, upon its development, needs hierarchy and order to function, the same way as medicine needs guidelines and protocols to limit error. It is scientifically proven that doctors rely a lot on personal experience and heuristics, believing themselves immune to possible error sources in their diagnostic reasoning because of their highly-trained professionals' statute⁽⁴⁾.

Although modern imaging and diagnostic tools have evolved and should confer a safer and accurate

diagnostic, it seems that the margin of error remained constantly unchanged throughout the time, and the pathology with a high risk of a wrong diagnostic remained the same. It is not about the rare conditions or complicated pathology that give doctors a hard time diagnosing, but the same old pulmonary embolism, myocardial infarction and pneumonia remain commonly the missed diagnostics⁽⁵⁻⁷⁾.

In conclusion, everything flows. The medicine development achieved its point of cleavage between the infinite humanity of the medical act, financial efficiency, and scientific regulation. The medical error is today the sensible point, fairly and openly discussed. Divinity – the entity usually responsible with ease for all patients' destinies – lost its perceptual influence and nowadays, the society holds the systems, the professionals and the procedures responsible for medical failures. The God's will is no longer an invalidity or a death diagnostic, its place has been taken by the deficiencies in prevention, lack of adherence, cultural barriers, genetic predisposition etc., but also the medical error. However, a sense of mystery remains in the medical act, a certitude in “doctor's flair” that makes practicing medicine an art, susceptible to error but a magical act to protect healthcare and life. Everything flows and transforms because evolution makes us better, and the will to transform, just like Heraclitus of Efes' philosophy, proves our doctors' nature: to progress. ■

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