

## A SCULPTURE MASTERPIECE FOR THE TEACHING OF ANATOMY

DINU IULIU DUMITRASCU, CARMEN BIANCA CRIVII,  
IULIAN OPINCARU

Department of Anatomy and Embryology, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania

### Abstract

**Background and aim.** The study of anatomy remains the backbone of medical education in the first years. There is a constant need for educational materials that enable the assimilation of knowledge by students. The casts after human bodies have not lost the value, even in the era of virtual education. We present in this paper a museal item destined to improve the anatomy teaching.

**Methods.** Given the existence in the department of anatomy from Cluj –Napoca of an item of exceptional artistic and scientific value, we intensively searched Pubmed and Scopus , as well as by manual search of printed only documents, for all papers related to the muscle man by Brancusi created for educational purposes of anatomy students.

**Results.** This paper presents summary data from the biography of the creators of this item, the world famous sculptor Constantin Brancusi and the professor of anatomy and surgery from Bucharest Dimitrie Gerota. We also describe this item and the conditions which generated it

**Conclusion.** Teaching anatomy relies on the quality of the didactic support. The muscle man by Brancusi is a very realistic reproduction of a man, very useful for anatomical training and teaching.

**Keywords:** anatomy, Constantin Brancusi, Dimitrie Gerota, history of medicine, medical education

### Introduction

Anatomy is the background of medical teaching and it remains in this cornerstone position, despite the decrease in importance given to this discipline in recent decades [1]. From the start of anatomical education, back during the first Renaissance century, carried out in the first universities from Europe, the need of anatomical knowledge has always been emphasized [2]. Even now, when new surgical and imaging techniques develop from year to year, the need for a better knowledge of basic anatomy [3] and of surgical anatomy including anatomical variations from the average

but clinically normal [4] is obvious.

The best way to study anatomy is still on the corpses or on casts reproducing the body. More recent online systems [5] are for the moment somewhat inferior to class teaching of anatomy [6]. This also applies for students' evaluation. Comparisons of different imaging methods for organ evaluation do not always replace the anatomical assessment [7].

Hence the need to offer the students very accurate replicas of human bodies, enabling them the access to human structures, in the absence of true corpses. We present in this paper one of the most impressive didactic pieces available in the department of anatomy of the Iuliu Hatieganu University of medicine and Pharmacy Cluj-Napoca, Romania. It was

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Manuscript received: 18.01.2016

Accepted: 02.02.2016

Address for correspondence: bianca.crivii@umfcluj.ro

realized by the famous sculptor Constantin Brancusi at the request of Professor Dimitrie Gerota.

### **Constantin Brancusi (1876-1957)**

He is a famous sculptor, considered one of the most famous Romanians. He had and still enjoys a worldwide reputation, being one of the most expensive artists of the world. Some of his sculptures were sold at different auctions for many millions of dollars, always over the estimated price. His start was modest, in a rural environment, and started his training in Bucharest [8-10].

Around 1903-1904 he traveled to Paris via Munich and continued there a brilliant career, after a short stage in the workshop of Auguste Rodin. He started to simplify the physical forms, including the bodies, arriving to an essence of symbolism of great elegance and expressivity. His destiny and work attracted many disciples and he is one of the most influential sculptors of the first part of the 20<sup>th</sup> Century.

His artistic style was so original and seminal for the artistic world of his time, that he stimulated psychoanalytical interpretations [11]. Also, one of his first works, more naturalistic, was interpreted as a pathographic representation of a neurological hereditary disease [12].

When he left Bucharest for Paris, he left behind some sculptures, most of them preserved in the Museum of Arts from Bucharest and Craiova.

In Bucharest, he interfered with the Professor Dimitrie Gerota and the meeting between the young artist in quest of his way and a famous surgeon and educator left traces.

### **Dimitrie Gerota (1867-1939)**

Only 10 years older than Brancusi, Dr. Gerota had an established reputation in Bucharest when the young sculptor started his career. They met when Gerota was teaching anatomy to the fine-arts school in Bucharest where Brancusi was a student, and maybe the fact that they came from the same province of Romania, Oltenia, enhanced their collaboration and friendship.

During that time they decided to work on a teaching material necessary to anatomy students (see below).

Dimitrie Gerota was not only anatomist, but also surgeon, as many professors of surgery of that time, when morphological sciences preserved their supremacy. He taught at the Faculty of Medicine of Bucharest, but used free time intervals for continuous education abroad, mainly in France and Germany. He had many scientific contributions and even a known medical dictionary preserves his name, mainly in respect to the kidney fascia called also Gerota fascia [13,14]. The inflammation of this fascia is called Gerota fasciitis.

Dimitrie Gerota was very much interested in radiology, as the first morphological investigation of that time and used one of the first Roentgen devices of this country. Later he also established a surgical sanatorium.

His political anti-dynastic conceptions cost him a short term imprisonment during the Carlist dictatorship. However, during his life he became president of the Romanian Society of Surgery, Urology and Gynecology, vice-president of the "Romanian Association Against Cancer" and later a member of the Romanian Academy.

Now a hospital in Bucharest bears his name. More data have been published recently about his biography [15]. In his book, Chira published unwonted documents like his birth certificate, his graduation diploma, drawings by him destined to anatomical lectures, etc.

### **The muscle man by Brancusi (L' Ecorché)**

It was usual at that time to observe the anatomy of plastified bodies or on sculptures mimicking the natural body, beside the dissection hours (as one can see in many anatomical museums in Europe). The anatomy department in Bucharest needed such a model for the students. Skinless bodies (or Ecorché from French) were real-life statues representing skinless bodies. The model was frequently an antique sculpture, impressive by its beauty and harmony. It is said that the model for the Brancusi work was the Greek statue of Antinous.

As described by the famous art historian Barbu Brezianu [8], Professor Dimitrie Gerota asked his disciple Constantin Brancusi at the school of fine-arts in Bucharest to help him create a sculpture realistically displaying a nude male, allowing anatomy students to learn the segments of the body and the muscles. It means that Gerota had noticed Brancusi's talent and selected him for this task. Brancusi agreed with Gerota (both were interested by drawings and modeling, also in realistic display of human structures).

Together, they created a very impressive realistic model of a skinless male, where the muscles are very obviously and correctly displayed. At that time body building was not discovered and anatomy students were less familiar with the muscular system. The model was displayed in 1903 at the Atheneum building in downtown Bucharest and was admired by visitors [8].

Further, this *ecorché* was multiplied by the order of the Ministry of Public Education to serve in main universities of the country. Thus, one copy arrived to Cluj after the World War I, when the medical faculty in Romanian was founded.

The copy in Cluj has the following dimensions: 172/52/32 cm and the inscription on the support at the bottom is: "worked after natural model by dr. Gerota and Brancusi (sic) [16,17]. This statue was given personally by Professor Gerota to the lecturer of anatomy Constantin Velluda, as a token of friendship, in the 30s, few years before Gerota's death [16].

This statue is presented in Figure 1.

Few other copies exist in Bucharest, Iasi, Craiova and small differences exist between them [18].

While Brancusi has continued his artistic career in

France and obtained celebrity in USA, Romanian medical and fine art students continued to use his beginner's work to increase the anatomical knowledge.



**Figure 1.** The ecorché by Brancusi preserved in the anatomy department of Cluj-Napoca.

### Conclusion

The anatomy department of Cluj-Napoca preserves a masterpiece of the famous sculptor Constantin Brancusi, created with professor Dimitrie Gerota, in order to serve the anatomical education.

### Acknowledgements

This paper was written in observation of the 140th birth anniversary of Constantin Brancusi.

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