

THE EMERGENCE AND DEVELOPMENT OF CERTAIN  
MOSLEM ARTS AS CONDITIONED  
BY THEIR ECOLOGY

by

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## CHAPTER I

### INTRODUCTION

#### Reasons for the Selection of This Topic

In recent years, and in certain circles, it has been the fashion to ascribe various commodities, scientific achievements, artistic manifestations, and even mores of our culture to a Moslem base.

While the claims advanced on behalf of the Moslem in the field of the physical sciences may be valid, the writer is not here concerned with those fields or those claims. In the realm of religion, someone has stated, "Mohammedanism is an open book." Therefore we are not concerned with this dogma in this work. However, because of his long and varied study and experience, certain aspects of the Moslem fine arts have challenged the writer's interest.

The period of the Islamic expansion coincides with the period of European music in which a number of revolutionary changes occur. The unsolved puzzle of the origin of some of these changes challenges the serious student. Claims have been advanced in behalf of direct Moslem contributions. At the time this study was commenced the disposition of the writer was such that, if the claims which had been advanced could be proved, he felt that considerable light could be shed upon this particular period in European music.

It would be more to the point to state that, upon first contact with the available literature, the writer was convinced that a part of

our music history was due for re-writing. However, there were various facets of the claims which were provocative and questionable. The study was commenced under the title of "Moslem Contributions to the Fine Arts," the title selected and approved by the Committee, all in good faith. The literature perused presented some facts mingled with much fancy. The Arabian Nights may be a landmark in the field of literature, as literature, but it certainly cannot be accepted as a valid historical document upon which to erect the documentation in the fields of architecture, minor arts, and music -- yet the literary references, in some cases, have done just that.

#### Methodology

The available literature has been scrutinized with what is sincerely believed to have been care, discrimination, and above all impartiality. It is apparent that writers are prone to be either for or against the Moslem, his activities and expressions. A fair and just "day in court" would seem to be out of order for these people, owing it is believed, to religious intolerance and bigotry, political ideologies, and a general lack of understanding of whatever lies beyond the eastern rim of the Mediterranean. There is a certain mental astigmatism, as it were, which incapacitates a person to see situations in their right perspective. Those who are "pro" appear to be caught in the throes of all of the reputed phantasy that the east has to offer and prone to attribute to the Moslem various achievements some of which are scrutinised in this paper.

A bibliography of various manuscripts and their repositories

(where known) will be found under the appropriate heading.

In the field of architecture wherever possible only those volumes wherein the author claimed to have actually investigated the edifices and to have made the measurements, etc., were accepted, i.e., for detailed descriptions, reconstructions, and other pertinent information. In this section of the study comparisons among various authors have been made and where differences were noted, such differences have been mentioned either in the body of the paper or in footnotes. It will be observed that the work of Rivoira is questioned at certain points; however, Rivoira has made his own inspections, testings, and measurements, and furnishes considerable valuable information regarding reconstructions. Credit is given where credit is due.

In the section dealing with music it was found necessary to make a totally different approach from any attempted in the works consulted which deal with Moslem music. Previous efforts have been made to prove certain major contributions made by the Moslem to European music. Farmer's researches are well known; his claims are many. Ribera's efforts are almost equally notable. Ribera and Trend have worked to verify contributions of the Moslem via Spanish music. Because these attempts were found to be unconvincing, as is explained in the body of the thesis, another method of approach was attempted. It would have been far simpler to present a case based primarily on literary references, but since actual examples of Moslem music are not extant, it was thought that it was somewhat hazardous and, to a degree, intellectually dishonest to pursue such a course.

The limitation of the studies made of Moslem music, which have

been inspected, lies in their having viewed Moslem -- or as some call it, Arab -- music as an isolated phenomenon bursting forth full grown and mature upon the European continent. As will be found in this thesis, the problem has been regarded by authorities as unsolvable. No claim is here made of having offered a solution. A major limitation, imposed by the extant literature, is due to the unbridled flights of imagination which are resorted to and over-generalization.

The approach made to the problems which were confronted in the study of the two fine arts considered in this thesis can be summed up:

- (1.) Analytic-Interpretative      (2.) Socio-Historical

The analytic approach to history, though necessary, implies a study in a particular section of man's activity: science, literature, politics, art, etc., and it may, more often than not, distort the picture, for the very nature of the analytic approach is the isolation of a particular facet from the whole. The socio-historical (synthetic) approach to history with its general or over-all view of the chief facets of a people's work, life, and culture in their simultaneous function presents enormous difficulties, since it is impossible for one human mind to present from primary sources, or first-hand knowledge, every complex covering generations.

The scope and nature of the present study impose the use of both methods; therefore, a sharp line of demarcation may be noticed, particularly in the material submitted following the first section of Chapter II.

With these ideas in mind a considerable amount of background material has been submitted.

Definition of Certain Terms

1. Mohammedan<sup>1</sup> is incorrect. The follower of the faith does not accept the divinity of the Prophet of Islam. This term is disparaged by the Moslem. The term "Mohammedan" is used in this paper only when quoting from source material.

2. Moslem means "supporter" or "follower" hence is applied to followers of the Prophet. The Moslem regards Muhammad as the most inspired of all prophets, not as a divinity. Therefore the Moslem is not a Muhammadan as the Christian is a believer in the divinity of Christ.

3. Islam is the name given to the faith. The term occurs eight times in the Koran. It means "surrenderer," "resignation," or a sublime resignation to God's will. Islam is a religion as well as a social system and a politics. The term is troublesome, for in the early days the movement contemplated a theocracy. Today, with nationalistic-conscious people, the term "Islam" collides with nationalism. "Islam" is used in this work in a collective sense, at times interchangeably with "Moslem," but denoting the movement.

4. Arab. In its ethnic sense the term applies only to the Bedouin of Arabia and in a larger sense to the inhabitants of the entire peninsula.<sup>2</sup> Owing to the collective personality of the Arabic speaking

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<sup>1</sup>More than twelve different spellings of this name are in vogue.

<sup>2</sup>Philip K. Hitti, History of the Arabs (London: Macmillan & Co., 1940), p. 88. Hitti has used "Arabian" in various ways; referring (1) strictly to North Arabians, (2) to inhabitants of the entire peninsula. He used the term "Arabic" as the language of the Koran. North Arabians developed no system of writing until almost the time of Muhammad.



world, the term has been used by some writers to designate Moslems. In this paper the term "Arab" is used in its limited sense, the last chapter being the one exception.

5. Art and Artifact. Art has been variously defined, ranging from "application of ability," through "rules," and even including "cunning."<sup>1</sup> Aristotle views art as the science or knowledge of the principles involved in the production of beautiful or useful objects, distinguished both from theoretical science and from practical wisdom.<sup>2</sup> Artifact is defined as "artificially produced; anything made or modified by human art."<sup>1</sup>

Hence art can be said to be distinguished from and in contrast to nature. Art is a deliberate, controlled device by which man has interfered with nature with a desire to realize its intrinsic possibilities. Art can be identified with the process of intelligently directed activity. Therefore, art, in its larger concept, involves a consideration of the whole of civilization, while artifacts represent the material outfit and output of man, his edifices, implements, liturgical paraphernalia, weapons, etc.; the obvious and tangible aspects of culture.

6. Ecology. Ecology is the influence of the habitat upon the inhabitants, the spatial aspects of the relations between dissimilar human beings and human institutions. The object is to ascertain the

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<sup>1</sup> College Standard Dictionary (New York: Funk & Wagnalls, 1927), p. 75.

<sup>2</sup> Dictionary of Philosophy, 1st edition, Article "Art".

principles and factors which are involved in the fluctuating patterns of the spatial arrangement of population and institutions which result from the interplay of human beings in a constantly changing culture.

7. Culture. Culture is inherited artifacts, ideas, technical processes, habits, values, i.e., social heritage, anything that man learns as a member of society.

8. Moors. This is a vague name which has been applied to certain elements in Moslem communities of various countries. It is especially applied to Spain and the inhabitants of the Mediterranean parts of North Africa. The term has also been applied to Berbers and Arab peoples -- pure or mixed with Negro blood. The term Moor is not used in this paper except when quoting from some source material.

9. Mozarabes. This is a name which was given in the Middle Ages to those Christians who lived in districts under Moslem rule and bore the stamp of Spanish-"Moorish" culture. The name is loosely used and sometimes designates Spanish immigrants. In this study Mozarabique is used to designate the chant of the Christians who lived under Moslem rule.

10. Mudéjar. This refers to Moslems living under Christian domination in Spain. Strictly speaking the Mudéjar is born in Spain. The word "native" is avoided since it, too, is not exact and loosely used.

#### Certain Basic Hypotheses Advanced

1. Influence of the Ecological situation on artifacts and the arts.

All creatures are endowed with techniques -- ways and means of making use of their environment. Spengler has made use of the term "generic technique"<sup>1</sup> for non-human creatures, i.e., a technique not separated from the structure and function of the genus -- an inheritance which will accrue to all units of the genus, but not to be improved upon by an individual member of the genus; hence the generic or genus technique is unalterable, a product, a function of instinct. But human technique has become independent of the life of the genus. An individual (human being) is the carrier and transmitter and frees himself from the limitations which contain his genus. An individual may change the techniques or tradition; he may produce new techniques; hence human techniques are changeable, invented, personal. Yet, individuals react to various forces, and the invented techniques of the individual and individuals become the acquired heritage of the ethnic group. Raw resources are determined by the geographic location and boundaries. Resources supply the materials and in turn produce wealth; invention develops arts and arts may produce artifacts, which in turn become a part of culture. Culture, social heritage, is an accumulative movement which may gain momentum as it proceeds through time and space. Therefore, it may be said that art is the driving force and the artifacts the result -- that art functions through artifacts as conditioned by the ecological situation.

2. Moslem art is not focalized; it developed differently under

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<sup>1</sup>O. Spengler, Man and Technique; A Contribution to a Philosophy of Life (New York: Alfred A. Knopf, 1932), p. 29.

various local situations. The art of the Moslem, begun in the mosque, derived its spiritual complex from Arabia, but the materials with which it was fashioned and its textures were from various lands where art had been, and was, a vital force. Hence,

3. Whatever may be termed the originality of Moslem art will be found to have been borrowed. It is not intended to trace the development and growth of the Moslem art step by step, nor to trace back the origins of the art of the individual minority groups within Islam, but to present briefly some of the mature developments, to concentrate upon what is judged to be the chief product. In the case of those features which have been singled out as characteristic of Moslem art it is demonstrated, by tracing back those features, that they are not original with the Moslem but that the

4. Greatest contribution of the Moslem is in the direction of ornamentation.

These four hypotheses must be borne in mind in understanding the problem in general set out in this thesis.

#### Difficulties Encountered

In pursuing this study, four major difficulties were encountered. They are as follows, without reference to their order of surmountability.

First and foremost must be mentioned the lack of certain primary source material. Those qualified to make translations from the Arabic have not produced a sufficient number of such translations; as a rule they have indulged in commenting. Translations into English are comparatively recent.

Secondly, writers have leaned too heavily upon literary references, which are not sufficiently accurate to give an impartial picture. They deal with the exotic.

In the third place, the Arabic language is alien to the writer.

Fourthly, generalization on the part of writers, particularly in the domain of the arts and especially music. Some generalizations coupled with emotional attachments are present in the material scrutinized, and these qualities have tainted the written efforts of these writers.

Those interested in facets of the political role played by Arabia through the centuries, its exploitation by world powers, past and present, and its importance in today's foreign policy and economy may consult Appendix II. It was originally written as Chapter I. Inasmuch as the history of this part of the world presents a consistent pattern and problem, the Chapter has been retained, but is placed in the appendix.

## CHAPTER II

### MUSLIM ECOLOGY

The land and man are the two essential elements in any geographical study. A given geographical location, empty land, may be of scientific interest, and the anthropologist studies human characteristics objectively, but only as the two, land and man, are put together does the earth take on a meaningful personality.

Geographical location means climate and plant life in one balance of the scale, and civilization, political status and in some cases, race, in the other balance of the same scale. It would be a one-sided viewpoint which would consider solely the influence of a land upon its people, for this influence springs not only from the features of the region itself but from a wide circle of lands into which the specific locale under consideration has been grouped by virtue of its particular location. For instance, many interpretations of Greek history are found to be inadequate because the writer has failed in one of the most essential factors in Greek history, Greece's particular location on the threshold of the Orient, a location which has given Greek history a strong Asiatic coloration, a coloration derived from her accessibility to ancient civilizations and Oriental commerce. Or one might take the case of Phoenicia, the middleman between the Orient and the Occident, witness the many and varied rulers.

Andre Servier, attempting to orient his reader to the psychology of the Musulman, uses the aforementioned device and the following

comparisons:

To know and understand the Musulman, we must study Islam. To know and understand Islam, we must study the Bedouin of Arabia; and to know and understand the Bedouin, we must study the Desert. For the desert environment explains the special mentality of the Bedouin, his conception of existence, his qualities and his defects.<sup>1</sup>

No historical research is needed; immobility being the leading characteristic of the Arab tribes, the Bedouin has not changed. Such as he was when Mahomet drew him from his idol-worship, so we see him exactly described in the book of Genesis, in the passages relating to Ishmael or Joseph, or well represented in the bas-relief of the palace of Nineveh recording scenes from the wars of Assurbanipal, even so is he at the present day.<sup>2</sup>

Servier's geographical description is pithy though not fulsome:

An immense plateau, rocky and sandy, 1,250 miles long with an average breadth of 500 miles, surrounded by a girde of mountains with peaks rising 6,500 and occasionally 10,000 feet; between this lofty barrier and the sea a fertile strip of country 50 to 60 miles wide. That in a few strokes, is the general aspect of Arabia.<sup>1</sup>

"That in a few strokes" can cover a multitude of sins and can overlook 57,000 barrels of oil, daily from just one locale. "That in a few strokes" describes what the Arab refers to as an island, a section of the earth at the junction of Europe, Africa, and Asia but cut off from all three as the minds of some politicians and administrators are cut off from current and human affairs. This land is insu-

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<sup>1</sup> Andre Servier, Islam and the Psychology of the Musulman (New York: C. Scribner's Sons, 1924), p. 14.

<sup>2</sup> Ibid., p. 18.

lated, bounded on the west by the Red Sea, on the south by the Indian Ocean, on the east by the Persian Gulf; then to give it good measure it is an example of compound insulation, for back of its water barriers on the south and western sides high mountains exist, so that Arabia has insulation of a sea of sand, north, east, and south. Its area is approximately one-third the size of the United States and about one-quarter the size of Europe. (See Appendix I for description)

Ethnic groups as well as nations have been small in their youth. The Arab inundation can be traced back to that spring of ethnic and religious energy which welled up in the arid plain of Mecca and the Arabian oases. Certain it is that when agriculture meets insurmountable obstacles such as the inadequate rainfall of Central Arabia, the land can produce no higher economic and social groups than pastoral hordes. It simply means that a shepherd folk or nomadic type are to be found in their purest types in desert or steppes, where conditions early crystallize the social form and check development.

Servier's statement that the Bedouin is today as he was in Biblical times is perhaps quite true, but why be so negative about it? The pastoral nomads may be powerless to originate or develop political unity, but nomads can assimilate and spread ready-made elements of civilization and can give political union to civilized peoples. The desert may lay an arresting hand on progress. The tribes do not develop; but neither do they grow old. They are, so to speak, the eternal children of the world. Genuine nomadic people do not reveal alteration in their manners, customs, or mode of life from century to century.



The interior of the Arabian desert reveals the same social and economic status, whether we take the description of Moses or Mohammed or more recent travelers.<sup>1</sup>

The nomad, as a type, is today what he was yesterday and what he will be tomorrow. His culture pattern has always been the same . . . . Immune to the invasion of exotic ideas and manners, he still lives, as his forbears did.<sup>2</sup>

The Bedouin has not changed for five thousand years -- not even in his dress. Besides, he still carries his twelve-foot lance. Merely the bow and arrow have been replaced by the Lee Enfield rifle.

The nomad life of the Bedouin is conditioned by his occupations. His occupations are conditioned by the character of the land on which he lives -- another proof that basically history is a cosmic process, is conditioned not by Man but by Nature.<sup>3</sup>

The migrant shepherd while he may not originate anything does play a rôle as a transmitter of civilization. The desert breeds in its sons certain qualities and characteristics -- courage; hardihood; the stiff necked pride of the freeman; vigilance; wariness; sense of locality;<sup>4</sup> keen powers of observation stimulated by the monotonous, featureless environment; and the consequent capacity to grasp every

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<sup>1</sup>Edward Gibbon, Decline and Fall of the Roman Empire, Vol. V (New York: Harper and Brothers, 1858), p. 78.

<sup>2</sup>Philip K. Hitti, History of the Arabs (London: Macmillan and Company, 1940), p. 23.

<sup>3</sup>Edward J. Byng, The World of the Arabs (Boston: Little Brown and Company, 1944), p. 42. It is noted that as recent a writer as Byng does not take cognizance of one of the features of Ibn Saud's program of social and economic adjustment in Arabia (Saudi Arabia), which is the eventual settling of the nomad population on the soil, the converting of roving bands into urban or quasi-urban social groups.

<sup>4</sup>Sir Francis Edward Younghusband, The Heart of a Continent, (London: Murray, 1904), pp. 72, 74.

detail.<sup>1</sup> Though robbery is honorable and marauder a term with which to crown one, theft at home is summarily dealt with among most nomads.

The general opinion has been propagandized that the prime characteristic of Arabia between the fourth and the end of the sixth centuries (and some writers even give a greater span of time) is nomadism. It will be pointed out that quite early there was a maritime interchange of commerce and culture and that this continued up to and during the time of exploration adventures by various European nationalities. Nomadism, then, has been assumed by most writers<sup>2</sup> on this subject to reproduce, to continue without change the pattern of life of the early Semites. It is of paramount importance to accept such assumptions, such generalizations, with a modicum of caution. It is a commonplace that even primitive modes of life and society undergo some degree of

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<sup>1</sup>J. L. Burckhardt, Notes on the Bedouins and Wahabys (London: H. Colburn and R. Bentley, 1831), Vol. I, pp. 374-377.

L. March Phillipps, In the Desert (London: E. Arnold, 1905), pp. 98-100.

<sup>2</sup>Andre Servier, Islam and the Psychology of the Muslim, op. cit., pp. 18, 31.

A. P. Caussin de Perceval, Essai sur l'histoire des Arabes avant l'Islamisme (Paris: Firmin Didot, 1846).

Edward J. Byng, The World of the Arabs, op. cit., pp. 41-42.

De Lacy Evans O'Leary, Arabia Before Muhammed (New York, E. P. Dutton and Company, 1927), pp. 11-12.

François Lenormant, Histoire des peuples orientaux (Paris: A. Lévy, 1884), Vol. VI, p. 422.

Adolphe-Noël Des Vergers, Histoire de l'Arabie (Paris: Firmin-Didot, 1847).

Edson L. Clark, The Arabs and the Turks (Boston: Congregational Publishing Society, 1876).

Philip K. Hitti, History of the Arabs, op. cit., p. 8.

Bertram Thomas, The Near East and India (London: G. Allen and Unwin, 1918), pp. 516-519.

James Henry Breasted, The Conquest of Civilization (New York: Literary Guild of America, 1938), p. 118.

change in the course of centuries, especially when the primitive is surrounded by a real, or allegedly superior civilization. It is only logical to believe that the Bedouin with his powers of observation, his trade instinct and practices -- the incense routes, the camel trades, etc., would have learned something from the Arabians of the southern part of the peninsula and from the Nabataeans, from the early Jewish and Christian settlements, in short from surroundings. Be that as it may, what the Bedouin retained of the old Semitic mode and pattern was, perhaps, essentially more important than what they had lost or modified, for if this be the case, they remained faithful to the ways and traditions of the part in their language, spiritual attitude, and social organization. This could, in a measure, explain their reactions, both positive and negative, to the upheaval which the teaching of Muhammad brought into the peninsula.

The movement of nomads within the confines of their own boundaries has often led them, with slight provocation, to journeys outside their own frontiers into the territory of others. The grazing areas renew their herbage slowly under the conditions of drought, the increasing herd would necessitate, often, the absorbing of more land, more water-holes, or an exceptionally dry period might give occasions for the enlargement of the territorial locale of the horde and might lead to conquest. In short, the movement of nomads can be assumed to be an outcome of their dependence upon the vagaries of rainfall. The nomad lives face to face with want and famine and is often driven to robbery. It is a commonplace that marauding tendency is an ingrained quality of desert dwellers. Robbery becomes reduced to a system.

Pliny pointed out that the Arabs were equally fitted for trade and theft. It was equally easy to rob a caravan, hold it for ransom, or give it safe passage through a desert -- for a price. The desert has enforced these qualities. The Great Wall of China is said to have been built as a protection against the nomad and is the classic example of such fortification or man-made barrier. There have been other walls for similar purposes. Gibbon has mentioned a barrier built across the Euphrates plains above Babylon, constructed by the early Assyrian kings to secure their domain against the Medes of the desert;<sup>1</sup> Gibbon also mentions the long wall of 1500 stadia erected by Sesostris from Pelusium to Heliopolis against the Arabs.<sup>2</sup> Carthage had her ditch against the Numidian nomads, and in the fifth century the "Red Wall" appeared on the Persian northern frontier as a barrier against the Huns. There are numerous other examples.

Nomad conquerors, generally speaking, reveal a common behavior pattern; they become weakened by the enervating climate and effeminating luxury of the moist and fertile lowlands; eventually their warlike spirit decreases; they are replaced by other conquerors, engendered by the same nomad breeding countries; or they are thrown out by their conquered subjects. As examples may be cited the Aryan princes of India who were displaced by the Mogul Emperors; the Saracen invaders of Mesopotamia displaced by the Turks; or the Tartars who were ejected

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<sup>1</sup> Edward Gibbon, Decline and Fall of the Roman Empire, op. cit., Vol. II, p. 495.

<sup>2</sup> Ibid., Vol. V, p. 87.

from Russia, the Moors from Spain, and the Turks from the Danube Valley.

It has been stated earlier in this chapter that this type of life and people though seldom originating does act as purveyor of various culture and culture patterns -- a melting pot, so to speak. Industries, such as they are, develop partly in response to the demand of the desert or trans-desert population. Damascus blades may be taken as a reflection of the Bedouin's need of the very best of weapons. Zwemer states:

The old Wahabi power is now broken forever and Nejd is getting into touch with the world through commerce. Kasim already resemble the border-lands and the inhabitants are worldly-wise with the wisdom of the Bombay horse-dealers. Many of the youth of Nejd visit Bagdad, Busrah and Bahrein in their commercial ventures. Says Doughty, 'All Nejd Arabia, east of Teyma, appertains to the Persian Gulf traffic and not to Syria (as does western Nejd); and therefore the foreign color of Nejd is Mesopotamian.' He marvelled at the erudition of Nejd Arabs in spite of their isolation until he found that even here newspapers had found their way in recent years.<sup>1</sup>

This implies that each city or community has its sphere of desert influence, that the province of Nejd is commercially subservient to "Bagdad, Busrah, and Bahrein."

The leisure of the nomadic type of life may encourage the beginnings of industry, but seldom has it gone beyond the household stage; reasons for this may be advanced, such as the thin, family-wise dispersion of population which precludes division of labor; the insubstance of possessions; (a nomad naturally prefers a skin water bag to pots,

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<sup>1</sup>S. M. Zwemer, Arabia, the Cradle of Islam (New York: Fleming H. Revell Company, 1900).

pans, jugs, etc.); hence industry such as existed in the nomadic stage consisted chiefly in the working up of the raw materials yielded by the herds. Among the Bedouins, it was noted by Burckhardt, that blacksmiths and saddlers were the only professional artisans, and were regarded with contempt and are not of Bedouin stock.<sup>1</sup>

All Arabia is not desert, and therefore it is possible to find more than one variety of life and endeavor.

The whole fringe of Arabia, from Antioch to Aden and from Mecha to Mascot, has developed live bases of trade, maritime growth, and culture, while the inert, interior has drowsed in its eventless existence.

Arabia, like most peninsulas, occupies an intercontinental location. Arabia in its climate, flora, races, and history shows ebb and flow now from Asia, now from Africa. From Arabia Asiatic influences have spread over Africa to Morocco and the Niger River on the west, and to Zanzibar on the south, permeated Abyssinia, and penetrated to the equatorial lakes, whether in the form of the Mecca-produced religion or the creeping caravans and slave gangs of Arabian traders.

Just as the development of a people and state is marked by advance from small to larger areas, so is that of a civilization. It may originate in a small district; but, more mobile than humanity itself, it does not remain confined to one spot, but passes on from individual to individual and from people to people. Greece served as a depository for Oriental and Egyptian cultures which were tempo-

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<sup>1</sup>J. L. Burckhardt, Notes on the Bedouins and Wahabys, Vol. I, op. cit., p. 65.

rarily transplanted and as soon as modified and adapted to new conditions, spread over Europe. The narrow, confining locale which was ancient Greece caused the early dissemination of its people over the Mediterranean and thereby weakened the political force of the country at home, but was an important factor in the wide distribution of its culture. Commerce, colonization, and war are vehicles of civilization where favorable conditions open the way for trade which follows the victorious army. Islam found its vehicles of dispersal in the pastoral nomads occupying the arid land of northern Africa and western Asia and thus spread.

Almost duplicating the history of the Phoenician, the Oman seaboard of eastern Arabia, a fertile coastal region, sprinkled with its villages, edged with a few harbors, backed by a high mountain wall with an expanse of desert beyond, produced a race of bold and skillful navigators<sup>1</sup> who in the Middle Ages used their location between the Persian Gulf and the Arabian Sea to make themselves the maritime power of the Indian Ocean. It was a maritime expansion wide in its sweep and rapid in development. Before Muhammad the Arabian seamen had reached India; but under the influence of Islam they had by the middle of the eighth century established a flourishing trade with China,<sup>2</sup> first as

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<sup>1</sup>D. G. Hogarth, The Nearer East (New York: D. Appleton and Co., 1902), pp. 111-112-152.

<sup>2</sup>D. G. Hogarth, Cathay and the Way Thither (London: Hakluyt Society, 1888), Vol. I, p. 80.

Hans Ferdinand Helmolt, The History of the World (New York: Dodd, Mead and Company, 1902-7), Vol. II, p. 548.

voyagers and merchants, then as colonists. Marco Polo visiting Sumatra in 1260, tells that the coast population was "Saracen."<sup>1</sup> Oman and Yemen ventures reached south and east. Trading stations were established on the Somali coast of East Africa in 908, Madisha and Barawa; and Kilwa 750 miles to the south was established in 925. In the seventeenth century the Oman Arabs dislodged the Portuguese from all this coast line to the boundary of Portuguese East Africa. Even as late as the middle of the nineteenth century Mascat sent out merchantmen, doing an extensive trade in the various ports of British India, Singapore, and Java. In 1502 Vasco da Gama found Arabs either from Oman or Yemen, in Sofala. Some of them he employed as pilots to steer his course to India.<sup>2</sup>

A consideration of other aspects of the desert and its Bedouins is in order. The dry air stimulates the faculties of the desert-dweller, but the featureless, monotonous surroundings furnish him with little to work upon. The mind, finding scant material for sustained logical deduction, falls back upon contemplation. Intellectual activity is therefore restricted, narrow, unproductive; while the imagination is unfettered but also un-fed. First and last, these shepherd folk receive from the immense monotony of their environment the impression of unity. Therefore all of them, upon outgrowing their primitive fetish

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<sup>1</sup> Sir Henry Yule, ed., The Book of Sir Marco Polo, Vol. II, Book III (New York: C. Scribner's Sons, 1903), pp. 284-88, 303.

<sup>2</sup> James Bryce Bryce, Impressions of South Africa (New York: The Century Company, 1897), pp. 79-82, 89.



and nature worship, gravitate inevitably into monotheism. Their religion is in accord with their whole mental make-up; it is a growth, a natural efflorescence. Therefore it is strong.<sup>1</sup> Its tenets form the warp of all their intellectual fabrics, permeate their meager science and philosophy, animate their more glorious poetry. It has moreover the fanaticism and intolerance characterizing men of few ideas and restricted outlook upon life. The victories of the Jews in Palestine, Syria and Philistia were the victories of Jehovah; the Conquests of Saladin were the conquests of Allah; and the domain of the Caliphate was the dominion of Islam.

The faith of the desert tends to be stern, simple, and austere. The indulgences promised Muhammad's followers in Paradise were only a reflex of the deprivation under which they habitually suffered in the scant pastures of Arabia. The lavish beauty of Heaven epitomizes the ideals and dreams of the desert-stamped Jewish Semites.

Judaism, suffering from its narrow local base, has when transplanted to various regions remained a distinctly tribal religion. Its desert nativity is reflected in its intense conservatism in doctrine and ceremonial. Islam reveals the limitations of its original locale. It has demonstrated that it possesses a powerful appeal to the inhabitants of arid lands, and among such populations it has spread and exists as an active principle. It betrays itself as belonging to an arrested economic and social development.

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<sup>1</sup> George Adam Smith, Historical Geography of the Holy Land (New York: A.C. Armstrong and Son, 1897), pp. 28-30.  
L. March Phillipps, In the Desert, op. cit., pp. 101-105.

Arabia, then, represents an area inhabited by two types of peoples, a settled group and a nomadic group. Hitti takes the view that the history of Arabia, and in fact the whole Near East, represents the "struggle between the sedentary population already domiciled in the Fertile Crescent and the nomadic Arabians trying to dispossess them."<sup>1</sup> He considers immigration and colonization as an "attenuated form of invasion," regards the transplanting en masse or in bands from a "pastoral desert region to an agricultural territory" as a common phenomenon in the Near East, and thinks it a clue to "its long and checkered history."<sup>1</sup> With considerable detail Hitti traces various Semitic migrations; his explanation of them is based to some extent on the theory of overpopulation of the Arabian area.

Around 3500 B.C. a Semitic migration followed this route (the narrow margin of habitable land round the periphery of Arabia) took the east African route northward, planted itself on top of the earlier Hamitic population of Egypt and the amalgamation produced the Egyptians of History . . . . . At about the same time a parallel migration followed the eastern route northward and struck root in the Tigris-Euphrates valley already populated by a highly civilized community, the Sumerians . . . . the admixture of the two races here gave us the Babylonians . . . . . About the middle of the third millennium before Christ another Semitic migration brought the Amorites into the Fertile Crescent . . . . . Between 1500 and 1200 B.C. the Hebrews made their way into southern Syria, Palestine and Arameans into the north . . . . . About 500 B.C. the Nabataeans established themselves northeast of the Sinaitic peninsula . . . . the seventh century of our era saw a new and final migration under the banner of Islam . . . . . a comparative examination of the dates quoted above suggested

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<sup>1</sup>Philip K. Hitti, History of the Arabs, op. cit., pp. 11-13.

to certain Semitists the notion that in recurrent cycles of approximately one thousand years Arabia, like a mighty reservoir, became populated to the point where overflow was inevitable.<sup>1</sup>

Hitti continues with his discussion and concludes regarding Arabia as the "cradle of the Semitic people and the centre of their distribution," which is nothing more nor less than presenting the idea that the desert, sooner or later, drives out its own children. The religious fanaticism of the shepherd tribes gives that touch; herein lies a part of its historical importance. Islam, militant, contributed to one of those upheavals of migration and conquest which have since the seventh century in various manners changed both the geographical boundaries and politics of the Old World.

Servier has portrayed the Bedouin, the inhabitant of these "desert wastes" as an immobile creature, devoid of idea or imagination, but Servier does give him credit for powers of observation and resistance.

. . . . we may sum up the characteristics of the Bedouin in a few essential traits: he is a nomad and a fighter, incessantly preoccupied by the anxiety of finding some means of subsistence and of defending his life against man and nature. His faculties of struggle and resistance are highly developed. Necessity has made him a robber, a man of prey . . . . Like a wild beast, he sees a chance when it arises.

An egoist, his social horizon stops at the tribe, beyond which he knows neither friend nor neighbour. Having no time for thought or contemplation, his brain has become atrophied; he acts on the spur of the moment, we might almost say by his reflexes;

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<sup>1</sup>Ibid., pp. 10-12.

he is totally devoid of imagination and of the creative faculty. Finally, a simple creature, not far from primitive animality -- a barbarian.<sup>1</sup>

Hitti takes a calmer point of view in portraying the inhabitants of Arabia as falling into two main groups: first -- "nomadic Bedouins" and second -- "settled folk," stages of "semi-nomadism and of quasi-urbanity," townsfolk who were once Bedouin and Bedouins as townspeople in the making. He points out one rather important angle: "The blood of the settled population is thus constantly refreshed by a nomadic strain."<sup>2</sup>

A careful appraisal of conditions will reveal that the Bedouins are nomads who are sharply divided into sheep people and camel people, with the sheep people in the north of Arabia and into Syria and Iraq, the camel people confined to the central and southern areas. This gives rise to the supposition of the same feuds which exist between cattle and sheep people of other lands. The smallest unit, naturally, is the family, then the father's "house," then sub-sections, sections, to the tribe, and the tribe combined into confederations. Sections, sub-sections, and clans may and do fight among themselves, but all will join in the common cause when the tribe becomes endangered.

The clan is represented by its titular head, the sheikh (who) is the senior member of the tribe whose leadership asserts itself in sober counsel, in generosity and in courage. Seniority in age and personal qualifications determine the choice. In judicial, military and other affairs of common concern the sheikh is not the absolute authority;

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<sup>1</sup> Andre Servier, Islam and the Psychology of the Musulman, op. cit., pp. 29-30.

<sup>2</sup> Philip K. Hitti, History of the Arabs, op. cit., p. 23.

he must consult with the tribal council composed of the heads of the component families. His tenure of office lasts during the goodwill of his constituency.

The Arabian in general and the Bedouin in particular is a born democrat. He meets his sheikh on an equal footing. The society in which he lives levels everything down.<sup>1</sup>

It is to be noted that the Arabians did not make a practice of such a glamorized terminology as King within their own society. The title king (malik) was not in common usage except in reference to rulers of other lands, with one exception -- the kings of the banu-kindah. This, at least, denotes an essence of democratic spirit.

But the Arabian is also aristocratic as well as democratic. He looks upon himself as the embodiment of the consummate pattern of creation. To him the Arabian nation is the noblest of all nations (afkhar al-uman). The civilized man, from the Bedouin's exalted point of view, is less happy and far inferior. In the purity of his blood, his eloquence and poetry, his sword and horse and above all in his noble ancestry (nasab), the Arabian takes infinite pride.<sup>2</sup>

Each tribe has its grazing grounds, prescribed by centuries of precedent. Desert wells are, in the main, neutralized and hence available to all. These Bedouins are a proud people who trace their ancestors back sometimes with fabulous details.<sup>3</sup> Of the reliability of that undocumented pedigree it is not necessary to speculate.

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<sup>1</sup>Ibid., p. 28.    <sup>2</sup>Ibid., p. 28; See also, Chapter III.

<sup>3</sup>William Robertson Smith, Kinship and Marriage in Early Arabia (Cambridge, Eng.: Wares, 1865), p. 131.

He is excessively fond of prodigious genealogies and often traces his lineage back to Adam. No people, other than the Arabians, have ever raised genealogy to the dignity of a science.<sup>1</sup>

Tribal loyalty is paramount, and to lose tribal affiliation is worse than death. Among the virtues of the Bedouin, practically all writers are agreed in giving first place to hospitality and second place to generosity. The tradition of asylum for those seeking it -- if deserving -- is well known. The utterance of the magic word "dakhil" is said to make it incumbent on the whole tribe to protect one. The literature put forth by Christian missionaries indicates that a woman's honor is entirely safe in the desert. Further, woman's place in this social organization seemed to enjoy an equality sometimes not taken sight of.

The Bedouin woman, whether Islamic or pre-Islamic, enjoyed and still enjoys a measure of freedom denied to her sedentary sister. She lived in a polygamous family and under baal system of marriage in which the man was the master, nevertheless she was at liberty to choose a husband and leave him if ill-treated.<sup>1</sup>

The Bedouins' ability at tracking has become lore; they maintain that they can distinguish the footprints of a married from those of an unmarried woman. Keeness of eyesight and hearing are attested to. Available literature indicates that the Bedouins are experts on the stars, knowing the location, timing, and courses of the constellations and the planets throughout the year. And there is considerable indication that the Bedouins are honest individuals -- especially if it is known that honesty is expected. The Bedouin then is not an

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<sup>1</sup>Philip K. Hitti, History of the Arabs, op. cit., p. 28.

aimlessly roaming individual but might represent the best adaptation of human life to the conditions imposed by the desert.

