

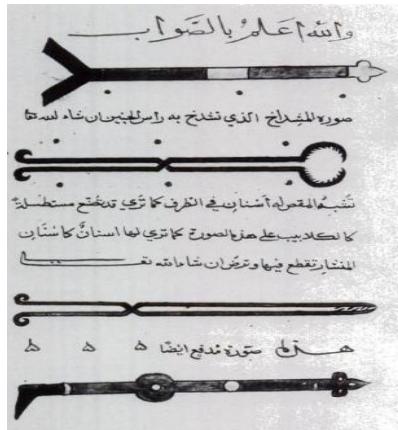
Dentistry in Medieval Islam

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I. Introduction

During the medieval Islamic period, dentistry emerged as a distinct and advanced branch of medicine, deeply rooted in the scholarly and clinical traditions of the Islamic Golden Age. Physicians and scholars such as Al-Zahrawi (Albucasis) and other Persian and Arab practitioners developed systematic approaches to diagnosing, treating, and preventing dental and oral diseases. Their works integrated Greek and Persian knowledge with empirical observation and innovation. Dentistry was viewed not only as a mechanical art but as a science essential to overall health, reflecting the era's holistic medical philosophy.



II. Historical Context and Medical Philosophy

In medieval Persia and Al-Andalus, medical scholarship flourished under institutions such as Jundishapur and Cordoba. Physicians combined humoral theory with anatomical and observational insight, shifting medicine toward a more empirical foundation. Al-Zahrawi's philosophy, similar to that of Ibn Sina, emphasized balance within the body's systems and the interdependence of physical, dietary, and environmental factors. Dental health, in this framework, was a reflection of general health and moral discipline.



III. Al-Zahrawi's Contributions to Dentistry

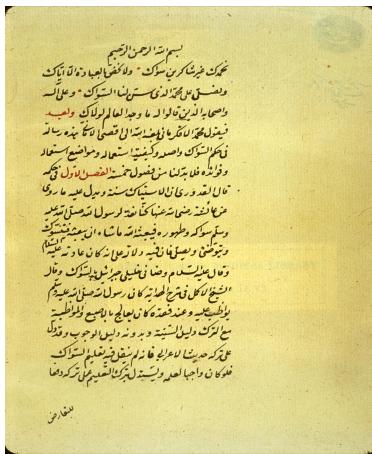
Al-Zahrawi (936–1013 CE), known in the West as Albucasis, devoted a full chapter of his medical encyclopedia, *Al-Tasrif*, to oral and dental diseases. In this work, he provided

detailed descriptions of oral pathologies, including tooth decay, gum inflammation, oral ulcers, and abscesses. He outlined treatment protocols such as tooth extraction, cauterization, and cleansing of the gums using mechanical and chemical methods. Al-Zahrawi also illustrated numerous surgical instruments, some of which resemble modern dental tools, and provided instructions for their safe use.



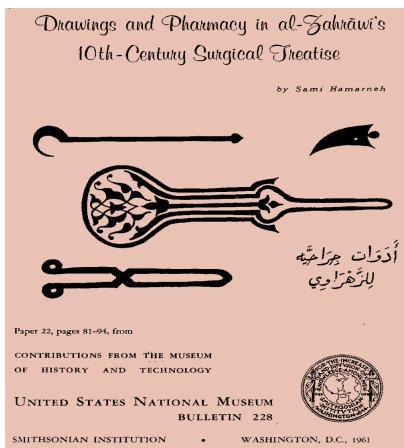
IV. Instruments and Surgical Techniques

Among Al-Zahrawi's most notable achievements was his precise documentation of dental instruments. He described and illustrated devices for scaling, extraction, cauterization, and tooth alignment. His tools were made from copper or silver to minimize corrosion and infection risk. He was the first to detail how to remove tartar and deposits from teeth and gums, a precursor to modern dental scaling. Al-Zahrawi also described methods for controlling bleeding after extraction, using substances like vitriol (copper sulfate) and applying cauterization when necessary.



V. Dentures and Dental Prosthetics

Al-Zahrawi's writings include some of the earliest known references to dental prosthetics. He discussed creating dentures from animal bone and using gold or silver wire to stabilize loose teeth. His advice reflects both a practical and aesthetic awareness, emphasizing that dental repair should restore not only function but also appearance. These practices anticipated later European developments in prosthetic dentistry by several centuries.



