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ORIGINAL ARTICLE

Illness and disease from the viewpoint of medicine as a human science

La enfermedad y el padecimiento desde la perspectiva de la medicina como ciencia humana

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Abstract

Evandro Agazzi has defended an ideal of medicine in which the hermeneutical-existential and the scientific-objective dimensions can cooperate to understand the human experience of malady. The paper supports this account by justifying such a cooperation on epistemological and methodological grounds intrinsically related to the peculiar status of medicine as a human science. The peculiarity of the "laws" of medicine as a human science demands a synergistic, reciprocal, and continuous interaction of clinical-personal and extraclinical-biomedical testing. The resulting spiral movement is one of the most general epistemological and methodological conditions for the possibility of realizing, at least in part and in an ongoing process, an ideal of medicine in which objective, biomedical and extraclinical knowledge, on the one hand, and the personal and clinical knowledge, on the other, can work together to reliably promote the goal of health in its two main meanings of the term, the analytic-naturalistic and the phenomenological-existential.

Keywords: *Agazzi Evandro. Illness. Disease. Medicine. Naturalistic view of disease. Normative view of disease.*

Resumen

Evandro Agazzi ha defendido un ideal de medicina en el que las dimensiones hermenéutico-existenciales y las dimensiones científico-objetivas pueden cooperar para comprender la experiencia humana de la enfermedad. El artículo refuerza este argumento justificando dicha cooperación por motivos epistemológicos y metodológicos intrínsecamente relacionados con el peculiar estatuto de la medicina como ciencia humana. La peculiaridad de las «leyes» de la medicina como ciencia humana exige una interacción sinérgica, recíproca y continua de las pruebas clínico-personales y extraclínico-biomédicas. El movimiento en espiral resultante es una de las condiciones epistemológicas y metodológicas más generales para la posibilidad de realizar, en un proceso continuo, un ideal de medicina en el que el conocimiento objetivo, biomédico y extraclínico, por

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un lado, y el conocimiento personal y clínico, por otro, puedan trabajar juntos para promover de forma fiable el objetivo de la salud en las dos acepciones principales del término, la analítico-naturalista y la fenomenológico-existencial.

Palabras clave: *Agazzi Evandro. Enfermedad. Padecimiento. Medicina. Visión naturalista de la enfermedad. Visión normativa de la enfermedad.*

Introduction

Discussing what kind of reality subjectively experienced malady (i.e., illness) has, Evandro Agazzi adopted a perspective that is at once phenomenological, existential, and holistic. On the one hand, he maintained that the phenomenological and existential dimensions of "illness" are an integral part of its reality. On the other hand, he pointed out the importance of the point of view from which so-called scientific medicine views malady (usually expressed by the word "disease"). As a result, according to Agazzi, for an adequate understanding of malady, it is necessary to take account of both its phenomenological-existential and scientific-objective dimensions[1,2]. Although Agazzi does not use "malady" in the works considered here, in what follows I shall use this word in a general sense, as lack or contrary of health[3] and as covering both "disease" and "illness," since this is helpful both to the exposition of Agazzi's view and the theoretical aims of this paper.

Now, while accepting in its most general sense the thesis of a necessary integration or complementarity of scientific-naturalistic and phenomenological-existential perspectives to understand the human experience of malady, the exact meaning of this integration or complementarity still remains to be determined. In this paper, we shall justify the need for such integration on epistemological and methodological grounds, intrinsically related to the peculiar status of medicine as a human science (so far as this point is concerned, I shall develop a thesis already put forward by Buzzoni[4] as well as by Buzzoni, Tesio and Stuart[5]). In fact, the peculiarity of the "laws" of medicine as a human science demands a synergistic, reciprocal, and continuous interaction of clinical-personal and extraclinical-biomedical testing. Medicine moves from the clinical evaluation of the patient's lived experience of illness toward biomedical research, but to pursue a sufficiently reliable and effective (i.e., intersubjectively controllable) treatment, this movement must always be accompanied by a reverse one, which consists in a necessary additional test to be carried out in the clinical-therapeutic setting. The resulting spiral movement is one of the most general epistemological and methodological conditions for the possibility of pursuing, at least in part and in an ongoing process, a medicine in which objective, biomedical and extraclinical knowledge, on the one hand, and the personal and clinical knowledge, on the other, can work together to reliably counter disease and illness or, which is the same, to reliably promote the goal of health in its two main meanings of the term, the scientific-naturalistic and the phenomenological-existential, which, though being ideally opposed, are always complementary in actual personal life.

