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## MODIFIED TEETH IN THE SKULL OF FRIEDRICH SCHILLER

**ABSTRACT:** *Modified teeth were discovered in the skull of Friedrich Schiller when it was first available for scientific research in 1959. Details about these artificial modifications will be given. To understand the reason for these manipulations and to give an answer to the question who might have done it and why, it is necessary to have a look at the history of Schiller's skeleton. This history is somewhat complicated, because there are two skulls and two postcranial skeletons and both are presumed to be those of Friedrich Schiller.*

**KEY WORDS:** *Modified teeth — Schiller's skull.*

The sarcophagus with the skeleton of the German poet Friedrich Schiller is housed in the Goethe-Schiller-Mausoleum in Weimar. In 1959 the skeleton was first available for scientific research. At that time we observed some irregularities and discrepancies in the teeth. The abrasion areas of the upper and lower teeth did not fit together in every case, so that there was no real occlusion. The degree of abrasion between adjoining and contralateral teeth very often was too different. Some teeth had too small roots compared with the dimensions of the cavities where they were fixed. Extractions of the loosened teeth showed very clearly that seven of them - five in the upper and two in the lower jaw ( $\frac{32/256}{42/}$ ) - did not belong to the skull of Schiller. Most of them had been modified artificially: roots had been shortened and thinned by filing. Traces of filing were visible on the isolated teeth, but hidden when in the cavities. The neck and the crown of the teeth had in some cases also been modified artificially (H. Ullrich 1962a).

Six of the seven teeth that do not belong to the skull of Schiller have shown artificial modifications. In the cavity of the right lower first premolar stuck a second premolar; the root had been shortened to a few millimeters and traces of filing are also visible on the neck, especially on the distal and buccal surface (Fig. 1). The right upper second incisivus has been shortened in its root, too, but only the tip (4-5 mm) is missing. The root

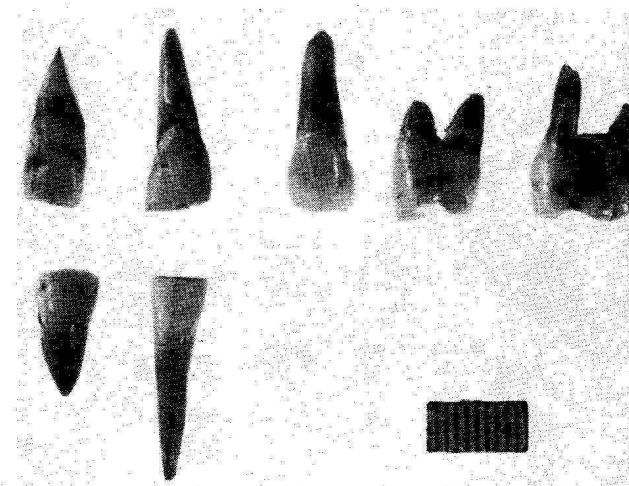


FIGURE 1. *Modified teeth from the skull of Schiller.*

of the left upper second incisivus has been thinned by filing all round. In the cavity of the right upper caninus was fixed a tooth with a very strong shortened root (large triangular filing areas mesial and distal) with distinct

striae of filing in horizontal direction on the root and the neck, partially, on the surface of the crown (mesial), too. Both roots of the left upper second premolar have been shortened and thinned all round (the buccal more than the palatal one). The artificial modifications of the left upper first molar were partially visible when the tooth stuck in the cavity (Fig. 2), but most of them was hidden. This tooth shows a tremendous work of filing that had to be done in order to fit the tooth in the cavity. All three roots were shortened very much and thinned all round. Between the roots there are also very broad and deep areas of filing, because the interspace was too narrow with respect to that of the cavity. Some striae of filing are running crosswise. Diagonal striae are best visible on the distal root of the tooth (Fig. 3).