The Bedouin is, in fact, the only real Arab and the only Northern Semite who still exists. There are many phrases which use the word Arab: Arab History, Arab Culture, Arab Science, Arab Philosophy, Arab Conquests, Pan-Arab Movement, Arab Art; and the term Arab is used loosely to signify the totality of the ethnic groups who use the Arabic tongue, and that usage is as flagrant as the term Spaniard when used to indicate a Mexican, a Filipino, a South American, or Cuban. Equally confusing is the term Semite. The Jews are not considered a race; they appear today as a people composed of many racial strains with the Hittite strain predominating, and the Jew has long ago ceased to be a Semite. He was a full fledged Northern Semite, a Bedouin, at the time he conquered the Holy Land. After all, Uriah the Hittite, one of David's henchmen, had a wife, Bath-Sheba, and she became the mother of Solomon. It is accepted that the Jewish Semite was absorbed by the Hittite defeated population as early as the seventh century B.C. The average American is conditioned by the fact that his contact with these racial strains is confined mostly to Jews, and we have not taken the time to differentiate between such peoples as Armenians, Syrians, etc., who are predominantly Hittite, and (many) Jews, who despite mixture often preserve and present certain facial characteristics which are Hittite and not Semite.

Arabia, prior to the rise of Islam, was not composed of a military people, but of traders, particularly in the southern end of the peninsula where there existed a prosperous maritime civilization

connecting India and Africa. It is also to be noted the conditions in Southern Arabia had, by the seventh century, reached a state of anarchy, and that the national life developed there had been disrupted. Monotheistic ideas, vague in quality, had appeared and to some extent developed into a cult. Christian and Jewish settlements were in evidence and their respective influences increasingly felt.<sup>1</sup>

The Arab has a reputation for expressing his "artistic" nature through speech; there are old proverbs:

The beauty of man lies in the eloquence of his tongue.<sup>2</sup>

Wisdom has alighted on three things: the brain of the Franks, the hands of the Chinese and the tongue of the Arabs!<sup>3</sup>

The Arabic language, so it is said, is characterized by a terse, epigrammatic manner of speech, a feature which Islam apparently made good use of.

There is also another common saying, "Poetry is the public register of the Arabians,"<sup>4</sup> inferring that the pre-Islamic poetry, aside from being the Bedouins' cultural asset, serves as an important source material for the study of the period in which it was compounded, throwing light as it does on phases of pre-Islamic conditions and life. It is from this source that judgments are made concerning the religious

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<sup>1</sup> Ibid., Chapter IV-VII, inc., p. 30-110.      <sup>2</sup> Ibid., p. 90.

<sup>3</sup> Al-Jāhiz, Majmū'at Rasā'il (Cairo 1924, pp. 41-43), quoted in Hitti, op. cit., pp. 90-91.

<sup>4</sup> Al-Suyūṭī, al-Mushir (Cairo, 1282), Vol. II, p. 236, quoted in Hitti, op. cit., p. 95.



conviction of these people. There does not appear to be a genuine devotion to a heathen deity; there appears a conservative respect for tradition. These desert folk apparently had the delightful custom of inhabiting their desert areas with, to them, living things of diabolical nature, called jinn. They simply represent the age-old concept of good and evil, the gods being friendly, the jinn personifying the evil, hostile, fantastic notions of the unfriendly wild animal or the terror of the desert waste. Curiously, the jinn phobia persisted after the rise of Islam, and the jinn multiplied in number.

In polytheistic Mecca there was one of many deities -- Allah<sup>1</sup> -- the one deity they elected to turn to in time of crisis, Allah the creator and the best provider. It is this god, one of many, whom the Arabians were to accept and convert into their desert monotheistic ideal, to use as the vehicle for unification and the motive for the creation of an empire which was in a notably short time to rival the crumbled Roman empire in area: an Islamic empire, which whether we wish to acknowledge it or not, was reputedly to set pursuits in some fields years ahead and which may have been the spur to activity for the European steeped in his immobility of theological feuds, Teutonic invasions, etc., of the Dark Ages. Years which have been portrayed as dark and which of a certainty are not as barren and dark as so often pictured.

The majority of historians whose works on the Arabs have been consulted without exception show one common pattern -- they attempt to fill in the very many and large gaps with theories, attractive

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<sup>1</sup>The name is ancient, traced back to Libyanite inscriptions of

theories of their own. This practice imposes caution on the reader. History, whether of individuals or political entities, is a complex, manifold in its issues. It is certain that in the background of Islamic history, with its many unchronicled gaps, an important part has been played by the ancient civilizations of Southwestern Asia, of Mesopotamia, Egypt, etc., and if we knew what pre-Islamic Arabia had been, if we could actually differentiate between fact and lore of Islam in its later development and at its inception, the task of differentiating between the Arabian and non-Arabian elements of Islam would be possible. The known facts make us keenly aware of the volume of the unknown.

The theory has been advanced that Arabia was not always a desert.<sup>1</sup> Some neolithic implements have been found in the northern part of Arabia and others by Bertram Thomas in the southern part of the peninsula. There are evidences that the present barrenness had been preceded by a period of fertility.<sup>1</sup> There have been no scientific excavations conducted, and the geological survey of the peninsula is just in its beginnings. Where did the inhabitants come from?<sup>2</sup> As for the historical data, we are almost as much in the dark.

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the fifth century B.C. See Hitti, *op. cit.*, p. 100 where reference is made to Winnett and to Dussaud, Les Arabes en Syrie, pp. 141-2.

<sup>1</sup>Bertram Thomas, The Arabs (Garden City, N.Y.: Doubleday Doran and Company, 1937), p. 340.

<sup>2</sup>Sir Arthur Keith, Appendix to Arabia Felix, by Bertram Thomas (London, Jonathan Cape, 1932) expresses the opinion that a protonegroid type inhabited a belt from Africa to Malaya and through environmental and evolutionary processes became the predecessor of the Hamitic, Dravidian in Africa and India respectively, and to a dark people who inhabited the Arabian peninsula. These dark people later were absorbed by a Caucasoid invasion. See also, Henry Field, The Arabs of Central Iraq (Chicago, Field Museum, 1935).

Of the developed civilisation in the south, the four kingdoms, (Sabaeans, Himyarans, Hadramautians, and Ostabalinans), and of some minor communities, we know a little, through a few passages of Greek and Roman writers.<sup>1</sup> On such basis theories have been advanced concerning commerce between these Southern Arabians and the Sumerians, but extensive evidence is at present lacking. The decorations and seals argue in favor of Mesopotamian origin. But the writing is not cuneiform, the architecture is different from the Mesopotamian.<sup>2</sup> Where these people came from we do not know; we can theorise that they parted from the other Semites early and before they reached a high degree of culture. This South Arabian civilisation appears entirely developed prior to the sixth century B.C. One point looms, of which there can be little doubt, that the power of South Arabia spread northward.

The South Arabian appears to have been the producer, purveyor, and conveyor of spices and frankincense as well as certain other products to the entire world of antiquity. The organization of the Southern Arabian reveals a king, an aristocracy which acted as check on the King's powers, and something of a feudal system.

Our knowledge of the inhabitants of the Southern part of the peninsula is slight, but our knowledge of North Arabia and its people before the Hellenistic age is less. Evidently it was under the control of the south, probably in the ancient days a country inhabited by

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<sup>1</sup>Hecataeus, Procopius, Josephus, Diodorus Siculus, Pliny, Theophrastus, Dio Cassius, John of Ephesus, Herodotus, see Hitti, op. cit., pp. 44-56.

<sup>2</sup>Hitti, op. cit., pp. 50-52.

roads. The earliest recorded reference to these Arabian people appears in an inscription of Shalmaneser III of Assyria, who, judging from his words, destroyed the "royal city" at Qarqar (Harran) in 854 B.C. These are the people (Arabs) against whom the Assyrians from Sargon II to Ashurbanipal waged war.<sup>1</sup> The rivalry between Egyptian and Assyrian interests over the Arabian trade routes is apparent. Rivalry between great powers which have coveted Arabia, for one reason or another, appears early in history and seems to be the destiny of this peninsula.

In 549-539 B.C. Cyrus campaigned against the Arabians, and in 525 B.C. Cambyses' exploits against Egypt reveal the Arabs in a role often observed -- playing one side against the other for their own good. It is apparent that after that date Persia did not control the Arab. Herodotus<sup>2</sup> is the source of such information.

There is a gap until the Hellenistic age. Perhaps the collapse of the Persian Empire and the Macedonian conquests effected a shift in the destinies of both South and North Arabia, for the result of the collapse and the conquest tied the East and West tighter.

The first North Arabian state, that of the Nabataeans, shows itself strong enough to resist attack about 312 B.C.<sup>3</sup> Here we are on

<sup>1</sup> Ibid., p. 37.

<sup>2</sup> Ibid., p. 40, quoting Herodotus, III, Chapter 88: "The Arabians were never reduced to the subjection of Persia."

De Lacy Evans O'Leary, Arabia before Islam, op. cit., quoting Herodotus 3.30, 2 of, Ken Cyrop., 1, 1, 4, 5, 2; 6, 2, 10: "The Arabians were never in servitude to the Persians, but became allies after allowing Cambyses a passage to Egypt, for if the Arabians had been unwilling to do so the Persians could not have made their invasion of Egypt."

<sup>3</sup> Hitti, op. cit., p. 68.

firmer ground; the Greek authors as well as archaeological explorations in Transjordan supply considerable evidence. They built cities, engaged in agriculture and were more than just camel drivers, as has been supposed, who conveyed the goods of South Arabia to the Mediterranean. The fact that these people partook of the trade of South Arabia can be viewed in two lights, as both consequence and cause of the eventual decline of South Arabian states. Sabaeans who had been supreme were succeeded by the Himyarites in the second century B.C., but had to split profits with the Habataens and eventually lost their hold in Central Arabia, leaving the Habataens the field. However, it is possible that Central Arabia developed an independent life.

During the first century B.C. Egypt and Syria with their Hellenism passed to Roman domination, and here Arabia enters history. The Habataens appear as the ally of Rome. Rome wished to take South Arabia and the Indian trade and was dependent upon the Habataens. The Roman army penetrated the desert (24 B.C.<sup>1</sup>); the records are vague as to whether the army was badly organized or the Habataens proved perfidious, but the army became a part of the desert waste and Rome never again campaigned in Arabia; neither has any other European army.

Habataean inscriptions have been found in the Aegean and Italian areas, and their art shows both Greek and Roman influences. Remains in Transjordan and Petra, architecture and sculpture, reveal Greek and Oriental fusion. Here we have the forerunner of what Islam later did on a vaster scale, the fusion of Greek, Near Eastern, and Arabian

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<sup>1</sup> Ibid., p. 684 gives 24 B.C. but does not comment. Date is sometimes given as 26 B.C., Roman military expedition under Gallus.

elements. The Nabataean kingdom ceased to play its role of pawn in Roman political policy in 105 when Trajan created "Provincia Arabia,"<sup>1</sup>

Palmyra, where the Arabian elements seem to have been stronger, rivalled and became successor of the Nabataean enterprise, since through Dara on the Euphrates it had in its control another of the Indian trade routes. So, following the fall of the Nabataeans and the temporary closing of the Arab road, Palmyra succeeded to a place of commercial importance, with her merchants and soldiers throughout the Roman world. The end of Palmyra and her ambitions is too well known for retelling.

During the third century the Sassanians unified all Persia and were able to offer opposition to the Romans -- a conflict which lasted some four centuries; and Arabia appears to have been one of the objects of their rivalry. The Hiyarites, the last power in the south, fell into decay during the third and fourth centuries, a decay which apparently was connected with the expanding Byzantine commercial activity, after which there seems to have been a regrouping of the Arab tribes in which the ancient rivalry between the settled Arabs of the south and the nomads of the north continued -- as a tradition; however, changing political events produced different combinations. This has been detailed for the simple reason that historians seem disposed to draw a strong line of demarcation between the two divisions of the Arab populace which they term Qahtan and Adnan. The Qahtan they identify as Yemenites or Southern Arabs and the Adnan as North Arabs.

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<sup>1</sup>Ibid., p. 74.

It is to be noted that the civil wars of Islam reflect the rivalries between these two groups, and an effort has been made to trace back the causes of these wars to pre-Islamic days. These two groups (Qahtān and Adnān)<sup>1</sup> appear then, from this analysis, more as traditional political factions than as "racial"<sup>2</sup> divisions. The two groups may be taken to represent the two spheres of influence, the Qahtān or South Arabian being the group in contact with Persia, and the Adnān or Northern Arabian, the group in contact with Byzantium. Of course, local rivalries would cause realignment. This rivalry may be the basis for the Mecca-Medina feud of pre-Muhammad and Muhammad's time. Medina to all intent and purpose was envious of Mecca's wealth and often interfered with the trade route. If we accept tradition, the Yemenites were the settled Medina tribes, while Mecca (although south of Medina) belonged to the northern group (Adnān).

<sup>1</sup>Bertram Thomas, The Arabs, op. cit., pp. 14-24. A brief account of the exploitation of these two divisions by outside powers.

Philip H. Hitti, History of the Arabs, op. cit., p. 62. Makes the distinction: Arabian Arabs and Arabized Arabs, based on the genealogists' subdivisions into two ethnic stocks.

The Arabian Arabs are "Yemenites descended from Qahtān (the Joktan of the Old Testament) and constitute the aboriginal stock. The Arabized Arabs are the "Hijazis, Najdis, Nabataeans and Palmyrenes descended from Adnān-an offspring of Ishmael-and are "naturalized" in the land.

"In the traditional Qahtān and Adnān is a reminiscence of the differentiation between South Arabians and North Arabians. The Medinese who rushed to the support of the Prophet at the time of his Hijrah were of Yemenite origin, but his own family, the Quraysh, were Himsari of the northern stock. The Ghassanids of eastern Syria and the Lakhmids of al-Hirah in al-Iraq were Southerners domiciled in the north. This gulf between the two Arabian stocks was never bridged. The age-old divisions continued to be as prominent as ever, even after Islam had unified the Arabian nation." See Servier, pp. 32-34; viewed as sphere of influence.

<sup>2</sup>O'Leary uses the term "racial."

Meccans, then, were of the pro-Byzantine alignment, they did have close commercial relations with Syria; enmity may have caused the Medinans to side with the Qahtan and would afterwards have been explained as a legendary descent from Yemenites.

During the Persian-Byzantine contest, the Arabs occupied a midway position, courted by both; Persian influence in the east and south, and Byzantine in the west, and the Arab playing each against the other without doubt produced innumerable divisions and cross currents within the peninsula.

This, with its old uncertain record, with the certainty of its having been so earnestly coveted by so many of the world's powers, with its known contact with other cultures, Mesopotamian, Egyptian, Hellenic, Roman, Byzantine, Persian, with its contact with India, and contact with Jewish and Christian settlements, and with its own independent states, we can only conclude that from earliest times various cultures had infiltrated themselves within Arabia, by commerce, by the planting of colonies, and because of the temptation of world marts, to obtain control (indirect) of the Arabs' movements, and we can conclude that the Arab while having nomads within his fold was not a total barbarian.

It was pointed out above that the Arab is a born democrat with a large mixture of aristocratic elements. As a democrat, his mode of life and disposition has tended to emphasize some of the salient characteristics of democracy in exaggerated form, and can serve as a key to an understanding of the many treacherous activities which have made up a great deal of recorded Arab history. And it can serve as



a key to the understanding of the mistakes which have been made by various powers (ancient and modern) in their dealings with the Arab. A certain type of benefaction is revolting, for it imposes obligation and a sense of inferiority upon the recipient of such benefactions. Servior's attitude can be taken as the reflection of a Frenchman accustomed to a paternalistic form of government, highly organized, who has become exasperated with the Arab's impatience of control; and both parties are thereby irritated.<sup>1</sup>

There is no intention of presenting the case either for or against Muhammad, who never claimed divinity, although followers have attempted to ascribe many virtues and miraculous deeds to him. Opinions are stated, at times dogmatically, that Muhammad was one of the vilest of creatures;<sup>2</sup> evidence is offered to substantiate such

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<sup>1</sup>See Appendix II.

<sup>2</sup>Those most favorably disposed: Amerr Ali, Esworth Smith. Sir Wa. Muir terminates his extensive and intended impartial study in a negative tone. Among those stressing the negative viewpoint may be mentioned J.H. Hottinger, Abbe Maracci, S.W. Koelle, Voltaire, D.S. Margoliouth, and the following whose specific works are cited, since those volumes are not confined to biographical portrayal.

Marcus Dods, Mohammed, Buddha and Christ (London: Hodder and Stoughton, 1877)

George Percy Badger, History of the Imams, 1871.

Robert Bruce, "Mohammedanism and Christianity," The Christian Intelligence, April 1894.

Jean Gagnier, La Vie de Mahomet, (Amsterdam: Welsteins et Smith, 1732)

Armand Pierre Caussin de Perceval, Essai sur l'Histoire des Arabes avant l'Islamisme, op.cit.,

Andre Servier, Islam and the Psychology of the Musulman, op.cit., especially p. 25)

It is interesting to note the opinions formed by various writers who have served as missionaries or who have had extended residence in Arab territory; taken as a whole, these writers express a more tolerant

claims. Equally strong are his portrayed virtues. He has been described as an epileptic, as one of the healthiest and virile of men, as a mystic, as a realist. The literature concerning Muhammad is by no means small in quantity and certainly not without prejudice.

Muhammad admonished his followers to be united, and proclaimed that Islam is one brotherhood and that its followers are brothers and that the property of each Moslem is, so to speak, sacred to every other Moslem. It would appear that Muhammad's theory was directed against the tradition of the ancient feuds which had led to tribal separation and rivalry. To understand one of the major points of Islam and Muhammad's social doctrine it should be noted that democracy in the sense of social equality has existed under the superstructure of an autocratic monarchy, autocracy winning victories over oligarchies. In the east we have many examples of the contest between rulers and people, but in the West democracy issues as a struggle between rulers and oligarchies. Muhammad simply incorporated the nomadic Bedouin's democracy and his sense of social equality within the structure of Islam, eleven hundred and forty-four years too soon. What was done to this theory when it was put into operation by political successors who erected the empire on the Byzantine-Persian remnants cannot be disputed for there were tyrants, however tyranny is oftentimes a technique of social equalization, and the Islamic Empire deteriorated -- as does every empire and every state and all human associations, but the fact remains that an exploiting, highly organized oligarchy

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viewpoint than the historians who are better known. Reference is made particularly to articles which appear in the files of the well known periodical "Asia."

whose purpose was the systematic exploitation of people, majority or minority, does not seem to have existed in this empire.

In a smaller sense, Muhammad carried out the same idea. To prevent the domination of a citizen through religious inclination or religious fears, he decreed that there should not be a priesthood, no organized clergy. Any believer, Moslem, can lead the prayer, and that is the essential function, ritualistic function, of the presiding officer, priest. He is a teacher.

It is worthy of note that neither Muhammad in the original Islamic state nor the Caliphs within the subsequent empire denied the religious rights of the populace which never was, even in the original state, totally Moslem. At the time of Muhammad's conquest of the Christians at Aqabah and of certain Jewish tribes;<sup>1</sup> he furnished them treaties giving them the right and liberty of religious worship and of local self-government and guaranteed to them security, security against disarmament, against any demand for political allegiance to the new state, upon payment of a combined head and land tax.<sup>1</sup> This

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<sup>1</sup> Tribes of Jarbar, Maqnah, Adroah as cited by Byng. See p. 129. See also Hitti's version of this incident which he dates A.H. 9, does not infer conquest; he states "without a single engagement concluded treaties of peace with . . . ." p. 119.

Amir 'Ali, A Short History of the Saracens (London: Macmillan and Company, 1900), p. 14 furnishes an interesting account of another incident:

"In the sixth year of the Hegira, the Prophet granted to the monks of the Monastery of St. Catherine, near Mount Sinai, and to all Christians, a Charter, which is a monument of enlightened tolerance. By it the Prophet secured to the Christians important privileges and immunities, and the Moslems were prohibited under severe penalties from violating and abusing what was therein ordered. In this charter the Prophet undertook himself, and enjoined on his followers, to protect

form of guarantee has a similarity to the political doctrine of a rather recent and large state, also a similarity to recent pronouncements by at least two of the world leaders.

The rise of Muhammad to the position of ruler of all Arabia, once he was installed in authority in Medina, is not difficult to follow. There are parallel cases in history, in business and educational institutions where men endowed with a modicum of political and strategic ability rise, and often rise rapidly, after a small initial success to be heads of empires and institutions. Muhammad appears to have been especially fortunate in his estimate of ability and character, not only in his followers but in his enemies. Apparently he made few, if any, mistakes in his choice of deputies and the assignment of offices. He also can safely be appraised as having had the gift of inspiring his immediate followers with loyalty. It is far more difficult to understand just how he obtained his first following, since the overthrow of the prevailing fetiches involved monetary reward, but the compromise made explains much. Nevertheless the system intro-

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the Christians, to guard them from all injuries, and to defend their churches, and the residences of their priests. They were not to be unfairly taxed; no bishop was to be driven out of his bishopric; no Christian was to be forced to reject his religion; no monk was to be expelled from his monastery; no pilgrim was to be detained from his pilgrimage; nor were the Christian churches to be pulled down for the sake of building mosques or houses for the Moslems. Christian women married to Moslems were to enjoy their own religion, and not to be subjected to compulsion or annoyance of any kind on that account. If the Christians should stand in need of assistance for the repair of their churches or monasteries, or any other matter pertaining to their religion, the Moslems were to assist them."

duced by Muhammad appears to have differed widely in theology from these systems which had previously dominated, since it substituted a rigid form of spiritual monotheism for a polytheism, combining as did that polytheism fetish-worship and star-worship. His monotheism presented doctrines ridiculed by the Moslems -- resurrection of the dead, future judgment, and future happiness or future misery.

Muhammad's achievement was to bring unity to Arabia. Because of his teaching, the medley of beliefs that had divided Arabians into a host of conflicting communities gave way to one universal belief in Allah, a monotheistic conception bearing close resemblance to the faith of the Jews. The new harmony produced a profound religious emotion; it united the discordant tribes who burst forth from the desert to conquer. Muhammad borrowed much from both Judaism and Christianity. He accepted the Old Testament, holding that the Arabians had sprung from Ishmael, just as the Hebrews had sprung from Abraham's other son Isaac. Allah had spoken through such Hebrew prophets as Abraham, Moses, and Isaiah. Jesus was also a prophet, but not "very God of Very God" as the Christians believed. So staunch was his monotheism that Muhammad thought the Christian faith had polytheistic elements in its Trinity. Hebrew prophets had told of the ways of God, but their testimony was concluded by his own, which had final authority. "There is no God but Allah, and Muhammad is His prophet!"

The religious impositions upon the Moslem individual, and certain of the duties required of him, revolve around the "five pillars of Islam.

1. Prayer -- with certain formalities, prayer offered at dawn,

noon, mid-afternoon, sunnat, and nightfall. Since this formalistic prayer does not appear until the Medina period, it suggests that if prayer existed prior to Islam it was not organized and formal in nature. This prayer form involves bodily postures and orientation and demands the use of the Arabic language. The only public prayer is the Friday noon prayer demanded of all male adults. It is at this prayer that an address is made by the leader. It has been pointed out (by Hitti) that "In dignity, simplicity and orderliness it is unsurpassed as a manner of collective worship."<sup>1</sup> Discipline is at once apparent, also social equality.

2. Fasting -- the institution of fast, of course, was well known among early Jewish and Christians; however there is no evidence of it among the pre-Islamites.

3. Pilgrimage -- Once in a lifetime for those of Islamic faith who can afford it. The details of the pilgrimage and its attendant ceremony are many, involving the circumambulation of the Ka'bah, the throwing of stones, the Zam-Zam well running thither and fro, shaving of head, wearing of seamless garment, etc., etc. In this ceremony may be witnessed Islamic compromise with pre-Islamic custom and fetish worship or Muhammad's device for absorbing the raw materials from which he was to weave the fabric of Islam.

But it is just here that one may observe the social quality of this faith, for here it is that all ethnic groups, nationalities,

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<sup>1</sup>Hitti, op. cit., p. 132.

rich and poor are reduced to the same level, meet together, and are on common ground. Is there a symbolism to be read in the device of all shedding their particular raiment and donning unseamed garments?

Of all world religions Islam seems to have attained the largest measure of success in demolishing the barriers of race, colour and nationality -- at least within the confines of its own community. The line is drawn only between believers and the rest of mankind.<sup>1</sup>

4. Almsgiving -- apparently it was on a voluntary basis originally but in time became the enforced contribution of a proportion of a man's annual produce or earnings for the benefit of the poor of the community, administered from a central treasury. Some writers regard this as an innovation but Hitti points out that Pliny mentions the South Arabian merchant as having to pay to their god before being allowed to sell their spices. This practice has its modern counterpart in the tithe system of various Churches.

5. Creed or Profession of Faith -- a verbal profession appears to be all that Islam has demanded, and once the formula has been accepted and reproduced the individual is considered a Moslem.<sup>2</sup>

To these five pillars some have added Jihad or Holy War.

It is one of the principal duties of the Caliph to keep pushing back the geographical wall separating dar al-Islam (the land of Islam) from the dar al-harb (the war territory). This bipartite division of the world into an abode of peace and an abode of war find parallel in the communistic theory of Soviet Russia.<sup>3</sup>

The idea of Holy war has already proven itself impractical

<sup>1</sup> Ibid., p. 136. <sup>2</sup> Concerning the five pillars, see Ibid., pp. 128-38.

<sup>3</sup> Ibid., p. 138.

(World War I); that is because as Islam was unorganized, divided by the nationalistic allegiances of its many and far-flung adherents.

In appraising the institutions, customs, traditions, mores, in short, the social theories and organization of Islam, one can find many similarities to particular aspects of our own culture. In some respects, the principles and attitudes held by the Moslems bear a striking resemblance to some modern principles and attitudes. There is a danger in making specific comparisons, in that we may read into them cause-and-effect relationships which do not necessarily exist.

However, the status of women may be cited as an example:

The Prophet of Islam enforced as one of the essential teachings of his creed, respect for women . . . . Muhammad secured to women, in his system, rights which they had not before possessed; he allowed them privileges the value of which will be more fully appreciated as time advances. He placed them on a footing of perfect equality with men in the exercise of all legal powers and functions.<sup>1</sup>

While this may appear as an advancement over the so-called Christian ideas of Paul it does not argue that our nineteenth and twentieth century woman suffragists and advocates of equal rights for women are direct descendants of the Prophet of Islam.

The opinion of Ameer Ali, stated above, is further strengthened by the following quotation from Judge Pierre Grabites:

Muhammad's outstanding contribution to the cause of Woman resides in the property rights that he conferred upon the wives of his people. The juridical status of a wife, if so technical a

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<sup>1</sup> Ameer 'Ali, The Spirit of Islam (London: Christophers, 1925), pp. 228-229.



term may be pardoned, is exactly the same as that of a husband. The Moslem spouse is so far as her property is concerned, is as free as a bird. The law permits her to do with her financial assets whatever she pleases without consulting her consort. In such matters he has no greater rights than would have any perfect stranger.<sup>1</sup>

Female infanticide engendered perhaps by the conditions of hunger and poverty was condemned by the prophet.

One revelation deploras this attitude: 'And when a daughter is announced to one of them his face becomes dark and full of anger. He hides himself from the people because of the evil of that which is announced to him. Shall he keep it with disgrace or bury it in the dust.'<sup>1</sup>

'Whoever has a female child' says a tradition ascribed to him, 'and does not bury her alive, nor hold her in contempt, nor prefer his male child to her, shall enter Paradise.'<sup>2</sup>

Again, Muhammad may be applauded for his views on slavery:

The Islamic teachings dealt a blow at the institution of slavery which, had it not been for the deep root it had taken among the surrounding nations and the natural obliquity of the human mind, would have been completely extinguished as soon as the generation which then practiced it had passed away . . . . The Prophet exhorted his followers repeatedly in the name of God to enfranchise slaves, 'than which there was not an act more acceptable to God.' (Quoting the Koran xxiv.53) He ruled that for certain sins of omission the penalty should be the manmission of slaves. He ordered that slaves should

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<sup>1</sup> Pierre Crabitte, "Things Mahomet Did for Women," *Asia*, XXXII (January 1927), p. 144. Bertram Thomas, *The Arabs*, *op. cit.*, p. 126 states that Judge Crabitte is "an American judge in Cairo mixed tribunals who, after a long experience of Moslem law as administered in Egyptian capital, has favored the thesis the Muhammad was probably the greatest champion of women's rights the world has ever seen."

<sup>2</sup> Bertram Thomas, *The Arabs*, *op. cit.*, p. 56.

be allowed to purchase their liberty by the wages of their service; and that in case the unfortunate beings had no present means of gain, and wanted to earn in some other employment enough for that purpose, they should be allowed to leave their masters on an agreement to that effect. He also provided that sums should be advanced to the slaves from the public treasury to purchase their liberty. In certain contingencies, it was provided that the slave should become enfranchised without the interference and even against the will of his master.<sup>1</sup>

Is Muhammad deserving of credit for the emancipation of slaves in our culture? It is true that Pauline Christianity had accepted the institution of slavery as a matter of fact, and it could be maintained that in the diffusion of culture Muhammad's more liberal attitude had its effect on forthcoming generations. However, it would seem far more reasonable to believe that such changes are merely results of the total trend toward enlightenment which the Moslems may, or may not, have accelerated. The Moslem, despite the injunction of the Prophet, continued to practice slavery -- just another example of theory vs. practice.

Other examples of progressive social thought may be cited:

Islam gave to the people a code, which however archaic in its simplicity, was capable of the greatest development in accordance with the progress of material civilization. It conferred on the State a flexible constitution, based on a just appreciation of human rights and human duty. It limited taxation, it made man equal in the eye of the law, it consecrated the principles of self-government.<sup>2</sup>

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<sup>1</sup>Amir 'Ali, The Spirit of Islam, op. cit., pp. 262-263.

<sup>2</sup>Ibid., p. 277.

As in government, so in religion Muhammad showed traces of liberalism.

The prophet himself had allowed his foreign disciples to say their prayers in their own tongue. He had expressly permitted others to recite the Koran in their respective dialects; and had declared that it was revealed in seven languages. In the earliest ages of Islam there was a consensus of opinion that devotion without understanding was useless. Imam Abu Hanifa considered the recitation of the namaz and also of the Khatba or sermon, lawful and valid in any language. The disciples of Abu Hanifa, Abu Yusuf and Mohammed, have accepted the doctrine of their master with a certain variation. They hold that when a person does not know Arabic, he may validly offer his devotions in any other language.<sup>1</sup>

This presents a contrast to the prolonged practice of the Christian (Roman Catholic) Church with its insistence upon the use of a language which is unintelligible to the common people, but does not imply any particular connection between the reformers and the Moslems.

The only specific facet of culture in which we can be sure (without doubt) of direct influence is the religion itself, and that element in our society is very negligible. Nevertheless, it does exist: a religious sect known as the Faha'i Cause, an outgrowth of Islam which has somewhat remarkably established itself in the United States as in other countries of the world since the last half of the nineteenth century. Reports of the activities of this group mention not only such cities as Chicago, New York, Boston, and Washington, D.C., but Seattle and Portland, our next-door neighbors. It has seemingly

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<sup>1</sup>Ibid., p. 186.

touched a responsive chord in many idealistically-minded Americans by its great emphasis upon its cardinal principle of the Oneness of Man-kind.<sup>1</sup>

The war of succession followed the death of Muhammad. Since he left no son and had failed to provide authoritative instructions for the appointment of a successor, Islam was destined for serious trouble. The idea of a community ruled by instruction from the Divine Being communicated through an appointed channel would require the constant presence of a Prophet. Muhammad left one living daughter, Fatimah, with her two infant sons. Her husband, Ali, Muhammad's cousin, had been an early convert, and had displayed bravery in the field but was set aside in favor of Abu Bakr, the Prophet's constant companion and the father of Muhammad's youngest wife. Abu Bakr's reign was short, and following his natural death Omar<sup>2</sup> succeeded. After his assassination the line continued with Othman, who had married two of Muhammad's daughters. Othman was put to death by rebels who promptly put Ali in his place. This gave rise to civil wars, to parties who claimed to avenge Othman's death, and even to the party which enthroned Ali. Ali's assassination terminated a brief and turbulent reign. The hereditary principle was established by his successor, and the hereditary system, once established, created the natural desire

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<sup>1</sup> Baha'i World, A Biennial International Record, Vol. II, (New York: Baha'i Publishing Committee, 1928), pp. 1-6, 19-26.

<sup>2</sup> For sake of clarity Omar instead of Umar is used.

for a dynasty which would represent the line of the Prophet rather than the line of one of the Prophet's adversaries as the present incumbent represented. Claimants to the Prophet's line were constantly coming forward. The advent of the hereditary principle brought difficulty, for, according to the law of inheritance presented in the Koran, in the absence of a son the parents of the deceased or their representatives inherit; a daughter receives only a stipulated share. Therefore Fatimah would not be an heiress; her husband was excluded because his father, though Muhammad's uncle, was not a believer and an unbeliever does not inherit from a believer; therefore the heir was the Prophet's believing uncle, Abbas, who had originally opposed Muhammad -- until the Prophet's success was evident -- and then Abbas was converted. This represents the reasoning supporting the claim of the Abbasids who dethroned the first hereditary dynasty (the Umayyads)<sup>1</sup> and established their own. It is to this dynasty that the Ottoman Sultans fixed their claim of succession. The 'Abbasid dynasty lasted (in theory) from 750 to 1517,<sup>2</sup> when Egypt was conquered by Sultan Selim I and the last of the 'Abbasids is supposed to have transmitted the claim. This dynastic tug of war gave rise to two parties or sects: the Sunni, representing the 'Abbasids (and hence

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<sup>1</sup>Often spelled Umayyad. The above form Umayyad is chosen for the purpose of clarity.

<sup>2</sup>William L. Langler, An Encyclopedia of World History (Boston: Houghton Mifflin Company, 1940), p. 188. Langler gives 750-1100 in his heading and includes the date 1258 and immediately follows with the dates 750-1258.

the Ottoman Sultan), and the SHI'ah, representing the party of the Prophet's house.

Muhammad died in 632, and the expansion of Islam commenced in 633 and proceeded into Syria and Persia. The contest between the Byzantine and Persian Empires had enervated the forces opposing Islam. The destiny of the Byzantine Empire in Palestine and Syria was sealed. Damascus was taken, likewise Aleppo and Antioch, and Jerusalem (638); the seacoast was occupied, and Mesopotamia (639-641); and Omar thus had established the supremacy of the Arabs over taxpaying subjects. By 635 Persia was in the Arab's pocket. 639 signalled the invasion of Egypt, and in 642 Egypt had succumbed with a guarantee to the conqueror of religious freedom and personal and property security upon the payment of tribute. Omar outlived this conquest by two years. Alexandria revolted and fell; the Bedouins took the rest of Egypt and penetrated as far as Tripoli. There had been expeditions against Constantinople; in the East the valley of the Indus was invaded, the Oxus crossed, and Sararkand subjected by 676. North Africa from Egypt to the eastern boundary of Algiers was in Moslem hands and consolidated.

The Arab, despite his domestic troubles, rebellions, his sectarian feuds, was finally launched on his seventh century version of the blitzkrieg. Carthage fell (698) and the Berbers then became allies, and the rest of North Africa to the Atlantic was soon added to the Empire. In the east Bokhara was taken (709), and there are reports that China was invaded and the invaders reached Kashgar (c. 713); Sind and part of the Punjab were taken (708-715).

To the west Spain was held by the Germanic barbarians, Goths or Visigoths, who in their dynastic difficulties resembled their Islamic rivals. Added to the Visigothic trouble was the dislike of the Iberian populace, another unyielding stiff-necked proud people, for their overlords. Spain was ripe for picking. The conquest of Spain commenced in 711 by a mixed Arab and Berber force, and Roderick, the Goth was defeated. Tariq's advance into Spain was rapid; Cordova, Toledo, Granada, Malaga, Bivira, fell. Carozna, Seville, and Merida capitulated by 713, and Saragoosa, though offering her famous resistance, was doomed. Resistance continued only in the Asturian mountains. In 720 the Pyrennes were crossed, but the Moslem army encountered defeat at Toulouse. Narbonne was taken; then came the battle of Tours, and the tide was turned, though the Moslem raids into France continued for at least two decades. This represents the accomplishments of the Omayyad Caliphate under which Islam, the empire of the Caliphs, reached its greatest expansion. If we accept the date of 732 for the Battle of Tours,<sup>1</sup> exactly one hundred years had passed since the death of Muhammad and in this one century Islam, a religion which in turn became a social system, then a state, but which never became a church had accomplished an empire. The Teutonic clans had in their day played havoc with the Roman Empire, and another group of so called "barbarians," the Arabs, had now laid the Persian Empire low and had persistently hammered at the Byzantine, shaking it to its very roots.

