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Retrospective Diagnosis: Use and Abuse in Medical Historiography

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Abstract: Medical papers on diseases of famous persons, sometimes called pathographies, constitute the by far largest section of publications dealing with historical diagnosis. The procedure of attaching modern diagnostic labels to illustrious personalities of the past, i.e. retrospective diagnosis, has stimulated an ongoing theoretical debate among clinicians and medical historians.
The purpose of this paper is to clarify some of the issues involved. Key problems of retrospective diagnostics are reviewed and analysed. In addition, the case history of the Polish composer Fryderyk Chopin is used to highlight problems and pitfalls of this method. Whereas contemporary physicians are used to apply present-day nosological categories to individuals of the past or historical epidemics, medical historians are more cautious to do so. They argue that in the absence of definite proofs retrospective diagnoses often are nothing more than mere speculation. Another important counter-argument is that medical knowledge itself varies over time and historical changes in nosology must not be ignored. Future pathographies should use primary sources extensively, focus on historical context and minimize the pursuit of retrospective diagnoses or causes of death. Only with a fundamentally revised method, a more critical approach to retrospective diagnostics, and far more serious objectives will medical biographies be in a position to break new ground.

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Introduction

"Did Frédéric Chopin have cystic fibrosis?" In summer 2008, various European newspapers and news agencies informed their readers about the request of Polish physicians to test the composer's heart in order to find out whether he suffered from tuberculosis, or, what they presumed, from cystic fibrosis [1, 2]. These reports highlight the topic of this review: retrospective diagnosis and its use and abuse in historiography. Medline/Pubmed, the world's largest medical database, lists hundreds of papers dealing with this subject, and most of these articles aim at presenting a modern, hitherto unknown diagnostic label for these illustrious persons. Sometimes such a study on the illness suffered by a politician, a composer, an artist or any other creative individual is informally named "pathography", from the Greek patho- (suffering) and -graphy (description) [3, 4]. Journal articles by clinicians about individual diseases are forming by far the largest amount of publications dealing with historical diagnostics. Therefore a brief and concise outline of this genre's potential, its problems and pitfalls, seems more than appropriate.

What exactly is a retrospective diagnosis? The term itself is somewhat self-explanatory, but it can be defined as a procedure aiming to identify an individual case of illness or a disease in history by a modern name or diagnostic category still unknown to the physicians of the time. In the case history mentioned above, cystic fibrosis as a nosological label for Chopin's "chest problems" would represent a perfect example of a retrospective diagnosis.

Retrospective diagnosis: pros and cons

There is, however, a perennial battle going on between medical doctors and medical historians about what is legitimate research in this field and what not [5]. Incontestably, many contemporary clinicians hold an unbroken fascination for tales of the rich and famous suffering and dying. Those colleagues are interested in questions such as, from what did Alexander the Great suffer, what really killed Mozart, and did Woodrow Wilson finally accept the Treaty of Versailles only because he was weakened by a progressive affliction? In western societies, one of the physician's central tasks consists in making diagnoses, each and every day. Diagnostic labels are indispensable in today's medical routine in order to establish the treatment, to communicate a prognosis to the patient and to request payments from assurance companies. Therefore a present-day physician may well ask: Why not treat an "historical patient" for a change?

This is the point where the problems begin and where the professional historian of medicine comes into play. Historians generally insist that there are two fundamental arguments explaining why retrospective diagnostics often leads to a logical deadlock [6]. Thus it is well worth having a closer look at these counter-arguments.

1. A retrospectively diagnosing physician strongly violates the principles of the medical profession, because he gives his opinion on a patient he has never seen nor examined. This statement sounds harsh, but nevertheless it's true: All a physician elaborating on a retrospective diagnosis can do is to compare several more or less unspecified phenomena described usually in a non-medical context with a clinical picture constructed many decades or centuries later, and to detect some possible similarities.

An open question, however, is, whether the plausibility of these "findings" can be substantiated on behalf of rational arguments. As a final proof (such as a pathoanatomical finding, a lab test or a genetic analysis) usually cannot be provided, it is impossible to falsify or verify a hypothesis of this kind – the "cases" of Alexander the Great, Mozart and van Gogh are excellent examples for this situation. As a matter of fact, a "may-be"-diagnosis concerning a historical patient never can be ascertained in the same way as a modern patient [7].

As a result, there constantly is an unlimited range of speculation according to the principle "your freedom of choice". If recourse to reliable sources is impossible and there is no convincing evidence available, you are free to speculate: that is what most contemporary clinicians think and what they do. The logical, or rather illogical, structure of this procedure guarantees retrospective diagnostics an almost eternal life. Although scientific and historical evidence from these studies is, at least from a historian's perspective, very limited, their entertainment value seems to be of such a high level that even prominent medical periodicals publish them in a kind of "yellow press sector". Of course these journals are free to publish what they want. The problem, however, is, that this exercise gives the wrong impression to the medical profession that medical history has nothing better to concern itself with.

2. Along with the irresolvable methodical problem just described, there is another inherent flaw in the process of retrospective diagnostics. This second draw-back is only recognised when the process itself becomes a part of history: It lies in the flux nature of medical knowledge, in the fact that medical knowledge itself changes over time [8].

