EFFECT OF GARLIC EXTRACT ON SOME PHYSIOLOGICAL AND BIOCHEMICAL ACTIVITIES OF CERTAIN MICROORGANISMS

THESIS

SUBMITTED

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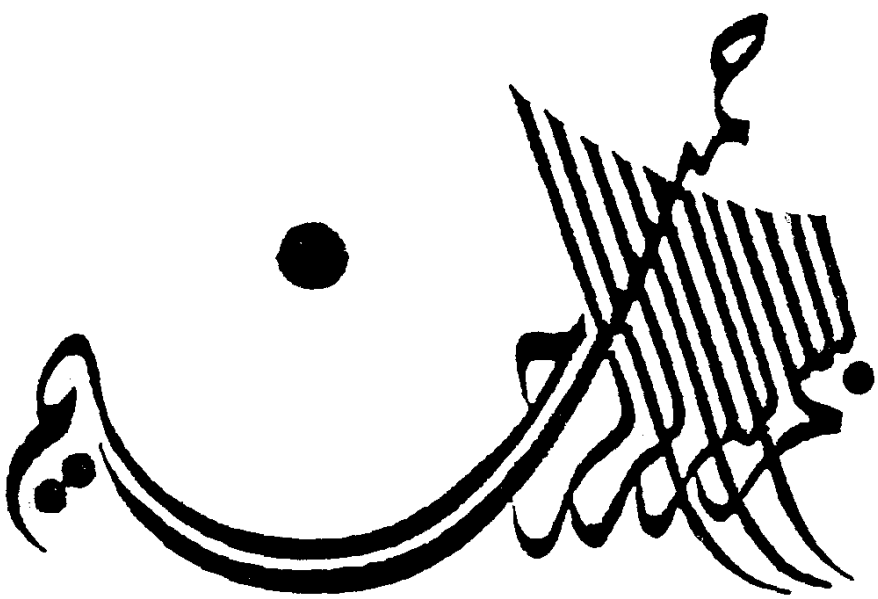

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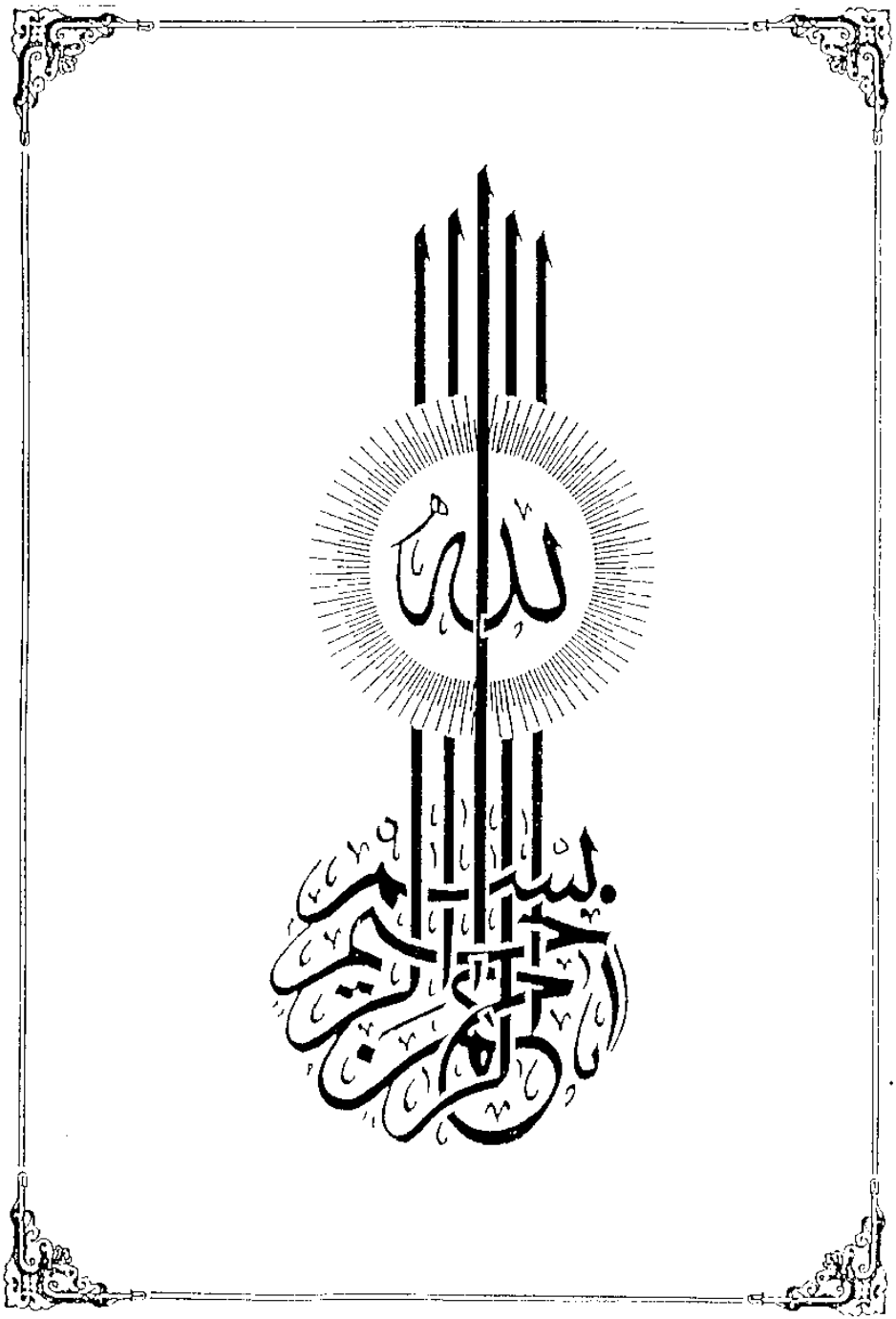