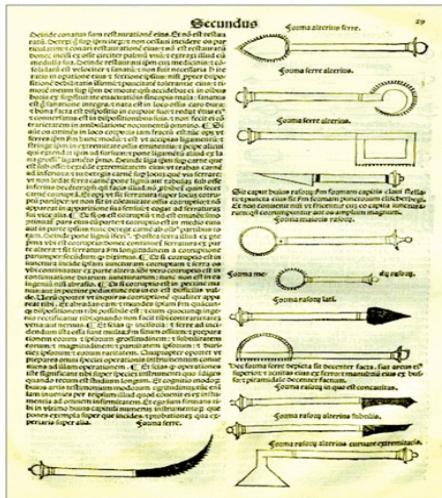
VI. Preventive and Therapeutic Practices

Preventive care was a central theme in Islamic medical thought. Al-Zahrawi and his contemporaries stressed oral hygiene through regular cleaning of the mouth and teeth, the use of miswak (tooth-stick), and dietary regulation to prevent decay. Remedies for toothache included herbal poultices, rinses, and cauterization when necessary. Persian sources also describe treatment of gum disease and halitosis using herbal and mineral compounds, illustrating the integration of pharmacology with clinical dentistry.



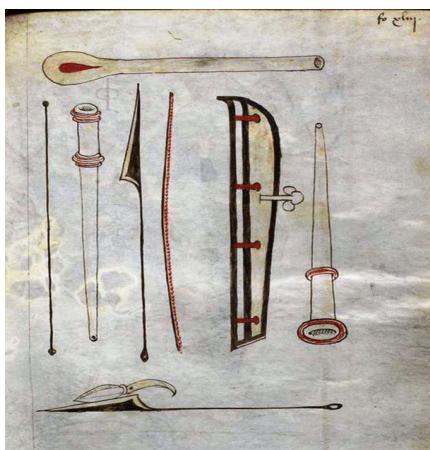
VII. Comparative Perspectives from Medieval Persia

The secondary literature on dental and oral diseases in medieval Persia reveals a broader cultural context for Al-Zahrawi's work. Persian physicians emphasized anatomical accuracy and the observation of oral structures beyond the humoral model. They described dental caries, abscesses, and jaw fractures in ways comparable to modern understanding. This scientific attention to oral pathology highlights how Persian and Andalusian scholars collectively advanced dental science within the Islamic world.



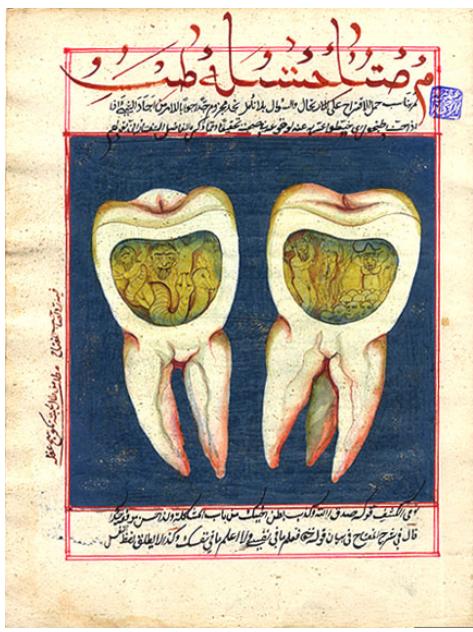
VIII. Educational and Ethical Dimensions

Dentistry in the Islamic Golden Age was not merely a craft but a learned profession bound by ethical responsibility. Al-Zahrawi insisted that practitioners should possess both skill and compassion, warning against untrained individuals performing extractions or surgeries. His works served as textbooks for medical students, shaping professional standards that blended technical precision with moral duty.



IX. Legacy and Influence

The translation of Al-Tasrif into Latin in the late 15th century brought Al-Zahrawi's dental methods to European scholars, where they influenced surgical and dental practice for centuries. Many of his innovations—particularly his instruments and his emphasis on surgical technique—formed the basis of Renaissance surgical manuals. His synthesis of observation, documentation, and clinical ethics represents a turning point in medical history.



X. Conclusion

Dentistry in medieval Islam exemplified the intellectual rigor and scientific curiosity of the Islamic Golden Age. Through figures such as Al-Zahrawi, dentistry evolved into a disciplined and documented field that combined surgery, pharmacology, and preventive care. His integration of technical skill, ethical practice, and empirical observation laid foundations that persisted into modern dental science. The cross-cultural transmission of these ideas through translations ensured their enduring impact on global medicine.



References

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