What is the reason for these manipulations, who has done them and why? To give an answer to these questions it is necessary to look at the history of Schiller's skeleton. Friedrich Schiller died on May 9, 1805 and was buried in the night from May 11-12, 1805 in a tomb called Kassengewölbe, where other famous but poor people

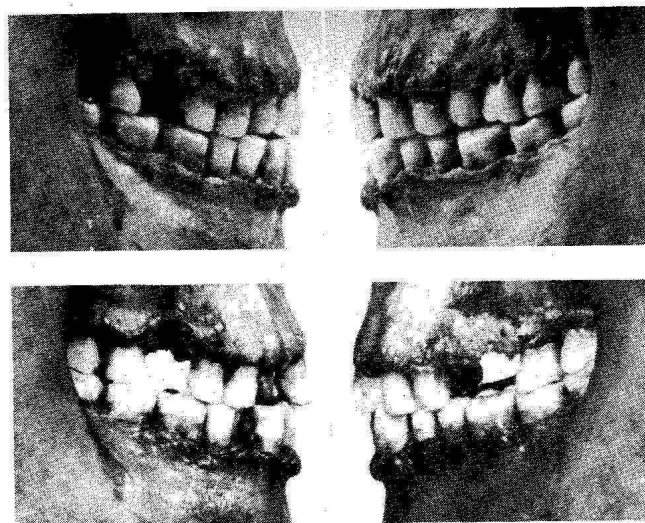


FIGURE 2. Occlusion of the teeth in the skull of Schiller with the modified teeth and without them.

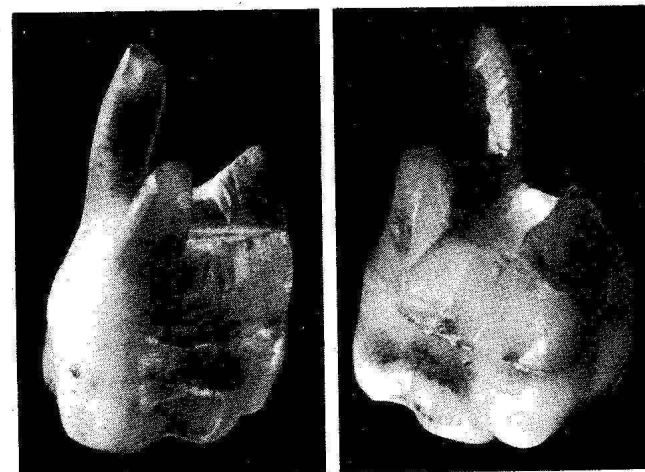


FIGURE 3. Artificially modified left upper first molar with shortening and thinning of the roots. Striae of filing are clearly visible.

from Weimar had been buried earlier and later. In the early twenties of the last century many visitors came to Weimar and asked where Schiller's grave was. The only answer which could be given was - together with many other people in a common tomb. The mayor of Weimar, C. L. Schwabe, therefore decided in 1826 to look for the coffin with the skeleton of Schiller in the Kassengewölbe, to remove it and to rebury Schiller in a grave for himself. But there was no coffin left with the name Schiller on it; the coffin was decomposed. C. L. Schwabe did not give up. He tried to find Schiller's skull at least. But this was a very difficult task. Together with three assistants he collected 23 skulls in the tomb during three nights in March 1826, compared them with the death mask of Schiller and decided on one skull (Fig. 4) that he supposed to be that of Friedrich Schiller. This skull was the largest one - it was known that Schiller had had a big head - , fitted very well with the death mask and had only one tooth lost (right upper first molar - Fig. 2) like Schiller during his life. The skull and the death mask were shown to famous physicians in Weimar and also to Goethe. They agreed with Schwabe's results. Schiller's skull was then put in a wooden box and deposited at the so-called Großherzogliche Bibliothek in Weimar on September 17, 1826. It was Goethe who suggested looking for the postcranial skeleton of Schiller in the Kassengewölbe. A prosector from the university in Jena and the former servant of Schiller did this work from 23-27 September 1826. The nearly complete postcranial skeleton was also deposited at the library in Weimar. In



FIGURE 4. Skull of Friedrich Schiller discovered by C. L. Schwabe in 1826.

1827 the whole skeleton of Schiller was removed to the newly built "Fürstengruft" - a mausoleum for the family of Großherzog Carl August - Schiller's last place of rest. But there has been no peace for Schiller's skeleton. The events of history took another way.

In 1883 H. Welcker, an anatomist from Halle, published a book on the skull of Schiller compared with the death mask (Weimar 200) and came to the conclusion that the skull in the "Fürstengruft" could not belong to Schiller. There were many discrepancies between the skull and the death mask. It is necessary to mention that Welcker never had the possibility to investigate the original skull but only a very rough cast of it made in 1827. Although the anatomist H. Schaaffhausen (1885) and later H. Welcker (1888), too, could demonstrate that the rough cast with many faults was obviously responsible for the discrepancies with the death mask, the credibility in the genuineness of Schiller's skull had been moved deeply.