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<sup>1</sup> Ibid., p. gives the date as 738.

The idea is herewith submitted that to a large degree the motivation for the Islamic-Arab conquest has been either overlooked or falsely interpreted by the bulk of Westerners. Historical events are grounded in some cause; we see effect and often through prejudice or lethargy accept common interpretations. Our prejudices, our wishful thinking, our tendency to glorify what we think of as the lesser of two evils, lead us to these premises. The Teutonic tribes within the Roman Empire may be cited as a case. Some simply allowed them to settle within her own border to avoid a nuisance, and troubles started. Alexander the Great's enterprise against the Persians is another glowing example. We glorify Alexander, a Macedonian; yet the average American school boy has little real appreciation of a Greek. Do we have a more common bond with the Greeks and with Alexander than with the Persians? If we rest the case on the ground of our Western adherence to monotheistic ideas our sympathies should, necessarily, be with the Persian Zoroastrians who abhorred idols and not with the Greek polytheists. We are, unfortunately, prone to pick the winning side and comfortably mount the band wagon. We love a winner. We applaud the successful, whether the victor is right or wrong.

It is a commonplace that Islam offered the vanquished a choice of the Koran or death. Recorded history does not bear out this intellectual invention. Of course there are instances of injustice, of assassinations, of violence, but these do not constitute the theory behind the movement and represent either the whim of individuals or in some cases the survival of the fittest.



It appears the Muhammad had considerable respect for the "people of the Book" -- Jews, Christians, and Sabaeans. At one time Muhammad had accepted Saturday as the Islamic day of rest, and the Moslem at that time turned toward Jerusalem, and the Prophet followed Jewish tradition regarding pork. Since the Jews of Medina would not give him a nodicum of recognition as a Prophet, he simply decreed Friday as the holy day and turned his followers' faces toward Mecca, but he retained the dietary admonition regarding pork. Arabia has a very hot climate. His attitude toward "peoples of the Book" is reflected in one of the suras:

Fight those who have been given the Book,  
humiliated, they offer tribute.<sup>1</sup>

This places Jew and Christian as next of kin, religiously speaking; it regards the Jew and Christian as desirable for taxing purposes, a source of revenue, and gives to the followers of Muhammad the place of superiority. In all fairness it should be said that revenue for the maintenance of the state had necessarily to come from someplace since Arabia did not have a Kentucky-hills depository of gold.

The original conquests were nothing more than raids, and the principle of the raid appears to have been a continued technique of these people. Their use of a military technique well adapted to the topography of their section of earth contributed largely to their

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<sup>1</sup>Hitti, *op. cit.*, p. 144. quotes from the Sura 9:29 as "Make war . . . upon such of those to whom the Book has been given until they pay tribute offered on the back of their hands, in a state of humiliation."

success; this together with their efficiency in the use of cavalry and camelry which the Roman had failed to develop.

It is apparent that the beginnings of the Islamic conquest were not the product of cool and deliberate calculation; neither were they the product of the design of the early successors of Muhammad. The Prophet had laid down the principle of brotherhood, putting an end (he hoped) to the innumerable inter-Arab feuds. The Bedouin needed an outlet for his fundamental behavior pattern; Islam provided the vehicle in religious fervor and in its ultimatum to be converted or pay tax; the land since it provided little furnished the economic necessity of raids upon the more fertile adjacent territory. After the first conquests, success being theirs, the world was their oyster. Victory after victory spurred them onward and then systematic campaigning commenced; hence the beginnings are to be found in the immediate circumstances. This is again a case of a military machine that got out of hand. The exhausting conflict between Byzantine and Persian empires; tax-excruciating populace of both; the questionable loyalty of their citizens; the persecutions effected by the leaders of the Orthodox Church; the endless feuds between the factions of the Christian hierarchy; the attraction Islam offered the Berbers; the frictions between Visigoths and Spanish-Romans in the Iberian peninsula, together with religious hatred existing between Visigoths on the one hand and on the other the conquered Spanish-Romans; the Jewish element in the Spanish territory; the virility, fervor, and freshness of the rejuvenated Arab stock -- all contribute to the stage setting for the enactment of the drama. The rich treasures awaiting the conquering Islamic "horde" were the goal.

## CHAPTER III

### ARCHITECTURE

#### Principles of Design

The art of the Moslem begins in the mosque and derives its spiritual complex from Arabia, but its texture and the materials with which it has been fashioned are from various lands where art had been and was a vital force. To trace back the origins of the art of the various individual minority groups within Islam would be not only tedious but fruitless, since more may be derived from a consideration of mature products, either of the various cultures which accrued to the Moslem, or of that which is called Moslem.<sup>1</sup>

The only justification for terming the totality of these various fusions "Moslem" or "Islamic" can be found in applying the same criterion which we have applied to our own inheritance. Generally we label the orders of the art of the Middle Ages with the creeds

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<sup>1</sup>In art and architecture, in philosophy, in medicine, in science and literature, in government, the original Arabians had nothing to teach and everything to learn . . . . In Ctesiphon, Edessa, Nisibis, Damascus, Jerusalem and Alexandria they viewed, admired, and copied the work of the architect, the artisan, the jeweler and the manufacturer." See Hitti, op. cit., p. 174.

that shaped them, notwithstanding the various elements contained.<sup>1</sup>

The beginnings have always been from small to large, from puritanical frugality to luxurious extravagances.

It is commonly accepted among writers that the early mosques were bare edifices built solely for prayer, devoid of furniture and of architectural pretensions, without minbar or mibrāb. There is a story current that when the first minbar was installed in an Egyptian mosque the Caliph ordered its destruction, since it would serve to elevate the teacher above the brotherhood. The first mibrābs (orientating niches) were seriously questioned since they brought to mind the Christian apse (in all probability its point of derivation). Yet these two sharply questioned features became, with more prosperous and sophisticated generations, the chief ornaments of the interior of the buildings.

Because of geographical expansion accomplished in a remarkably short time and to absence of unity, Moslem architecture and art is observable in various manifestations; it expresses itself differently in various locales, revealing that it is affected by local traditions, local workmen, local materials, and local tastes.

Having originally an architecture requiring little, the Moslem did exactly as his predecessors had done; a culturally impotent

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<sup>1</sup> In the Middle Ages art was first and foremost a religious expression. We instinctively identify the great orders of medieval art with the creeds that shaped them, for however clearly certain elements in their composition and technical procedure may unite them in common ancestry, they were moulded into distinct entities by religious influences. A. H. Christie, Islamic Minor Arts and Their Influence upon European Work is quoted in Thomas Bertram, The Arabs, op. cit., p. 141.

people conquered and they adapted, borrowed, or took what was at hand.<sup>1</sup> A case in point is Hagia Sophia. When this edifice came into Moslem hands, conversion was effected by whitewashing the mosaics in which figures were represented, laying mats over floors revealing the same, constructing the Mihrab, and minarets. These changes betray the essential requirements of Islam despite the heavy encrusting and exquisiteness of ornamentation found in the minor arts. Their plan for mosque and palace was simple, but their treatment of surface adornment was of significance.

Moslem architecture reveals diverse origins, and yet it appears to present an individuality of its own which sets it apart from the work of the local schools, those selfsame schools which were so instrumental in bringing it into being. Since in the early years the buildings were chiefly mosques and palaces and in later years of prosperity the mosques (and other religious buildings) continued to be typical Moslem buildings and though differing in various localities Moslem architecture retained its principal features, it can be presumed that

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<sup>1</sup>"Indeed, as they (the Arabs) swept across the civilized world of their time they carried with them a suspicious attitude towards art if not an aversion to it, for was not the graven image anathema and a decoration in the likeness of man or bird or beast an affront to the true faith, did not silken apparel and vessels of gold, proper enough for the mansions of the hereafter, come under religious interdiction here below?"

"Now in the lands the Arabs overran they came upon arts highly flourishing, arts with a long local history going back to the civilizations of the Nile and Euphrates . . . . But a still greater wealth than these had fallen to the Arabs, namely, the inherited artistic traditions at the back of such monuments -- the accumulated technical skill of the conquered peoples." Ibid., pp. 142-143.

the factor which fused the various modes into one "style" was the dogma-  
Islam. The "style" is difficult to describe owing to the variations  
found within the countries captured, for nowhere did the followers of  
Muhammad carry an architectural "style" with them; they simply appro-  
priated and set their unique forms of decoration and ornamentation  
upon the existing mode. The mosque is of far more architectural  
importance internally than externally.

Moslem architecture may be divided into various categories:

1. Arab, 2. Syrian, 3. Persian, 4. Egyptian, 5. Spanish or Hispano-  
Moorish, 6. Indian, 7. Turkish, and 8. Mogul. It is imperative to  
bear in mind that Byzantine architecture was founded upon late Persian  
and Roman building and that Moslem art derived its original inspiration  
from the East and Near East -- the rival states of that century, Byzan-  
tium and Persia.

A majority of writers point to Muhammad's mosque at Medina as  
the "prototype" of all others. This appears to have been a rather  
primitive building, and it would seem to be a safer conjecture that  
this particular mosque was the "prototype" of mosques of the early  
years of Islam. It is certain that there is a similarity between the  
mosques of the very early Islamic period and Muhammad's mosque in that  
each consisted of a square court surrounded by colonnades. The lower  
part was of stone, the upper of sun-baked clay brick. There was no  
roof except where the Prophet led prayer; in all probability that  
roof was of palm branches and mud. The mosque of the year 622 had  
its qiblah (direction of prayer) in the north wall toward Jerusalem,  
but by 624 it shifted to the south wall towards Mecca. The mihrab

comes at a later date. The Prophet is supposed to have spoken to his followers from a palm trunk, later from a pulpit of three steps made of tamarisk wood,<sup>1</sup> the forerunner of the minbar which appears to have been a feature of the mosque 'Amr at Ruscāṭ (Cairo) in 642. The call to prayer appears to have been established during the time of Muhammad, and in order not to duplicate the Christian association with the bell, in order to avoid use of rattle, hammer, and the Jewish trumpets, an old faithful follower mounted the roof and summoned the believer to prayer.<sup>2</sup>

It is to be noted that the essential internal features are already present in the early mosque.

By 639 the Moslems had built a mosque at Kūfah in Mesopotamia and had borrowed marble columns from a former Persian King's palace at Hīrah.

The 'Amr at Ruscāṭ (Cairo 642) building was square, and beside the minbar, mentioned above, another feature appeared here, the maqsurah<sup>3</sup> (screen) which served to separate or protect the imān from

<sup>1</sup>Caetani, Annali, op. cit., Vol. II, pp. 213-214.

<sup>2</sup>Hargollouth, Mohammed and the Rise of Islam (London: G.P. Putnam's Sons, 1906), p. 222. Also see, Caetani, Annali, Vol. I, p. 457.

<sup>3</sup>Hitti regards the maqsurah as "a profane innovation" and ascribes it to Mu'awiyah. Hitti, op.cit., p. 261.

the congregation.<sup>1</sup> Minarets<sup>2</sup> appear toward the end of the century as well as the mīrāb, indicating the qiblah, a little later. Further innovations came in the form of colonnades (liwān) which afforded shelter and space for the ablution, these colonnades surrounding the court (ṣayf). Within a century Islam had evolved all of the ritualistic requirements of the mosque.

The origin of these mosque features has been pointed out:<sup>3</sup>

<u>ṣayf</u>	(open court)	from the atrium of the early Christian church
<u>liwān</u>	(colonnades)	from the church proper
<u>maqṣurāh</u> <sup>4</sup>	(screen)	from the chancel-screen

<sup>1</sup> It is to be understood that these features, minbar, mīrāb and maqṣurāh, did not appear in the mosque at the very early date of its building. This will be detailed when each building is discussed in its turn.

<sup>2</sup> The function of these towers is to provide a place for the muḥdīn (muezzin) when he announces the call to prayer. The Arabic is manarah, the Persian minar from which in all probability minaret is derived.

It is thought that minarets as towers are not earlier than the twelfth century A.D.; however opinions differ as is revealed by the following:

Hitti states, "Syria was therefore the original home of the minaret. Here the minaret took the form of the native watch tower or of its successor the church tower, which was square.

One of the earliest authorities to mention a minaret on the Umayyad Mosque in Damascus explicitly states that it had been a watch tower (mīṭar) belonging to the Cathedral of St. John. In Egypt the minaret is said to have been introduced by a governor of Mu'āwiyah who provided each of the four corners of the Mosque of 'Amr in al-Fusṭāṭ with one. In al-'Iraq the Basrah Mosque was provided by Mu'āwiyah's governor, Ziyād, with a stone minaret. But it was again the famous Umayyad builder, al-Walīd, who was probably responsible for many minarets in Syria and al-Hijās. Al-Walīd's governor, 'Umar, introduced the new feature into the Madīnah Mosque. After his time minarets became more and more numerous." Hitti, op. cit., p. 262.

<sup>3</sup> Encyclopedia of Islam, Article "Architecture."

<sup>4</sup> Hitti regards the maqṣurāh as "a profane innovation" and ascribes it to Mu'āwiyah. Hitti, op. cit., p. 261.



minaret<sup>1</sup>from the church tower (now  
discounted)mihrab<sup>2</sup>(prayer niche  
indicating the  
direction)

from the apse

Selected examples from several classifications of Moslem architecture will now be considered, as nearly as possible, in the order of their entrance into the Islamic sphere.

Outstanding monuments have been selected. Pertinent facts are given and architectural features mentioned, especially as those features make their appearance in the so-called Moslem "style." These descriptions are, of necessity, brief.

Following the presentation of these data is a summary of specific features, such as dome and arch, since these are the external architectural features commonly fixed upon as designating the "style." It has already been stated that the internal characteristics of the mosque are of more importance than externals.

### Arab Moslem Architecture<sup>3</sup>

The Great Mosque, Mecca. This is a rectangle five hundred and seventy feet by three hundred and eighty feet. It has arcades, pointed

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<sup>1</sup> Ibid., p. 262.

<sup>2</sup> Hitti agrees that this feature was a later addition and that it was taken over from the church. Credit for this innovation is sometimes given Al-Walid and his governor and others credit Mu'awiyah. Hitti opines that the Medinah Mosque was the first to receive the mihrab.

<sup>3</sup> "If there ever was an indigenous Arabian architecture it could have existed only in al-Yaman, concerning which our present state of

arches, and outer inclosing wall, many gateways, and numerous minarets; it contains the al-Ka'bah toward which the mihrāb of all mosques must point. It has been altered and enlarged, and the quadrangle has been rebuilt various times. Since the plan of this mosque was never repeated, its plan is not considered as contributing to or of influence. Since the place of orientation would be the Ka'bah placed in the center of this mosque, the same number of columns would be present on each side; and since the mihrāb in other mosques is symbolic of the Ka'bah, the plan of the Great Mosque of Mecca would vary from that of other mosques. Medina and Mecca can represent Arab architecture.

According to Hitti<sup>1</sup> the first mosque to be constructed in conquered territory was an open space, simply enclosed or fenced with

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investigation and exploration is as yet unable to afford sufficient data. Even then South Arabian art could not have played much of a part in the northern life of the peninsula . . . . . The inhabitants of the rare oasis had, as he still has today, a rude architecture represented by buildings of sun-dried brick covered with flat roofs of palm wood and clay, devoid of decoration and ornament and suited only to the simplest needs. Even the Hijāz national shrine, al-Ka'bah, was nothing but a primitive cube-like structure with no roof . . . . . The rock-cut tombs of Madā'in Sālih (ancient al-Hijr), the picturesque chambers carved in the multi-coloured sand cliffs of Petra, the colonnaded and arched palaces and sanctuaries of Palmyra, such churches as the magnificent one rebuilt by the Ghassānid phylarch al-Mundhir ibn al-Harith on the grave of the martyred St. Sergius at al-Ruq'fah -- all these indeed reveal a high order of artistic technique, but it is a technique borrowed from Hellenized Egypt and Syria and is not characteristically Arabian." Hitti, op. cit., p. 256.

<sup>1</sup> Ibid., p. 260.

roads. This was the MOSQUE OF al-BASRAH built in 637 or 338. At a later date clay and sun-dried brick were used in its rebuilding.

Concerning al-Kifāh,<sup>1</sup> Hitti has little to say, other than it was established as a military camp with a mosque and that it was essentially the same as Basrah even in its later use of clay and sun-dried bricks. He does mention that Kifāh was rebuilt with "a colonnade following the Sāsānid model."

Mosque at Kifāh (632). Here we have an example of the use of alien materials, marble columns, from buildings of Persian kings, supporting a roof, the ceiling decorated in the Byzantine church style. The sahn is enclosed by a ditch. Sometime between 661-690 (Caliphate of Mu'āwiyah I) this mosque was rebuilt by Persian workmen, not Moslems. The south side (place of prayer) had five aisles and the other three sides of the court had two aisles each, the aisles being built of solid stone drums bedded on molten lead. This mosque followed Muhammad's plan at Mecca with some fidelity, in that it had a court surrounded by a wall and had a flat roof supported by pillars. It was a prototype for the colonnaded mosque of the early Moslem centuries. It is an early example of court surrounded by cloisters. Mecca and Madīnah simply possessed enclosing walls.

### Syrian Moslem Architecture

Mosque al-Aqsa 691 A.D. (al-Aksah) Jerusalem. This mosque, in Jerusalem, was considered sacred by Jews, Christians, and Moslems.

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<sup>1</sup>Ibid., p. 280.

It is thought to be the site of Justinian I's basilica to the Virgin, destroyed by Chosroes II (614) but rebuilt, for here it was that Caliph Omar (634-644) made his devotion at the submission of Jerusalem. It is thought that the Justinian church possessed nave and aisles, besides double aisles added later and then converted into a mosque by 'Abd-al-Malik (685-705), who enlarged and beautified it, giving it the form of a court enclosed by porticoes. Having suffered from earthquake upon its completion (602) then from the collapse of the east and west sides, it was rebuilt. During the Caliphate of al-Mahdi (775-785) the building was almost abandoned. However, the plan was changed; it was shortened in length and increased in breadth. It preserves that form at present.

The changes made by Mahdi are supposed to have consisted in the construction of the domed transept, at the expense of the nave and aisles, and the addition of four aisles.<sup>1</sup>

This edifice has had a checkered career, as mosque, royal residence, church, stable, etc. Saladin restored it, (1187) adding mosaics from Constantinople, and the mihrab. There are various theories advanced concerning the antecedents of this mosque and theories concerning its Corinthian capitals.<sup>2</sup> There are several important points in connection with al-Aqsa: its T-shaped plan, the

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<sup>1</sup>C. F. Rivoira, Moslem Architecture (London: Humphrey Milford, 1918), p. 11.

<sup>2</sup>Ibid., p. 22. For a detailed exposition of theories see pp. 11-23.

domes, the capitals showing reliance on other than Moslem craftsmen, and its pointed arches. (Fig. 2, p. 67) The dome and its plan, Rivoira points out, "did not belong to any earlier mosque."

Dome of the Rock, or Qubbat al-Sakrah, or incorrectly called Mosque of Omar, Jerusalem. On this site have stood the Altar of David, the Temple of Solomon, the Temple erected after the Jewish exile, the Temple of Herod, and Hadrian's Temple of Jupiter. The rock is supposed to have been Muhammad's stopping place on his journey to the heaven of heavens. There is also a legend to the effect that the rock contains the footprint of Jesus. Then there is the belief that on this spot Omar erected a crude wooden mosque about 638. There are, then, biblical associations with this site, besides the fact that for Islam it was the first quiblah. Despite the tendency shown by those writers favorably disposed toward Islam who endeavor to sanctify the spot with Islamic tradition, the real motivation for the building of the Dome of The Rock is to be found in the fretful, rival-ridden disposition of the early leaders of Islam alluded to in a former chapter. The Mosque was not built by Omar but by 'Abd al-Malik,<sup>1</sup> who wished to

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<sup>1</sup>"In 691 'Abd-al-Malik erected in Jerusalem the magnificent Dome of the Rock (Qubbat al-Sakrah), wrongly styled by Europeans 'the Mosque of Omar', in order to divert thither the pilgrimage from Bakkah which was held by his rival Ibn-al-Zubayr. That 'Abd-al-Malik was the builder is attested by the Kufic inscription still preserved round the dome. Over a century later the structure underwent restoration by the 'Abbasid Caliph al-Ma'mun (813-33), who unscrupulously substituted his own name for that of 'Abd-al-Malik but inadvertently forgot to change the date. (The inscription in its present form runs as follows: Hath built this dome the servant of God 'Abd (Ullah) al-Imam al-Ma'mun commander of the believers in the year two and seventy. May God accept of him and favour him! Amen.)



Fig. 1. Mosque al-azhar Cairo IX century

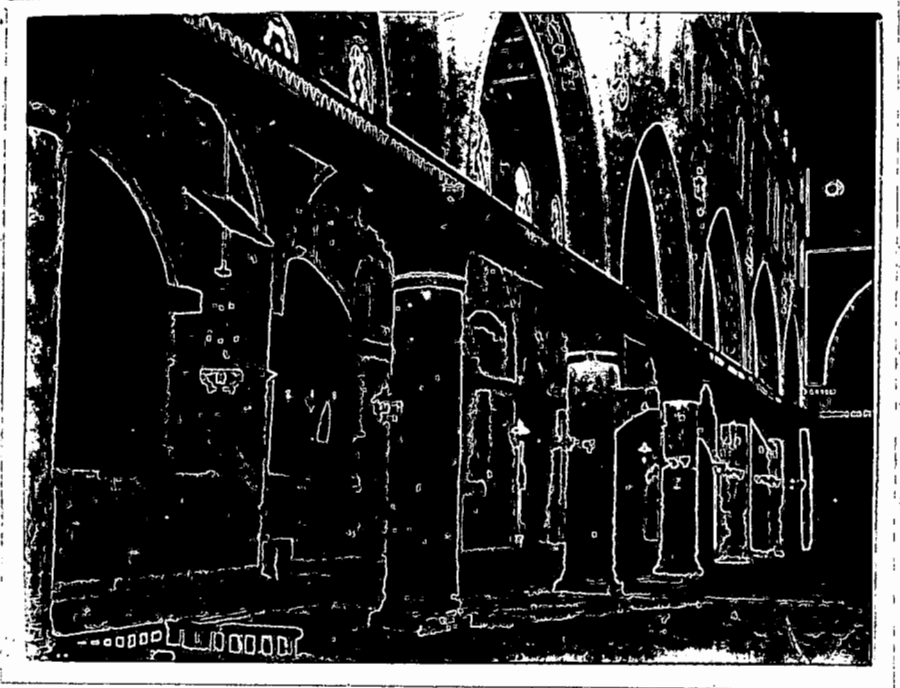


Fig. 2. Mosque al-Aqsa Jerusalem VII-VIII centuries  
One of the colonnades of the central nave

rival the Church of the Holy Sepulchre and to outshine the Mosque at Mecca and thereby divert pilgrimage from Mecca to Jerusalem, since the Mosque at Mecca was in the hands of an anti-caliph; hence the motivation for the building of the Dome of The Rock is to be found in political and dynastic quarrels. There are problems of greater import than this to be considered. Aligned with the Dome of The Rock, orientated on the same axis, stood the Mosque al-Magga. Commenced in 687, it was completed between 688 and 691 (the latter date appears to be preferred),<sup>1</sup> and upon it were employed the services of workmen drawn from all parts of the provinces. All writers on the subject agree concerning the earliest description of Ibn-al-Baqih (c.903) that the Dome of The Rock possessed four entrances, each entrance with its marble porch, and each entrance possessing four doors. It had fifty-six windows, twelve piers, and thirty columns. Briggs<sup>2</sup> quotes al-Maqdisi (c.985) to the effect

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The 'Abbasid architect set close together the letters of the new name, crowding them into the narrow space originally occupied by the name of 'Abd-al-Malik. Close by the Dome and in the southern section of the sacred area 'Abd-al-Malik erected another mosque, possibly on the site of an earlier church. Local usage designates this mosque al-Maqdis al-Aqsa (the further mosque), but the term is also used in a more general sense to include the whole collection of sacred buildings on that area. Al-Haram al-Sharif (the noble sanctuary) is another name for this group, only less sacred than the two Harams of Makkah and al-Madinah." Hitti, *op. cit.*, pp. 220-221.

<sup>1</sup>"Henceforth the history of Arabia begins to deal more with the effect of the outer world on the peninsula and less with the effect of the peninsula on the outer world." *Ibid.*, p. 193.

<sup>2</sup>H. S. Briggs, Mahamadan Architecture in Egypt and Palestine (Oxford, 1924), p. 37.

that the Dome was modelled after the cathedral of Dugra, the dome having an inner and an outer cupola, the outer being gilded. The aisles were covered with sheet lead and faced with marble. The plan is octagonal with three concentric parts; the outer aisle has columns which some think come from the Temple of Jupiter; these columns have Byzantine capitals which support horizontal beams and circular arches. The inner aisle was formed by columns which are used to support the central dome.

The building has been subject to various changes, due to earthquakes, damage to walls, capture of Jerusalem in 1099 by Crusaders, conversion to church and reconversion to mosque, but in the main it has preserved its original form. Salaymān I (The Magnificent) (1520-1566) in 1561 sheathed the building externally with Persian tile and internally with marble. Despite the restorations and additions, some of the original mosaics are still to be found. (Fig. 3, p. 70)

Here we have a departure from the alleged "prototype." There is an octagonal outer wall; each side of the building is approximately sixty-nine feet; each outer face contains seven blank arches, five of which are pierced by large round-headed windows (or four windows and a door); each of the four entrances is protected by a porch. The central part or nave is approximately sixty feet wide. The inner ring carries the dome<sup>1</sup> raised upon a low and simple drum. The columns are assumed to have been taken from Roman buildings, the capitals are of

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<sup>1</sup>"From a church in Ba'labakk al-Walid removed a dome of gilded brass which he set over the dome of his father's mosque in Jerusalem." Hitti, op. cit., p. 221.



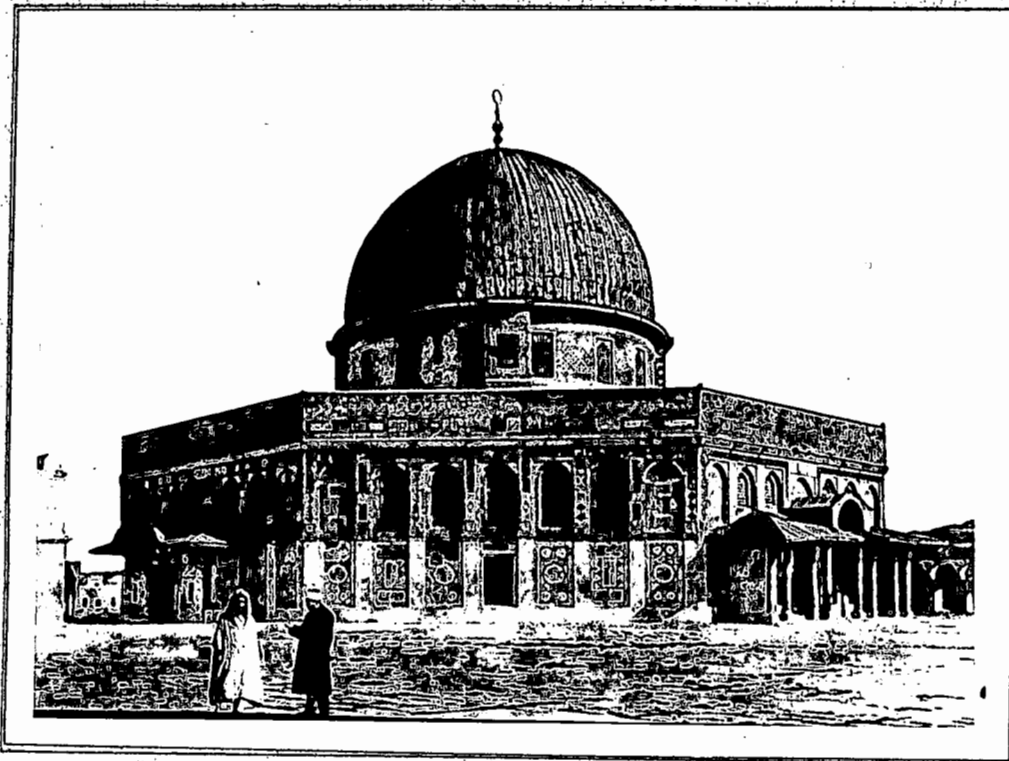


Fig. 3. Mosque Gubbat al-Sakhrah, or Dome of The Rock  
Jerusalem

varied style; capitals, shafts, and bases are of alien origin. Mosaics, tile, marble, and green and gold stucco are employed as well as plaster and tinted glass.

There is not one feature that is original. It can be argued that the Dome of The Rock is simply a Roman or Byzantine type. The dome or "annular rotunda" had been used as a tomb or shelter for venerated sites by both Byzantine and Roman, and Strzykowski in his Origin of Christian Church Art<sup>1</sup> suggests that the Eastern Dome had its inception in Asia Minor or further east, being transmitted to Byzantium through Armenia, and from Byzantium to the Balkans and Russia, because of its patronage by the Greek church. Domed churches, octagonal plans, and a rotunda within an octagon all existed in Southwestern Asia before the Dome of The Rock. The semicircular arches with their timber ties are not Moslem contributions, and neither are mosaics.

The interesting feature in this monument is the adoption of an architectural scheme and the adoption of the Roman and (or) Byzantine-Persian type in an early Islamic edifice.

The Great Mosque, Damascus. This occupied the site of a Roman temple, of the sun or Jupiter, transformed into a church by either Theodosius I (378-395) or Theodosius II (408-450) and converted into a mosque by al-Walid (705-715) (son and successor of 'Abd-al-Malik).<sup>2</sup>

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<sup>1</sup> J. Strzykowski, Origin of Christian Church Art (Oxford, 1925), pp. 27 and 64.

<sup>2</sup> "The greatest Umayyad builder, however, was al-Walid, son of 'Abd-al-Malik, whose rule was one of comparative peace and opulence.

In 636 when Damascus became Moslem territory the building (formerly the basilica dedicated to St. John, the Baptist) was divided between Christian and Moslem, but in 705 al-Walid took complete possession of the edifice. We can only speculate as to whether he rebuilt, altered, or simply redecorated it.

It is a rectangle approximately five hundred and thirty feet by three hundred and twenty feet, with square towers at the angles. Less than half of the enclosed area, measuring approximately four hundred and fifty-two feet by one hundred and twenty-five feet, is utilized by the part of the building devoted to worship. This is divided into three aisles running east and west. These aisles are of equal breadth. The area is divided into equal parts. Each of these halves is divided by eleven arches, springing from columns which stand on pedestals; these arches carry a second tier of smaller arches

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So great was this caliph's penchant for building that during his reign whenever people in Damascus met together fine buildings formed the chief topic of conversation, as cookery and the fair sex did under Sulaymān, and religion and the Koran under 'Umar ibn-'Abd-al-'Aziz. This al-Walid, who lived only forty years, enlarged and beautified the great mosque of Makkah, rebuilt that of al-Madinah, erected in Syria a number of schools and places of worship and endowed institutions for the lepers, the lame and the blind. He was perhaps the first ruler in medieval times to build hospitals for persons with chronic diseases, and the many lazar houses which later grew up in the West followed the Moslem precedent. From a church in Be'lsabak al-Walid removed a dome of gilded brass which he set over the dome of his father's mosque in Jerusalem. But his greatest accomplishment was the conversion in Damascus of the site of the Cathedral of St. John the Baptist, which he seized from his Christian subjects, into one of the sublimest places of worship in the world. This Umayyad Mosque is still considered the fourth holiest sanctuary of Islam, after the three Korans of Makkah, al-Madinah and Jerusalem. Before al-Walid the Moslems shared a part of the sacred enclosure with its Christian owners." Hitti, op. cit., p. 221.

which spring from squat columns which in turn support the beams of the roof. (Figs. 4, 5, p. 74)

The remainder of the area is a court with covered walks which act as shelter.

The transept has four piers supporting the arches carrying a central dome of some forty-three feet in diameter. The drum is passed from square into octagon by the employment of four niches which are partly recessed and partly projecting from the wall. This drum is lighted, at the top, by windows; below the windows runs a gallery. (Fig. 6, p. 75) The dome is built of blocks of tufa, is built in rings, and is pierced by openings. The pendentives are of limestone.

The transept, on either side of the dome, has a flat roof; the mihrab is located in the south transept.

It is thought, by some writers, that the Damascus mihrab was the first to be constructed in the form of a niche. This is debatable, extremely so, since the discussions do not center about the mihrab but about the maqsurah.

The facade was from the beginning possessed of arcades having arches of horseshoe form, which are supported by piers. The arches had doors.

The columns are from other buildings, often forced to fit by aid of pedestals.

The capitals are alien, some are Corinthian, of Graeco-Roman period; others are cubical or funnel shaped, with surfaces occupied by leaves; some are Corinthianesque capitals with palm leaves; some are capitals of composite type.



Fig. 4. Mosque of Walid Damascus VIII century  
One of the colonnades of the central nave

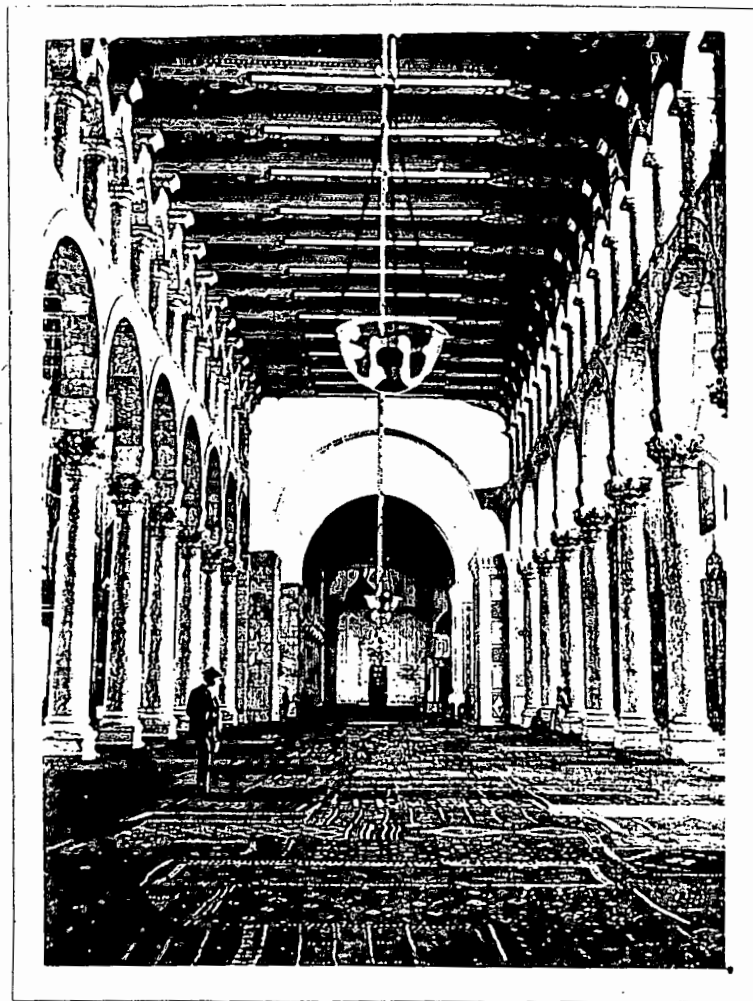


Fig. 5. Mosque of Walid Damascus VIII century  
Central nave

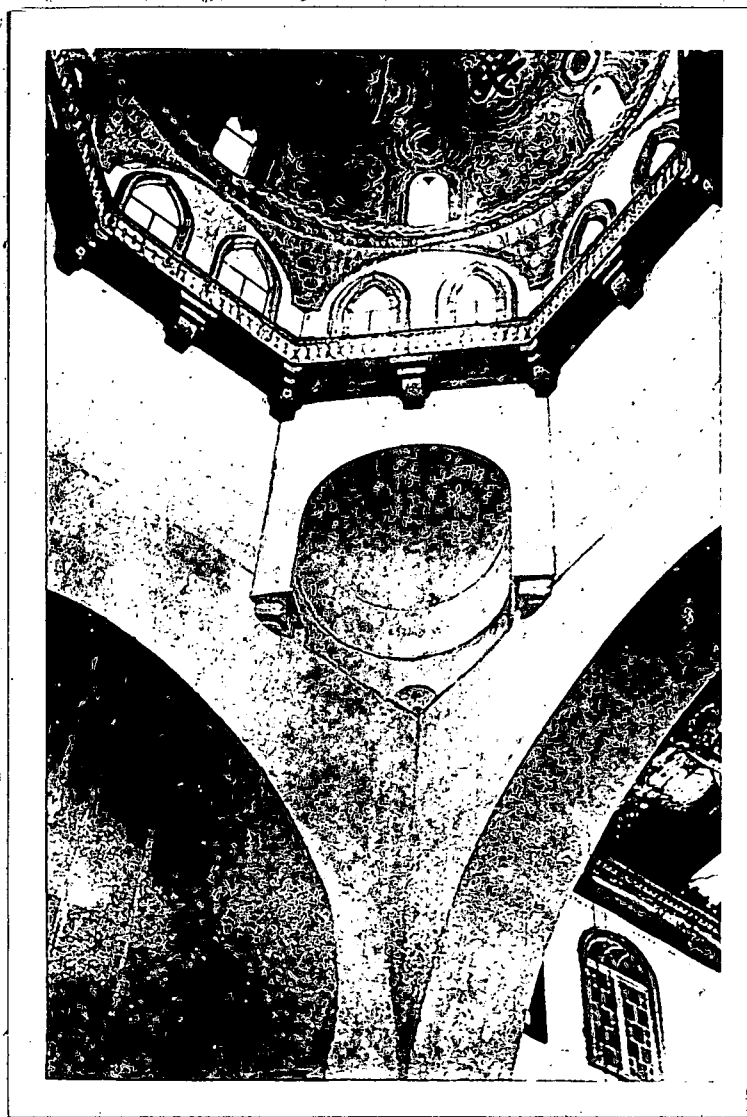


Fig. 6. Mosque of Walid. Damascus  
Central dome

The southeast and southwest minarets were corner towers of the original building. The northeast and northwest minarets were built by al-Walid. It is thought that the towers are older than the mosque and were either watchtowers or astronomical observatories of the Greek period. The other minarets are of a later period, as late as the fifteenth century.

