

MAN AS BIOLOGICAL MACHINE

ČLOVEK KOT BIOLOŠKI STROJ

prof. Luigi Tesio, dr. med.

University of Milan; Department of Neurorehabilitation Sciences, Istituto Auxologico Italiano, Milan, Italy

Extended abstract

The dominant medical paradigm is bio-medical. Medicine is mostly seen either as biology applied to humans or the organisation of technical services to the community (hospitals, vaccinations, prevention etc.). Both approaches share the assumption that individuals are replicable units: no matter if they are members of a population of cells or of persons. This approach stems from the determinist-reductionist paradigm of modern science (1), which implies that "causes" are hidden beneath the "phenomena" (cells are hidden beneath tissues, molecules beneath cells etc.) and that the whole can be understood if one looks at its parts. The parts are assumed to be replicable tiles of a mosaic.

In this view, man is a biological machine. The progress of technology is reinforcing the myth of the capacity of man to create machines behaving like men (see the history of automata and the many science-fiction novels and movies on humanoids) (2). If one can create a man, this warrants that one has a limitless capacity to repair him/herself and ultimately reach immortality. Hospitals must resemble repair shops, not caring homes. On the flip side of the same coin, angst is unavoidable due to the fear of being nothing else than a machine, without freedom and devoid of any real identity (3). This has profound consequences on medicine. Its clinical mission, the work of listening to and curing the ill or disabled person, is falling progressively into scientific disrepute (4). *Clinein*, in Greek, means leaning – namely towards a single bedridden person. For this reason, paradoxically, biomedicine and public health predominate.

The merits of the man-machine metaphor are huge: suffice it to remind that as a paradigm it led to the enormous successes against infectious diseases due to a successful mix of biological research and public health policies. Yet, once the metaphor changed into a myth it failed to face whole-person problems like psychiatric illnesses, acute and chronic disabilities, ageing problems and terminal conditions. In these cases, the patient must be considered as a unique entity, the physician-patient relationship is an essential ingredient of the therapy and

Razširjeni povzetek

Prevladujoča paradigma v medicini je biomedicinska. Medicino se navadno pojmuje bodisi kot biologijo, aplicirano na ljudi, bodisi kot organizacijo tehničnih storitev za skupnost (bolnišnice, cepljenja, preventiva itd.). Obema pristopoma je skupna predpostavka, da so posamezniki ponovljive enote: ni važno, če so člani populacije celic ali oseb. Ta pristop izhaja iz deterministično-redukcionistične paradigme sodobne znanosti (1), ki privzema, da so »vzroki« skriti pod »pojavi« (celice se skrivajo pod tkivi, molekule pod celicami ipd.), in da lahko celoto razumemo, če opazujemo njene dele. Deli naj bi bili ponovljivi kot kamenčki v mozaiku.

S tega vidika je človek biološki stroj. Napredek tehnologije krepi mit o zmožnosti človeka, da ustvari stroje, ki se obnašajo kot ljudje (pomislimo na zgodovino avtomatov in številne znanstvenofantastične novele in filme o humanoidih) (2). Če lahko ustvarimo človeka, imamo neomejeno zmožnost popraviljanja samih sebe in lahko nekoč dosežemo nesmrtnost. Bolnišnice morajo torej spominjati na servisne delavnice, ne pa na domove za oskrbo. Druga plat medalje pa je neizbežna tesnoba zaradi strahu pred tem, da nismo nič več kot stroji, brez svobode in brez resnične identitete (3). To prinaša globoke posledice za medicino. Njeno klinično poslanstvo, tj. poslušanje in zdravljenje bolne osebe oziroma osebe z zmanjšanimi zmožnostmi, prihaja v znanosti na slab glas (4). *Clinein*, pomeni v grščini nagibati se – namreč proti posamezni osebi, ki ne more vstati iz postelje. Zaradi tega – paradoksalno – prevladujeta biomedicina in javno zdravje.