To defend this thesis, the paper is organized as follows. Section 2 briefly outlines some points of Evandro Agazzi's view regarding illness. This view supports the just demand that medicine, even in its most impersonal and scientific attitude, should not forget that its constitutive purposes lie in dealing with human ills, in removing suffering, and in improving the health of real people. However, if this is not to remain just a purely ethical demand, it is necessary to clarify the epistemological

and methodological conditions under which it can be met, given that many authors have accentuated the tension and even opposition between the scientific-naturalistic and the phenomenological-existential stance toward malady and medicine. Section 3 briefly describes and shows the one-sidedness of the two most important and opposite conceptions of "malady" (broadly corresponding to the different words "disease" and "illness" to express them), the organic-biological (or naturalistic) and the phenomenological-existential (or normative). This leads to a kind of antinomy, from which even the few attempts to develop an integrative view do not escape (we will examine, by way of example and very briefly, that of Wakefield[6-9]). Finally, Section 4 will show how the strengths of both naturalistic or scientific-reductionist and normative or phenomenological-existential accounts may and must be preserved in the light of the epistemological and methodological status of medicine as a human science. This section will outline a solution that specifies in what precise scientific-methodological sense Agazzi's demand for an integration of the phenomenological-existential and the scientific stance toward medicine can be realized. It is for epistemological and methodological reasons that medicine, after emerging from clinical need, must unfold itself in statistical-impersonal knowledge, to return later to cure the patient in the flesh, moving backward and forward like a weaver's shuttle between clinical and extraclinical tests, in a virtuous and spiraliform cognitive practice.

Agazzi on the concept of illness and the integration of the phenomenological-subjective into the scientific point of view

Adopting a perspective that is at once phenomenological, existential, and holistic, Evandro Agazzi addressed the problem of what kind of reality "illness" has. Because when we are ill, we perceive a whole change in our way of living, in its fundamental sense, illness cannot be identified either with a bodily injury or a certain level of suffering. Illness, Agazzi[1] writes, has the kind of reality of a human lived experience", that is, of an existential experience that totally envelops the subject who lives it and which, therefore, cannot be exhausted in any of the aspects that characterize it. For example, it is obvious that an illness usually implies a more or less significant level of suffering, or a more or less serious bodily injury, yet it cannot be correctly identified with either of them. Rather often, a suffering, even an acute one, appears to us as an aggression striking us "from the outside," producing pain, but in the face of which we are able to keep our autonomy and capacity of reaction, as also happens in the case of many injuries occurring to our body. In the case of illness, on the contrary, even a not particularly serious one, we clearly perceive a global change in our way of being and living: We become unable to perform quite a lot of actions and functions that are absolutely trivial and elementary. We suddenly become dependent on other persons; our spatial and temporal borders are drastically reduced; we live in a palpable way a situation of impotence, limitation, and fragility; our capability of carrying out projects is greatly reduced; our body, that until that moment was one and the same thing with our self and remained "unperceived" and "silent," becomes something that stands in front of us as an external obstacle. In short, we feel that we are no longer ourselves."

Someone could argue that these and similar characteristics are merely the "subjective counterparts" of an objective situation, which can be described by medicine based on empirical-scientific criteria. However, for Agazzi[1] these characteristics cannot be downplayed to simple subjective elements; they are "the reality of illness:"

"Nothing is more real than life, for one who lives it, and none can live one's life but in the first person, that is, as a subject. In this case, however, subjectivity is precisely the genuine mark of reality, and the sick person approaches the doctor (or some other person, or institution) with the aim of getting out of that personal lived experience which she does not accept. Hence, in the last analysis, it is medicine (be it scientific or not) that is measured and judged according to its capability of responding to the needs of the pathologic lived experience, and not vice versa."