The minaret (Madinet al-Arus) is thought to have been built by al-Walid,<sup>1</sup> and therefore Porter in his Five Years in Damascus<sup>2</sup> advances the idea that it is the oldest in existence. This idea is to be seriously doubted. Rivoira thinks the square tower with its roof belong to the period of rebuilding by Saladin and the small structure above to a later period. He directs attention to the two light openings with pointed horseshoe arches and cubical capitals cut from the same piece as shaft and base.<sup>3</sup>

<sup>1</sup>Magrizi, Histoire des Sultans Mamelouks de l'Egypte (Paris: Printed for the Oriental Translation Fund, 1837-45), Vol. I, App., Vol. II, p. 275.

<sup>2</sup>Josias Leslie Porter, Five Years in Damascus, Vol. I (London: J. Murray, 1855), pp. 61-77.

<sup>3</sup>The oldest part of this minaret, that is to say, the large square tower, shows two different kinds of masonry. Near the ground it consists of big blocks; the upper part is built of dressed stone. Neither resembles the work of Walid's time in the mosque and quadrangle. The view which I take of its history is as follows. It was built a little before Muqaddasi's coming to Damascus (about 985), was seriously damaged by the fire of 1174, and was rebuilt, except the lowest part, by Saladin the Great, whose tomb is close by. To this rebuilding belongs the square tower with its roof; the slight structure above it is a later addition. Western influence of the XII century is betrayed by the two-light openings in the main tower, with pointed or horseshoe arches and cubical capitals cut out of the same piece as the shaft and base, enclosed in the sunk face of a single arch, and also by the small arched corbel course below them." Rivoira, op.cit., p. 92.

The contest for priority<sup>1</sup> concerning the advent of the minaret might lie between the Great Mosque of Damascus and the Great Mosque at al-Qayrawan (Tunis). It makes little difference and might be settled on the basis of ritualistic requirement being met in a simple and straightforward manner, by the adapting of the Damascus towers to that end.

The plan, if we consider its essentials, belongs to the primitive type of mosque, but it is constructed on a design which had no prototype since the building was three aisles in depth, like a basilica with nave and aisles. The dome rising in the center of the prayer space, the two-storied arcades being the prayer space and the cloister around the court. The horseshoe arch appears as a constructive element.

The fame of the Great Mosque of Damascus in all probability rests on the splendor and wealth of its decoration. It is stated that the cost absorbed the tax of a seven-year period, and since much of the pre-existing structure was retained and free use was made of alien materials, it can be argued that the cost was due to the free use of decoration and embellishment. Further, descriptions make of it an edifice, internally, of baffling beauty, and point to the lavish use of gold, marble, enamelled tiles, mosaics, and precious stones. Hitti

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<sup>1</sup>Hitti, *op. cit.*, p. 265, states: "It is the oldest purely Moslem minaret surviving." Also see Rivoira, *op. cit.*, p. 85.

H. S. Briggs, *Architecture* (Oxford, 1931), p. 163. "The first instance of a tower being utilized for this purpose seems to have been at Damascus."



points to the employment of Persian, Indian, Greek, and Egyptian craftsmen.

We are now confronted with the completion of the Moslem congregation mosque, a building which is something more than a devotional building, for the congregation mosque was more; it served as a hall for general assembly, and as a political and educational forum. The essential needs are provided by the sheltered sanctuary and covered approach; ritualistic requirements are supplied by the minarets, niches, pulpits, fountains for ablution; other needs are met by plan and splendour of ornamentation. Islam now meets her Christian competitors.

There is nothing original, simply an accentuation of certain features, such as the mihrab, horseshoe arch, decoration, and plan which (at that time) had no Islamic prototype.

### Persian Moslem Architecture

**Background:** Persian domination of Western Asia, Persia's contacts with Greece, and her conquest of Egypt had repercussions in her architecture. There seems little doubt that the impression produced by buildings at Memphis and Thebes served to introduce the column into Persian architecture and is thought to be reflected in the halls of Susa and Persepolis. Under Alexander the Great Western Asia was a Greek province; after his death Persia passed under Seleucid and Sassanian dynasties, and following the Moslem conquest there arose various Persian-Islamic dynasties. The intermingling of nations and cultures effected a blend or interchange of architectural features

and, though interesting, this effect is not considered of very great importance; but it served as a connecting link between Assyrian and Byzantine types. A few are mentioned below.

The Palace, Sarvistan, presents an interesting feature in its triple-arched portico with a beehive dome of brick containing openings for light and ventilation, a long barrel vault reminiscent of Assyrian palaces. It has a central dome over a square hall which is carried by roughly corbelled angle semi-domes; the side compartments feature columns, these columns supporting arches.

The Palace at Cttesiphon (650 A.D.), of colored brick, had a central arched portal approximately eighty-three feet wide leading into a throne room covered with a vault, elliptical in form. The lower courses of the vault are presumed to have been built in horizontal layers. The facade, a wall one hundred twelve feet six inches high, was arranged with tiers of pilasters and arches reminiscent of Roman facades. (Fig. 7, p. 80)

The ruins of Dastagerd indicate pointed arches.

Baghdad, the capital of the Eastern Caliphate, was undoubtedly the most important city in the East, but nothing remains of the allegedly splendid buildings of the days of Haroun al-Raschid. The tombs remain as testimonial to the ancient days. The two usually mentioned are Zobeide and Esakiol, although there are others.

Tombs of Zobeide, Baghdad. (Fig. 8, p. 80) This is octagonal, eighty feet in diameter and one hundred and thirty feet in height, and presents a pyramidal roof form. There is a porch attached on one side,

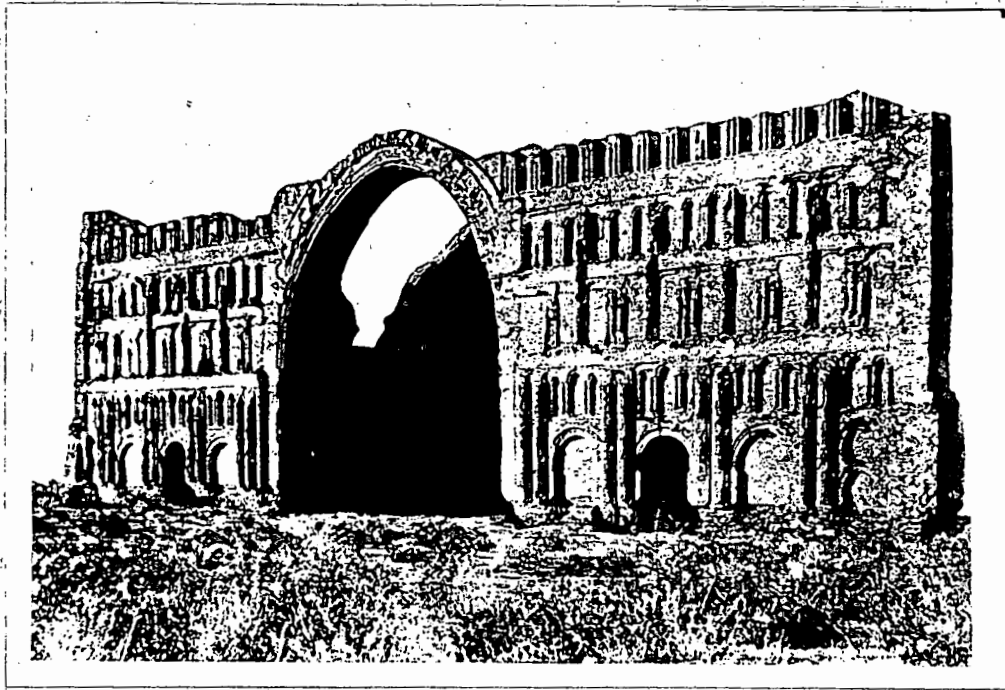


Fig. 7. Palace at Ctesiphon  
Fagade

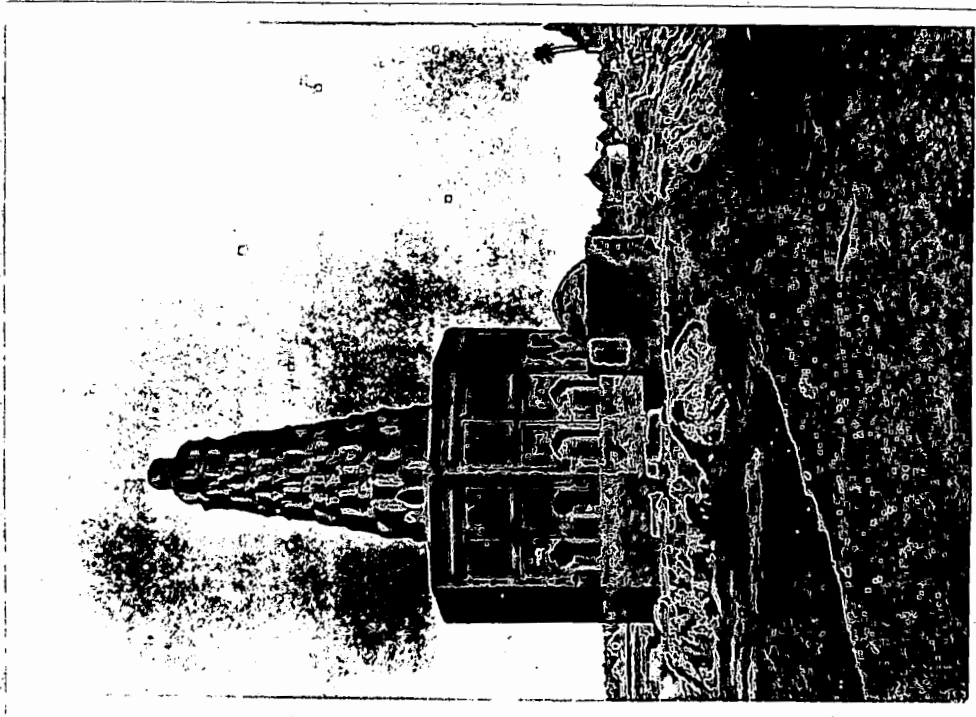


Fig. 8. Tomb of Zobeide Baghdad

serving as entrance. The form of the roof is regarded as being peculiar, and the form is thought to be borrowed from other earlier buildings. It has been hinted that the source might possibly be old Babylonian or Assyrian; be that as it may, something quite similar may be found in India in the very early Hindu and Jaina temples. No reasonable origin for these has as yet been advanced. All recent discovery appears to point to Assyria as the source, and Assyria is considered in some instances to be the source of much that is found in the early architecture and mythology of India. These ideas lack firm foundation and conclusive proof.

A series of alternating arches carry overhanging pointed niches, in this roof form, which are regarded as being the origin of stalactite vaulting.<sup>1</sup>

The details of this type of vaulting is discussed later in this chapter.

Tomb of Ezekiel. The same form occurs again. It will also be found at Susa on the so-called tomb of Daniel. Since it is so peculiar

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<sup>1</sup>The specimen of stalagmite in the traditional tomb of Zobaide, the favourite wife of Harun al-Rashid (786-809), at Baghdad, belongs to a reconstructed cupola, which, even if it were a copy of one of 786-809, would be nothing short of a phenomenon from both the constructive and the artistic point of view, without a predecessor, and without immediate descendants. According to Saladin it was restored in 1051, and again in the XIII and XVI centuries. Le Strange says that it is not the tomb of Zobaide at all, but a comparatively modern building. Again, the similar example known as the tomb of Ezekiel near Baghdad, and thought by Texier to be the copy of an older cupola, really belongs to the early Seljuk period. And it was under the Seljuks that, according to Fulle, the art known as Saracenic came into existence in Persia." Rivoira, op. cit., p. 183. X

yet appears to be generally so usual in the age of Caliphs, it must have been in use for a considerable period of time before it could have become so generally diffused.

Bomb, Sultanich (1503-16). This is an octagon, crowned with an egg-shaped dome (eighty feet in diameter) encircled by an arcade of pointed arches. The beauty of the colored tile is another of its features.

Great Mosque, Isfahan (1585). The entrance leads into an open court two hundred and twenty-five feet by one hundred and seventy-five feet, with a fountain (for ablution); the court is surrounded by arcades with semi-domed recesses in the center of each side, beyond which are domed compartments. Beyond the court is the prayer chamber with another court and fountain on either side of the court. Features are its large pointed arches, bulbous dome, minarets, and Persian tile of iridescent blues and greens.

It is impossible to fill the gap between the seventh and tenth centuries with an adequate series of mosque plans.<sup>1</sup> The Persian mosques have not been identified. It would appear that students (European) have devoted more attention (either by choice or by necessity) to the splendor and variety of Persian decorative design than to the

<sup>1</sup>"Literary sources paint us a picture of Damascus and Baghdad in the days of Harūn al-Rashīd in the eighth and ninth centuries as cities of glorious buildings and the most sumptuous luxury. Of all of this earlier work little trace remains." See Hamlin Talbot, Architecture Through the Ages (New York: G.P. Putnam's Sons, 1940), p. 198.

study of the plan and essential structure of the buildings.

Quite often the scheme of a purely decorative Persian building such as a mausoleum, might be regarded as a nearly cylindrical hall roofed by a cupola entered by a short passage, to which is affixed a porch, large in proportion to the main structure. This is a type to be kept in view. The Medresse Shir-dar at Samarkand has two such cylindrical halls, each roofed by a cupola rising from a circular drum.

The round towers of Persia are noteworthy, differing from the towers of other countries in that they do not affect solidity and imposing mass and are not to be mistaken for fortress towers. Slender, tall, graceful towers, they are thickly covered with elaborate ornamentation; often the whole surface is adorned with patterns in brickwork, quite often in high relief. A feature of Persian minarets since the middle of the eighteenth century is to be found in the continuous diaper pattern of floral and foliate design in painted tiles. What at first glance may appear as large bricks, laid in diagonal order at different angles, will be found upon inspection to be plain tiles of various color alternating with glazed or enameled tiles painted in rich colors with flowers, letters and conventional ornaments, all treated as incrustations. The Persian designer was skilled in chromatic decoration; he knew where to accent and where to stop and how to combine by contrast.

#### Egyptian Moslem Architecture

Mosque of 'Amr at Fustat (Cairo) 642 or 645. This is the most ancient Egyptian Mosque, originally about ninety-two feet by fifty-two

feet, with walls probably of unbaked rough brick and floor of pebbles set in concrete. It had a low and rude roof, supported by alien columns. Lighting was probably from roof openings.

In 675 it was enlarged, the floors were covered with matting, an open court was formed on the exterior, the walls were plastered, and four towers were erected. About 696 the building was razed and rebuilt, but the roof remained low and in the next decade had to be raised. In 711 the order was given by al-Walid I to rebuild completely. The site was enlarged and the mihrab constructed (in the form of a niche). Four entrances on the east and four on the west and three on the north were provided. The workmanship was entrusted to Yahya ibn Mansala who is presumed to have been Persian. In the period 715-718 a dome-covered treasury was built; later there was set beneath a fountain, suggestive of a similarity to the Damascus treasury. Four colonnades were added on the north during the period 750-751. In 791 an open space in front of the north wall was provided, and in 828 the building was enlarged on the west. By the year 827 the Mosque occupied a site of three hundred and fifty-eight feet by two hundred and eighty-three feet. It contained three hundred and eighty-seven columns. The entrances at this period then numbered three on the north, five on the east, four on the west, and one on the south. There were five minarets.

One hundred and nine years later (936) all the columns had been embellished.

In 936 another addition was made. The year 997 brought the concealment of the mosaics by whitewashing. Between 1035 and 1094 another minaret was added, and the columns were increased to four

hundred (marble), but in 1168-9 the building burned. It was restored by Saladin in 1172 and was later repaired between 1250 and 1263. In 1303 the earthquake severely damaged the building. After several restorations (in 1309, 1401, and 1798) the building assumed its present appearance.

There is no need of discussing this Mosque at length; its problems are difficult, if not impossible of solution. It suffices, therefore, to state that the original Mosque of 'Amr was a square of colonnades enclosed on all sides by walls and evidently not containing any elements of the plan which later became characteristic. Fletcher<sup>1</sup> says that this Mosque "is said to contain the first pointed arches (A.D. 827)" in Egypt. This statement should be scrutinized and will be discussed later under the proper heading.

Mosque of Ibn-Tūlūn (Fooloon) Cairo 879.<sup>2</sup> This mosque has also

<sup>1</sup> Sir Banister Fletcher, A History of Architecture (New York: Scribners, 1938), p. 942.

<sup>2</sup> H. S. Briggs, Muhammadan Architecture in Egypt and Palestine (Oxford, 1924), p. 163. He points out that the importance of Ibn Tūlūn at Cairo has been diminished "since we realize that some of its most distinctive features were anticipated in rather older buildings in Mesopotamia . . . outside the main walls is an open enclosing court (siyāda), a feature we have not met with before. The external walls are very massive, are crowned with ornamental battlements which, as will appear later, may be regarded as the prototype of Gothic pierced and crested parapets. (Battlements of various types were used in Assyria as early as the eighth century, B.C., in Egypt earlier still). Below the battlements is a row of pointed window-openings filled with pierced plaster screens or claire-vues, alternating with pointed niches with multifoil or cusped heads. The arcades consist of massive brick piers with brick-engaged shafts at the angles, and above them are pointed arches which have a just perceptible 'horseshoe' curve at the springing. Thus the whole structure up to the level of the timber roofs is of brick, covered with plain or ornamental stucco. It may be said without exaggeration that this mosque is, in all respects, Mesopotamian in type, and is derived from examples at Samarra and Baghdad with which its founder, Ibn-Tūlūn, had been familiar in youth."



been a fortified place, a hospital, a wool factory, and again a mosque. Despite its uses and history it has suffered no essential change. It is a rectangle four hundred and sixty feet by three hundred and eighty-two feet. Three sides are inclosed by double circuit walls, the space between the walls forming an outer court. The inner wall is strengthened by corner buttresses; three walls are lined by double arcades with piers. The fourth, southern wall (place of prayer), has five rows of similar supporting devices which form five bays in depth, seventeen in length, the central one leading toward the mihrab.

The face of the walls (five feet, three inches thick) was ornamented by niches alternating with windows, between smaller niches.

The piers are rectangular, resting on high bases. The walls carried by the arches are pierced, above the piers, by openings, serving a decorative purpose. The arcades are roofed by flat ceilings. The pointed horseshoe arch is used throughout and likewise bell-shaped capitals with leaves. Walls, piers, columns, and arches are of brick covered with stucco, decorated. Walls are covered by battlements.

(Figs. 9, 10, 11, pp. 87-88)

The great minaret is considered unique.<sup>1</sup> It consists of large

<sup>1</sup>The various writers who point out this minaret as being unique do not specify any particular point or feature which they consider as unique. Whether uniqueness is due to its square base or due to the cylindrical tower rising from the square block, or the stairway construction or materials used. That it offers an appearance which is somewhat strange cannot be gainsaid, but the focal point seems to be its square base. If this be the case, it cannot be regarded as unique for Hitti points out:

"While the square stone minaret of Syria was the oldest in Islam and served as a prototype for others, especially in North Africa and Spain, it was not the only type developed. Moslem minarets followed

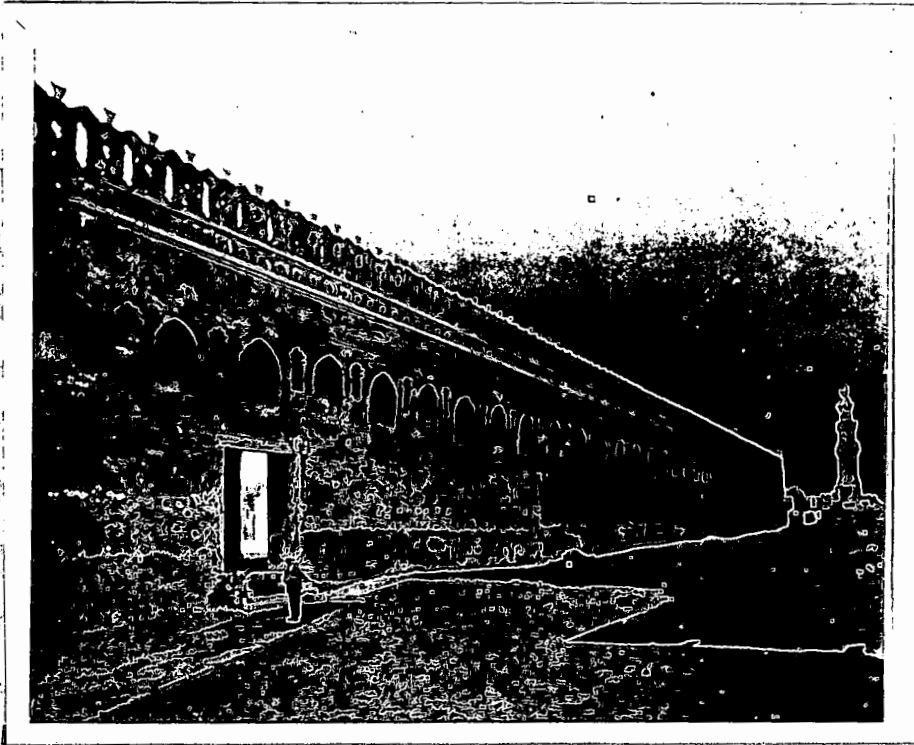


Fig. 9. Mosque Ibn-Tulun Cairo IX century  
Outer wall

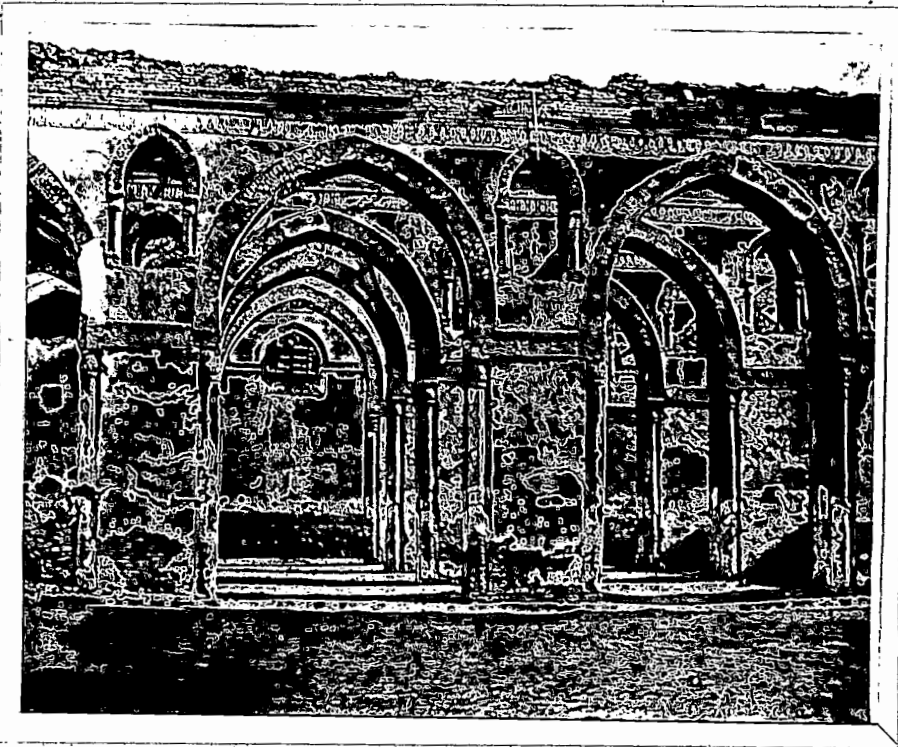


Fig. 10. Mosque Ibn-Tulun Cairo IX century  
Interior



Fig. 11. Mosque Ibn-Tulūn Cairo IX century  
Exterior

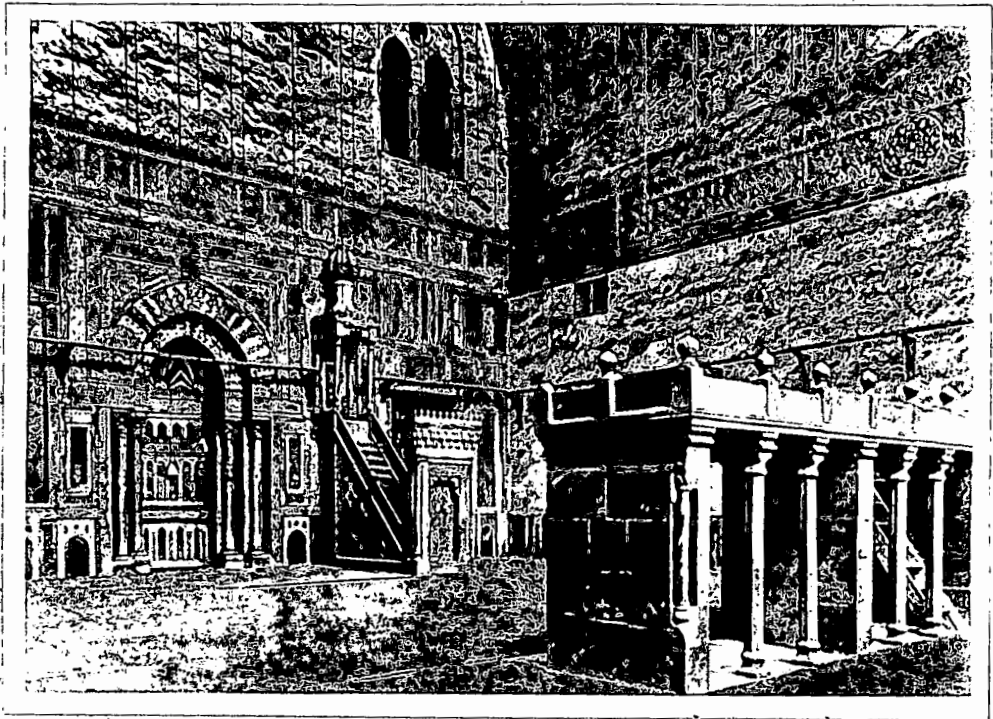


Fig. X. Mosque Sultan Hassan - Cairo 1357. Mihrab. Minbar. Interior

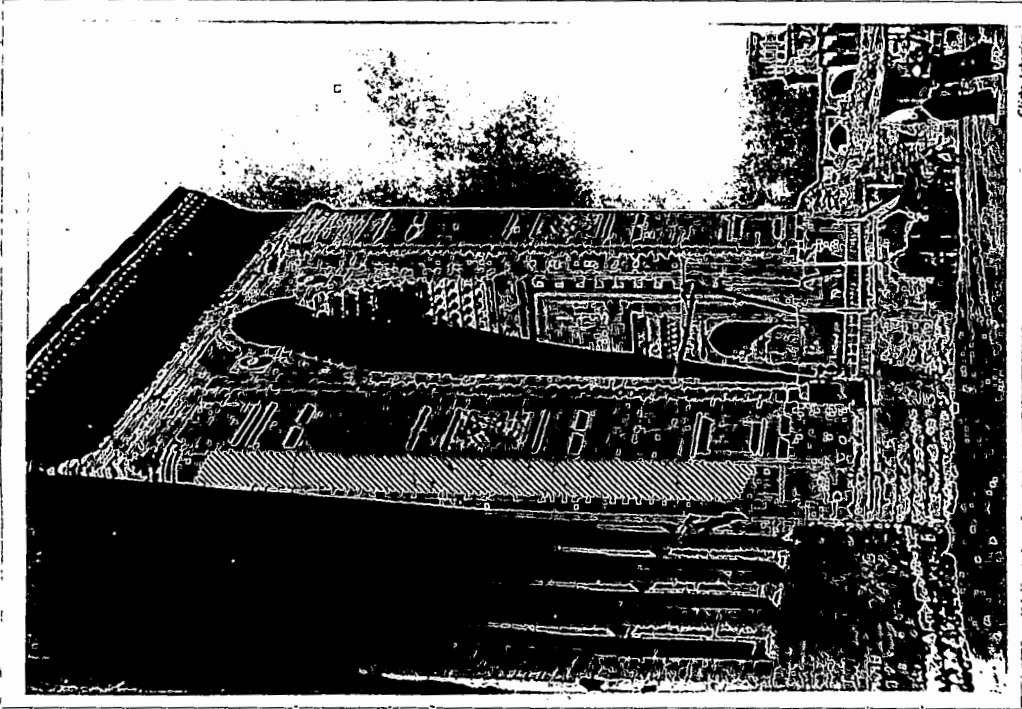


Fig. Y. Mosque Sultan Hassan - Cairo 1357 Portal

square base (blocks of hard limestone) with external stairway; a cylindrical tower rises out of the square block with a stairway winding around the exterior. The finishing at the top is unknown.

The mihrāb, placed in the middle of the end wall of the sanctuary, is fronted with marble columns which are of alien origin and antique; likewise the capitals and the bases. The capitals are not related in form or style to the capitals of the mosque. The mosaics of the niche are noteworthy; approval depends upon individual taste.

Apparently Ibn-Ḥilūn is the first large scale building (in Egypt) wherein brick piers instead of columns were used. It is the first building to present the systematic use of the pointed horseshoe arch.<sup>1</sup> In this building any use of Byzantine and classical columns is absent; the long rows of arches rest upon solid piers and the spandrels are pierced with window-like openings which give the effect of lightness to the structure. Windows are filled with intricate tracery. The minarets are considered to be the earliest in Egypt.

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the traditional shape of the towers of the country in which they arose. In Egypt minarets for many centuries were built only of brick and the famous lighthouse of Alexandria, the Pharos, is said by some to have exercised some architectural influence." Hitti, *op. cit.*, p. 202.

If we accept Hitti's specification -- "built only of brick" -- the unique quality of this minaret of the Mosque Ibn-Ḥilūn may lie in the large square blocks of limestone.

It is to be pointed out that the architect was a Christian, some think a Copt, Ibn-Katib al-Bargani.

Hitti, *op. cit.*, p. 417: "Outside, against the wall of the great mosque of Samarra, rose a tower which is analogous to the ancient Babylonian 'ziggurat.' This tower was copied by Ibn-Ḥilūn for the minaret of his mosque (876-9), in which the pointed arch appears for the first time in Egypt, after the repaired mosque of 'Amr (827) and the Nilometer (861)."

<sup>1</sup>Ibid., p. 417: "(Ibn-Ḥilūn) in which the pointed arch appears for the third time in Egypt; after the repaired mosque of 'Amr (827) and the Nilometer (861)."

The Mosque of Ibn-Filūn is considered to show emancipation from the Christian style.

### Spanish Moslem Architecture<sup>1</sup>

The Great Mosque Cordova. "La Mezquita." It was begun in 786 by 'Abd-al-Rahmān on the site of a Christian church, St. Vincente,<sup>2</sup> which was originally a Roman temple. The original plan presented eleven aisles, the center aisle wider and leading to the mihrāb; the original plan was only one quarter the size of the actual (completed) building. The main part was completed by al-Sakmān I's son Hishām I in 788, who added the square minaret (following the African style, which was of Syrian origin), and a number of lateral aisles, beautified the court, and added the fountain. Hishām II added eleven more aisles with as many rows of columns. Later more aisles were added in the time of Almorav. The Mosque of Cordova was designed to rival any of the Islamic landmarks and to be the center of attention for and to the west. Its inclosed area alone occupies a larger area than any Christian Cathedral, a rectangle four hundred and twenty-five feet by five hundred and seventy feet.<sup>3</sup> There are nineteen aisles, north and south, thirty-

<sup>1</sup>"All monuments of religious art in Spain have perished with the exception of one of the earliest and grandest, the great Mosque of Cordova." Hitti, op. cit., p. 594.

<sup>2</sup>San Vincente is thought to belong to the sixth century A.D.

<sup>3</sup>Sir Banister Fletcher states "second only to the Kabba at Mecca" and gives its size as above, yet he gives the size of Mecca as 570 feet by 380 feet. Ferguson gives figures 420 x 575 for the completed mosque and footnotes "Notwithstanding the number of plans published of this

three bays to each aisle; twelve hundred and ninety-three columns support the roof. These columns are of various colors and in varied design, coming as they did from other buildings -- Roman and Byzantine. Approach is made from an open court by nineteen bronze doors.

As the aisles multiplied, the problem of the roof became more acute. As the Mosque increased in size, the roof had to be raised; they set one arcade on top of another (the identical device the Romans had used in the Merida aqueduct); above the lower columns they set a second series which was surmounted by arches. (Fig. 12, p. 98) Oftentimes there is a third series. The minaret was vaulted. The lower arches are circular cinquefoil in pattern, the upper horseshoe in form, while the lower alternate columns are made to appear connected by a subsidiary treatment of the lower arches. (Fig. 13, p. 93) It should be noted that the Cordova Mosque is only thirty feet in height; it might be assumed that originally the aisles were higher, since the bases of the columns are not visible and may have been buried underground, but there is no verification that can be offered.<sup>1</sup>

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edifice, it is extremely difficult to ascertain its exact dimensions. Murphy, in his text, makes them 625 x 440 whereas the scale of his plans show 570 x 405. Le Normand's two plans differ considerably from one another. The above (420 x 375) is about the mean." See James Ferguson, History of Architecture, Vol. II (London: James Murray, 1876), p. 525.

<sup>1</sup>Riviera makes this statement, "Abd al-Rahman III (912-961) rebuilt the minaret and the front of the mosque, and made the floor even." From this one may infer that at one time the bases of the columns were exposed. See Riviera, op. cit., p. 355.

