hossam maghraby

شبكة المعلومات الجامعية

# بسم اللّه الرحمن الرحيم


hossam maghraby

شبكة المعلومات الجامعية

# شبكة المعلومات الجامعية

# التوثيق الالكتروني والميكروفيلم

hossam maghraby

شبكة المعلومات الجامعية

# جامعة عين شمس

## التوثيق الإلكتروني والميكروفيلم

# قسم

## نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

# يجب أن

## تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

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# بعض الوثائق الأصلية تالفة

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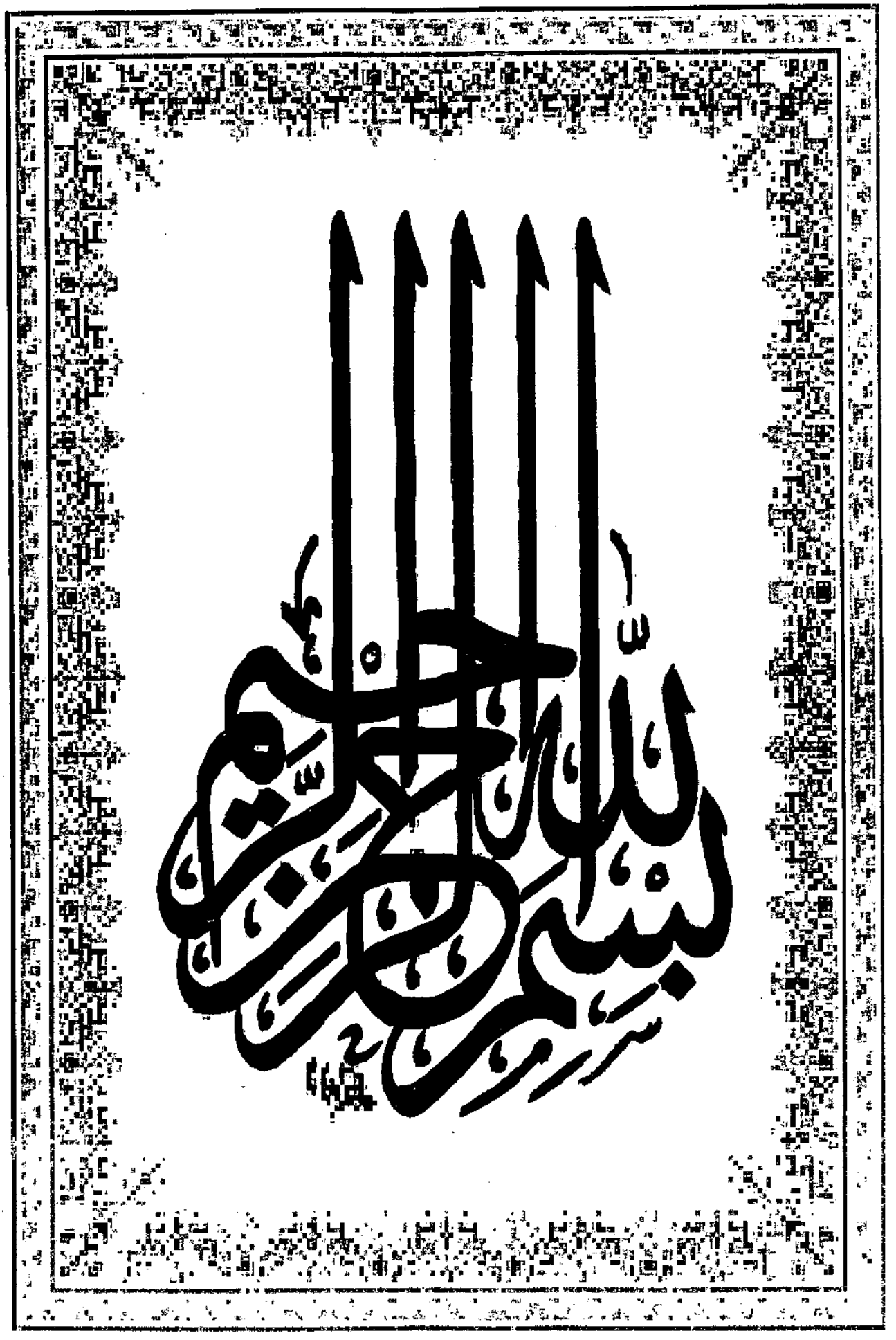
# بالرسالة صفحات
# لم ترد بالأصل



# A COMARATIVE STUDY OF DENTAL DISTRACTION INDUCED BY TWO DIFFERENT TYPES OF FORCES

Thesis Submitted in Partial Fulfillment of the Requirements for the

**Doctor Degree**

In

ORTHODONTICS

By

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(B.D.S, M.S., Alexandria University)

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2004

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# INTRODUCTION

# INTRODUCTION

Fast and efficient orthodontic tooth movement has always been the orthodontic dream. But as much as efficient treatment –in the sense of inflicting minimal or even no tissue damage in the process of achieving normal harmonious occlusion- is now quite attainable through clear cut ground rules. The problem still remains with "fast", for as much as we know now, lighter forces with less activations and consequently lower rate of tooth movement, is the best way if biological principles are to be respected.

Although many advances have occurred in orthodontics over the past 100 years, relatively little has been done to enhance the rate at which tooth movement occurs. Attempts to speed up the process of tooth movement included Prostaglandin injections (Yamasaki et al., 1984) and direct current application (Davidovich et al.,1980). The limitations in rate of tooth movement are most likely related to the characteristics of the alveolar bone and tissues of the PDL, patient age is another important factor affecting tooth movement rate.

Specific attention has been given to canine retraction, as it is an integral part of most treatment plans, which takes a substantial period of treatment time. Retracting the canine with its bone i.e. alveolar distraction has been performed (Kisnisci et al. 2002), and more recently dental canine distraction re-emerged offering the hope for