In this way, at least at first sight, Agazzi takes the side of those, beginning with Seneca, who insist on the first-person lived experience of malady: *"Triae haec in omni morbo gravia sunt, metus mortis, dolor corporis, intermissio voluptatum"* (English translation: "There are these three serious elements in every disease: fear of death, bodily pain, and interruption of pleasures")[10]. Among the numerous variants of this conception, cf., e.g., H.T. Engelhardt Jr.[11,12] R.M. Zaner[13], and S. Kay Toombs[14,15]. However, two points characterize Agazzi's conception. First, Agazzi[1] does put special insistence not only on subjective experiences of illness, but also on characteristics connected with the whole cultural system in which illness acquires its full meaning: an adequate concept of illness, he notes, "cannot avoid producing those questions of sense that the human being asks when the negative erupts into his existence. Such questions may be dictated, in the last analysis, by the desire to find a means to expel such a negative (having understood its reasons and causes), but they inevitably have a broader range and, for this reason, often involve philosophical, cosmological, anthropological, and religious perspectives. Like all human lived experiences, illness is by no means an obvious thing: it must be, first of all, understood and explained, and in the second place, a possible sense of it can be attempted. This seemingly simple proposal, however, opens the spectrum of different interpretations of illness (that is, the answers to the question, "What is illness?"), and of the explanations that can be provided for it. On the whole, they depend on the conception of man that a given person, or a given culture, accepts.". And again: "The inscription of health and illness in a global perspective encompassing earth and heaven, cosmic influences, divine designs, and magic forces entailed an extremely holistic view of medicine, in which the concern of this art was not only "the whole" of the human organism, but also "the whole" of the universe, of the complex material and immaterial reality in which human life is situated. The reason why this perspective may be called "extremely" holistic is that it includes many metaphysical conceptions that were needed to offer a sense of illness, by going beyond what is empirically ascertainable and by resorting to conceptions, beliefs, and practices offered by religion and magic."

This is an "essential complement" to the now ubiquitous presence of technology in medicine, which carries the risk of a "phenomenon of slow 'marginalization' of the patient," a process in which "the patient risks to be perceived (and perhaps to perceive himself) as a machine put in contact with other machines."[2]

A second equally important point of Agazzi's view is that the phenomenological-existential reality of malady does not detract from the importance of the point of view of so-called "scientific" medicine, even if it highlights some of its limitations or bias. The phenomenological and existential dimensions of malady are still not enough to characterize the "medical art:" to be really an art, medicine must show itself to be an "efficacious practice." To be really an art, writes Agazzi[1], medicine "had to be shown to be also an efficacious practice. This implied a large empirical component, consisting of accurate descriptions of symptoms, clinical courses, therapeutic outcomes, anatomical findings, collection and comparison of data, all things that are largely documented in the writings

of the great medical personalities of antiquity, but also present in other cultures. For example: the priest-doctors of pre-Hispanic Mexico did not content themselves with healing their patients with rites and prayers, but received a long and rigorous formation that we would call "scientific" in a modern sense, that is, a technically specialized medical formation."

In line with these considerations, more recently and in the course of a brief analysis of Jaspers' contribution to the notion of psychiatric inquiry, Agazzi[16] has written that, to the "question of whether psychiatry is a natural science or a human science," it should be answered it "is a 'human science' in the sense that, dealing with man, it must take into account all that he is, that is, nature and existence, developing methods of work and inquiry that manage to integrate the medico-naturalistic aspects with those more explicitly related to existential understanding."

With these considerations, in fact, Agazzi has aligned himself with the literature of the last five decades (partially anticipated by Jaspers[17,18]), according to which an adequate notion of medical practice requires an integrative position that combines aspects of both the analytic-naturalistic and the normative-holistic perspective. It is often noted today that a medicine shaped by and dependent on biomedical sciences and technologies has generated a sense of dissatisfaction that is spreading among both patients and physicians: on the one hand, more and more patients are turning to an "alternative," "complementary" or "holistic" form of medicine; on the other hand, many physicians and healthcare professionals call for personalizing the traditional and biomedical model of medicine (Engel[19], Glick[20], Willis[21] and Marcum[22]), and some of them also practice complementary or alternative medicine (Mechanic[23], Baer[24], Evans[25], Ning[26] and Pilgrim[27]). Finally, many emphasized the partiality of the scientific-naturalistic stance toward medicine; see, for example, Cassell[28], Wyss[29], Nordenfelt[30-33], Christian[34], Hahn[35], Pieringer and Fazekas[36], Larkin, Eatough and Osborn[37], Tesio and Buzzoni[38], Tesio[39,40].

In fact, Agazzi and many of the mentioned authors rightly insist on illness as the subjective and/or cultural dimension of the malady and, at the same time, on the importance of the scientific-practical efficacy of medicine, but the epistemological and methodological sense in which these two dimensions complement each other in view of medicine's most important aim, that is to cure ill people, remains to a great extent to be clarified. As I shall try to show, in one respect, medicine not only moves from the clinic, that is, from the subjective (and more generally cultural) experience of illness, but must also return to it not only for ethical-practical, but also for strictly epistemological and methodological reasons. Precisely because medicine is a human science, the subjective and cultural variability shown by its "laws" must somehow be mitigated or diminished, to the point of achieving an intersubjective reproducibility sufficient for its intended purposes of healing. However, biomedical and extraclinical controls alone cannot sufficiently guarantee this intersubjective reproducibility, which requires a kind of shuttle movement, that is, mutual and positive feedback, between extraclinical and clinical controls. The ultimate treatment of the patient in the clinical setting, in short, is never simply a successful application of already established theoretical knowledge, but is itself part of the methodical process of checking the truth of medical propositions.