This thesis has not been previously submitted for any degree at this or any other University.

Signed

Khaled Zakaria El-Baghdady

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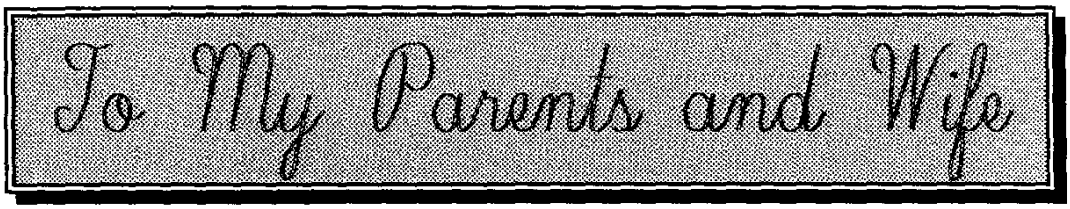

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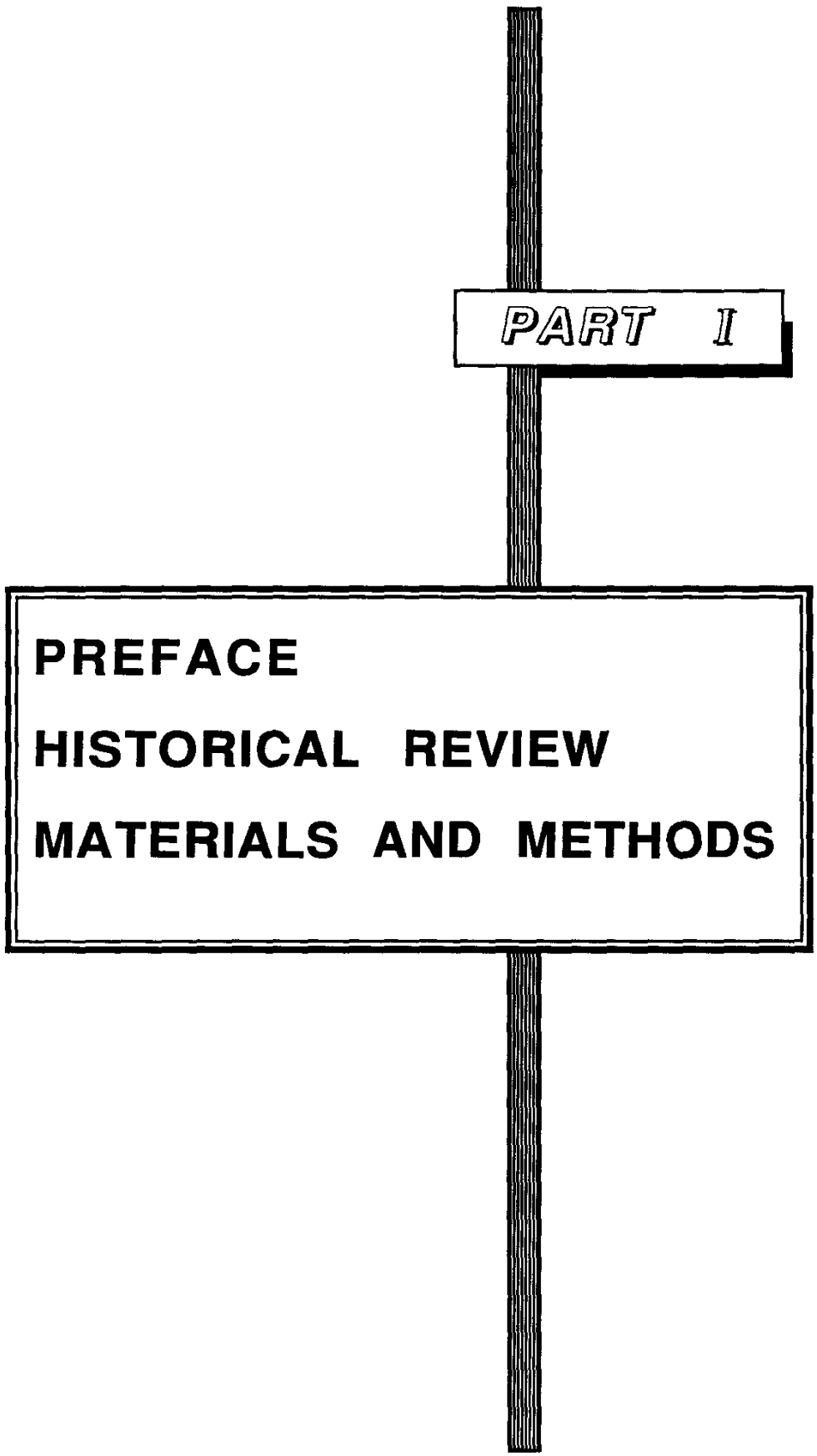

Preface

Garlic (***Allium sativum***) is a common plant widely used all over the world. It has a long history of use as spice, food and popular remedy, being mentioned more than twenty centuries ago in ancient Chinese medical literature. Similarly, ancient Egyptians used garlic in the treatment of many diseases since several centuries ago.

Recently, the medical importance of garlic has increased especially during the last decade. It has been reported that garlic possesses anti-infectious (Tasi *et al.*, 1985; Adetumbi and Lau, 1986; Didry *et al.*, 1987; Yoshida *et al.*, 1987 and Norris *et al.*, 1991), anticarcinogenic (Hayes *et al.*, 1987), hypolipidaemic (Lau *et al.*, 1983), hypoglycemic (Chang and Jonson, 1980), antithrombotic (Ali and Mohammed, 1986; Block *et al.*, 1986; Jain and Apitz-Castro, 1987; Wagner *et al.*, 1987), antihypertensive (Malik and Siddiqui, 1981 and Ruffin and Hunter, 1983) and antiatherosclerotic (Lau *et al.*, 1983) properties. Similarly evidence suggests a potential role for garlic in the control of cardiovascular disorders (Dausch and Nixon, 1990).

On the other hand, it is now well documented that garlic extract possesses antiviral, antibacterial and antifungal activity (Appleton and Tansey, 1975; Barone and Tansey, 1977; Formtling and Bulmer, 1978 and Helmstetter *et al.*, 1979).

Therefore, the object of the present investigation was to study the mode of action of garlic extract in the control of both bacteria and/or