

Research article - Education in anatomy and embryology

Students' opinion towards the Pernkopf atlas: are the Italian students ready to know the history?

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Abstract

The debate around Pernkopf's atlas, the origin of bodies used to create its plates and the person of Eduard Pernkopf has involved with time academic authorities and university professors, and has shaken the anatomical scenario. However, no study has been so far performed concerning the opinion of students towards this sensitive and problematic issue. This article aims at exposing the results of an interview performed on 42 Italian medical students, after a self-chosen course of history of human anatomy, in order to ascertain the students' opinion towards this important debate in the anatomic scenario. Results showed that 91% of students did not know the existence of Pernkopf's atlas: 51% stated they would not use it, whereas for 65% it should be preserved for didactic purposes. Subjects who preferred the atlas to be banished justified their position mainly on the base of ethical reasons (25%); however, in a third of cases students were not able to give an answer. Twenty-two percent of students who agree with a preservation of the atlas would limit its use to historical studies. In 11% ethical issues were not considered important. In 52% of cases no opinion was given. Results show that the debate concerning Pernkopf's atlas, at least among students, is at the very beginning: more efforts need to be performed in order to let the medical students know the history of the atlas and its importance in the scientific debate around the ethics in anatomy.

Key words

Anatomy, history of anatomy, ethics

Introduction

Pernkopf's "Topographische Anatomie des Menschen" (Topographical Anatomy of Man) is one of the most acclaimed atlases of human anatomy, developed by Prof. Eduard Pernkopf of the University of Vienna in the first half of the 20th century, currently at the centre of an intense scientific debate concerning the origin of the work and the figure of the author (Israel and Seidelman, 1996). Eduard Pernkopf in fact is known as a leading supporter of Hitler's Nazi party, together with the artists involved in the production of figures. This aspect is also proved by the first edition of the atlas containing several swastikas and other signs of the Nazi regime, which were removed in more recent editions (Hubbard, 2001). The debate begun in 1995 when the Jewish Holocaust Remembrance Authority, Yad Vashem, requested the authorities of the University of Vienna to conduct an inquiry on the Pernkopf atlas in order to ascertain the possible use of bodies from victims of Nazi concentration camps (Israel

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and Seidelma, 1996). After this event, the scientific community became aware of the issue, which led to the publication of several articles and comments concerning this sensitive topic, also within universities: several institutions in fact decided to remove the Pernkopf atlas from their didactic programs (Panush, 1996). The inquiry ascertained that between 1938 and 1945 3,964 unclaimed or donated bodies and 1,377 bodies of executed persons (guillotined at the Vienna assize court or shot by the Gestapo at a rifle range) were delivered to the Anatomical Institute of Vienna (Malina and Span, 1999; Angetter, 2000). In addition, 41 plates on 791 illustrations of the original atlas were signed with dates from the Nazi period and it is likely that at least some of the models came from the group of executed victims (Hildebrandt, 2006).

Additional information was given by three Pernkopf's collaborators (Prof. W. Kraus; Prof. A. Gisel; Prof. W. Platz) who were interviewed in 2006 and confirmed the arrival of bodies from executed victims at the University of Vienna, including also Jewish victims (Aharinejad and Carmichael, 2013). The three witnesses in a similar way disregarded the origin of bodies, as also highlighted by an answer provided by Prof. Kraus ("nobody cared, and why should have we cared?").

The scientific debate has led since the beginning to two opposite views concerning the future of Pernkopf atlas: on one side Panush and Briggs (1995) requested the Pernkopf atlas to be removed from all the libraries, stating that nobody should take advantages from the victims of Nazi regime and the use of the atlas could risk to justify the committed atrocities. In addition, Pernkopf's work can now be replaced by other anatomical atlases, advanced by the modern means of medical imaging and technology. On the other side, a group of authors suggests to continue to use the atlas, preferably in its first edition with Nazi symbols as a historical documentation with notes and comments concerning the origin, stating that the use of the atlas could honour the victims of Nazi regime (Atlas, 2001).

As one can observe, the case of Pernkopf's atlas involves academic authorities and universities, but no specific articles have been so far published concerning the opinion of students, and if they are aware of the history. Yet they are the first figures involved in the use of the atlas and their opinion is important to correctly address this sensitive issue.

This article aims at exposing the results of an interview performed on 42 Italian medical students, after a self-chosen course of history of human anatomy: the results may provide a general idea concerning the students' opinion towards this important debate in the anatomic scenario.

Materials and methods

Forty-two medical students (17 males and 25 females, mean age 22.1 years, SD 4.8 years) attended a self-chosen six-hour course of history of human anatomy in two lectures. Some among the students were still attending the regular lectures of anatomy. Within the course the specific issue of Pernkopf atlas together with the historical evolution of the debate and the different views concerning its use for didactic purposes were exposed. At the end of the course, the students were requested to compile an anonymized questionnaire, containing the following questions:

- 1) Do you know Pernkopf's atlas?