The two faces of illness

To better justify the need for integration between scientific-technological and phenomenological-existential dimensions of malady, we must first briefly show the one-sidedness of each of them, if they are taken

separately. It remains ultimately useful to contrast two ways - the analytical-naturalistic and the holistic-normative - of understanding malady, roughly corresponding to the different words “disease” and “illness” (as a specification of the more general “malady”). The risk of oversimplification, who someone rightly stressed[41], can be avoided if, as happens here, these concepts are taken as ideal types.

According to the first view, malady is a “disease” that can be ascertained objectively (the best-known and most discussed example is C. Boorse[42-44]). According to the other view, malady is to be defined by an explicit or implicit choice or convention concerning the fundamental purposes or values of our lives (for a good example of this conception, see Pörn[45], Engelhardt Jr.[11,12], Whitbeck[46], Nordenfelt[4], and Fullford[48]). As far as disease is concerned, it is something that can be intersubjectively observed, examined, and measured in a testable way, because its essential ingredients are biochemical, genetic, physiological, and neurophysiological processes (e.g., Boorse[42], Kleinman[49], Aho & Aho[50], Sadegh-Zadeh[3]). As far as illness is concerned, on the contrary, it is defined by living experience, both on a personal and social level: its essential ingredients are pain, suffering, anxiety, fear, etc., which prevent us, in whole or in part, from performing the tasks of daily life, such as when we are unable to drive because of back pain (e.g. Hofmann[51] and Kleinman[49]). At the social level – that is, for the social dimension of malady – the term often used in the literature is “sickness,” a term suggested by Parsons’ work on the “sick role”[52,53]. For our purposes, this meaning may be included here in that of “illness” (on this point see also Twaddle, one of the first authors to distinguish between disease, illness, and sickness[54-56]).

In a sense corresponding to this distinction, Nordenfelt[30] spoke of two different perspectives: the “analytic” (or “atomistic-biological”) and the “holistic” (or “holistic-humanistic”). From the former perspective, “one directs one’s attention to particular parts of the human organism, and considers their structure and function;” from the latter, “one focuses on the state of the human being as a whole.” From the former perspective, “man is mainly viewed as a complicated biological organism with a vast number of interacting parts” and “the central concepts to be used in theory construction are biological, chemical, and […] statistical;” from the latter, “man is taken to be fundamentally […] a complete human being acting in society” and the main “humanistic or social concepts” used are those of “person,” “action,” and “goal.”

However, these two perspectives give rise to a kind of antinomy, which depends on considering the two main aspects of both malady and medicine in abstraction from each other. That it is impossible to put in parentheses and essentially neglect the subjective-cultural dimensions of “illness” in favor of the scientific or biomedical dimensions of “disease,” is easily seen from the difficulties of the best-known attempt made in this direction, that of C. Boorse. This author was among those who made the clearest distinction between “disease” (or, better, as he prefers to say now, “pathology”) - a descriptive, non-normative concept concerning malady as a medical-scientific category - and “illness,” subjectively experienced malady, a concept dependent on cultural contexts. Disease, according to Boorse[44], can be defined in merely factual terms, without reference to any value: it would be a type of internal state that is an “impairment” of normal “functional ability,” that is, a reduction of one or more functional abilities below typical efficiency, or a limitation of functional ability caused by environmental agents (cf. above all pp. 683-4). Typical or normal performance is defined by Boorse’s[42] concept of “species design:” “Our species and others are, in fact, highly uniform in structure and function; otherwise, there would be no point to the extreme detail in

textbooks of human physiology. This uniformity of functional organization I call the species design." (p. 557. For some critical remarks on the concept of species design[57,58]).

This view must face serious difficulties. Having a particular digestive or breathing system and/or particular reproductive organs already represents a potential set of behavioral patterns or norms to be followed by an organism, and these norms are implicitly presupposed whenever the normal functional capacity of an organ is reduced or limited to some extent[59-61].

We could perhaps express this difficulty by simply saying that to claim that some body functions are fundamental already assumes that they are part of a teleological system of aims or values. More specifically, defining what is disease already requires us to know what Boorse's[42] "normal functional ability" is, but to say that an organ functions well already presupposes that it is something we should preserve in its current state. The latter, however, must be defined either with respect to a normative model that specifies the capabilities a human being should possess to fully adapt its concept or with respect to capabilities that are possessed by the majority of people.