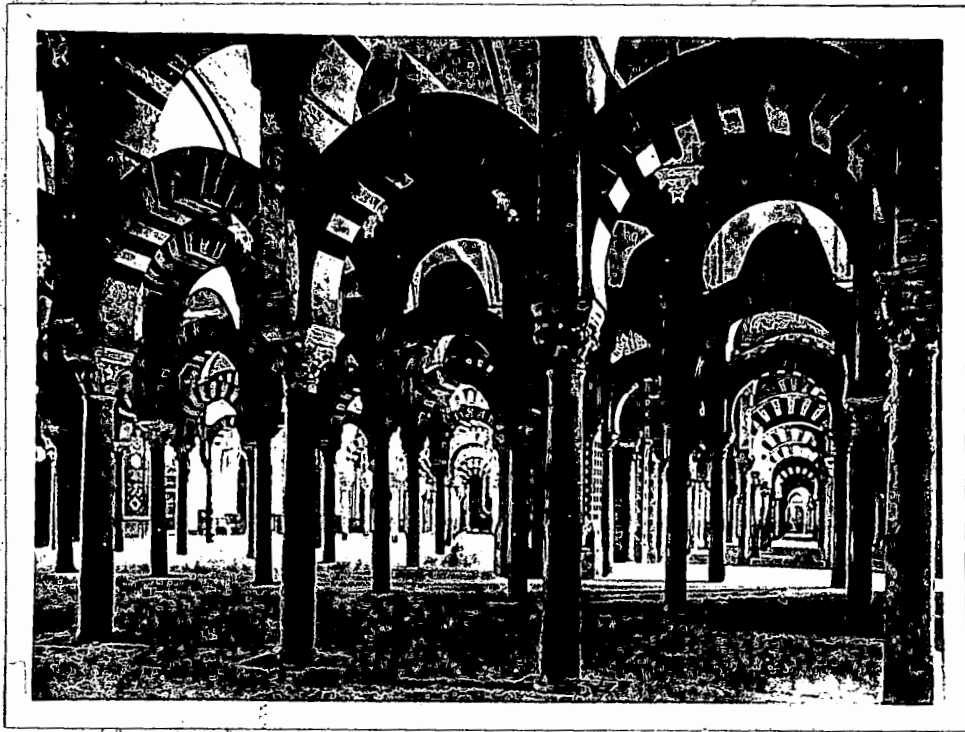


Fig. 12. Mosque Cordova  
Interior

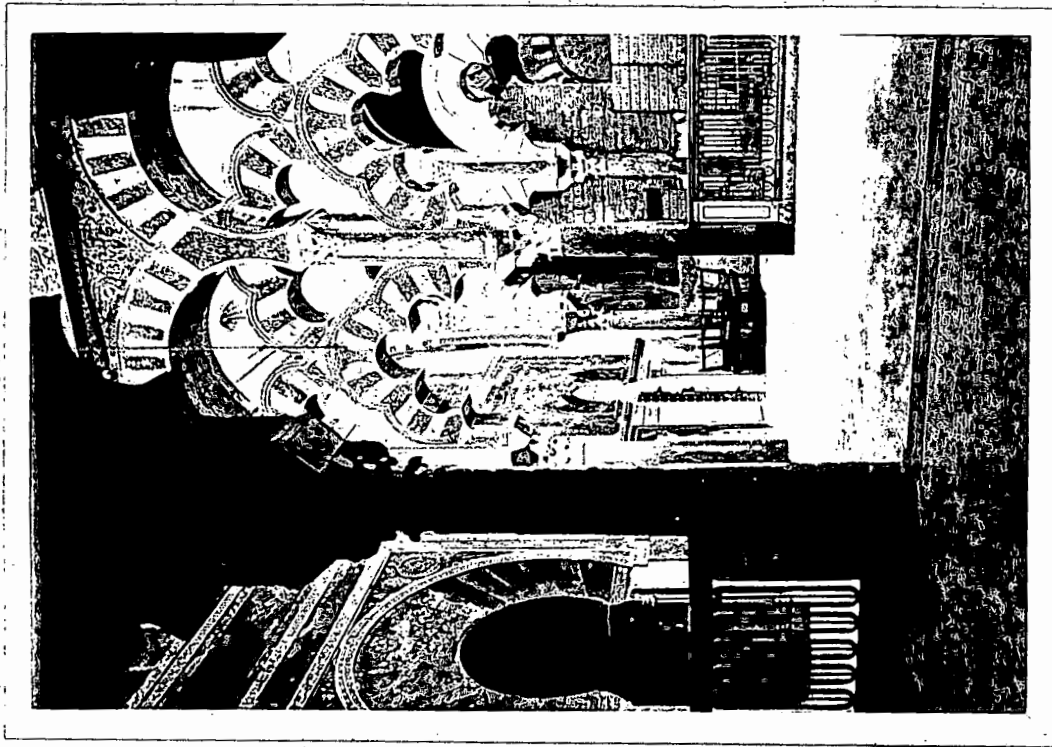


Fig. 13. Mosque Cordova. Mibrab.



The interior presents a restless effect which can be called bizarre and fantastic rather than beautiful.<sup>1</sup> It is remarkable for its circular arches, though there do exist pointed arches in its interior. The columns and capitals in their variety offer relief from the undercurrent of uniformity. The capitals are Corinthian, Corinthianesque, and Composite, and in some cases do not fit their columns and show that they belong to the period between the first and seventh century,<sup>2</sup> some are Visigothic, and some of clumsy form made for the enlargement of the building. (Fig. 14, p. 95) The marble shafts are partly antique, some made especially for the edifice and some brought from Africa by 'Abd-al-Rahmān III.

The mihrāb is octagonal in form, covered by a cupola of shell design, and is flanked by two small chapels. Approach is through a vestibule which presents multifoil arches<sup>3</sup> and horseshoe arches. (Fig. 13, p. 93 and Fig. 15, p. 95) The ribs by means of which the cupola is built deserve attention, because of their close affinity to the use of the European rib vault, which we call Gothic. (Figs. 16, 17,

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<sup>1</sup> This of course is a matter of personal taste and reaction. Rivoira thinks differently, "None of the ancient mosques . . . compared with that of Cordova produce anything like the same impression of unlimited space, due to the unusual number of its rows of columns, and of majestic dignity." See Rivoira, op. cit., p. 866.

<sup>2</sup> Hispano-Moresque Capitals and Base (New York: Hispanic Society of America, 1925)

<sup>3</sup> Trefoil and multifoil arches are thought to have their origin in India before 600, "It has not yet been understood by European writers that the trefoil arch originated in Indian Buddhist symbolism many centuries before it appeared in Western art." For discussion see: E.B. Havell, Indian Architecture (London: J. Murray, 1927), pp. 82-86, and section dealing with the arch in this thesis.

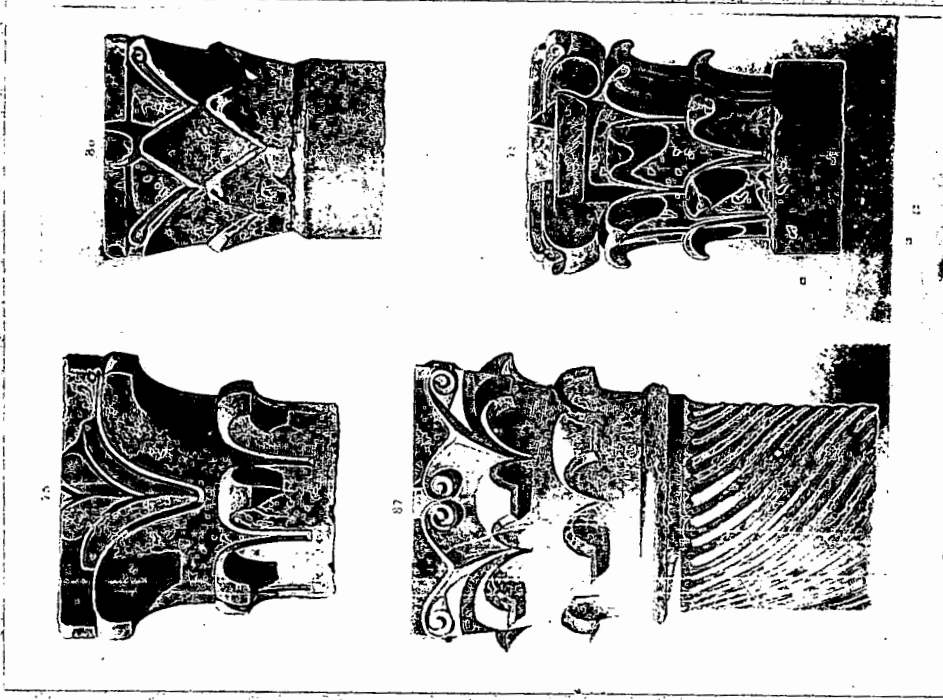


FIG. 14. Mosque Cordova  
Capitals

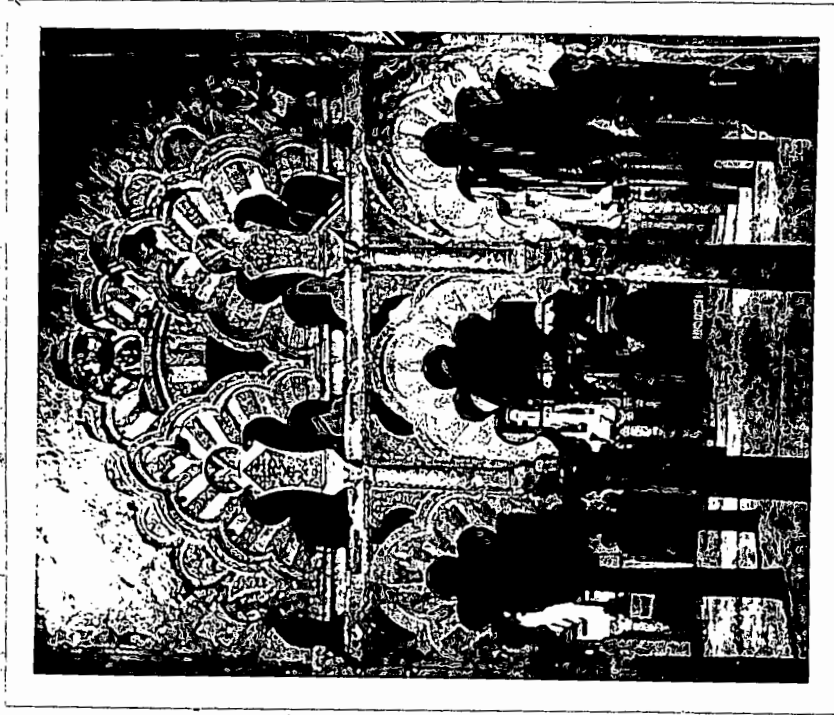


FIG. 15. Mosque Cordova  
Approach to Mihrab

p. 97) The mihrāb "vestibule" is covered by a cupola crossed by outstanding ribs springing from shafts and from intersecting arches. It is thought that if the Moslems had used the ordinary groined vault with more freedom, the vault made up of interpenetrating tunnel vaults, they would have been struck with the idea of using ribs where groins resulted from meeting curved surface -- the Gothic building would have then been invented.

All descriptions agree as to the richness of the mosaics, the use of jasper, porphyry, colored marbles, brass, brilliant glass, gold, etc. It is to be noted that the mosaics came from Constantinople and that Byzantine workmen were employed. Does this imply that Spain was dependent on foreigners?<sup>1</sup>

The minbar is said to have been made of 55,000 pieces of wood joined with pins of silver and gold and encrusted with precious stones.

In 1236 the Mosque became a Christian Church, and in 1523 two hundred columns were removed to make way for the chancel choir and lateral chapels.

The Mosque of Cordova presents several features:

Multifoil arch -- which may not be original (see footnote 3, preceding page).

Intersecting arches -- which had been used at Toledo. See section on arch (following).

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<sup>1</sup>"For the decoration of the building Byzantine craftsmen were employed, as they may have been employed in the Umayyad mosques of Syria." Hitti, op. cit., p. 595.

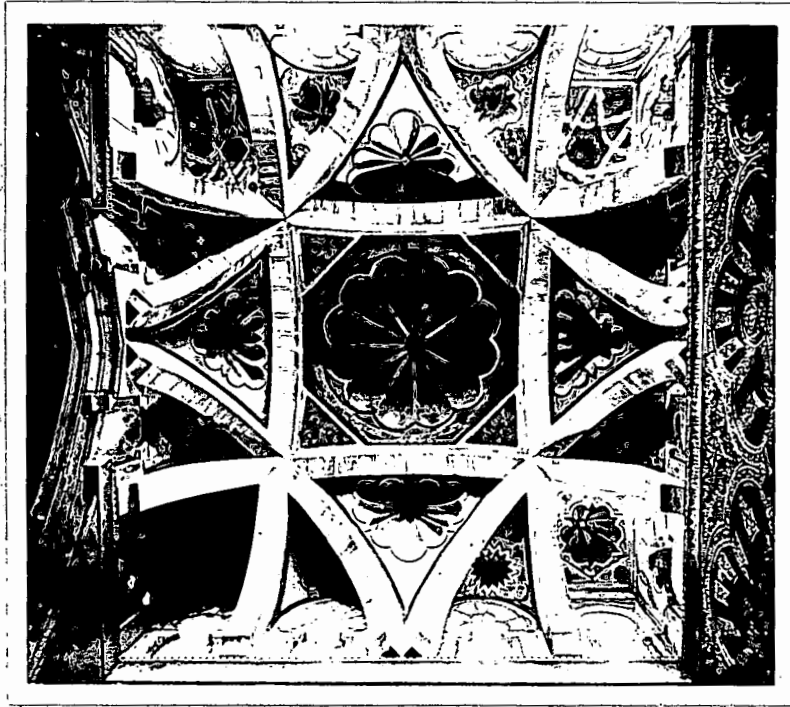


Fig. 16. Mosque Cordova  
Cupola - vestibule to mihrab

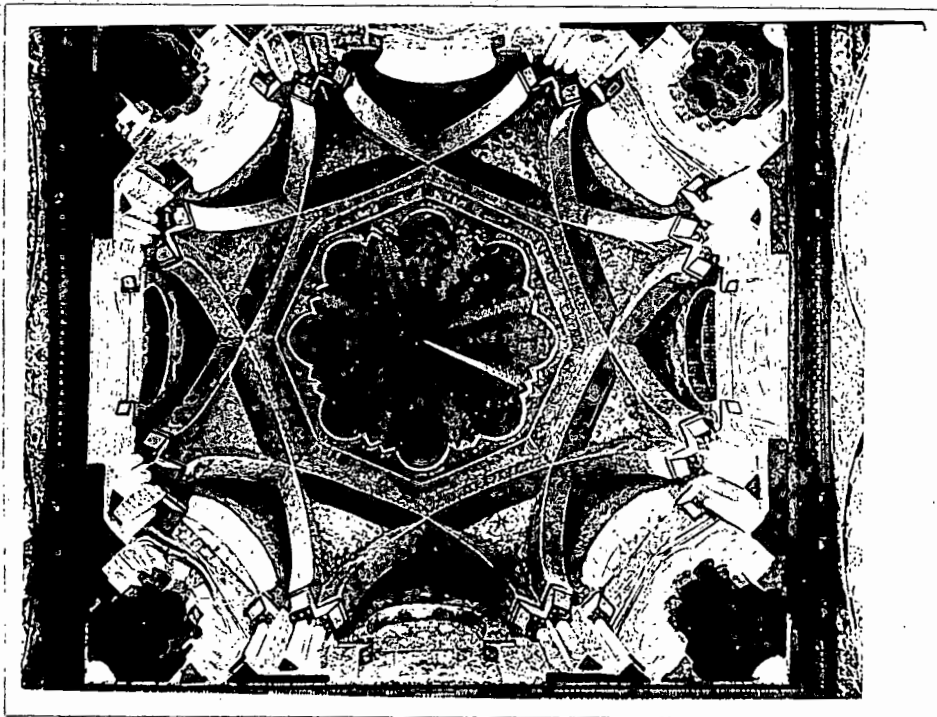


Fig. 17. Mosque Cordova  
Cupola - mihrab

Cupola with visible intersecting ribs. This is thought to be an early example, if not the first; however, visible ribs, applied in a more developed form to cross vaults and cupolas were of Roman origin.

The use of ready-made antique columns apparently dictated the design. The employment of taller columns made to design, or the use of piers either of brick or stone would have enabled the architect or builders to have exercised more freedom and invention, and would have made it possible for them to have dispensed with such subterfuge as produced this bizarre labyrinth. (Fig. 21, p. 100)

Alhambra, Granada 1248-1364. Concerning this building there exists a variety of opinions, ranging from -- "the masterpiece of Spanish Moslem art"<sup>1</sup> to "the last offerings of a decadent period."<sup>2</sup> It is to be regretted that so much time and paper have been wasted

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<sup>1</sup>Charles L. Barstow, Famous Buildings (New York: The Century Company, 1915), p. 89. "The Alhambra is universally considered to be the masterpiece of Spanish Moslem art."

Hitti, op. cit., p. 506. "The Hispano-Moslem system of decoration reached its culminating point in the Nasrid palace Alhambra. This acropolis of Granada, with its excessive decoration in mosaics, stalactites and inscriptions, was conceived and constructed on so extensive and magnificent a scale that it has been accepted as the last word in such workmanship."

<sup>2</sup>Russell Sturgis, History of Architecture, Vol. II (New York: Baker and Taylor Company, 1909), p. 232. "The pure art of the western Moslems was even more speedily extinguished, for it passed into the Mudejar (a name given to any style in which Moslem details are used to modify a late Gothic or Renaissance system of design) style in the states recovered by Christian rulers, and in Granada it passed through a rapid decadence until in the thirteenth century such adornment as that of the Alhambra was what it had to offer . . . the Alhambra alone keeps for us something of the late Moslem style as it was known in the West."

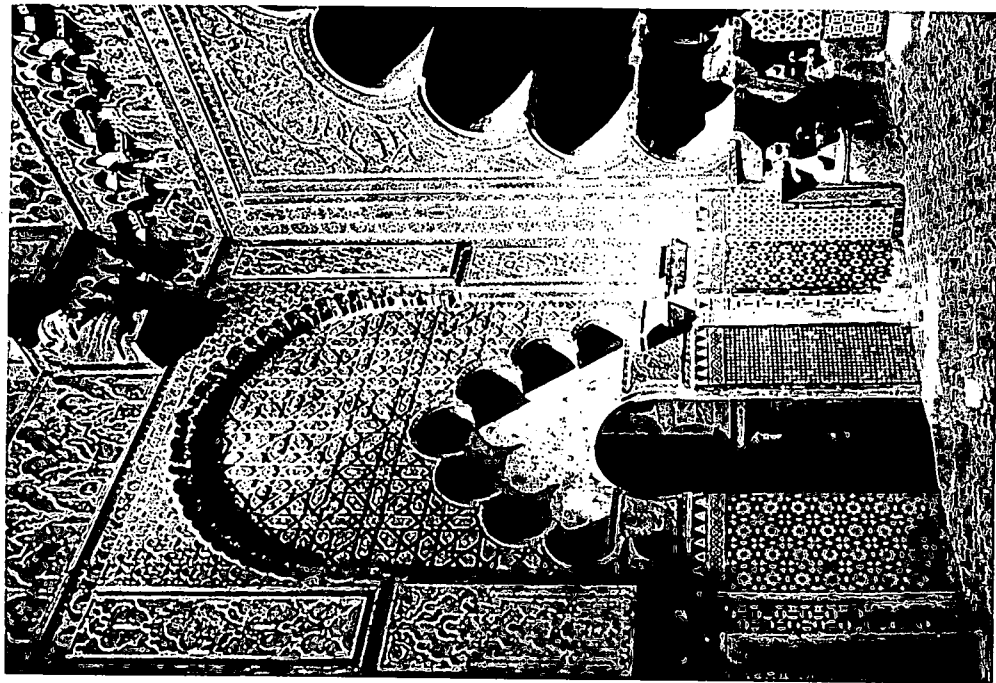


Fig. 18. Mosque Cordova  
Vestibule to mihrab

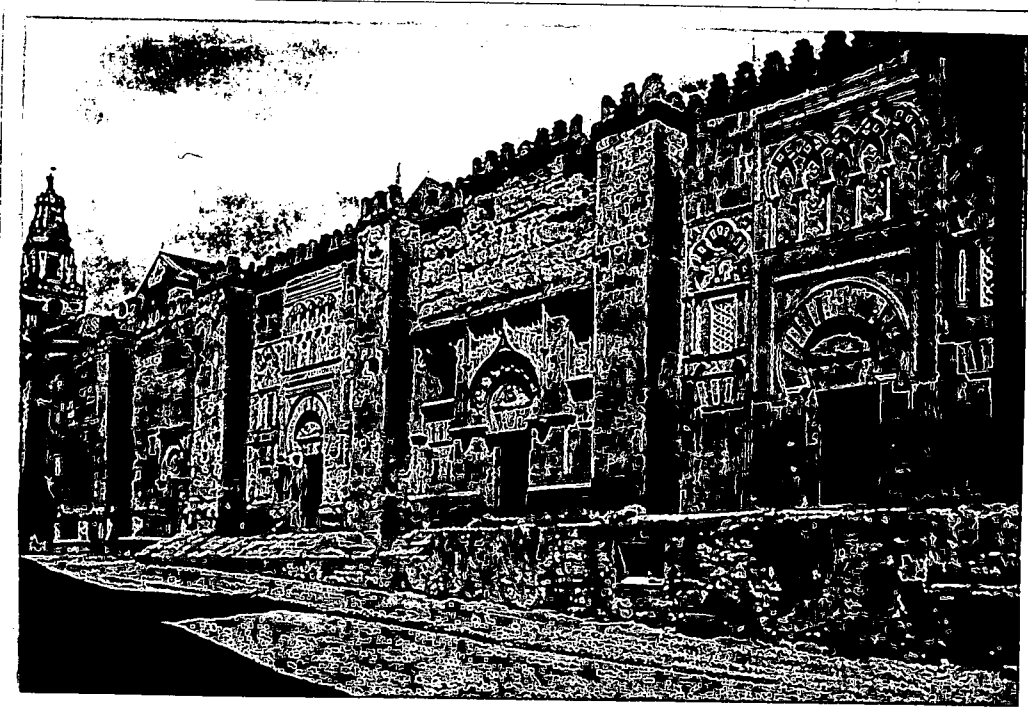


Fig. 19. Mosque Cordova  
Facade



Fig. 20. Mosque Cordova  
Façade

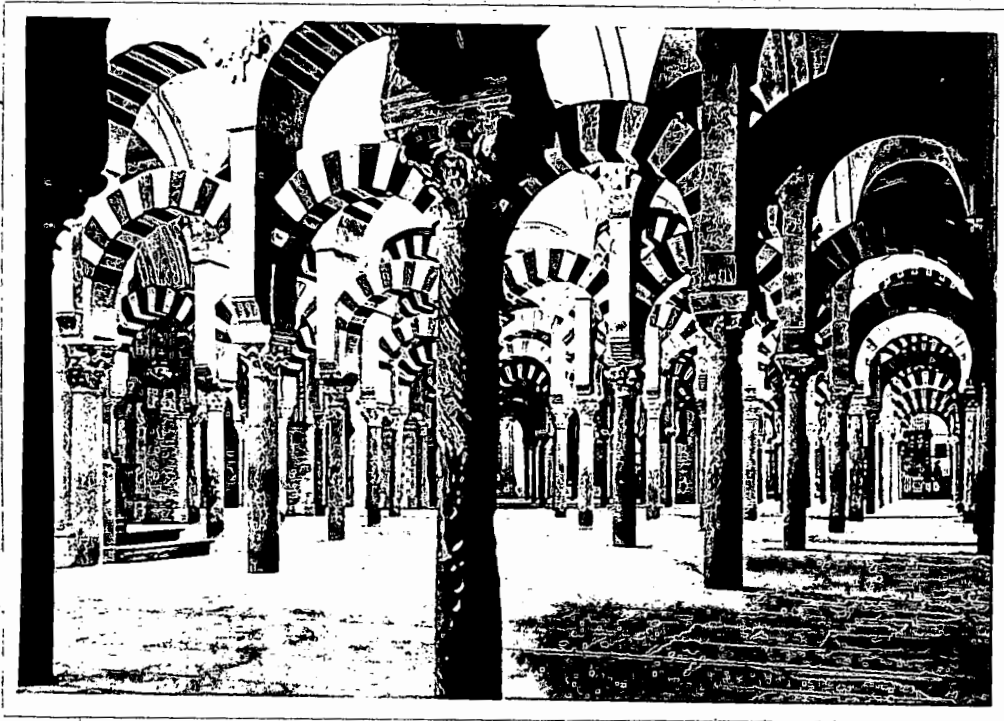


Fig. 21. Mosque Cordova  
Columns in mosque

on the many varied, verbose, and almost "mystic" descriptions lavished on the Alhambra. Some of the description which follows is based in the main on (but is not a translation of) an account given by M. Gomez-Moreno<sup>1</sup> for the Hispanic Society.

<sup>1</sup> Cuando entro la arboleda llegan a columbrarse el primer baluarte y el pilar de Carlos V, ya se esta junto a la entrada principal o puerta de la Justicia, que Yusuf I, el mas pujante constructor de la Alhambra, vio terminada en 1348. Sobre su arco primero esta la mano abierta, y en el segundo, la llave, como talismanes; mas arriba, entre decoraciones de ceramica persa, dióse cabida a una estatua de la Virgen, a devoción de los Reyes Católicos; las herradas puertas son primitivas; sigue un pasadizo acodado, y a la salida ofrece otra decoración de relieves vidriados.

Cerca está la puerta del Vino, con su fachada primitiva, a que antes se aludió, aunque la postiza inscripción nombra a Mohamed V, hijo del referido Yusuf, a quien se debe seguramente la fachada posterior, con estrependas onituz de azulejos. Allí es la plaza de los Algibes, que tiene a un lado la Alcazaba; a otro, el palacio de Carlos V, y en lo fondo, sin más perspectiva que tejados y paredes humildeas, escondese la morada peregrina de los reyes Nazaríes, la Casa Real, unico gran palacio musulmán que existe en el mundo, correspondiente a la Edad Media.

Tres grupos de edificaciones lo forman: el primero apenas es restituido, por hallarse en parte arruinado y en parte rehacho. Una inscripción ha hecho creer falsamente que allí habia obras de tiempo de Ismael I, cuando en realidad lo más viejo data de Yusuf, y reduce a la torre de Mochua, llamada así con el apellido de los famosos artistas que habitaron en ella. El Mejuar, donde se administraba justicia, databa, como todo lo restante, de Mohamed V; se le reformó en tiempo del Emperador, pero conserva su aspecto moruno, con alicantados de azulejos que se sentirían por modelos árabes si no llevasen dividas imperiales y escudos del Marqués de Mondéjar, alcaide de la Alhambra. En el siglo XVII se acomodo para capilla, erigiendo en retablo una chimenea genevesa, comprada en 1548, de la que se apartaron sus esculpturas, a saber, un relieve de Ieda, unas niñas y el remate, que hoy están en el suelo. Contiguo hay un mirador, aunque con caracter de oratorio musulmán, a juzgar por su nicho.

El patio lindante ofrece, en su lado septentrional, un pórtico y sala, reformados en tiempo de los Reyes Católicos, y antecedido por otro gran arco más moderno. Enfrente hay una fachada magnífica, con dos puertas y alero de admirable talla; corresponde al cuarto o palacio de Comares, parte segunda y principal de estos alcázaros.

Aquí era la residencia oficial de los reyes granadinos, y le dió nombre su salón del trono, contenido dentro de una torre gigantesca, con deleitosas vistas al bosque, río Darro y parte más antigua de la



The Alhambra is the only large Moslem palace dating from the Middle Ages that exists in the world; it was the palace and the citadel of Granada and occupied a spur of the Cerro del Sol. The Alhambra hill is girdled round its summit by massive red walls with thirteen rectangular towers at frequent intervals, inclosing an area of thirty-five

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ciudad, por nueve balcones, que se cerrarian con vidrieras de colores, probablemente como las llamadas sun cernaria en Oriente.

Dicho salón de Comares es un cuadrado de 11'30 metros en planta; cubrele una bóveda espléndida, de maderas talladas y ensambladas, formando labores geométricas estrelladas; revisten la base de sus muros alentados de azulejo, con admirables combinaciones del mismo orden, y en el resto se desarrollan relieves de escayola, pintados tan primorosamente como si de miniaturas se tratase. En el principal de sus balcones léese un posueta alusivo al trono, que allí se albergaba, y en elogio de Yúsuf I, edificador de esta obra, una de las más grandiosas de arquitectura doméstica medieval.

Lo demás de este palacio débese al repetido Mohammed V (1364 a 1391). Precede a la torre una larga sala, que llama sala de la Barca, por la forma de su cubierta abovedada, de carpintería de lazo, pintada y dorada; pero la destruyó un incendio, en 1890, con otros techos contiguos y grave deterioro de sus decoraciones murales.

El gran patio de este palacio obedece al tipo clásico andaluz; en medio, una alberca muy alargada, en la que vierten agua dos fuentes a los extremos, y otra hubo en medio. Por ello le dicen patio de la Alberca y también, de los Arrayanes, aludiendo a los que hay a su vera, de largo a largo. En los costados abren puertas y ventanas dos naves de aposentos destinados a viviendas, y en los testeros yerguense galerías de a siete arcos sobre mármoleas columnas. Hacia sur había un cuerpo de edificio de tres pisos, derribado para arrimar allí el palacio de Carlos V, y su galería alta es notable por la disposición del hueco de en medio. Enfrente, el portico principal, con un solo piso, da a la sala de la Barca y torre de Comares, cuya mole surge tras de sus cubiertas, precedida de unas torrecillas y parapeto almonado, que son invención de restauradores modernos; antes sólo hubo un mirador a la derecha.

Agregados al cuarto de Comares están los Baños, acaso lo más antiguo de la Casa Real. Son medio subterráneos, y varían en absoluto de lo demás por la obligada lisura de su construcción, sus bóvedas taladradas por lumbreras y sus arquerías de herradura sobre columnas, siguiendo en todo la costumbre antigua. Un primerono arco, esculpido en mármol y puesto por fondo de la pila mayor, alude en versos árabes al destino de aquella pila y elogio de paso al rey Yúsuf. Esta edificó un departamento, a la entrada, donde reposar después del baño, motivando

acres, within which the palace was built. These fortifications are credited, in the main, to Al-Azmar (and his successors). The Alcazaba (or Citadel) at the west end (of which the Torre de La Vela forms a part), was probably built before his time. A massive wall, flanked by the Torre del Homenaje, separates it from the rest of the enclosure. A further defence, in Moslem days, consisted of a deep ditch which was filled and is covered by the Plaza de los Algibes. It is estimated that in its hey-day the fortress was capable of holding forty thousand soldiers.<sup>1</sup>

The main entrance to the Alhambra is through the Puerta de la Justicia, a gateway which consists of two rectangular towers, pierced by horseshoe arches; over these, respectively, are a hand and a key, symbols which have provoked the circulation of a variety of gushing and idle legends. The entrance winds through these towers as entrances wind through many eastern gateways -- the Jaffa Gate at Jerusalem may be cited as an instance. To the right lies the Puerta

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así el nombre de sala de las Camas con que es conocido; pero una renovación del siglo XVI y otra del XIX le han robado casi toda su decoración primitiva; la actual, sin embargo, es copia relativamente fiel.

El tercer núcleo de edificios de la Casa Real forma otro palacio, al que dieron nombre de cuarto de los Leones los esculpidos en torno de su fuente famosa. Es lo más moderno; sus inscripciones acaban innumerables veces a Mohamed V, diciendo: "Gloria a nuestro señor el sultán Abuabdala Alganibila", y además hay versos tomados de un poema que Abenzemec compuso en loor del mismo rey." H. Gomez-Berono, Alhambra (Barcelona, E. D.: Hijos de J. Thomas), pp. 18-19.

<sup>1</sup> Charles L. Barstow, Famous Buildings (New York: The Century Company, 1915), p. 89.

del Vino (Fig. 22, p. 105) which is now a detached work, but was once the entrance to the town of the Alhambra, which was walled off from the palace, and continued to the eastern limits of the hill. Directly ahead lies the unfinished square Graeco-Romanesque palace of Charles V. Behind this composite edifice lies an unimposing formless mass of low buildings with here and there a tiled cupola rising. This, then, is the far-famed Alhambra with its unpromising exterior.

The oldest portion of the edifice contains the Patio del Na'war and the adjoining apartments, simpler in decoration than other parts, which was converted into a chapel in 1629. At the northern end of this apartment is an oratory presumed to have been built by Muhammad V. A door leads to another of the towers which some call Torre de Ramalce and others term Torre de Machuca; this tower reveals some architectural peculiarities which are thought to herald the inception of the Mudéjar style.

To the east lies the Patio de la Alberca, a court one hundred and thirty-eight feet long (north and south) and seventy-four feet wide (east and west); the longer sides are ungracefully plain. The southern end consists of two arcaded galleries with a sort of triforium interposed. The northern end is similar except that it is but one story in height and is crowned by a tower which encloses the Salon de Comares o de Embajadores (Hall of Ambassadors); the court described, then, is almost an ante-room.

The Patio de la Alberca is thought to derive its name from the pool in the center -- El Birkoh. (Fig. 23, p. 105)

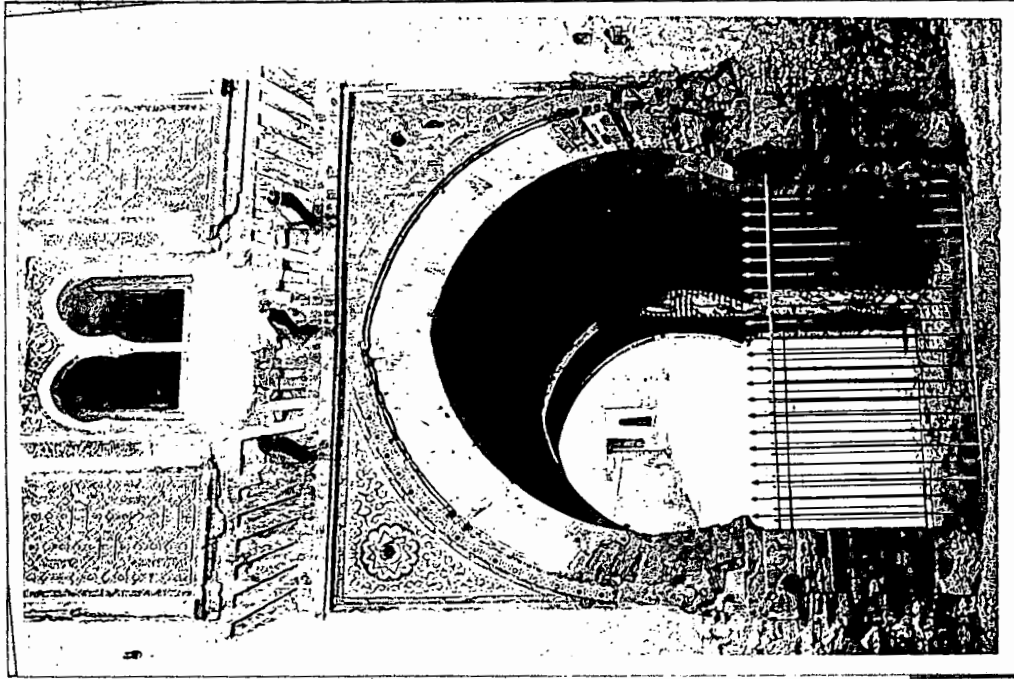


Fig. 22. Alhambra - Granada  
Puerta del Vino

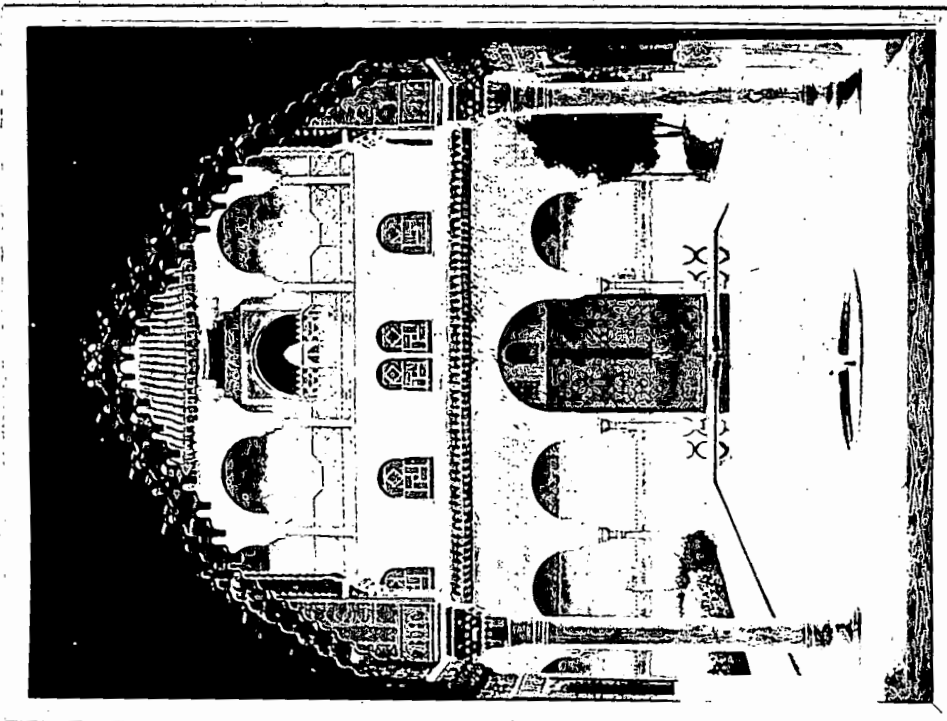


Fig. 23. Alhambra - Granada  
Patio de la Alhambra

A word concerning the arcaded galleries is in order. Architecturally, the palace as a whole has little merit; on the other hand it is a tribute to the skill of the decorator. All Moorish decoration or ornamentation appears to be based on strict geometrical plans every design, complicated or not, is a symmetrical arrangement of rhombs, circles, ellipses, etc., placed at regular distances.