In 1911 A. v. Froriep, an anatomist from Tübingen, made a new attempt to solve the problem of Schiller's skull. In his opinion the original skull of Schiller had not yet been found, but should be inside the place where Schiller was buried in 1805. He started excavations in the area where the Kassengewölbe used to be situated and discovered 63 skulls. One of them he separated after having carefully studied the skulls and made comparisons with another death mask of Schiller made of terracotta. This skull A. v. Froriep declared to be the original skull of Schiller. Between the two death masks there has been a difference of 6 per cent in size. Normally one should expect that the gypsum mask Weimar 200 used by C. L. Schwabe would show the exact dimension of Schiller's head. But A. v. Froriep (1913) tried to show that the terracotta mask in its dimensions corresponds to Schiller's natural head size, because the skull he found only fitted the smaller terracotta mask but not the gypsum one. There were many doubts about the results of A. v. Froriep's investigation and about the new Schiller skull (see e. g. R. Neuhaus 1912, 1913). But the skull and the postcranial skeleton excavated by A. v. Froriep were put in a black coffin and transported to the "Fürstengruft" in 1914, too.

Since that time we have known two skulls and two skeletons and both are presumed to be those of Friedrich Schiller. Many publications are available on the controversy of Schiller's skull (see e. g. F. L. Hildebrandt 1950). To solve this problem a further attempt was made in 1961. M. M. Gerassimow from Moscow was invited to Weimar in order to reconstruct the face on both skulls of Schiller. The results were very clear: the skull excavated by C. L. Schwabe in 1826 - now in the sarcophagus with the letters SCHILLER in the Goethe-Schiller-Mausoleum in Weimar - is the original skull of Friedrich Schiller. This is our opinion (M. M. Gerassimow 1967, 1968; H. Ullrich 1962a, b), but one that is not generally accepted. Discussions on the skull of Schiller are still continuing (J. - H. Scharf 1964; H. Helwin 1969a, b; A. Simon 1969; F. Dinges 1971).

Let us come back to the starting point and the modified teeth in the skull of Friedrich Schiller. There is no doubt that the artificial modifications of the teeth and their fixation in the upper and lower jaw were done in 1826 or 1827. The cast of the skull made in 1827 shows full sets of teeth and also that the modified teeth were in the cavities at that time. It is very likely that the manipulations were done immediately after the discovery of the skull. When C. L. Schwabe was looking

for the skull 21 years after the death of Schiller he could only make comparisons with the death mask and the appearance of Schiller he had in mind. C. L. Schwabe had known Schiller very well and he also knew that Schiller had had all of his teeth when he died except one. This was a striking argument in identifying the skull of Schiller in 1826. But C. L. Schwabe found a skull which he supposed to be that of Schiller, lacking more than one tooth. Some teeth had fallen out of the jaws during depositing in the tomb. C. L. Schwabe could not find these teeth and he might have been afraid people would not believe him, if he showed a skull with 8 missing teeth. Therefore it is possible to suggest that C. L. Schwabe wished to have the empty cavities in the skull closed. This was only possible with other teeth not belonging to the skull - but available in the Kassengewölbe - and after having modified them artificially. This was obviously done before the skull was shown to physicians and to Goethe in Weimar in 1826. It was done so excellently that nobody noticed it. We do not know who actually did it, but C. L. Schwabe should have known at least. F. Dinges (1971) does not believe this, but his arguments are somewhat confused and are not convincing. He cannot give an explanation for the fact that modified teeth were stuck in the cavities of the skull discovered in 1826. In F. Dinges' opinion the original Schiller skull has not yet been found.

The artificial modifications of some teeth observed in the skull of Schiller have obviously been done in 1826 in order to complete the sets of teeth because of lack and loss of some original teeth. To call such a manipulation a forgery would not correspond with the efforts in identifying the skull of Friedrich Schiller in 1826 and especially the merit of C. L. Schwabe in this process. C. L. Schwabe was never a forger as he has been called by J. - H. Scharf (1964), even if he had known of the manipulations, perhaps having carried them out himself.

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