Now, in the former case, that is, in the case of a normative definition, we are already beyond a merely organic definition of disease, and thus beyond a pure science of facts. Hence, it seems that only the second case remains, which is basically to use the statistical tool: one first establishes what is most frequent, or the average, or both, and on this basis one defines normality and, consequently, both health and, as its lack, disease. Moreover, Boorse does not only rely on the notion of "species design," but also on that of statistical normality. However, this path is not viable either, since one cannot hope to define what "disease" is in nature by resorting to simple statistical means.

First, there are enough counterexamples: there are statistically frequent phenomena that are usually seen as pathological (e.g., dental caries, some geriatric or epidemic diseases); and vice versa, there are deviations from statistically normal functioning that are usually not considered diseases, such as the athlete with a very unusual heart rate[11,62].

Second, every statistical mean depends on interests or values that vary from person to person and from society to society (on this point, see above all Canguilhem[59] and Wieland[63]). In a society where height had a great biological value, there would be more tolerance of higher values than of lower ones[4]; or think of the once accepted disease of drapetomania – the disease that caused slaves to abscond[64].

A simple thought experiment can serve to illustrate and further explore both points. Let us assume a highly developed technological society where people travel by transport beams that send an individual's molecules from one place to another and reassemble the molecules upon arrival. In such a society, an individual with both legs paralyzed – or somebody suffering from any "pathology" involving a walking impediment – may still be considered healthy to the extent that he or she can achieve the main goals assigned to its individual members by that society.

However, this is not enough. If we wanted to build statistics by means of interviews, to find out whether persons whose limbs are paralyzed are considered healthy or sick in a certain society, we would have to resort to the interpretation of discourses that persons make around themselves and others. In this sense, too, we would already have to go beyond the merely naturalistic dimension

of disease: we would have to ask individuals what they consider to be, to borrow Boorse's expression, "functional abilities," and thus we would have to engage in a complex interpretation of their experiences and responses.

These difficulties seem to speak in favour of the opposite perspective previously mentioned, that is, a normative, socially conditioned, hermeneutic or even narrative perspective of malady as "illness," whose conceptual reference points are the notions of "person," "action," and "goal." However, attempts to move in the direction of a hermeneutic-existential reading of illness have mostly relied on a person's ability to act in such a way as to realize certain goals, projects, aspirations, or values. However, precisely this has led them to a one-sidedness which is very similar but opposite to that already found in the naturalistic-scientific perspective.

Reference to each person's goals gives rise to overly broad definitions, given the variability of a person's possible goals. If the diagnosis of illness (or the ascertainment of recovery) were to be based only on the symptoms explicitly felt by the patient or on the goals each person sets or says he or she sets, it would be highly variable, to the point of losing all intersubjectively controllable truth value. There are many forms in which the "object" itself of medicine – the patient in the flesh – may undermine any scientific and intersubjective test concerning medical therapeutic results:

a) The patient can give answers contaminated by suggestion (placebo effect). No matter what degree of sophistication tests can attain, the placebo effect will always interfere to some degree with the effectiveness of a treatment[65].

b) The result of therapeutic means can be hampered by the knowledge of patient. According to Legrand, in psychoanalysis knowledge about this theory could be a great obstacle to therapeutic success[66].

c) The patient can – consciously or unconsciously – fake or conceal symptoms, especially but not only in the area of psychiatric diagnosis.

It would seem that we have arrived at a real antinomy, due to the considerable tension that exists between the concepts of malady as disease and malady as illness. On the one hand, an objective concept of "disease," intersubjectively controllable, would be highly desirable, not least because of the limited financial resources, which force one to establish, even by means of positive laws, what will be socially and legally recognized as malady (a meaning usually expressed by the word "sickness"). On the other hand, everything we have said so far about the subjective or hermeneutic-existentital aspect of malady as illness is such, it seems, as to make it impossible to fulfil one of the basic prerequisites of any empirical and scientific notation, namely that of being intersubjectively testable.

An interesting attempt to find a solution to this antinomy is that of Jerome C. Wakefield's harmful dysfunction model, originally developed for mental disorders, but later generalised to all kinds of disorders. According to this model, two conditions have to be fulfilled to regard something as a disorder: 1) the objective biological failure or "harmful dysfunction" (evolutionarily determined) of an organ or body part; 2) the dysfunction must cause a particular social harm[6-9].