The columns of the Alberca are marble; however, the materials employed in the building are wood, stucco and tile. The stucco carries the primary colors in the decorative scheme and the tile carries the secondary colors; hence the decoration even in color follows a definite scheme. The walls generally are covered with a dado of colored and highly glazed tile in a chequer pattern; above appear zones of stucco, ivory in color, either plain or stamped with a large variety of conventional designs. Roofs are of wood, carved and painted. Latticework is freely used in the scheme; note that latticework is considered characteristic of architecture (domestic) in the east. A feature here consists in the eaves which project from above the galleries and arcades. The courts are all surrounded or bordered on one or more sides by these galleries twenty-seven feet in height and once paved with marble.

The Salon de Comares (de Embajadores), Hall of Ambassadors, within the tower to the north of the Patio de la Alberca, is an apartment thirty-five feet square and about sixty feet in height, roofed by a dome which brings the height to about seventy-five feet. The dome is of great beauty and covered, like the walls, with arabesques. One of the features of this Salon is its deeply recessed windows, and this room is the most brilliantly decorated of any. Red and black predomi-

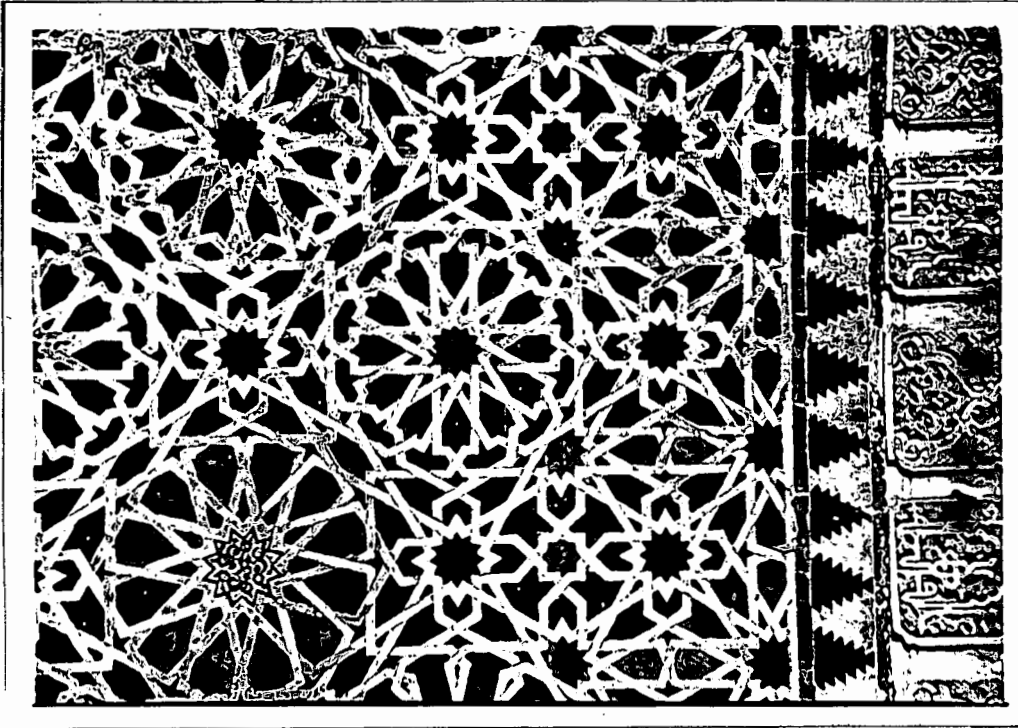


Fig. 24. Alhambra - Granada  
Sala de Comares  
Detail of decoration

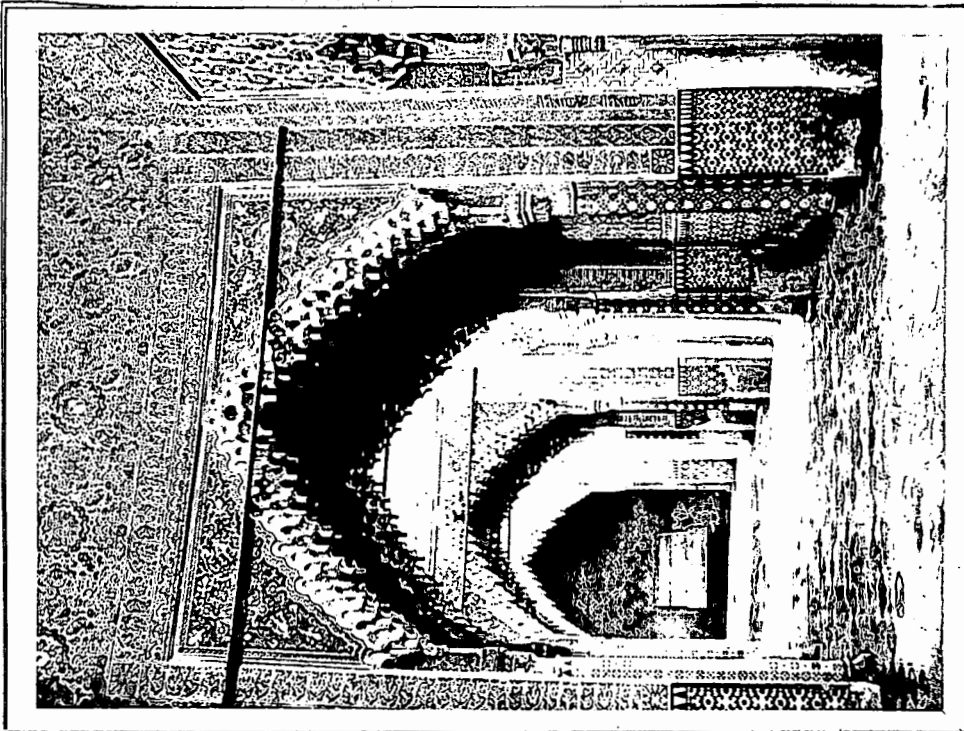


Fig. 25. Alhambra - Granada  
Sala de Justicia

nate in its elaborate decoration. These decorations may be divided into five zones from floor to roof.

1. A dado of tiles or what might better be termed azulejos, four feet in height.
2. Stucco work in eight horizontal bands of different patterns.
3. A row of five windows on each side.
4. A curved wooden cornice.
5. The "artesonado" roof.

In this room, as in practically all rooms throughout the palace, long inscriptions are introduced into the decorations.

To the east lies the Patio de los Leones, (Figs. 26, 27, p. 109 and Fig. 29, p. 110) a court one hundred sixteen feet (east to west) by sixty-six feet (north and south), which together with the halls opening into it occupies the southeast quarter of the pile. The name is derived from the fountain supported by twelve conventional-looking beasts. The Patio de los Leones is considered by many writers to be the gem of "Arabic art in Spain"; however, it presents two apparent defects which would without doubt remove it from the consideration of monumental art: (1) it is small in size and comparable to a small church, (2) in its materials it is simply wood covered with stucco.

The arcade surrounding the Patio is formed by one hundred and twenty-four white marble columns eleven feet high, which are placed irregularly, sometimes singly, sometimes in twos and threes; this, however, does not disrupt the harmony of the whole. These shafts are certainly not objects of beauty; they are not graceful and they bear

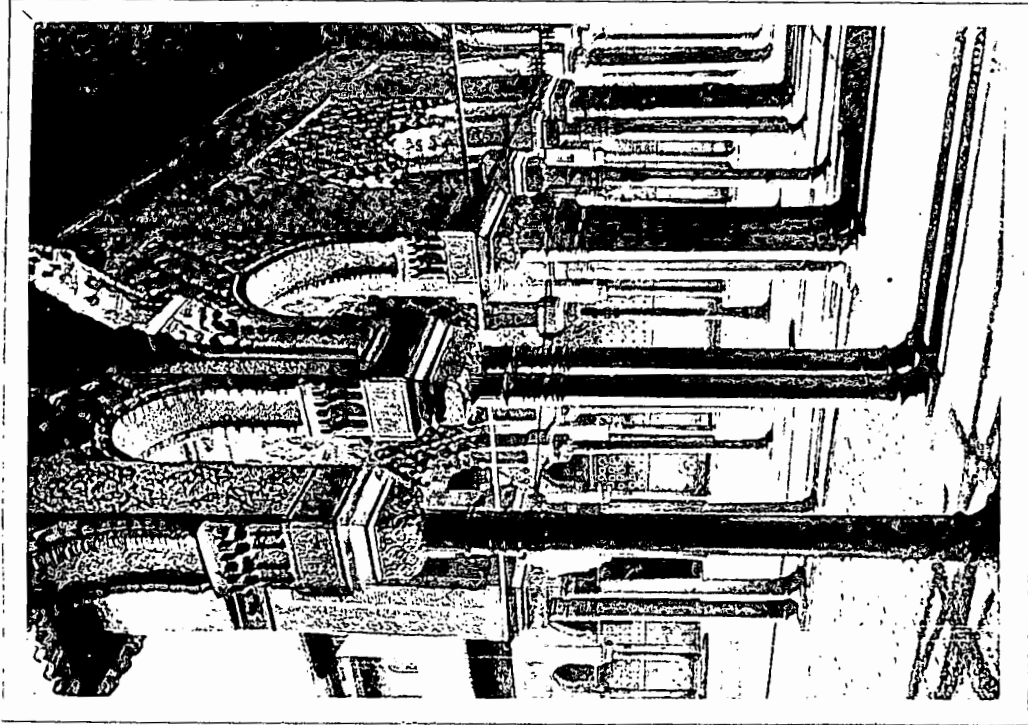


FIG. 26. Alhambra - Granada  
Patio de los Leones  
Colonada

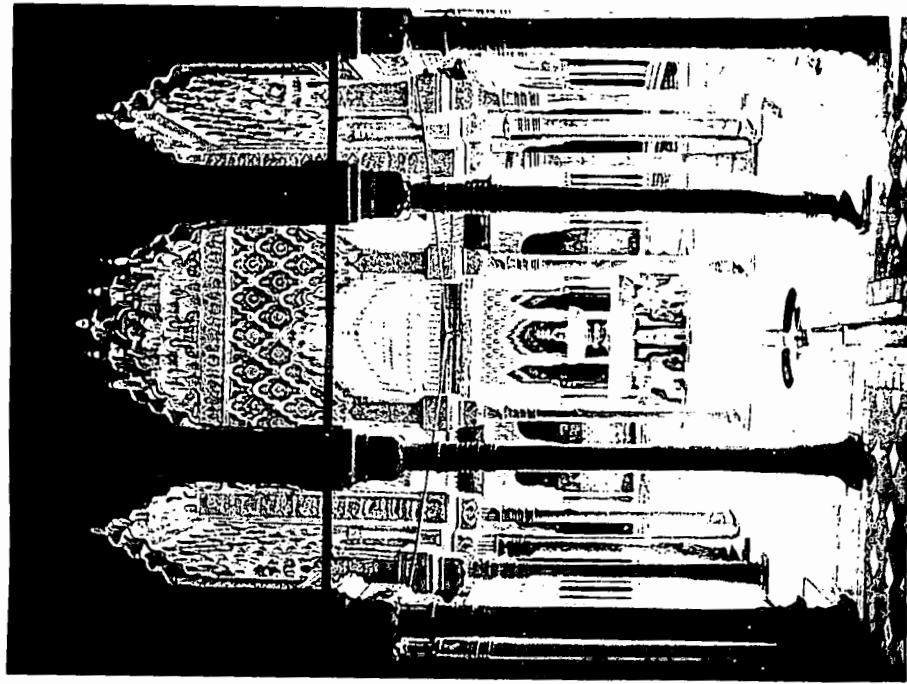


FIG. 27. Alhambra - Granada  
Patio de los Leones



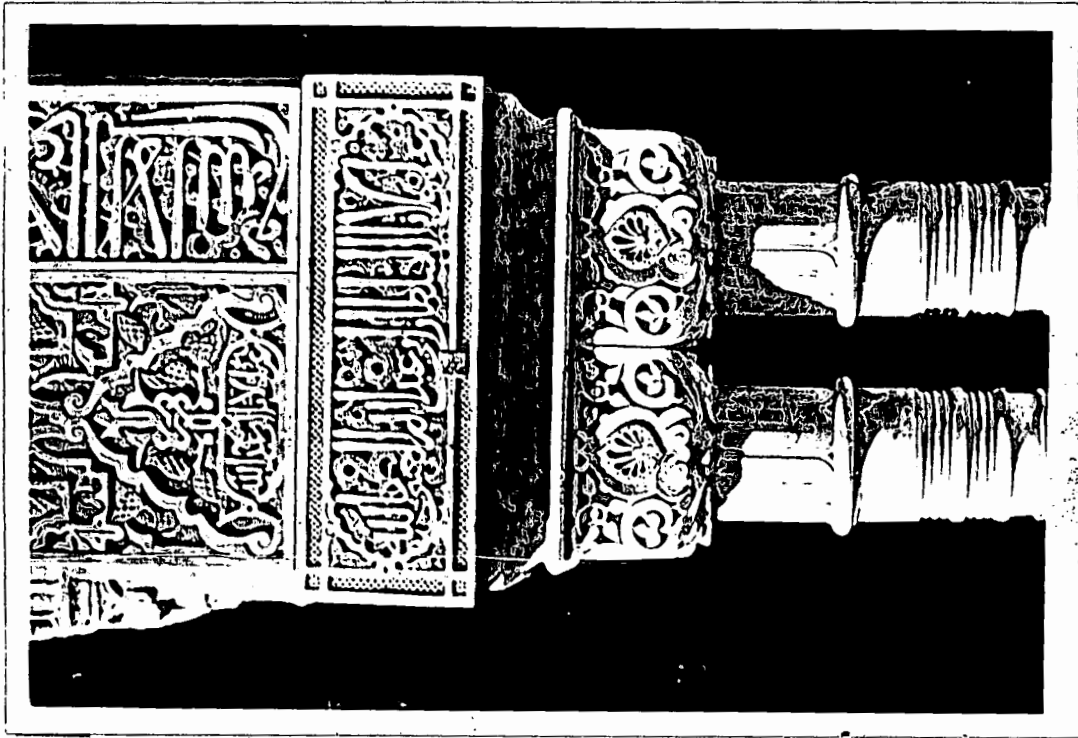


Fig. 29. Alhambra - Granada  
Patio de los Leones  
Capitale

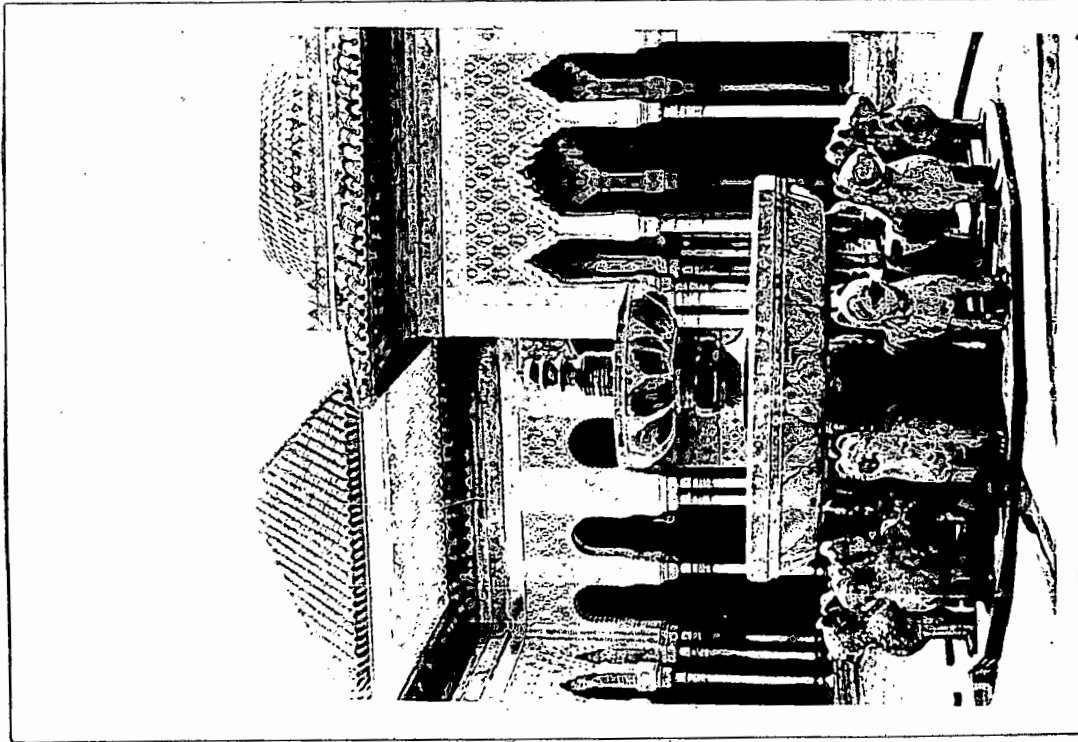


Fig. 28. Alhambra - Granada  
Patio de los Leones

considerable resemblance to modern cast iron props, despite their material. The capitals (Fig. 29, p. 110) are on the other hand gracefully moulded and are adapted for the support of the superstructure they were to bear. It should be pointed out that the graceful grouping of the shafts and the fact that their alignment is so completely broken by the projecting porticoes serve to detract from their being prominent in themselves; therefore they become more as accessory details.

The arcades supported by these columns are moulded in stucco and present a richness and beauty which is in good taste, for it is a commonplace that work which is executed in plaster should be richly decorated; otherwise the result is an unsuccessful attempt to imitate the simplicity and power that belong to a more durable and more solid material. At each end of the Patio is a pavilion with cupola, roofed with bright-hued tiles and elaborately decorated.

Horseshoe arches lead to the apartments on the north and south of the Patio. The Sala de los Abencerrajes (south of the Patio) has as its chief feature a stalactite roof of carved and painted wood -- its plan like that of a star with apparently innumerable pendants, and with sixteen elegant (closed) windows at its angles. The walls are ornamented with geometric and flowing patterns of considerable beauty and richness. The first impression is one of confinement and irregularity in appearance; however, after study its many and intricately combined lines reveal a regularity of plan.

On the north side of the Patio de los Leones is a hall similar to the Sala de los Abencerrajes, this is the Sala de los Dos Hermanas. The upper story was destroyed and is indicated by a lattice balcony.

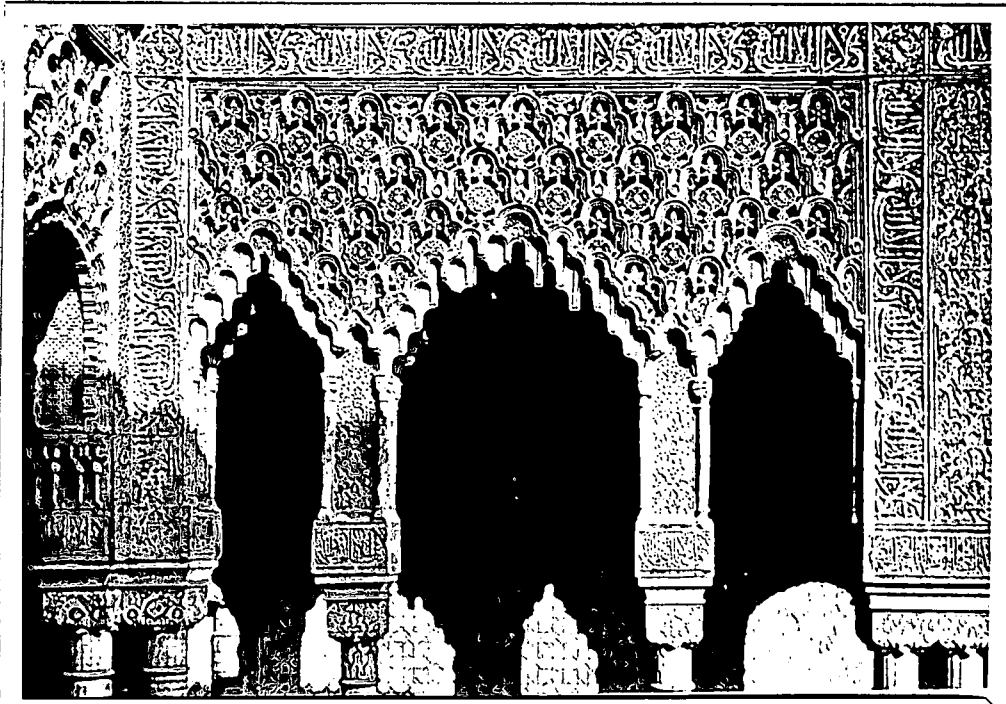


Fig. 30. Alhambra - Granada  
Patio de los Leones



Fig. 31. Alhambra - Granada  
Patio de Arragés

This hall suffered less from the restorer's hand and was the most elaborately decorated part of the palace. Arches lead to alcoves which form almost separate rooms. The roof is of stalactite character, and over five thousand pieces are reputed to have entered into its construction. Here the builder almost ran about of good taste and stretched the fatal facility of plaster almost to its limit. In the large arcades and honeycombed or stalactite roofs instead of natural curves we are presented with something of almost rockwork appearance rather than the forms of an art -- an art which should be more or less formal and comprehensible at a glance, at least in its greater lines.

The Mirador de Daraja (from vestibule) lies to the extreme north of the Sala de los Dos Hermasas; it is possessed of tall windows which look down onto the Jardin de Daraja. This was reputed to be the best-preserved apartment. (Fig. 33, p. 114)

The extreme eastern end of the pile and eastern end of the Patio de los Leones is occupied by the Sala de los Reyes o de Justicia, a long narrow gallery with seven small alcoves opening into it. This hall is lighted by windows which were let into three cupolas over the archways. One feature of this apartment is to be found in the extremely rare specimens of mediæval Moslem figure painting. Executed on leather prepared with plaster and nailed to the ceilings of poplar wood are curious pictures in vivid colors. Critics are of the opinion that these were done during the fourteenth century and that they were executed by an Italian artist. The later opinion is based on the resemblance to the frescoes in the Campa Santo of Pisa.

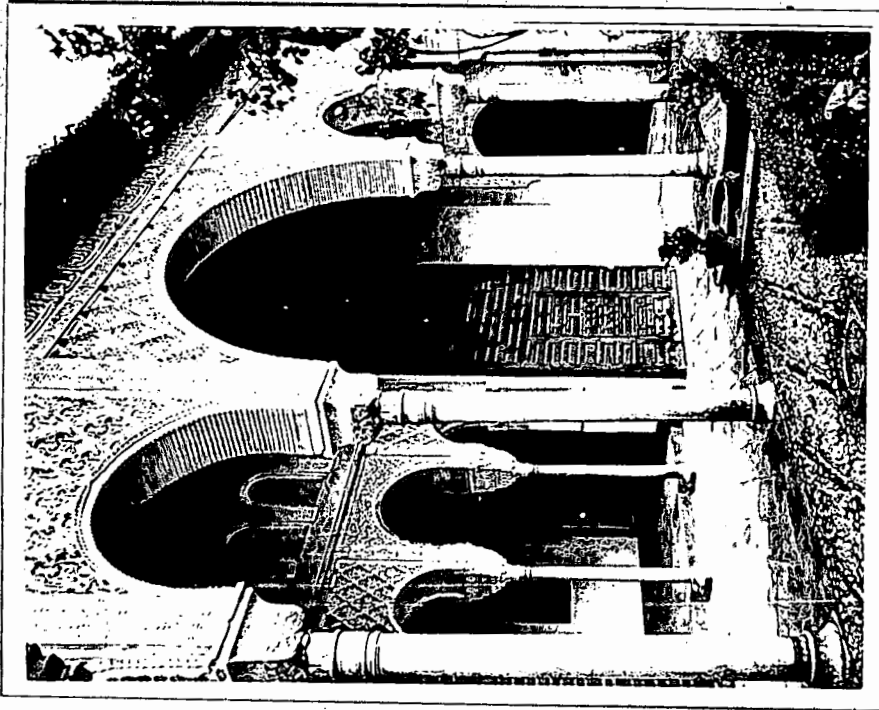


Fig. 32. Alhambra. Granada.  
Colonnado - Generalife

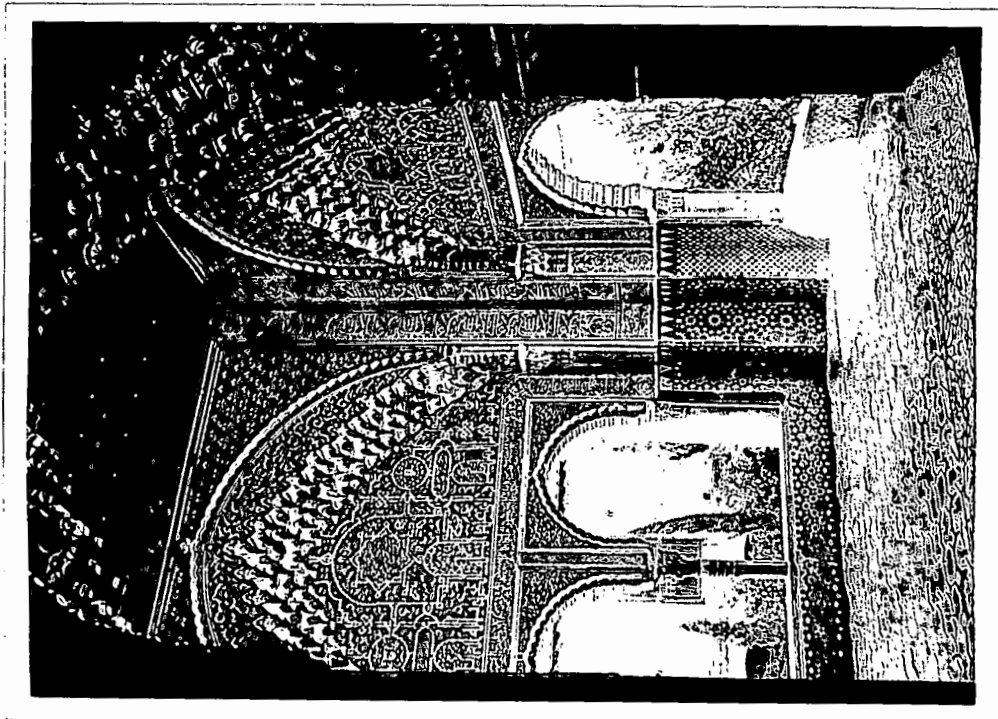


Fig. 33. Alhambra. Granada.  
Mirador de Darroja

The tower at the south-eastern corner, the Rauda, or mausoleum of the Sultans.

Below the Sala de las Dos Hermanas and connected with the Hojuar quarter by a tunnel which ran beneath the Salon de Comares were the Baths. The Sala de la Barca between the Patio de la Alhambra and the Salon de Comares was destroyed by fire in 1890. It presented a vaulted roof made of wooden fretwork painted and gilded.

The Alhambra may be accepted as the last word in Moslem decoration at the westernmost portion of the Occident. The bright colors, stalactite vaults, delicate marquetry, the reliefs, and arabesques are typical of the Moslem architectural enterprise in Spain. The structural methods can be questioned; many walls of their buildings are mud re-enforced with courses of brick and the panels are plaster which despite their elaborate and colored ornamentation may be beautiful but are not substantial, and the wooden ceilings are masked by revetments and hanging stalactites. In the Alhambra, tile, glass, and painted gypsum are the main elements of decoration. The gypsum decoration is considered a characteristic of the Moslem building in Spain, is thought to have had its beginnings in north Africa early in the tenth century, and is peculiar to the Mediterranean area.

None of these buildings in Spain possess minarets (as we think of them) and neither do we find anything to take the place of the aspiring forms found in the East, with the possible exception of the Giralda at Seville, which is apparently a more massive tower than any other remaining work of a Moslem builder.

The Giralda (Figs. 34, 35, p. 117) is one of three great towers (sometimes spoken of as minarets) built by Geber of Seville, the three are the Hassan Tower at Rabat (1196-99), (Fig. 36, p. 116) the Kutubiya at Marrakesh (1197), (Fig. 37, p. 118) and the Giralda at Seville (1196).<sup>1</sup> A similarity is apparent between these three works, and though the Giralda is on occasion used as an example of Mudejar, neither of the two Moroccan towers is so mentioned. Here we have a case where a diffusion of a particular style or effect is caused by the work of a builder in different locales. Perhaps some day, someone will try to make a case for Moroccan influence on the Giralda or vice versa.

Forty-five feet square at the base, rising to a height of one hundred and eighty-five feet without diminution, with the walls nine feet thick at the base and increasing in thickness as the tower ascends. This most celebrated of minarets was connected with the mosque commenced in 1172 and finished in 1196. The tower itself was erected in 1184 and is decorated with rows of windows, mostly of two lights -- some with horseshoe, others with the pointed arch, and then inclosed in other arches, exhibiting varieties of design. The windows are flanked with broad panels of sunken ajuraca work, vigorously carved.

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<sup>1</sup>Gonzales y Fernandez, Mudejares de Castilla (Madrid, 1869), p. 100, note 2.

Gaston Migeon, Les Arts Musulmans (Paris, Librairie Nationale d'Art et d'Histoire, 1926), p. 23, dates Marrakesh 1184.

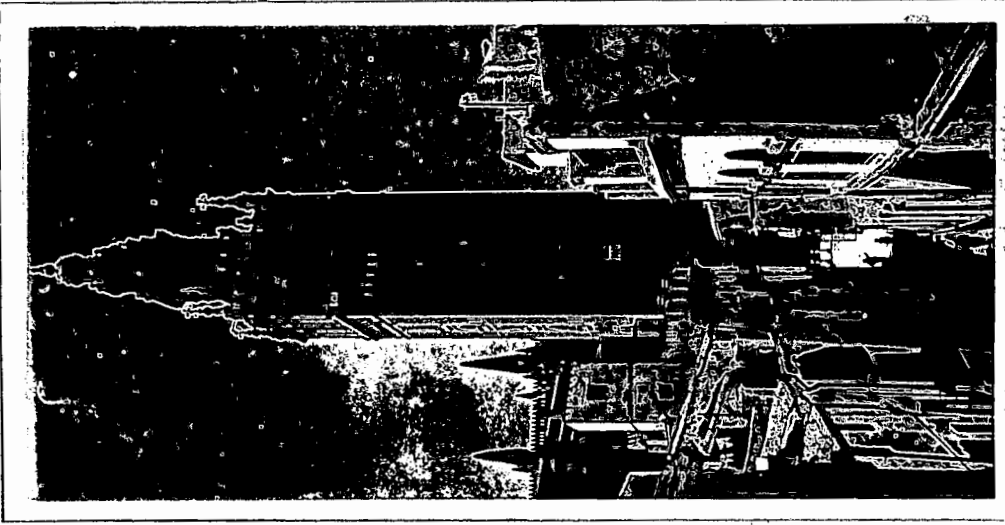


Fig. 34. Giralda - Seville

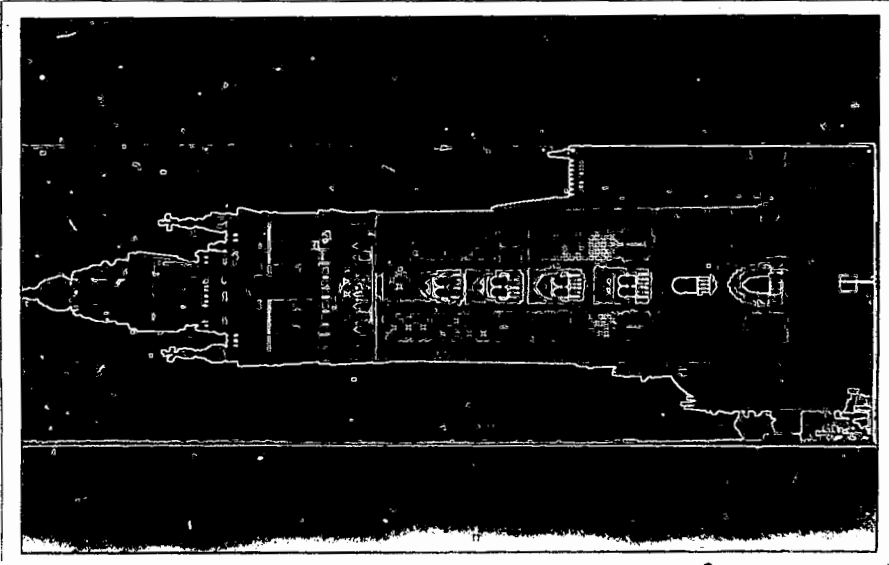


Fig. 35. Giralda - Seville



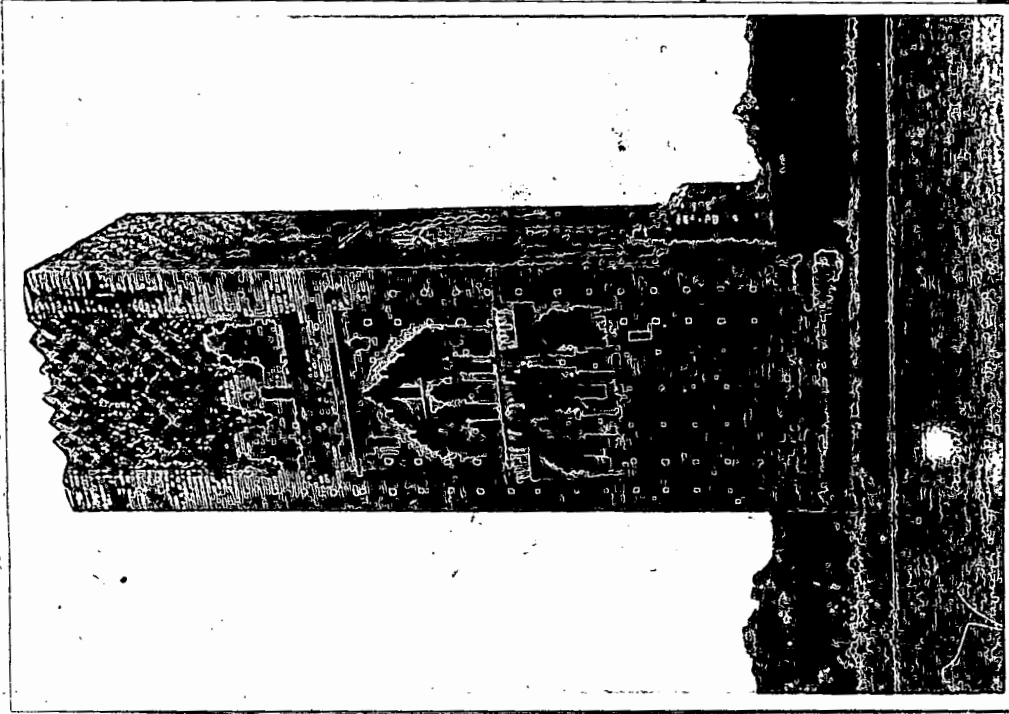


Fig. 36. Hassan tower  
Rabat

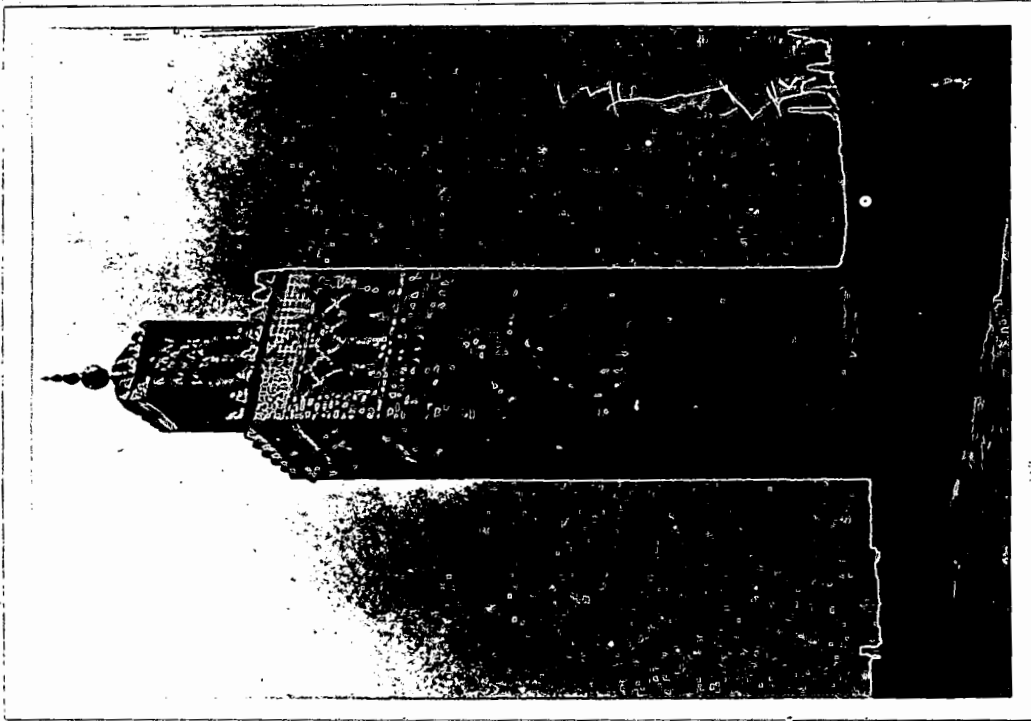


Fig. 37. Kutubiyyat tower  
Marrakech

Hitti disposes of the Giralda with one simple statement, that it is "decorated with cusped arcading, anticipating later Gothic tracery."<sup>1</sup> In considering the Giralda tower nothing above the first projecting horizontal course should be considered as Moslem, since we have nothing to help us restore with any degree of certainty the termination which was displaced to make room for the more modern belfry. The tower has been copied in modern buildings and is pointed to as a culmination of decorative work in flat brick and mortar masonry, the walls being relieved with panels to just the extent required for ornament without interfering with the construction or apparent solidity, while the fenestration is both graceful and appropriate and the openings in just the number as seems to be required.