This issue is clarified if and when one looks again at what physicians do when they are writing historical papers on famous patients. It is quite natural for these colleagues that they regard the level of scientific knowledge at their time of writing as an Archimedean point from which they assess the course of an illness in the past. But there is a fundamental problem associated with all this: medical knowledge is everything but static.

In order to illustrate this point, the illness of the Polish composer Fryderyk Chopin is taken into consideration once again. If the various retrospective diagnoses attached to his "case" are arranged in chronological order, it becomes immediately clear that emerging concepts of disease and medical diagnoses proposed over the last 120 years strongly correspond with research on these diseases in clinical

medicine (Table 1). In this way, the historical figure Chopin served as an ideal surface on which to project at first tuberculosis [summary in 9], then, in the 1960s, allergic conditions [10] and valvular stenosis [11], in the late 1980s cystic fibrosis [12], and, more recently, other genetic defects such as alpha-1-antitrypsin-deficiency [13].

This is only part of the parcel, since there is also the psychopathological level (Table 2). Snapshots from the psychiatric literature also show the impact of present research on pathographic labelling: they illustrate the latest nosological concepts with which Chopin is branded. The list begins around 1900 with the French concept of psychoasthenia [summary in 14], in the 1920s Kraepelin's manic-depressive disorder emerges [15], followed shortly by psychoanalysis linked to the idea of specifity [16]. And finally there are the most modern operational diagnoses such as major depression and bipolar disorder according to ICD 10 or DSM IV [17].

Tables like these can be prepared for almost every famous person of the past, but there is another very important observation: This style of work and its results can be described as a perfect self-referential system within medicine. Doctors discuss with doctors names for medical conditions, names which are changing over time. For good reasons, this self-referential system is little appreciated by outsiders, such as in this case historians of music or biographers. No recent biographer of Chopin has ever consulted the enormous number of papers dealing with his alleged diseases.

Thus far this paper has tried to show that naïve retrospective diagnostics is a futile attempt by modern scientific medicine to project its understanding of disease into the past, applying its present capacities of explanation to historical events. This methodically dubious procedure applies both to the reconstruction of individual illness of historical personalities (such as Chopin, Mozart and van Gogh), and to the modern explanation of historical epidemics (such as the ancient plague of Thykidides or the English sweat of the 16th century).

Table 1 – F. Chopin. Selected retrospective diagnoses, somatic

Somatic diagnoses	year
Tuberculosis	1899
Allergic condition	1961
Valvular stenosis	1964
Cystic fibrosis	1987
Alpha-1-antitrypsin deficiency	1994

Table 2 – F. Chopin. Selected retrospective diagnoses, psychiatric

Psychiatric diagnoses	year
Psychasthenia	1899, 1935
Cyclothymic disposition	1920
Tuberculous psychoneurosis	1922, 1932
Depressive or schizoid psychopathy	1948, 1950
Major depressive disorder, bipolar disorder	ca. 2005

A new perspective: the "real" pathograpy of the future

Two important conclusions can be drawn from these theoretical considerations.

1. Historians of medicine will not be able to convince the medical profession to give up their historical hobby. But if asked to review papers for prominent journals, historians can again and again tell the editors that this is not a use, but an abuse of retrospective diagnostics in historiography. Historians should argue that for a true historical paper tons of primary sources have to be read, the historical context has to be taken into consideration and the focus has to be laid on historical interpretation, which is totally different form mere speculation about nosological labels or causes of death.

2. On the other hand, medical studies of historical personalities should by no ways be totally dismissed. They should just be done in a different way, a way in which a present-day diagnosis is of minor or even of no importance at all. Instead of this, contemporary physicians could and should use historical personalities as "windows of opportunity" to learn more about medical practices and social perceptions of the past [18]. To present just one example: Why was Chopin permitted to spit at pleasure in the parlours of Paris around 1840, while he was completely banned from society in Majorca at the same time as soon as he had a little cough? Or what can be learned from this "case" about the treatment of pulmonary symptoms in the mid-19th century?

To conclude this paper with a second look at the newspaper articles quoted at the beginning: The Polish physicians who wanted to examine Chopin's heart aimed at proving or disproving that he suffered from cystic fibrosis, a genetic disease involving different bodily systems. At first glance, this morphological or biochemical evidence seems more promising than Chopin's letters in order to find out what was really wrong with him. A genetic analysis, however, would only offer a genotypic identifier, but, as far as the author of this paper knows, would not provide a phenotypic characteristic, let alone give an insight into the subjective issue how Chopin experienced his illness. Furthermore, a very sensitive ethical issue is touched upon here: Should scientific curiosity be more important than the peace of the dead? Most likely not, and therefore it was a wise decision of the Polish authorities to decline the request to exhume Chopin's heart. Thus the posterity will never know with certainty what he was really suffering from. Without any doubt, the medical, musical and historical community can live very well with this *ignoramus and ignorabimus*.

Conclusion

Retrospective diagnosis is perhaps such an important topic because it is located at the borderline of science and the humanities. It always runs the risk of restricting the understanding of history to a biologic process, similar in origin to nature itself. If it is done in this way, it is abused. If, however, it is used in the form of an historical interpretation within a certain historical context, it can be a valuable historical

method. In any case, it will always be a difficult undertaking demanding a high standard of methodological reflection. The purpose of this paper was to inform the readers of this journal about at least some of the issues involved.

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