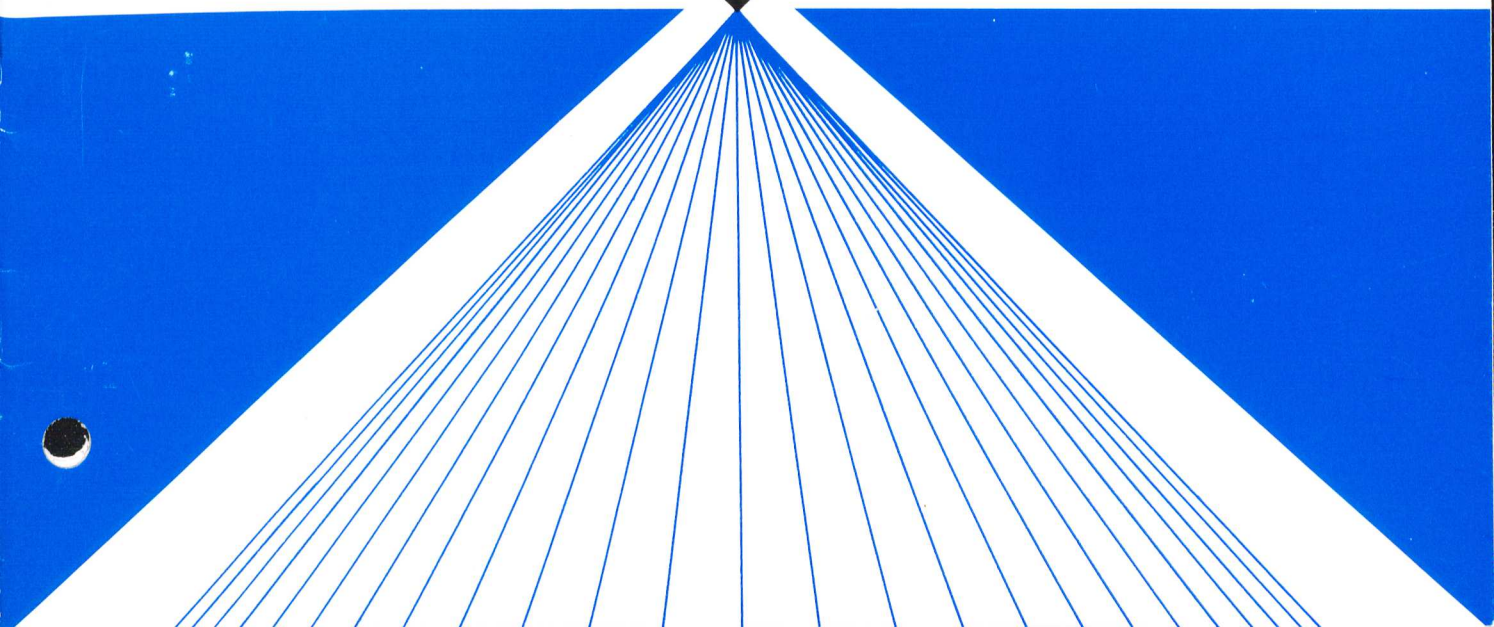


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# *Dental Radiography and Photography*

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**OUR COVER**

The cover is a modernistic representation of  
the head and tube of a dental x-ray machine.  
The spreading lines are representative of the  
x-ray beam.



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## Histories of Present Dental Schools in the United States

University of Southern California  
School of Dentistry



USC College of Dentistry  
1897  
Los Angeles, California

The University of Southern California School of Dentistry was initiated in 1897 as a department of the university's school of medicine by Dr. Henry G. Brainerd, dean of the school of medicine.

During the first year, 18 men studied dentistry in one room of the school of medicine, and for several years dental students studied anatomy, physiology, and chemistry along with medical students. The 1898 session of the college was turned over to the direction of Dr. Edgar Palmer, who was dean until 1900.

The first curriculum consisted of a three-year course, eight months each year, with half-day sessions. Admission was based on the completion of at least one year of high school. With the beginning of the academic year 1903-1904, the curriculum was expanded to a full four-year course of seven months each year. This curriculum lasted only one year, however, and it was decided to revert to the course of three years with eight months in each.

In 1900 Dr. Garrett Newkirk became dean of the school until 1905. During this period the first and second floors of Temple Block Building, located at the junction of Main, Spring, and Temple streets, were leased as the new home of the college.

During the early years, the connection between the college of dentistry and the University of Southern California was only a nominal affiliation. The dental school was operated under an independent financial

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## Axial Cross-Sectional Anatomy of the Human Head

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*The study of anatomy is the basis for all radiographic interpretation. The interpretation of skull radiographs becomes very complex due to the superimposition of the many structures. This article should be very valuable for reviewing this challenging subject.*

We do not know when anatomists began to study cross-sectional anatomy. It is certain that the method has been in use for at least 400 years, as indicated by drawings of Leonardo da Vinci.<sup>1</sup> In recent years, interest in the method has increased, due at least in part to its increased use in teaching basic anatomy. Development of tomographic technics in general, and the newer computed axial tomography in particular, has led to increased interest in cross-sectional anatomy in radiology.

Several atlases of cross-sectional anatomy of the head or parts thereof have been published within the past two decades.<sup>2-4</sup> Illustrations in these atlases have consisted of photographs, drawings and sketches, radiographs of sections, and tomograms. Sections have been as thin as 1 mm, with many atlases using variable section thickness. Furthermore, many atlases have consisted of skip-serial sections at undefined or irregular intervals. This article presents serial axial sections of the entire head, each 1 cm

thick. Modern high-resolution radiography has been used, together with photography.

The cadaver head of an average adult human female was made available for the project. After the usual anatomic embalming, the head and neck were separated from the torso and immersed in embalming fluid for five days at room temperature. The specimen was then washed by perfusion via the carotid arteries with 10 gallons of distilled water. It was then left overnight in distilled water. Approximately 25 holes, each 1 mm in diameter and 4 cm deep, were drilled into the head from the skin surface at reasonably regular intervals. The specimen was then infused with gelatin by immersion in a 2-percent solution at 37°C for one week. This procedure was repeated. Infusion was continued by immersion for one week each in gelatin solutions of 4, 6, 8, and 10 percent. Final infusion was in 12-percent gelatin for two weeks. The head was then placed in a fresh 12-percent gelatin solution and allowed to cool. The gelatin was hardened using a variant of the Smith-Dietrich procedure: immersion for six weeks in a solution of 10 percent formalin and 1 percent each of calcium chloride and cadmium chloride.<sup>5</sup> It was then chilled at 2°C overnight. Excess hardened gelatin was trimmed away, and the head was sectioned in the axial plane (approximating the Frankfort plane) at 1 cm intervals, using a standard band saw. Sections were stored in the Smith-Dietrich solution.