A peculiarity of Spanish Moslem architecture appears in the limited use of the dome; apparently working from Roman models, the Moslems do not seem to have adopted the Byzantine dome at this period and in this locale -- at least, not to any extent. In the mosques and palaces built in Spain the dome appears as an ornamental detail, not constructed of stone or brickwork but a framing covered with stucco or mastic. The Spanish Moslem style here presents a marked difference from eastern architectural practice, where the domes often constitute the actual roofs of the buildings and where the domes were so durably constructed.

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<sup>1</sup>Hitti, op. cit., p. 598.

By the same token, vaulting seems to have been an art to which the Spanish Moslem paid little attention. Practically all of the roofs were of wood, carved and painted, or of stucco. Apparently the use of stucco (in the case of the dome) was not in imitation of stone but was a legitimate mode of ceiling, and certain it is that the use made of it by the Spanish Moslem with the evident flare for fanciful profuse decoration was legitimate and preferable to the use of more durable and less workable material. This stucco use also serves to point out another characteristic of this expression, this architecture from which all feeling of solemnity and thought for the future has been removed. It is building for the moment, as it were, and yet it is one of the most interesting of architectural "styles" -- in all probability because it is the most familiar of Moslem architectural styles, the form which is best fixed in our minds; yet it appears to be inferior to other of the Moslem expressions, inferior in its lack of durability, inferior in its lavishness and dependence on ornamentation and decoration to hide its hurried experimentalism. Certain it is that it lacks the elegance and restraint to be found in India and the form and simple elegance found in Egypt. However, that can be a matter of taste, and it is not within the province of this paper to discuss individual preferences or aesthetic credos.

There is another possible explanation of the absence of considerable dome building in Spain. Quite early in the history of Islam the dome is connected with the tomb, and in Spain there is an absence of the tombs which formed a feature of Moslem architecture at other

places. If they had been tomb-builders, as their eastern brethren were, it could then be assumed that their style would have developed a more monumental character, that true domes would have been introduced and applied at least more frequently and in further development than the remains indicate.

It is therefore feasible to assume that the Arab-Berber conquerors of Visigothic Spain were unable to resist the influence of two centuries of Visigothic domination in the peninsula or to resist the character of the country itself. Moreover, certain it is that there is a vast difference between the Mosque at Cordova and the Alhambra. At Cordova (and elsewhere) they not only used materials from former buildings, ancient and Visigothic, but (it can be assumed that) they also inherited and put to use Visigothic techniques. Wherever the horseshoe arch actually originated (and there are those who would make a case for Spain and for the Visigoths) it is most evident that it is typical of the Moslem buildings in Spain and along the Western Mediterranean, where even today it is characteristic of buildings of Morocco, Algeria, and Tunis. It makes no difference where the horseshoe arch did originate. It was put to systematic use in Spain under Moslem rule. Historically it is true that we find it in the plan as well as the windows and arches of Visigothic buildings, but despite the torturous dialectics of Rivoira<sup>1</sup> who tries so desperately to make

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<sup>1</sup>Rivoira maintains that his work "is devoted to an inquiry into the origins and the development of the elements which were destined to form one branch of that style." Rivoira proposes certain origins, development and systematic use of the horseshoe arch in Spain as well as an inquiry as to whether certain little known ecclesiastical buildings

a case, first pro and then con, the bare fact remains that up to about 1907 there was in Spain only one authentic Visigothic monument known -- San Juan de Baños near Valladolid, and certain architectural features there can be questioned. (Figs. 38, 39, p. 123)<sup>1</sup> If we accept the thesis that the horseshoe arch is an important feature of Visigothic structure, that when a curve is required this is the form most frequently used -- in preference to the semicircle, with the result that it appears in the outline of the apse, in the arches between nave and aisles, in windows, doors, interlaced ornamentation, -- then it would appear quite probable that the Moslems applied it to their own structures in the Iberian peninsula, since it is most evident that they adopted and practiced what they found to be prevalent in a conquered

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in Southwestern Asia had influence on Moslem and Christian architecture.

The writer of this thesis has spent considerable time with Mr. Rivoira's tome and feels that it is a volume which needs much clarification and a more straightforward delivery. It demands very careful inspection. His statements are somewhat misleading, for his literary style is pregnant with phrases of various interpretations. He is difficult to "pin down to facts." The writer of this thesis concurs with Riggs, who states, "A series of remarkable discoveries in Armenia, Mesopotamia, and Turkestan, though revealed to us in a bellicose way, has shaken our confidence," and further agrees with Riggs: "A generation hence it may be possible to estimate with some confidence the legacy of the Islamic world to architecture; but in the present state of scholarship so much doubt exists as to several important aspects of Muhammadan Architecture that only a violent partisan can feel sure of his ground. It is unfortunate that much recent research, which should have thrown light on uncertain points, has been presented to us in the form of polemical arguments."

Fridtjof Nansen has some interesting comments concerning various Armenian buildings, the Church of St. Euphrosina, Echmiadzin in particular. For interesting account, measurements and viewpoint, see Fridtjof Nansen, Armenia and the New East (New York: Duffield & Company, 1928), in particular, pp. 205-219.

<sup>1</sup>See Detail Plates, section on "Ornament" Chapter III, part 4)

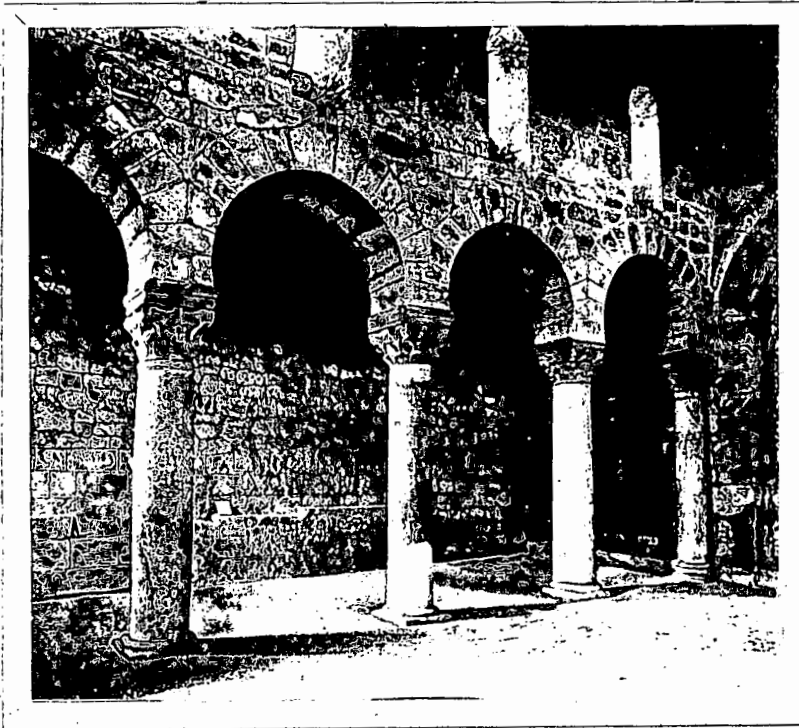


Fig. 38. San Juan Bautista de Banos  
North arcade of nave

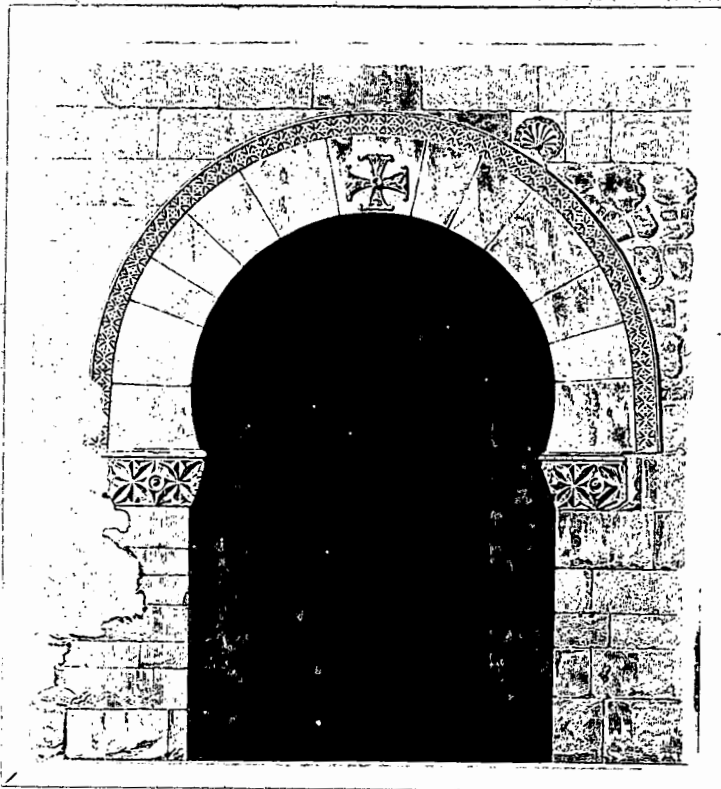


FIG. 39. San Juan Bautista de Banos  
Arch

territory. There are those who stoutly believe that the Moslems brought it with them. This idea is pure rubbish, either the product of those individuals who have tried so desperately to make a good case for their pro-Arab cause and who lose sight of the existence of the particular arch in other climes. There are others who maintain that the Visigothic barbarians took it with them into the peninsula with other Eastern customs and styles. This would pose a neat question should one want to pursue it further -- why did not Theoderic's monuments at Ravenna reveal this unique feature? One wonders why a case has not been advanced for the Semitic population which was already in Spain, before the Moslem nomads, as the introducer or transmitter of the horseshoe arch.

It is not the intent to try to make a case in favor of Visigothic influences upon the Moslem, but it should be pointed out that the Visigoths are particularly remembered as being remarkable goldsmiths and most adept in the employment of geometrical motives and interwoven designs, and that there is a striking similarity between their ornamentation and that of the Spanish Moslem in its endless use of wheel-like designs, combinations, stars, etc., and that one must not overlook the fact that many of their capitals were derived from Visigothic sources and remains. Saladin has noted this derivation of the capitals in his Manual of Architecture.

# COMPARATIVE ARCHES



1 TRIANGULAR



2 CORBELLED



3 SEMI-CIRCULAR



4 SEMI-CIRCULAR STILTED



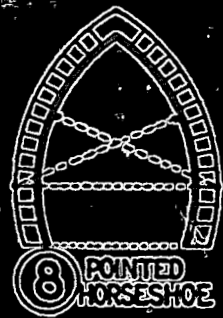
5 SEGMENTAL



6 ROUND HORSESHOE



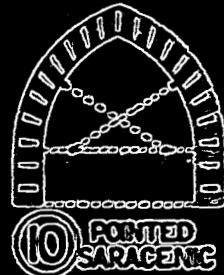
7 MOORISH MULTIFOL



8 POINTED HORSESHOE



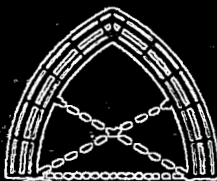
9 HORSESHOE



10 POINTED SARACENIC



11 LANGET



12 EQUILATERAL



13 DROP



14 POINTED SEGMENTAL



15 THREE CENTRED



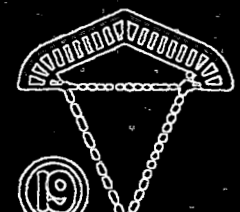
16 DEPRESSED THREE-CENTRED



17 FOUR-CENTRED (TUDOR)



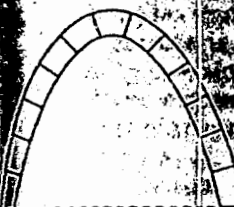
18 RAMPANT



19 PSEUDO-FOUR-CENTRED



20 ELLIPTICAL



21 PARABOLIC



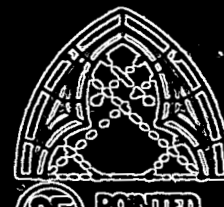
22 ROUND TREFOIL



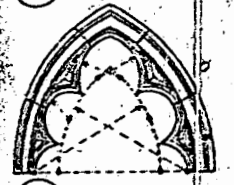
23 POINTED TREFOIL



24 ROUND IRREFOLIATED



25 POINTED IRREFOLIATED



26 CINQUEFOIL



27 MULTIFOL



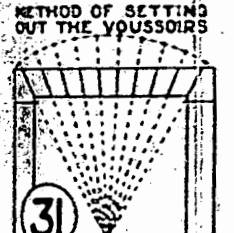
28 OGEE



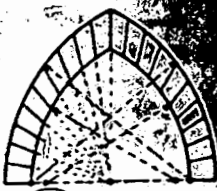
29 OGEE



30 PSEUDO-TRE-CENTRED



31 FLAT OR STRAIGHT



32 ITALIAN POINTED



33 VENETIAN



34 FLORENTINE



35 SHOULDERED

METHOD OF SETTING OUT THE YOUSSOIRS



Arch

Selecting the best of available evidence concerning the arch, its use in Moslem Spain, and the use made of it by the Moslem predecessors, it is found that the task of arriving at some satisfactory conclusion seems hopeless.

Rivoira's needlessly complicated and conclusion-less presentation offers ambiguities which have forced the presentation of more strictly historical evolution concerning this aspect of the problem than his.

Rivoira presents us with the idea that "we must not suppose that the Moslem brought the horseshoe arch with them." Moreover, he advances the thesis that this arch had not attained to "systematic use" at that time and that its use was restricted in a tentative form to the "larger niches" in the mosque at Damascus (706-714). He then proceeds to inform us that we do not know when it was introduced into Spain and further that "everything tends to prove that" at Cordova it was first applied. Rivoira also supports his presentation on the basis of a "Roman tradition as old as the II century," which he maintains is based on a passage in Isidore of Seville dealing with arches larger than the semicircle:

Arcus dicti, quod sint arca conclusione curvati.<sup>1</sup>

The version of the above quotation: "They are called arches because the ends are markedly curved inwards"<sup>1</sup> is presented as having "been generally accepted without question."<sup>1</sup> Mr. Rivoira maintains that "the

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<sup>1</sup>Rivoira, op. cit., p. 241.

real meaning is approximately":

Arches were so called because their curve closes up at the keystone.<sup>1</sup>

The accuracy of Isidore has been questioned before now in other than architectural matters, the point of the pointed or horseshoe arch would seem to revolve around the word 'conclusiones' and whether or not a tona fide horseshoe arch would be "conclusiones."

In appraising existing monuments Rivoira advances the Seville gate of Cordova where arches of the horseshoe type are evident; this gate he places within the "Visigothic Age." This he then proceeds to cancel by the example of the church of San Juan de Baños de Cerrato, which he maintains displays the same internal curve, but he emphatically mentions that "San Juan at Baños de Cerrato, which certainly does not belong to Visigothic times." (Figs. 40, 41, p. 128 and Fig. 42, p. 129)

One page further (p. 245) he states, "Other churches assigned to the Visigothic age are: San Juan Bautista at Baños de Cerrato . . . ." One paragraph further he re-emphasizes the genuineness of San Juan at Baños by adding the claim of Lamperez y Romea. One page further he states:

The Church of San Juan Bautista at Baños de Serrate is the best preserved of the buildings ascribed to the Visigothic period, and also, apparently, the one which has real evidence to support its claim.

He documents the claim by the inscription on a votive stone

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<sup>1</sup>Ibid., p. 242.

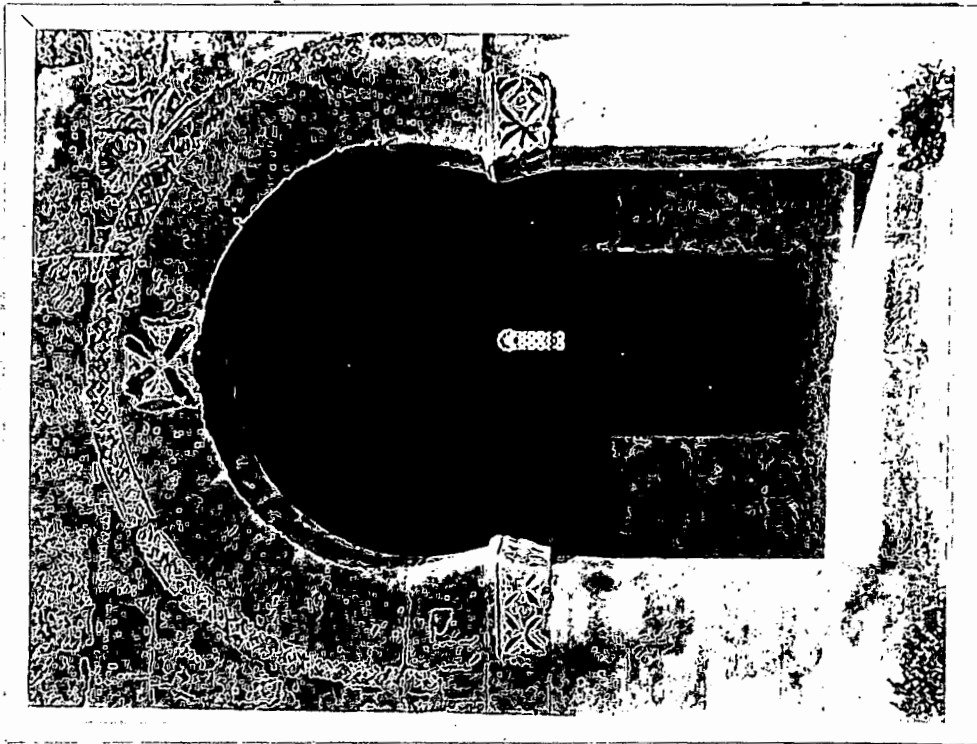


FIG. 40. San Juan Bautista e Banos de Cerrato -- Pre-Islamic



Fig. 41. San Juan Bautista e Banos de Cerrato  
Nave



Fig. 42. San Juan Bautista a Banos de Gorrato  
Pre-Islamic

No discussion was found of this detail in any work consulted. Original may be found in Library of Architectural Documents, Monumentos Arquitectonicos de Espana, Vol. IV (New York: Pencil Pointe Press Inc., 1925), p. 33.

ascribing the erection of the church to King Reccoswinth (649-672). Preceding his presentation of data concerning this building, Rivoira has implemented us with confusing notions concerning the horseshoe and pointed arch; he interweaves his arguments with the presentation of other material under the heading of San Juan at Baños, and after giving us the evidence of Visigothic validity he concludes his presentation on page 250 with this tidbit: ". . . it belongs to the XII century."

All of this foggiess is to be regretted for, it is totally unnecessary and behind it lies an undercurrent of a desperate effort to make a case for Lombardic influence.

There are other views which might be presented before a consideration of the historical approach is made.

Religious symbolism is the theme presented by Havell, who evidently thinks that European writers place too much emphasis upon the constructive principle in tracing architectural style.<sup>1</sup>

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<sup>1</sup>Modern European writers who try to trace the derivation of architectural style entirely from constructive or technical processes would do well to note that the pointed arch in Arab archi, was a purely religious symbol before it became a distinctive structural feature in Saracenic building. The symbolic idea connected with the pointed arch preceded the general use of it as an organic structural feature in place of the round arch and horizontal beam. It appealed to the devout Musulman not because it was architecturally useful and beautiful, but because it symbolized the two fundamental concepts of his faith -- God is one, and Muhammad is His Prophet. It was the architectonic symbol of the hands joined in prayer; it pointed the way to mecca and to paradise, and demonstrated mathematically the divine truth that all things converge toward and meet in the One." See Havell, Indian Architecture (London, J. Murray, 1927), p. 7.

Pursuing Havell's idea, we observe his development of the trefoil arch<sup>1</sup> from what he terms pointed arch. Rivoira in a discussion of the multifoil arch<sup>2</sup> places its origin in the trefoil and uses Havell as support<sup>3</sup> (referring to Havell) pp. 77-84. Hence, despite his efforts made in the San Juan at Baños presentation he has (indirectly) placed the origin of the pointed arch squarely in India.

<sup>1</sup>Ibid., p. 82. "The pointed arch was by no means unfamiliar to Indian craftsmen before the Muhammadan invasion though structurally they had used it very sparingly and on a small scale. It has not yet been understood by European writers that the trefoil arch originated in Indian Buddhist symbolism many centuries before it appeared in Western art. . . . it originated with the transcendental ideas connected with the Indian conception of the Deity and with anthropomorphic symbolism."

<sup>2</sup>Rivoira, op. cit., p. 336. "The multifoil arch has its origin in the trefoil arch first used in Gandhara as an ornamental form for the walls and domes of Viharas, this was before 600; and later it was used in the construction in Kashmir, but not before the VII century. An early and remarkable instance is afforded by the temple of Martand. (724-760)" Footnote to above (in Rivoira):

Atti del Congresso internazionale de Scienze storiche (Rome, 1-9 April 1903), vol. vii.

Fulke, Riffessi indiani nell' arte romana, pp. 112-114.

Foucher, L'Art grec bouddhique du Gandhara, pp. 125-232, 139-146.

Vincent A. Smith, A History of Fine Arts in India & Ceylon, pp. 46-48.

<sup>3</sup>Ibid., p. 366. "It has been imagined that the trefoil arch made its appearance, earlier than the instances in Gandhara and at Mathura, in Magadha in Northern India." Rivoira's footnote to this statement refers to Havell, op. cit., pp. 79-84.

"It has also been asserted that the multifoil arch was known in India from early Buddhist times, as seen, for example, in the large niches of a pavilion adjoining the temple of Vitthalaswami in Southern India." p. 371. Rivoira's footnote to this statement refers to Havell, op. cit., pp. 182-183.

"As early as the IX century it is found used constructively in Mesopotamia for the mosque of Samarra (847-861) contains examples in the inside of the windows of the south wall. In the same century it occurs as a decorative feature in the dome erected by Ibrahim II (874-902) in the great mosque of Kairawan. But it is in the mosque of

Since Havell's<sup>1</sup> and Rivoira's views are closely related, it will be well to scrutinize the technique employed by Rivoira and then to appraise the basis of Havell's remarks, those quoted or interpreted by Rivoira as well as those taken from Havell directly. It is to be noted that the Rivoira statement concerning the origin of the multi-foil arch (footnote 2, pg. 131) does not mention Havell as a source.<sup>2</sup> Regarding footnote 3 on page 131, Rivoira refers in his footnotes directly to Havell, pp. 79-84. Page 80 of Havell's Indian Architecture contains this reference to the arch:

Here, also, (temple of Sayyid Sabaruk -- 1039-1011) for the first time apparently, clerestory windows with pointed arches were introduced into the octagonal base of the dome, giving the structure a distinctly Byzantine appearance.

On page 82 Havell gives the reference to arch quoted in footnote 1; the next reference Havell makes to the arch is to be found on page 84:

The term "horse-shoe arch . . . . is very inappropriate (applied to these Indian Buddhist buildings) for the horse-shoe has no meaning in such a connection, whereas the lotus leaf was a symbol so full of sacred associations for Buddhists that this form of window and gable is found constantly repeated in early Indian buildings as a decorative motif when it was not required structurally.

These are the only references made by Havell to the arch within

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Cordova and the part due to Balkan that it appears for the first time used systematically in construction. And it is there too that it is first used systematically in intersection.<sup>3</sup> Rivoira, op. cit., p. 371.

<sup>1</sup>See footnote 3 on preceding page.

<sup>2</sup>The sources given by Rivoira for this paragraph have not been checked because of unavailability of the three volumes.

the pages designated by Rivoira. But if we cull the references to arches from the next few pages (85-87) we find the essence -- without the symbolic implications given by Havell -- of the compounded Rivoira statement quoted in footnote 2 and which appears on page 336 of Mr. Rivoira's volume:

Havell page 85. The trefoil arch was a compound aureole, or numbus, made up of a combination of the lotus and pipal or banyan leaf . . . . The pipal leaf stood for the glory around the head of the Buddha, while the lotus leaf remained as before to indicate the shape of the aura which surrounded the body. The intersection of the two formed the trefoil arch with a pointed crown. A very common variety of this was made by the chakra, or wheel of the Law -- which was also the emblem of the sun-gods, Vishnu, Surya, and Mitra -- taking the place of the pipal leaf, making the crown of the arch round instead of pointed.

Havell page 86-88. The structural use of these trefoil arches and of their derivations began in Indian buildings . . . . in the early centuries of the Christian era.

A Graeco-Roman adaptation of this with trefoil arches . . . . taken from the Ali Masjid stupa in the Gandhara country a building of about the first century A.D. Several varieties of arched niches of a date long anterior to the Hagira are found in the ruins of the famous Buddhist monastery of Nalanda which flourished from the early days of Buddhism until about the eight century A.D.

Havell page 86-7. The sun temple of Martand in Kashmir, built in the middle of the eighth century, shows the round trefoil arch used structurally both for doorways and for niches . . . . the transition from the simple lotus-leaf, or so-called horse-shoe arch, to lobed or cusped arches was all the more easy because the inner curve of the early Indian gable or window was divided into a number of equal spaces by the ends of the horizontal wooden purlins which supported the roof.

There is a continued dependence upon symbolism in these pro-



sentations, and while symbolism may be acceptable, it is not proof conclusive; it is like much so-called "tradition" and more often than not on less sure ground than a homely definition of "tradition" -- "the embalmed remains of one time fact." Riveira has resorted to a familiar technique, and, though he questions certain documented dates of most of the monuments he discusses in his volume, he has, it is believed, used Havell's symbolically derived formulae to bring his tortuous volume to a close -- but he failed to point out Havell's basis of reasoning. This is not the type of scholarship that engenders confidence.

Since Riveira was familiar with Havell's volume, the use of the word "intersection" in Havell's demonstration of the genesis of the trefoil arch with pointed crown (quoted above, page 85) is pertinent. Also it is noteworthy that the undertone of the Havell presentation is from a decorative source, not primarily concerned with structure.

The Toledo mosque of Bib-El Mardou, now known as the church Cristo de la Luz, is considered by Trend to be "exquisite" and "originally a Visigothic Church." It is ascribed to the time of Athanagild (554-567). It supplies us with examples of interlaced arches ("intersection") within and without the building; inside the walls are lined with 'blank arcading' -- rows of 'dummy' arches leading nowhere.<sup>1</sup> Trend states frankly, as have others, that this feature of intersecting arches or dummy arcading (which is used

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<sup>1</sup> J.B. Trend, Spain and Portugal in the Legacy of Islam (Oxford, 1931), p. 12.

decoratively) "is the earliest instance of its use," the next being in the cathedrals of Durham (1093) and Eorwich (1119). Trend also points out that this became a favourite device. (Figs. 43, 44, p. 136 and Figs. 45, 46, p. 137)

Havell is somewhat adamant in his adherence to the theory of India as the fountainhead of the pointed arch, and yet he points to Moslem ritualistic insistence upon the use of the arch.

Now, when Muhammadan ritual insisted that arches should be used in Indian mosques, the first impulse of the Indian craftsmen was to adapt these plastic forms, with which they had been familiar for centuries, to structural purposes. They proceeded to Indianise the Persian or Arabian type of pointed arch, originally derived from early Buddhist shrines, first by giving the crown the pointed tip of the pipal leaf, like the aura of Indian Buddhist images. These we can see in a great many of the thirteenth-and-fourteenth century Indian mosques.<sup>1</sup>

The ritual insistence is interesting but does not explain the earlier use by the Moslems in other climes. The structural purposes imply that even though the Indians may have been familiar with it they had not put it to structural use. The same could be said for any other peoples. (The dates are damaging to Havell's case.)

Still pursuing his theme, Havell is apparently forced to admit the purported Indian source of what he has chosen to label the Arab or Saracenic arch in decorative features:

We have already seen that in the fourteenth and fifteenth centuries at Kulbaraga, close to Bijapur and their capital of the Dekhan, and farther north at Mandu, the capital of Malwa, the local Indian builders, who had been familiar for long centuries

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<sup>1</sup>Havell, op. cit., p. 88.

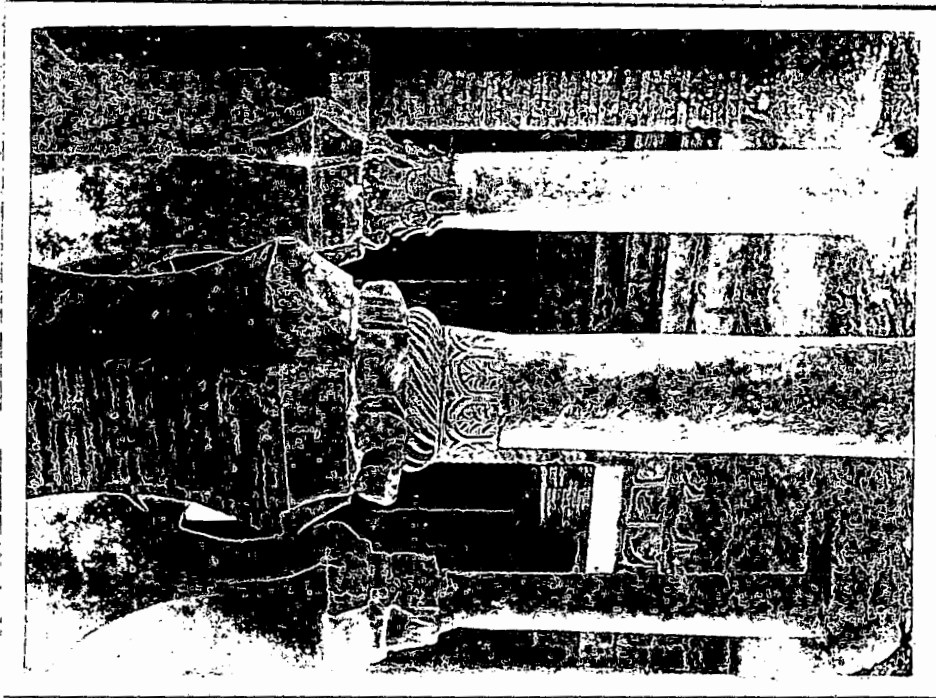


Fig. 43. Cristo de la Luz - Toledo  
Pre-Islamic

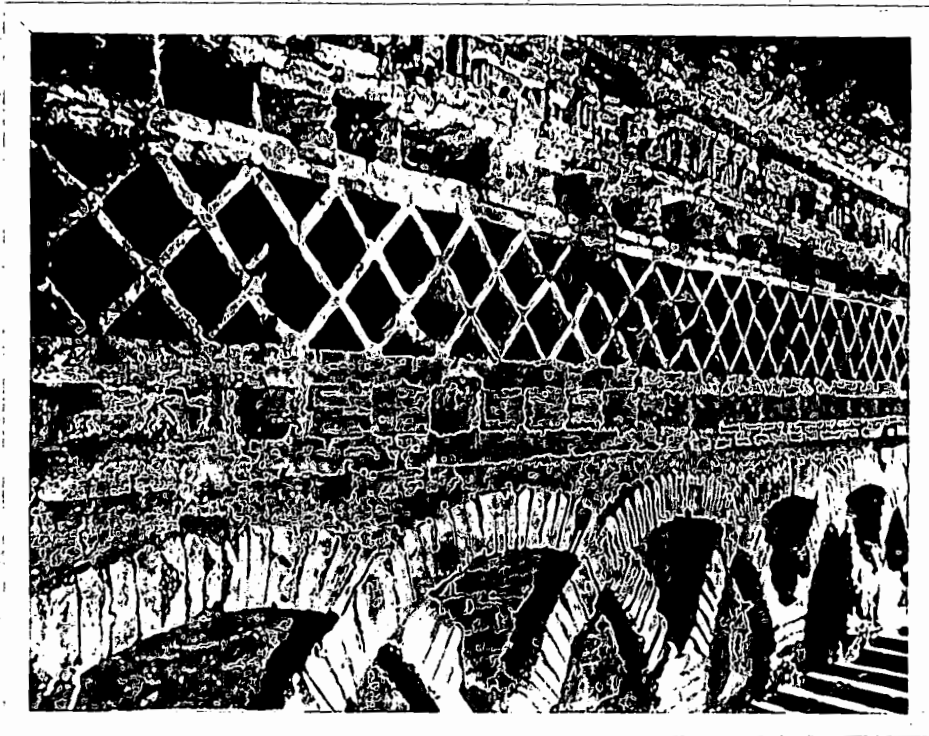


Fig. 44. Cristo de la Luz - Toledo  
Detail of decoration. Front.

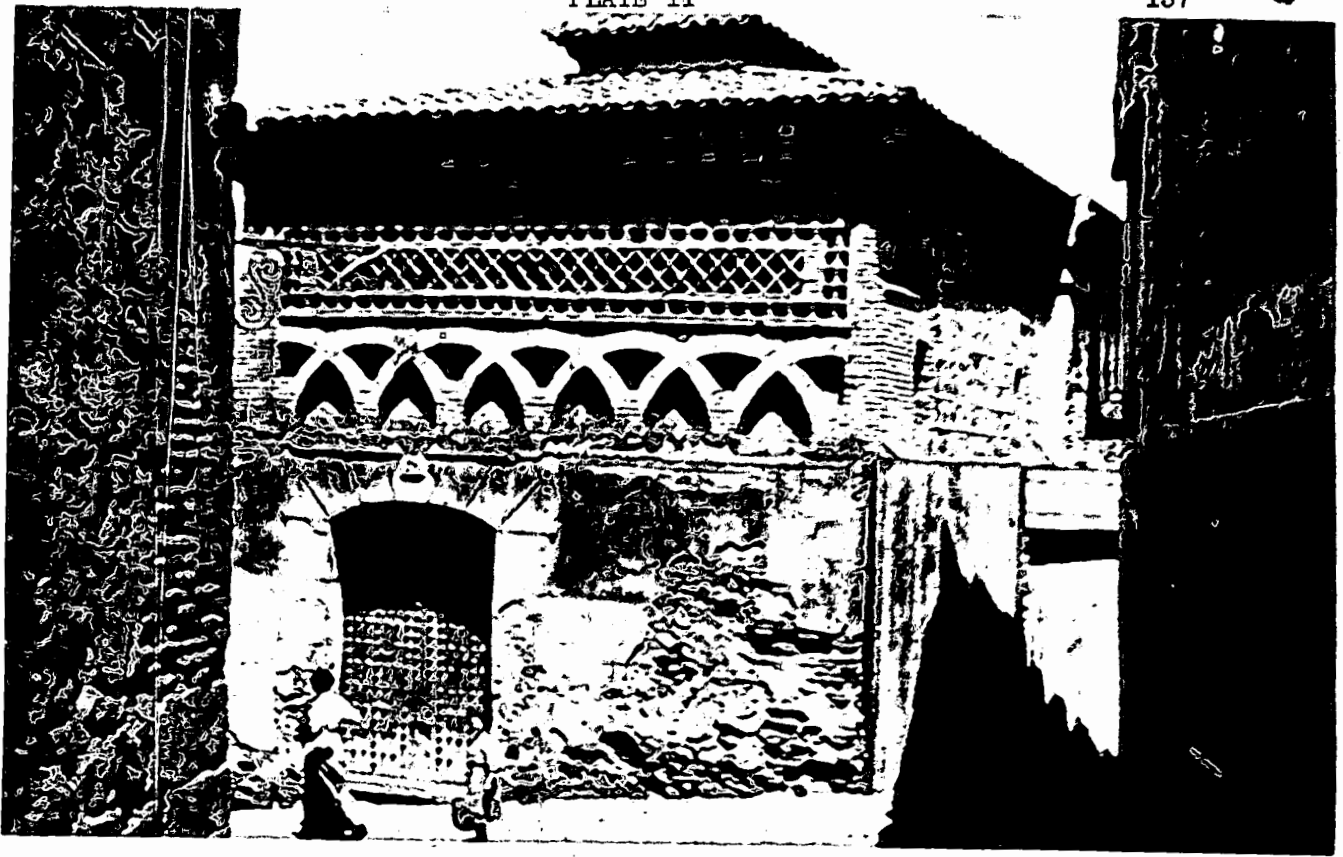


Fig. 45. Cristo de La Luz - Toledo



Fig. 46. Durham Cathedral. Blank arcading of intersecting arch. 1093 A.D.

with the so-called "Saracenic" arch as a decorative feature, had, after many experiments, made the free use of it as a part of their structural tradition.<sup>1</sup>

In Rivoira's digest of Havell's claim for the multifoil arch (see footnote 3, page 131), which was advanced with the word "asserted," it is felt that it would clarify matters if Havell's entire statement was presented, especially in view of and in connection with Rivoira's conclusion, (see footnote 3, page 131).