The greatest merit of Wakefield's model is that it takes into account both the objective-organic dimension of malady, emphasized by the word "disease," and the phenomenological-existential dimension, underlined by the word "illness," but it is still insufficient on its own to solve the

antinomy outlined above. Its main limitation is that all the difficulties mentioned earlier regarding a normative or merely hermeneutic-existential notion of what illness is remain. It in no way tells us if and how it is possible to limit the liabilities that undermine the attempt to establish in an inter-subjectively controllable way whether something produces an authentic or only apparent "social harm." As we shall try to show in the last part of this paper, to solve the antinomy here set forth it is necessary an intermediate and integrative view which clarifies, on the one hand, the nexus of unity and distinction between the two faces of malady expressed by the pair of terms "disease" and "illness" and, on the other hand and at the same time, that between the naturalistic-analytical and the holistic-personal perspective about medicine. For this purpose, it is necessary to clarify a character that medicine shares with the other human sciences (in the common meaning of the term, but including not only psychology, sociology, economics or linguistics, but also, as limiting cases, both historiography and the humanities – such as philology and literary criticism). I shall develop this point in the next section, after a brief digression on the peculiar status of the human sciences.

Medicine as a human science and the good synergy between clinical and extraclinical medicine

What is typical of human sciences is that human actions and reasoning are always present, in varying proportions from time to time, two clearly distinguishable but inextricably intertwined sides.

On the one hand, typical of human reality are habits concerning action and thinking established by frequent repetition. These habits are quasi-mechanisms constituted by common activities and institutions, old customs and historical traditions, which we follow quasi-mechanically and unconsciously, and which are very difficult to evade. These are the rules from which human action departs mostly to a negligible extent, so that one is able to subsume such action under general – psychological, sociological, medical, etc. – "laws" or rules to explain them.

While, in this respect, the rules concerning human action are in perfect analogy to the scientific laws of nature, on the other hand, they remain valid or stay in effect only as long as they are not revoked or reemerge in the consciousness of the agent. This is the reason why humans can change, enhance, or, in principle (in fact, always only to a certain extent), suspend psychological, sociological, ethnological, medical, and other rules. Considered like this, psychoanalysis is paradigmatic. Still, everyday life too repeatedly confirms the ability of our consciousness to repeal, in principle, the routines and quasi-automatisms that constitute our life to a large extent.

This unity and distinction between conscious and unconscious aspects of our thinking and acting was already empirically investigated in cognitive psychology with similar or different terminology, emphasizing the opposition and at the same time the cooperation between unconscious thought or thinking and conscious thought or thinking[67,68], automatic and controlled attentional processes[69], non-declarative/implicit and declarative/explicit memory[70], System 1 and System 2[71,72], etc. The point in question also has interesting connections with the notion of "mirror neurons"[73].

However, the essential point of our considerations is that in this duplicity of aspects of the human action, is the most general condition of possibility of human sciences. The side consisting largely of unconscious routines and quasi-automatisms, governed by rules, allows a scientific explanation of human action; but if the first, unconscious side is constituted by general rules which allow a scientific explanation of human actions, the other side, characterized by higher degrees of consciousness (whose limit is full self-consciousness), persistently dissolves the routines or quasi-automatisms in new courses of action.

Now, far from being inconsistent, each of these sides presupposes the other, and each is necessary for the appropriate interpretation of the other. Arnold Gehlen believed that behavioural habits "lighten" (entlasten) the burden of conscious decision-making, but, more than this, habits even make deciding possible: without "habitual" thinking and acting, creative thought and action are practically impossible.

It is important to emphasize that, though not contradictory, each side would risk cancelling out the other if a reciprocal counterbalance were lost. To the extent that, in the object (but actually the subject-object or object-subject) under investigation, routines tend to coincide with actual mechanisms, to that extent science tends to coincide with an inquiry into a non-human reality. Conversely, to the extent that, in the object under investigation, routines tend to be completely dissolved, any scientificity tends to vanish due to unpredictability or pure randomness of the behavior of the objects under study. It is because of this second side of human acting and thinking that, in many cases of the human sciences, when the test persons actually are the "objects" experimentally tested, they must be kept in the dark about relevant aspects of the experimental set up: if the students of the famous Millner's experiment had known which regularities of their behavior he intended to inquire, this knowledge would have changed the regularities to be investigated in an unpredictable way. This problem is also intimately connected with the well-known problem of self-fulfilling or self-destroying prophecies.