- 2) After having known its history, do you think you would use it?
 3) Do you agree with the view of banishment or preservation of Pernkopf's atlas in the academic field (according to Panush and Briggs' and Atlas' views)? Why?

Answers were evaluated in order to highlight the public opinion among students concerning the issue of Pernkopf atlas.

Results

Among forty-three students, only three admitted to know Pernkopf's atlas (7%), and one gave no answer; in 91% cases the atlas and its history were unknown.

The second question requested the students to specify if they would use the atlas, once they have known the history: 51% provided a negative answer, whereas 35% were likely to use Pernkopf's atlas. In 12% of cases no answer was given. Results vary according to the sex: males almost homogeneously divided within the categories of positive and negative opinion, whereas 64% of females would not use the atlas after having known its history (Table 1).

For what concerns the third question, almost two thirds of cases agreed with Atlas' view (the atlas should be preserved), also in this case with differences between males and females (respectively 72.2% versus 60%).

Interesting data came from the analysis of the reasons given by the students for their answer: students agreeing with Panush and Gribbs' view stated that the use of the atlas does not actually honour the victims (25%) and it is unethical (25%), and that other textbooks make it useless (17%). However, 33% did not provide an answer.

On the contrary, students on the Atlas' side stated that the atlas is useful (7%) and its use does honour the victims of Nazi regime (4%); however, 22% thought that the atlas should be preserved only as a historical document and not for anatomic studies. In addition, 11% thought that the ethical debate is secondary in comparison with scientific advantages deriving from the atlas; in 4% of cases the use of the atlas was justified by the sentence "the evil has been done". In 52% of cases students gave no answer.

Discussion

Pernkopf's atlas is at the centre of an intense debate concerning the ethical limits of anatomical research and the question concerning the possible separation of a uni-

Table 1 – Answers to question "After having known its history, do you think you would use Pernkopf's atlas", depending on gender. Data as percentage and number.

	Males	Females
I would use the atlas	41% (7)	32% (8)
I would not use the atlas	35% (6)	64% (16)
No answer given	24% (4)	4% (1)

versally recognized masterpiece from the behaviour and personality of the authors. Discussions concerning Pernkopf's atlas involved university authorities, professors, scientific articles, and remain still without a common solution, although its volumes have no longer been published (Hubbard, 2001). However the medical students have not yet been involved in the discussion, although they are the first persons who may use the plates of the atlas. This study for the first time asked students to give an opinion concerning this sensitive issue: results highlight interesting points of discussion and confirm once again that the debate is still open.

Interestingly, in 51% of cases Italian students stated that they would not use the atlas, with different percentages between males and females: the refusal of the atlas is more pronounced in females (64%), whereas males did not show a clear answer, with almost a quarter of students without an opinion. This result may be due to the different "sensitivity" of male and female population towards tragic events: however the high percentage of students who did not give an answer is the sign of an incomplete elaboration of the issue, which prevents from forming a precise opinion.

The choice for one of the two opposite opinions, banishment or preservation, was more clear, with almost two thirds who agreed with the use of the atlas; however, adducted motivations still show that a precise motivation has not yet been created.

Among students who preferred the atlas to be banned, one third of persons were not able to give a precise reason, and even more problematic was the situation of students who agreed with preserving Pernkopf's plates. They agreed with the preservation of the atlas, but in 52% of cases they are not able to say why. On the other side, among those who gave an answer, 11% found that "ethical issues are of limited importance" in comparison with scientific and didactic improvement, and 4% stated that "the evil was done" and therefore it is preferable to keep the atlas. Undoubtedly these answers reflect a limited elaboration of ethical issues and testify that these topics need to be strengthened in Italian Medical Schools. In addition, 22% of people who agree with the preservation of Pernkopf's atlas state that its use should be limited to the historical context: this opinion provides a limitation in its use which seems more close to the positions of those who prefer to banish it.

In conclusion, Italian medical students seem still to have a primitive opinion concerning Pernkopf's atlas and its history: this is probably due also to the scarce information about the scientific debate (91% of subjects did not know its existence). The motivations leading to one or another position are expected to be confused as well. However, this is the sign that the diffusion of literature concerning this case among students needs to be improved in order to give to everyone the tools for creating an opinion. Pernkopf's atlas is not only a thorny issue, but also an important point of debate which deals with ethics in anatomy, and reminds us, as underlined by Hildebrandt (2013), "to care", in contrast with a model of anatomists who in the past had learnt not to care the origin of the bodies and, probably, the nature itself of their discipline.

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