Zasluge prisposodbe o človeku-stroju so ogromne: dovolj se je spomniti na velikanske uspehe, ki jih je paradigma na podlagi te prisposodbe dosegla v boju proti nalezljivim boleznim z uspešno mešanico bioloških raziskav in javnozdravstvenih politik. Toda ko se je prisposoba spremenila v mit, se ni mogla soočiti s problemi osebe kot celote, kot so psihiatrične bolezni, akutne in kronične zmanjšane zmožnosti, problemi staranja in terminalna stanja. V teh primerih moramo pacienta obravnavati kot edinstveno bitje, odnos zdravnik-pacient je bistven sestavni del terapije in pravega »zdravila« (v smislu popolnega »popravila«) ni, vedno pa se da skrbeti za pacienta, tj.

no real "cure" exists (in the sense of perfect "repair"), whereas caring (helping the patient to feel better) is always possible (5). The clinical model is thus more and more diverging from the biomedical model; is this heralding the expulsion of clinical medicine and related specialties (physical medicine and rehabilitation, psychiatry and the like) from the family of sciences? Are the clinicians becoming the "good-hearted" while biologists, surgeons and epidemiologists will remain the "clever guys" (4)?

The medical model should recuperate its original scientific high ranking – mostly through innovative teaching models, starting from the academic level. To achieve that, several steps are needed: (a) research should respect the specificity of the medical model; (b) that model must remain within the boundaries of the contemporary scientific model; (c) upgrading cannot be done simply by adding ethical constraints or claiming that medicine is "more than science"; (d) advanced research instruments and methods should be borrowed whenever possible from the social sciences (6); (e) inductive reasoning, behavioural research methods, teaching and psychological skills should become explicit components of the clinicians' curriculum (7, 8, 9); and (f) medical training should provide that there be early branching into biomedical, clinical and population health specialisations. Clinical specialisations should be organised into areas sharing the level of interpersonal relationship rather than technical peculiarities (10). There is no cleavage between science and assistance: simply, the science of assistance should be developed (11, 12).

Key words:

medicine, biology, paradigms, clinical medicine, biomedicine, public health, scientific model, physician-patient relationship, medical specialisations, education and training

pomagati osebi, da se bolj počuti (5). Klinični model se tako vse bolj oddaljuje od biomedicinskega; ali to označja izključitev klinične medicine in sorodnih področij (fizikalna in rehabilitacijska medicina, psihiatrija ipd.) iz družine znanosti? Ali kliniki postajajo »dobrosrčneži« medtem, ko kirurgi in epidemiologi ostajajo »prebrisan-ci« (4)?

Medicinski model bi si moral povrniti svoj nekdanji znanstveni ugled – predvsem skozi inovativne modele poučevanja, začenši na akademski ravni. Da bi to dosegli, je potrebnih več korakov: (a) raziskave naj upoštevajo posebnosti medicinskega modela; (b) slednji mora ostati v mejah sodobnega znanstvenega modela; (c) napredka ni moč doseči preprosto tako, da bi dodali etične omejitve ali trdili, da je medicina »več kot znanost«; (d) napredne raziskovalne inštrumente in metode si je potrebno, kadar se le da, izposoditi od družbenih znanosti (6); (e) induktivno sklepanje, vedenjske raziskovalne metode, poučevanje in psihološke veščine morajo postati izrecni sestavni deli izobraževanja in usposabljanja klinikov (7, 8, 9); in (f) medicinsko usposabljanje mora poskrbeti za zgodnjo razvejitev biomedicinskih, kliničnih in populacijsko-zdravstvenih specializacij. Klinične specializacije je potrebno organizirati v področja glede na podobno raven medosebnih odnosov, ne pa glede na tehnične posebnosti (10). Razcepa med znanostjo in pomočjo ni: potrebno je zgolj razviti znanost o pomoči (11, 12).

Ključne besede:

medicina, biologija, paradigme, klinična medicina, biomedicina, javno zdravje, znanstveni model, odnos zdravnik-pacient, izobraževanje in usposabljanje

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