In these last cases, which exemplify the ultimate root of all major problems in the human sciences, what is the counterweight that scientists can resort to? The answer lies in the peculiar use that the human sciences must make (and to a very large extent do make) of the statistical instrument. The use of the statistical tool is one of the most important methodological resources to limit this problem and to pursue a more reliable investigation of human actions. This tool ensures that, regardless of how many individual deviations there may be, scientists are able to predict and explain human behavior in most cases, or a sufficiently significant number of them. Mutatis mutandis, in the case of medicine, the statistical tool serves to ensure that medicine successfully prevents or treats patients, mostly or at least in a sufficiently significant number of cases.

From this point of view, there is an important element of truth in Boorse's statistics-based concept of health. The statistical approach is, in short, the methodological counterweight to avoid the risk, which always hangs over the sciences of man, of investigating the wrong object, or rather, an object that may have changed in the meantime to an extent that undermines the results of the investigation. The dependence of any general "rule" on the singular patient's consciousness represents a factor of uncertainty that cannot be entirely eliminated in the human sciences, including medicine. However, it can be limited by applying statistical instruments as a methodical counterbalance to

ascertain that the conjectured rules hold true for at least a significant number of individual cases (significant for the purposes of the inquiry).

However, as already seen, it would be an illusion to believe that a definition of disease can be based on statistics alone. Since the statistical tool can indeed limit, but never completely eliminate, the variability that depends on subjective-interpersonal influences, it is often necessary to test again the statistical results on the basis of individual clinical cases to uncover influences that could significantly compromise the sufficient reproducibility of the statistical rules first discovered. Herein lies the methodologically relevant sense in which, in medicine, one can never completely disregard the singularity of the patient in the clinical situation. The crucial role of the patient's singularity in medicine depends on the patient's ability to revoke, in doubt, at least in principle, the validity of rules concerning not only one's behaviour, but also one's way of living and preserving one's health (or reacting to illness). The more the medical contexts are sensitive to the influence of personal and interpersonal relationships (think, for example, of psychiatric or psychotherapeutic contexts), the more regularities, although reliable in the great majority of cases, possess an always conditional character and may fail in individual cases.

It would seem at this point that we are being pushed back into the open sea. The use of the statistical tool has to make sure that a sufficiently large number of clinical cases matches our general definition of illness or disease, but, in the last analysis, statistics are always based upon particular clinical cases, where the culturally changing and subjectively developing experience of individual patients seems to undermine again an intersubjectively controllable definition of health or disease/illness. Is this a vicious circle?

From an operational point of view, it is easily recognizable that there are not only vicious circles, but also virtuous circles, in which reciprocal and spiraling corrections of the results that have been gradually achieved take place. Every day life offers many examples of this. The moving backward and forward of a weaver's shuttle to produce a piece of cloth is a good example. However, what can guarantee in our case that we are in such a virtuous circle? The answer lies in the fact that the variability of the clinical setting is not unlimited and that even the supposed uniqueness and unrepeatability of clinical results is a myth that does not hold up to the simplest critical examination. Even the clinical response of the individual patient can, in fact, never entirely escape (and indeed is usually influenced by) factors that exhibit the same kind of regularity that is typical of the rules proper to the human sciences[74,75].

This lead us to the main thesis of this paper concerning the epistemologically and methodologically most important characteristics of medicine as a human science: the powerful influences exerted by the more subjective-interpersonal dimensions on the more organic or technical-functional dimensions of health are not arbitrary; on the contrary, they obey laws which, even though different from natural or empirical ones – because invented, modified or sometimes even suspended by human beings –, are sufficiently stable to make possible predictions and explanations similar to those of the experimental sciences.

How far this reproducibility and intersubjective controllability extend cannot be decided a priori. They are to be established by the researcher (and even earlier, by the clinician), that is, they are established by the scientists at work, when they deliver to us reproducible and intersubjectively

controllable results in areas that until then had not yet been included in a truly scientific kind of knowledge precisely because they lacked these fundamental properties.

This makes it possible to limit to a great extent the moment of uncertainty which we have emphasized above (and which is in principle unknown to the experimental sciences of nature), although we must be aware that it can never be eliminated completely: even if tests can and must become increasingly sophisticated, the placebo effect – to confine ourselves to one well-known factor – will still interfere to some extent with the therapeutic efficacy of a treatment. For this reason, we cannot exclude a priori that, with respect to certain particular social groups (and a fortiori, with respect to particular patients), certain drugs will have some effects that differ from those they had in the past. However, it is precisely the awareness of this aspect of medicine as a human science that can have concrete effects on concrete medical practice, both clinical and biomedical: it can become a caution and a stimulus for the study of illness or disease, and we will have to determine from time to time whether, and possibly to what extent, the aspect for which medicine is a human science has or has not influenced nosologies, preventions, predictions and therapies.

