CHAPTER FOUR

METHOD OF THE STUDY

This study discusses medieval pharmacology from both an historical and a therapeutic point of view. It concentrates on medieval Arabic pharmacotherapy and its development through an examination of Ibn Sinâ’s medical encyclopedia Kitāb al-Qânūn fi al-ṭibb, together with three Arabic and two Latin commentaries on it. For historians of science this encyclopedia provides an interesting combination of sophisticated scientific theory and practice based on empirical knowledge achieved through observation. To pharmacologists it offers an almost endless number of potentially useful clues for the development of new drugs. In fact, increasing interest is currently being shown in using older medical literature as a source for drug research.¹

We concentrate on four main questions:

1. **Traditionalism vs. Empiricism, Continuity vs. Change**
   How much has pharmacotherapy really changed through the years, in both its theory and practice? Medical historiography often creates the impression that most of early pharmacological writings were the result of mindless copying activity, with no evidence of investigation or criticism.² On the other hand, research conducted by John Riddle stresses the influence of repeated observations, which the practical use of the drugs in question implies, begging the following question: Would our forefathers have gone on using the same treatment and the same drugs if they had no effect whatsoever?³ Still more importantly, if their medical tradition included both drugs that had objective positive effect against a certain disease and those which were indifferent, would they not have drawn some conclusions about the results? However, we are not asking the question here of why changes would have occurred but simply whether

they did occur and to what extent. How much traditional material and how many innovations do the commentaries contain?

2. The Practical Relationship between Pharmaceutical Theory and Practice
Here we study the relationship between Ibn Sīnā’s pharmacological theory and his practical therapeutic choice of drugs, and the workability of his therapeutic theory. Ibn Sīnā’s pharmacological theory should have dictated the general type of remedy—for example, that a ‘hot’ headache should be treated with cooling and cleansing drugs.⁴ We will examine whether this was actually the case or whether the choice of drugs was based on a different system in practice.

3. The Relationship between the Entire Therapeutic System of Ibn Sīnā and his Followers and Objective Physical Reality
Here we will examine the relationship of the entire therapeutic system to the objective physical reality. In other words, did it work? We start by evaluating the therapeutic efficacy of the drugs used, basing the evaluation on the results of modern pharmacological research.⁵ Following this, we shall examine the relationship of Ibn Sīnā’s theory to physical reality. Ibn Sīnā’s therapeutic theory was clearly not an accurate description of nature—which, considering the limited means of observation available to him, is hardly surprising. What we wish to establish is whether it was capable of informing a choice of objectively efficacious drugs for therapy.

4. On the Basis of Questions 1.-3., Can we Develop a Heuristic Method for Preclinical Screening of Possible Leads for Modern Drug Development?
This kind of method might be based either on simple historical continuity and/or the innovations made during the centuries (Question 1) or on the workability of Ibn Sīnā’s pharmacological theory (Question 2). The latter would allow us to predict which of the drugs suggested by him possessed the greatest probability of being objectively efficacious against the disease in question. A successful procedure should be able to predict with reasonable accuracy the efficacy of each of these simples in the treatment of a specific disease, thus making it a useful tool for pre-laboratory pharmacological research and helping to focus research along

⁴ See Riddle, 1985b, pp. 35–36.
⁵ See pp. 116–124, below.