
LITERARY ARABIC X-RAY SOUND FILMS

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The material on these films (numbers 621-1 and 621-2) has been recorded by a native speaker of Iraq at the Department of Otolaryngology and Maxillofacial Surgery, University of Iowa, Iowa City, Iowa,¹ where the films are on file together with an accompanying script.

Film number 621-1 contains the following:

1. Vowels in isolation

<i>Short</i>	<i>Long</i>
i	ii
u	uu
a	aa

2. Plain vs. emphatic consonants

t	vs.	<u>t</u>
d	vs.	<u>d</u> ²
s	vs.	<u>s</u>
ð	vs.	<u>ð</u>

These are recorded in consonants-vowel sequences and then as lexical items in minimal pairs in initial, medial and final positions and geminated.

Film number 621-2 includes the back consonants

ʔ	vs.	ε
ħ	vs.	<u>ħ</u>
h	vs.	ε
k	vs.	q
x	vs.	γ

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² [d] does not occur as a natural phoneme in my speech, either on the literary or dialectal levels. It is included here merely for the completion of the emphatic consonants on the literary level.

These are recorded in the same manner as the consonants in film number 621-1.

The equipment used in the filming of the material was designed by the North American Phillips Company. It consists of the following basic components: a Rotalix 0—75/125 X-ray tube with a 0.6 mm² focal spot, a 300 ma generator, a smoothing capacitor, and a nine-inch image intensifier tube with an intensification factor of approximately 3000. The light emitted from the intensifier tube may be directed through a lens system to either a fluoroscopic viewer or to the lens of a motion picture camera.

The films are very clear and cover the laryngeal, pharyngeal and vocal cavities. For synchronization purposes, the sound that accompanies the films is about 26 frames ahead of the picture. It takes about five minutes to project both films continuously. At the beginning of film 621-1, when projected, black dots appear on the front part of the mouth—above the tongue. Each dot measures about 1/4 inch in diameter. These dots may be used to measure the actual size of the speaker's mouth. The tongue was painted with barium, as far back as possible, in order to show the movements clearly.

The films may be ordered from the University of Iowa, either separately or together, by writing to the Department of Otolaryngology and Maxillofacial Surgery.