At this point it is easy to see how not only for obvious ethical reasons, but also for methodological and epistemological reasons, it is necessary to move toward forms of scientific medicine that ought to take into account the subjective-cultural dimensions of illness or disease, both of particular groups of people or, at the limit, of individual human persons. More precisely, we are now in a position not only to understand in what sense a “social harm” in Wakefield’s harmful dysfunction model can possess an intersubjective, “scientific” truth-value, but above all to answer the main question dealt with in this paper, that is, what are the conditions of possibility of the ideal of medicine defended by Agazzi, that is a kind of medicine in which the scientific-objective and the hermeneutical-existential dimensions of medicine are reconciled and made collaborate to understand the human experience of malady. In both cases, the reason is that the influences exerted by the subjective or social-cultural dimensions on the “organic” dimensions of health are not arbitrary. They obey “laws” which are different from natural or empirical ones because constantly modified or, in the limit, suspended by human beings, but are sufficiently stable to make possible intersubjective claims concerning “social harm,” illness or disease in medicine (and all concepts that are intimately connected with them: prevention, diagnosis, prognosis, therapy, etc.). We are thus entitled to conclude that the need for a medicine which integrates scientific-objective and hermeneutical-existential dimensions does not only follow from an ethical demand, but first and foremost depends on epistemological and methodological grounds, intrinsically related to the peculiar status of medicine as a human science. The peculiarity of the “laws” of medicine as a human science demands a synergistic, reciprocal, and continuous interaction of clinical-personal and extraclinical-biomedical testing. The resulting spiral movement is one of the most general epistemological and methodological conditions for the possibility of realizing, at least in part and in an ongoing process, an ideal of medicine in which objective, biomedical and extraclinical knowledge, on the one hand, and the personal and clinical knowledge, on the other, can produce more reliable results by mutually reinforcing each other (which of course does not exclude, but on the contrary presupposes the possibility of temporary clash). This fruitful interaction can, at least in principle, reliably counter disease and illness, or, which is the same, reliably promote the goal of health in its two main meanings of the term, the analytic-naturalistic and the phenomenological-existential, which are only ideally opposed but actually always intimately intertwined in real personal life.

Conclusion

Evandro Agazzi has pleaded for a medicine in which the hermeneutical-existential and the scientific-objective dimensions are reconciled and made to cooperate to understand the human experience of malady. In this paper, I tried to justify Agazzi's demand not based on ethical-existential reasons, but on epistemological and methodological grounds, intrinsically related to the peculiar status of medicine as a human science.

The influences of subjective-cultural dimensions on the organic dimensions of health are undeniable and seem to undermine the intersubjective testability of medical diagnoses, preventions, prognoses, or therapies. However, they are not arbitrary. They obey "laws" or, better, rules which (even though different from natural or empirical ones because human beings can constantly modify and, in principle, suspend them) are sufficiently stable to put forward intersubjective claims concerning human illness or disease. Given their dependence on will, however, the "laws" of medicine as a human science demand a synergistic, reciprocal, and continuous interaction of clinical-personal and extraclinical or experimental testing. The resulting spiral movement is one of the most general epistemological and methodological conditions for realizing, at least in part and in an ongoing process, an ideal of medicine in which objective, biomedical and extraclinical knowledge, on the one hand, and personal and clinical knowledge, on the other, can work together to reliably counter malady or, which is the same, to reliably promote the goal of health in its two main meanings of the term: the analytic-naturalistic and the phenomenological-existential, which are only ideally opposed but actually always intimately intertwined in real personal life.

Medicine is born in an essentially clinical context in the sense that its deepest root is in the effort to effectively remove illness, at least in a significant number of cases. To pursue this goal, medicine must first transform itself into statistical-impersonal knowledge, but must then check this same knowledge again in the clinical context, in order to assess the extent of the influences exerted by the subjective-interpersonal dimensions on the organic and external reality of malady. Medicine must therefore shuttle between clinical and extraclinical controls. It is this going to and fro like a shuttle between the clinical and extraclinical tests that generates an open-ended spiral process and guarantees, at least in principle, the scientific, because intersubjectively testable, character of medicine as a human science.

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Conflicts of interest

The author declares that he has no conflicts of interest.

Ethical considerations

Protection of humans and animals. The author declares that no experiments on humans or animals were performed for this research.

Confidentiality, informed consent, and ethical approval. This study does not involve personal patient data, medical records, or biological samples, and does not require ethical approval. SAGER guidelines do not apply.

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