The great temple of Vitthalaswami . . . . was commenced about the beginning of the sixteenth century . . . . To the Western architectural student the main interest . . . . lies in the clear evidence they afford of the craft process by which the Hindu temple became the Muhammadan mosque and Buddhist-Hindu architecture became "Indo-Saracenic." In the ruins of Hindu Vijayanagar will be found not only the prototypes of Muhammadan Bijapur, but illustrations of the process by which the Arab architecture of the seventh, eighth, and following centuries gradually became the style of the pointed arch.<sup>2</sup>

The history of the evolution of the 'pointed' style can be traced in the empty niches on the roofs of Hindu temple-pavilions . . . . a part of the roof of a pavilion adjoining the Vitthalaswami temple, built strictly according to the South Indian Hindu tradition, which can be traced right back to early Buddhist times, before the Muhammadans came in contact with it. The three large niches . . . . give typical examples of the Buddhist-Hindu foliated arch, derived from the conventionalised aura of a Buddhist image. If the elaborate carved scrolls in front of them were broken by a Muslim iconoclast, or reduced to their simplest form by a Muslim craftsman, the arches would become the foliated "Saracenic" arches of Mogul buildings at Delhi and Agra, and of Moorish architecture in Africa and Spain.

<sup>1</sup> Ibid., p. 134.

<sup>2</sup> Ibid., pp. 137-38.

By a similar process of adaptation the smaller niches would become what Western classifiers have labelled as "stilted Arab" arches, though the type belonged to the craft tradition of India centuries before the advent of the Prophet of Mecca.<sup>1</sup>

Apparently Havell cannot free himself from his underlying symbolic convictions: "They (the Mohammedans) wanted arches because they were the symbols of their religion."<sup>2</sup>

One can find examples of so-called pointed arches of the "leaf variety" referred to by Havell at a very early period; for instance the Cave at Bodsa, the Cave at Bassick, the Cave at Bhaja, etc. The Bassick cave is dated c. 129 B.C. The point is, are these "arches" which are façades and are ornamental to be considered, especially in view of some with bracket construction, some with lintels doing the actual work of support. The Hindu had and has an aversion to the arch, well illustrated by his saying, "An arch never sleeps."

The bare truth is that we cannot say with certainty that the Buddhists did not employ a true arch -- but one thing is certain, no example (structural) has been found in India, and, as has been pointed out, those forms, arched and circular, which have been found in the aforementioned caves are copies of wooden forms and are decorative; in the case of Hindus and Jains their use of arches and domes were always of horizontal arches and which are never formed with radiating voussoirs; they are invariably horizontal arches.<sup>3</sup> The early pointed

<sup>1</sup> Ibid., p. 188.

<sup>2</sup> Ibid., p. 47.

<sup>3</sup> James Fergusson, History of Architecture, Vol. III (London: J. Murray, 1878), p. 210.

arches of India are cut out of solid rock and therefore are not real arches.

The hypothetical quality of the following quotation is at once evident:

There must have been at one time thousands of Buddhist chapter-houses in Bengal, where their barrel-vaulted roofs and "horse-shoe" windows, frequently built of brick as well as of wood and plaster or thatch, could hardly have been constructed otherwise than by radiating courses.<sup>1</sup>

It is believed that the presentation made thus far will serve to show that there is much ado about nothing in respect to the arch, (1) as to where it comes from, and (2) whether consideration of it is to be based on structural or on decorative features. The matter becomes more confused when we attempt to find (3) just what is meant by such terms as Saracenic, Arab, Moslem, Islamic  $\leftrightarrow$  Arch.

Freeman<sup>2</sup> criticizes the "Arabian" and "Islamic (now form) arch." It makes little difference where one turns; the terms are used freely. Since they are so commonly circulated, the question might well be put as to what they refer to, and invariably it will be found that the so-called horseshoe, pointed, cusped, ogee, trefoil, and multifoil arches are among those included in the all-embracing term. Sturgis used the term horseshoe to include the arch of a single curve drawn from a single center with the curve carried further than the half circle  $\leftrightarrow$  usually two-thirds of the vertical radius, and, may form an

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<sup>1</sup> Havell, op. cit., p. 56.

<sup>2</sup> Edward A. Freeman, History of Architecture (London: Joseph Masters, 1849), pp. 271-73-79.

angle with the abutment or may be cut by a corbel-like projection from the abutment (sometimes referred to as Egyptian-Koelen horseshoe); and the pointed variation where the springing line is higher than the abutment and the curve is carried past the springing line and not stopping where it becomes tangent with the line of the jamb. This is the form which is thought to have originated with the Copts with the early mosque builders adding the continued curve. This type is to be found in the Mosque of Ibn Tulun at Cairo, and is regarded as one of the earliest examples.<sup>1</sup> (Fig. 47, p. 142) The first variety of arch described, with only one centre and hence without a point at the top of the arch, is what Fletcher describes as Horseshoe, and he terms the second described arch as Pointed Horseshoe. (See plate I)

If we accept the generalized and inclusive term, be it horseshoe or pointed, to identify this so-called "Arab" or Koelen arch, confusion may result, for as Briggs says, "a horseshoe may be found

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<sup>1</sup> Gaston Migeon, Les Arts Musulmans (Librairie Nationale d'Art et d'Histoire, Paris, 1926), p. 11.

"On constate à la mosquée de Tulun le premier exemple et le plus ancien de l'emploi constructif de l'arc en pointe, qui semble bien être d'origine orientale, certains auteurs, comme Fawell, le prétendant exister dans les premiers temples bouddhiques de l'Inde. En tout cas on le trouve déjà à la mosquée Abu Dulaf de Samarra, de date un peu antérieure à la mosquée d'Ibn Tulun."

One can establish that the mosque of Tulun is the first and oldest example of the constructive use of the pointed arch, which seems to be of oriental origin, certain authors as Fawell claiming (or pretending) it exists in the first Buddhist temples of India. In any case it is already found in the mosque of Abu Dulaf at Samarra which slightly antedates the mosque of Ibn Tulun.

Can Fawell be a misprint for Havell? Migeon does not include Fawell or Havell in his bibliography.



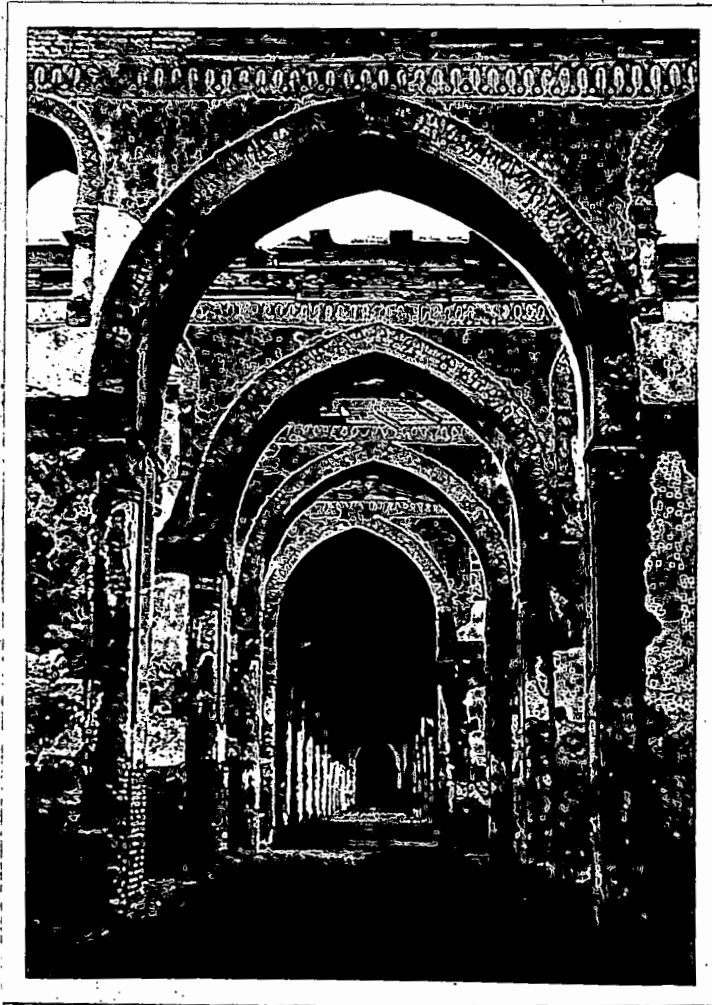


Fig. 47. Mosque Ibn Tulun - Cairo  
Pointed Arch

or pointed at the top but in either case its curve is carried below the springing line."<sup>1</sup> An effort will be made to use horseshoe to pertain to the round-arch form and pointed to pertain to that which actually points at the apex. (Fig. 47, p. 142)

One can speculate if the alleged origin of these arches lies behind the statement of Professor William Ware, since he offers no evidence to support his assertion that the Egyptian has the best claim of Mohammedan architecture to be called Saracenic.

It was not only the earliest, but, being the first, it gave tone and character to the architecture of every country which the Mohammedans conquered. Everything in Spain, Persia and even India seems to have obtained its main inspiration from the architecture of Egypt.<sup>2</sup>

On another page it was stated that the Hindus had a quaint expression to the effect that "an arch never sleeps," which is another way of saying that an arch by its pressure and its thrust, in spite of counterpoises, tends to damage a building, whereas a simpler type of construction would serve to a longer life. An architect or builder in his construction should allow enough margin of strength that he would be enabled to play with his construction. Funds thus spent for a margin of strength are architecturally more effective than the large amount which might be spent on lavish decoration.

The Egyptians may be cited as an example of the above maxim in

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<sup>1</sup> Briggs, op. cit., p. 162.

<sup>2</sup> W. R. Ware, "Saracenic Architecture," Harvard Engineering Journal, IV (April 1905), p. 3.

operation; they produced a satisfactory effect by the general use of a perpendicular wall or prop supporting a horizontal beam. There is a general impression that the Egyptians were not acquainted with the true principles of the arch, however, there are examples of tombs and chambers around the pyramids and the temples at Thebes that present roofs of semicircular form, made of stone and brick arches, these being perfect as far as the principle of the arch is concerned.<sup>1</sup> The tombs at Beni-Hasan (12th dynasty) are dated about 2400 B.C.; the roofs or ceilings in many of these are curved. Surely these contours would not exist if they did not know of the arch and vault at that early date. However, historians refuse to accept this evidence as absolute proof.<sup>2</sup> Yet the curved form of the roof in the third pyramid (4th dynasty) argues that they were familiar with the principle. So why, when it appears in the 12th dynasty, do they make such questions? The answer may be found in the fact that the Egyptians had not in these (early) times used voussoirs in the direction of the radii of the arch deeper than its perimeter, with the result that the arch did not become generally useful as an appropriate mode of roofing. It is generally accepted that it was the Romans who first understood the true use of the arch. On the other hand Petrie furnished a description of a vault of three rings of crude brick belonging to the 4th or 5th dynasty (B.C. 3500) at Denderah, and two arches of about the same date at

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<sup>1</sup> James Ferguson, *op. cit.*, Vol. I, p. 204.

<sup>2</sup> F.H. Simpson, A History of Architectural Development (London: Longman's, Green & Company, 1916) Vol. I, p. 8.

Rahotep, while Mariette maintains that there was found at Abydos (6th dynasty) a semicircular arch with brick voussoirs, a limestone keystone, the mortar joints galetted, i.e., with small stones embedded. Simpson maintains that all forms of the arch are to be found: semicircular, pointed, segmental, but that the favourite was the elliptical.<sup>1</sup>

Sargon's palace was entered by three arched gateways and H. Place's researches reveal that the ceilings were not flat and that in most cases the rooms were vaulted with semicircular vaults of brick.<sup>2</sup> Leyard discovered vaulted drains and chambers of both circular and pointed form constructed with care and excellent "attention to the principles of the arch" at Nimroud, which he dated for the eighth and ninth centuries B.C. Of course the great discovery is the one at Khorsabad, where the city gate was spanned by an arch of semicircular form, but it is evident that the Assyrians used the pointed arch for underground work,<sup>3</sup> tunnels, aqueducts, etc., where they evidently feared pressure on the apex, and that they reserved the round arch for work above ground, the supposition being that the pressure would be less; and in this they thereby reveal considerable science and discrimination. It should be noted that the wide-arched entrance gateways are appraised as a characteristic feature of Assyrian architecture. In these gateways the arches are seen to spring from the backs of human headed beasts. These are accepted as being the earliest

<sup>1</sup> Ibid., p. 24.      <sup>2</sup> Ibid., p. 37.

<sup>3</sup> Fletcher is disposed to give the Assyrians credit for being the "original home of this feature" (the pointed arch), based on the drains under the palace of Khorsabad, which he dates c. 722 B.C. See Fletcher, op. cit., p. 64.

decorative use made of the arch and it is evident that the Egyptians did not employ the arch in this manner at such an early date.

In Ethiopia, Hoskins found both circular and pointed stone arches vaulting the porches to the pyramids and placed them not earlier than the time of Solomon and not later than Cambyses.<sup>1</sup>

At Mycenae both arch and lintel are found to have been employed, a combination of the two being characteristic, the opening being spanned by a lintel over which the arch relieves the pressure; most of the arches are triangular, some are pointed, and a few are semi-circular. It should be observed that the form is similar to that of the pointed arch of the Middle Ages but the principle of construction is different.

The architecture of Hellenic Greece is of lintel construction, beams being used to span the openings, as in Egypt. It has been thought that the arch was known and probably used in domestic building, but, be that as it may, evidence shows that it was not used in the temples or other of their great architectural achievements.

The Etruscans used the arch, either semicircular or pointed, and the substitution of the Etruscan arch for the Greek lintel produced an enormous change in architectural history.

In Europe proper, the oldest arch is generally considered that of the Cloaca Maxima at Rome; it shows a perfect knowledge of the principle.

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<sup>1</sup>Ferguson, op. cit., Vol. I, p. 205.

From all of this it is certain that the arch was in current use not only in Egypt, but also in Assyria, Ethiopia, and elsewhere. It has been shown that the pointed arch with radiating voussoirs was used by the Assyrians at the time of Sargon (eighth century, B.C.) and by the Ethiopians. The pointed arch is met with in isolated early examples among the Sassanians, but the characteristic arch is semicircular. There are horseshoe arches in several early Syrian churches, e.g., Qasr ibn Wardan (c. 664)<sup>1</sup> at Ukhaidir, where the arches are pointed ovoid and slightly stilted; likewise at Mashatta, however in the gate at Raqqah and at Abu Dulaf near Samarra the curve which is assumed to be typical of the later Moslem architecture is evident and by the later part of the eighth century this form was in the dominant position of arch-forms in Mesopotamia. Lothaby groups the Ukhaidir arch with the great front arch at Ctesiphon (Fig. 48, p. 148) as lobed arches and says:

The lobed arch (at Ukhaidir) becomes quite a Gothic form, as only a few lobes were applied to a pointed arch. Hence the lobed arch passed to the Arabs and Moors, then it was taken up by the Romanesque builders of South France and became the parent form of the great family of cusped Gothic arches.<sup>2</sup>

Coptic churches in Egypt, in the main, have barrel vaults which are pointed, and many of the arches between the columns are likewise

<sup>1</sup>Briggs, *op. cit.*, p. 104.

<sup>2</sup>W.R. Lothaby, Architecture (London: Williams and Bergato, n.d.), p. 148. Lothaby calls the arch wherein the series of scallops are completed -- lobed, the arch wherein the series of scallops is only a quadrant or half a foil at the bottom -- cusped.

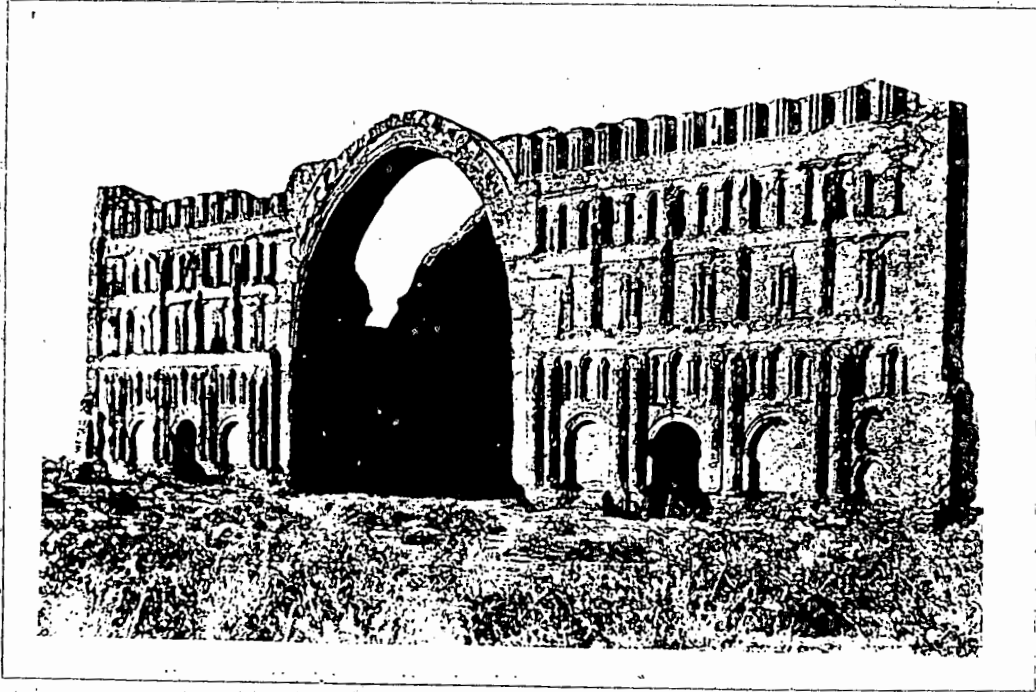


Fig. 48. St. Stephen, A.D. 560

pointed, showing that this form was used by the Copts at a period before it appears in the West.

Moslem architecture (if it may be called such) presents us with a free use of the arch and as Islam advanced the round horseshoe and the pointed horseshoe arches continued to be chosen; there are examples of the semicircular and the ordinary pointed (two centered) forms as well as of the so-called "Persian"<sup>1</sup> arch (which Fletcher designates "Pointed Saracenic") (the springing-curve becomes a straight line). The decorative trefoil and multifoil (cusped) arches are much in evidence; the interlaced and blind arcading arches and tracery were in general use, and whether the Moslems found them built of stone voussoirs in Syria, brick or stone by the Copts, or brick and mortar in Persia, along the Mediterranean in North Africa and Spain in Roman and Visigothic buildings, they had only to copy and to decorate.

The pointed arch was generally adopted from the first by these Moslem builders, at Nishatta; the brick arches were acutely pointed.

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<sup>1</sup>Migeon, *op. cit.*, p. 12. "Une nouveauté de la construction est dans l'arc dit persan, que l'architecte Rivoira croit avoir été inventé par l'architecte d'Al Azhar et qu'il voit dérivé d'une combinaison de l'arc en fer à cheval d'Ibn Tulun, des arcs de Kairouan et des arcs de temples hindous."

The novelty of construction is in the arch called Persian, which the architect Rivoira believes to have been invented by the architect of al-Azhar, which he sees derived from a combination of the horseshoe arch of Ibn Tulun, the arches of Kairouan and the arches of Hindu Temples.



The Dome of the Rock (688) presents bluntly pointed arches<sup>1</sup> on the exterior of the building and rounded horseshoe arches within the building. At al-Aqsa there are arches which are large and strongly pointed; (see Fig. 2) in the Mosque of Amr (Cairo c.650) there appears a row of strongly pointed arches below with pointed windows over. The Milometer at Rodah (Cairo, VIII century) is often regarded as one of the earliest examples. In Syria the form selected was semicircular, and then the Syrians adopted the continuing curve, producing the curved horseshoe form, though the pointed arch is not common in Syria it is in existence from the earliest times. In Egypt it was used and with the Copts was practically the rule, and whether or not we wish to agree with Sturgis who thinks that it is from the Copts that the pointed arch comes, it is the early builders, "Arab" Moslems or workmen converted or employed by Moslems who gave to it the continued curve. In Persia the prevailing disposition is toward the four centered arch (Fletcher calls it Tudor), which was indigenous, and when it is not in evidence, the pointed or "Pointed Saracenic" is used. In India, as has been observed already, the real tomb fido, arch is not common, and when it is to be observed it appears to be an importation from Persia. In North Africa and in Spain pointed arches are to be found, there the disposition seems to be toward those drawn from one center, especially interlaced, also trefoil and multifoil arches, especially since the decorative aspect reached such proportions.

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<sup>1</sup> Rivoira is of the opinion that irrespective of appearance these are round horseshoe in construction and it is "now facing" which has "altered their appearance." See Rivoira, op. cit., p. 55.

In all of these regional divisions there is to be noted one fundamental tendency, a tendency which accelerates as Islam spreads, toward the predominance of decorative over structural considerations. There is dominant disposition toward surface ornament, and while the handiwork was almost entirely, if not totally, the product of artisans of the subjected minority groups within the Islamic world, the sum total is an artistic expression impregnated with a quality of its own, even though it is not to be denied that it is woven from many fibers.

In conclusion, the horseshoe arch as a general and inclusive term that includes both round and pointed forms with one or two centers -- though this arch was used by the Moslems almost to a total exclusion of other forms -- cannot be accepted as a contribution of constructional invention on the part of the Moslems. This is owing to the fact that a real arch commences at the level of the center or centers, and the remaining lower portion (as exemplified in the horseshoe arch) was designed for an effect which was calculated to please the eye. Moreover, since a change in the appearance of the arch affected nothing that was connected with it, this innovation cannot in truth be accepted as heralding a new age in the development of building. A new method of construction or building would have to affect the surrounding parts.

Dome

From the early days of the Islamic expansion the dome is thought to have become a favorite feature of the Moslem building program. However, the dome, which is often regarded as a characteristic, is not essentially a dominant, or even the focal, aspect in Moslem<sup>1</sup> architecture. Just as was observed in the case of the arch, so it will be seen in the case of the dome that each geographical locale reveals a different "type".

Two sentiments are expressed concerning the problem of the dome in Moslem architecture. Servier disposes of the matter swiftly and dogmatically, thus:

The dome, so wide-spread in Musulman countries, is of Persian origin; it was adopted by the Greeks, and then by the Byzantines . . . . It was Persia that invented the arch; all the domed and arched work in the world sprang from Persia.<sup>2</sup>

On the other hand, Ferguson, who has written voluminously and for a lifetime on the serious aspects of architecture, appraises the situation as follows:

It is to be regretted that . . . . so little should have been said regarding the history of domes.<sup>3</sup>

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<sup>1</sup>Fletcher, op. cit., p. 241. A distinction should be made between Moslem and Byzantine. Moreover, concerning the dome Fletcher says "it became the prevailing motif of Byzantine architecture."

<sup>2</sup>Servier, op. cit., p. 236.

<sup>3</sup>Ferguson, op. cit., Vol. III, p. 212. Ferguson's observations, although written quite a number of years ago, would appear to be fundamentally correct at this date. Writers seem disposed to focus their attention on other problems and treat the subject of the dome by interweaving it into their discussions. However, it must be stated that there is an apparent interest manifested; Rivoira, Havell, Dalton, Strzygowski, to mention a few, devote considerable time and space to certain aspects of the problem and to origin, each advancing a case for his favored idea and each quoting what he says are historians of those regions. As was mentioned in the section dealing with the arch, credit is given to Mesopotamian regions. An instance may be cited in the case of claims advanced in behalf of Armenian development of the

In general, as its early history reveals, the dome appears as a traditional tomb form, although there are other associations. In the early Islamic buildings it is encountered in such association and in earlier times, for instance at The Church of The Holy Sepulchre in Jerusalem. The dome first appears in the mosque just in front of the praying niche. In Egypt, at a later date, it is to be seen in the tomb mosques. Evidence demonstrates that under Islamic authority the dome is presented to us in the following forms: (1) pointed, (2) oval, (3) bulbous, and (4) saucer-shaped, but seldom (5) spherical as in the Byzantine architecture. Domes are sometimes constructed of brick, in horizontal courses, plastered inside and outside, as evidenced in the Syrian examples; or of stone, in projecting horizontal courses, minimizing the oblique pressure on the supporting walls, as in India; and in Spain of brick and plaster, stucco or mastic. The Spanish version gives opportunity for decorative surface treatment of a more elaborate type. Where marble and red sandstone were available, as in North and Central India, the dome assumed monumental proportions; moreover a surface decoration of considerable richness was achieved by the inlay of indigenous precious stones. In some of the examples constructed of stone, as in the Mosque of Kait Bey in Cairo, the external

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dome. It is claimed (by Rivoira) that Armenian historians point to domed buildings of the time of Gregory and Tzdat. But as yet no buildings have been discovered of Gregory's days and the historians were not of his day but write ex post facto.

As was mentioned in the section dealing with the arch, this facet of the problem is provocative of interest and further research on the site may at some future date provide a solution for these, and many other, as yet unsolved problems, thereby disposing of much that at present is hypothetical.

surface presents decoration of a geometrical pattern. Usually this decoration is effected at the base of the dome. There are (to be found) at Cairo domes which are constructed of clay.<sup>1</sup>

In Persia the dome usually assumes the bulbous or ovoid form, as it likewise does in Turkestan; in Constantinople the mosques generally present the low Byzantine type; while in Cairo the dome is of the stilted variety. The Persian domes offer coverings of dazzling glazed tile, while the Egyptian expression is ornamented with a lace-like patterning, especially during the fifteenth century.<sup>2</sup> It is the stilted form of dome found in the tombs at Cairo which has been taken to be typical by Havell. There is no intention of arbitrating in the Havell-Rivoira-Faure-Servier feud concerning the psychological or symbolic implications or their nationalistic allergies. Havell's statements are interesting, as much for what is said as for what is left unsaid:

The dome which is distinctively saracenic is not the bulbous one, but the stilted Arab form characteristic of the tombs of the Mameluke at Cairo, the distinguishing characteristic of this, which we may call the pure Arab dome, is the perfect purity and simplicity of its whole contour, except for surface ornament in low relief, it is quite unbroken; only the springing of it from a circular drum or polygonal base is sometimes marked by a plain band. This type of dome is also sometimes fluted or ribbed. The finial, as in all Arab and true Persian domes, is very inconspicuous, being only a more or less ornamental spike projecting from the crown of the dome, and not, like the Indian one, an important member forming an integral part of the dome itself. The prototype of the Arab dome is to be found in the

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<sup>1</sup> Lothby, op. cit., p. 160.

<sup>2</sup> Briggs, op. cit., p. 172.

... mud huts of ancient Mesopotamia, which are sculptured on Assyrian bas-reliefs and are still found in village dwellings of the present day in the neighbourhood of the ruins of Babylon and Nineveh.<sup>1</sup>

Havell means that what he regards as the characteristic "Arab form" of dome is pointed at the top, that the cornice is not at the springing but below. The form would be (approximately) as follows: draw a circle; cut off one quarter of the vertical radius at the bottom and draw a level line; drop perpendiculars from the full diameter of the circle to this line and finally, from the angles of this base draw two large arcs tangentially to the circle and meeting above it in a point.<sup>2</sup> He emphasizes "finial," which is to become the basis of his symbolic interpretations and therefore will not be considered since it is found in one form or another in some primitive examples. He has not presented us with the major problem of how there was evolved the constructive feature -- the transfer of the circle to a square or octagon. Circular buildings were not the general rule with Islam. The pendentive being a major item in this problem, it deserves consideration.

As for Mesopotamian mud-hut prototypes of ancient and present days he is, probably, fundamentally correct, however, muskrats and beavers build little domed structures and Esquimos build domes of ice.

Small domed structures of mud in early Mesopotamia and Egypt

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<sup>1</sup> Havell, op. cit., p. 17.

<sup>2</sup> Hence he (Havell) regards the perpendicular from the actual diameter as a drum and not as dome.

seem to be accepted by various writers,<sup>1</sup> and there are early examples of dome building in other geographical localities. An item of consideration is whether these domes are placed on circular or square buildings, for it is easier to build a dome over a circular plan than over a square.

Bell<sup>2</sup> is of the opinion that domes were indigenous, from very early times, to the lands of the great rivers of the East; she is evidently referring to the Tigris -- Euphrates vicinity. This opinion appears to be based on the evidence presented by one of the Assyrian slabs which represents a group of domes, of which some are tall and conical in form and some are rounded. Miss Bell points out the striking similarity of the domes represented on this slab to those which appear on the modern mud-built edifices of Northern Syria and Northern Mesopotamia which present conical forms of dome-like roofs.

In support of this idea mention may be made of the silver casket of Proiecta, which is thought to have been made about 350 in Alexandria. On this casket appears a house of rather large dimensions which is roofed with domes. The domes represented are similar to, and present the same form as the domed modern houses built in the delta region, which are the same as have been constructed in the Nile valley from time immemorial.<sup>3</sup> These domes are practically identical with

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<sup>1</sup>Lethaby, Fergusson, Dalton, Thomas, Simpson, Perrot and Chipiez, G.L. Bell, Petrie.

<sup>2</sup>Lethaby, *op. cit.*, p. 57 quoted Lowthian Bell.

<sup>3</sup>This opinion has also been stated by Petrie, Lethaby, Perrot and Chipiez.

those of the Assyrian slab mentioned above, although the slab is of a period approximately one thousand years earlier, and the Assyrian reproduction presents domes which rise higher. Whether this greater height should be considered as important remains to be seen.

Rivoira concurs in the stated opinions relating very early domes in this region because of their great similarity, to the present day examples; however, he contributes two rather important observations: (1) the matter of a variety in form, (2) a hint relating the Etruscans.

The Assyrian builders were unquestionably acquainted with both the hemispherical and the ovoidal cupolas, as is shown by the well known bas relief of Kyunjik (Nineveh) discovered by Layard. But it has been pointed out by others, and the observation has lately been repeated that the buildings there represented are related to the houses of the present day in the villages of Syria and Northern Mesopotamia which are roofed with small cupolas of sun baked bricks set in rings, each projecting beyond the last, and were, perhaps of the same kind. This way of making a cupola of masonry with each course projecting a little beyond the one below it, is of very early origin. The Etruscans were acquainted with it in the VII century B.C. as is proved by the tomb of the 'Diavolino' from Vetulonia.<sup>1</sup>

At Hierakonpolis there were found "akmas" or store pits, about six feet in diameter, apparently belonging to houses of the pre-pyramid age. The work carried on by Flinders Petrie implants us with evidence, which is placed at the period of the twelfth dynasty, of circular chambers covered with domes within the small pyramids. Constructionally these are horizontal layers of brick, each course of

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<sup>1</sup>Rivoira, op. cit., p. 123.



brick being of smaller diameter than the course below.<sup>1</sup>

Petrie's explorations at Daphne brought to light a brick edifice about one hundred and sixty feet square with interior "cells," some square and others oblong, ten to sixteen feet in width. Several of these cells "showed signs of the springing of domes in their corners; the corners are rounded and gather in towards the vaulting."<sup>1</sup> Petrie's deductions are pertinent:

Egyptian doming of construction chambers is irregular, the sides contracting inwards while the corner increasingly rounds. For open chambers, I think the angles in each case are truncated by placing bricks across them.<sup>2</sup>

It is obvious that here we are confronted with a dome over a square or rectangular building and that the method was one of reducing the angles.

Lethaby points out (on the basis of Perrot and Chipiez) houses of the period of the tenth dynasty which were found at Rifeh, one of which had "three rounded cupolas," and observes the marked similarity to "modern eastern house (s)."<sup>1</sup> Choisy<sup>3</sup> has observed a similarity based on the method of construction between the so-called domes of the twelfth dynasty and the "beehive tomb" at Mycenae.

The so-called Treasury of Atreus, Tomb (or) Treasury of Mycenae, or Tomb of Agamemnon, is dated by Fletcher as ca. 1185 B.C. and is

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<sup>1</sup>Lethaby, op. cit., p. 56.

<sup>2</sup>Flinders Petrie quoted in Lethaby, pp. 57-58.

<sup>3</sup>Choisy quoted in Lethaby, p. 56.

described by him as consisting of:

\* \* \* a long passage or "dromos" 20 ft. broad by 116 ft. long \* \* \* doorway opens into a large domed chamber about 50 ft. in diameter by 50 ft. high with an adjoining square tomb chamber. The principal chamber is formed from base to apex of successive rings of stone blocks, laid horizontally, each layer of which projects inwards over the one below, and most probably the finished, curved form was produced by cutting away the projections of the stones.<sup>1</sup>

Dalton considers this Treasury of Atreus at Mycenae (Fig. 49, p. 160) as one of the oldest examples known to us.<sup>2</sup> Ferguson thinks this "shape of regular equilateral pointed arch" was the "form of dome adopted by Jaina architects in India";<sup>3</sup> he also is of the opinion that it prevailed "wherever a Pelagic race is traced, down to the time when the pointed arch form again came into use in the Middle Ages."<sup>3</sup> The main point of difference here is in the method of construction. Thus far we have been confronted with examples of the dome of horizontal courses, the construction of the middle ages, especially in the form of the arch, which as has already been pointed out was vertical or one might better say radiating.

It might be mentioned here that writers frequently include the arch in their discussion of the dome and vice versa. This procedure has logic behind it, for the reason that a dome is (in form) an arch

<sup>1</sup> Fletcher, op. cit., p. 79.

<sup>2</sup> O.M. Dalton, East Christian Art, (Oxford) Clarendon Press, 1925), p. 80.

<sup>3</sup> Ferguson, op. cit., Vol. I, p. 235.

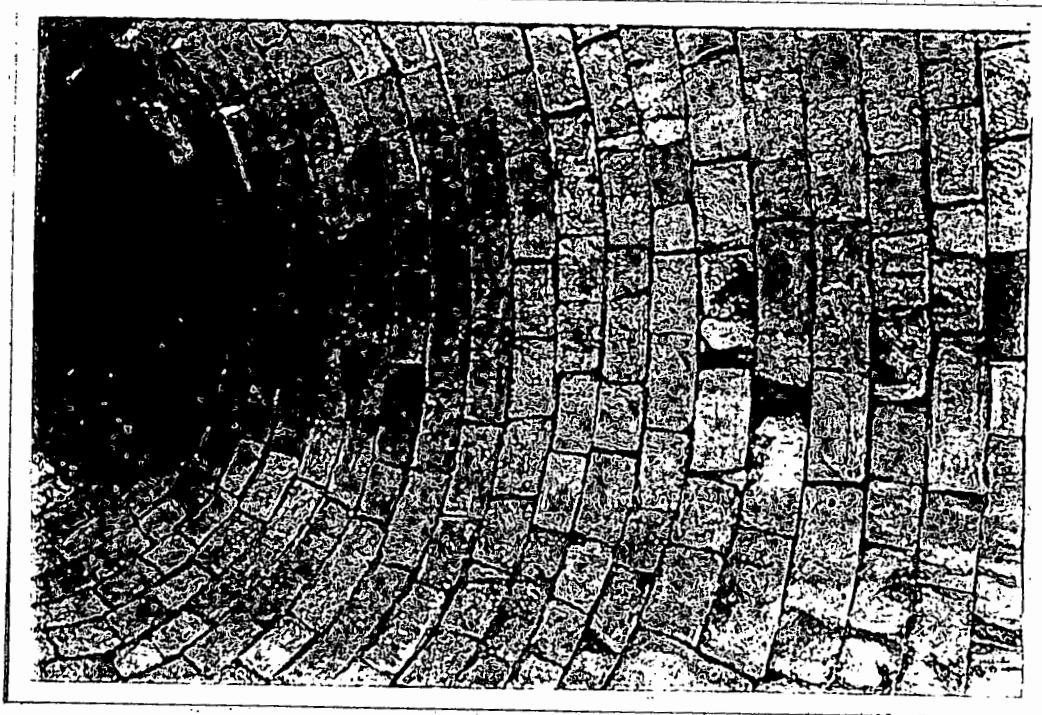


Fig. 49. Treasury - Mycenae

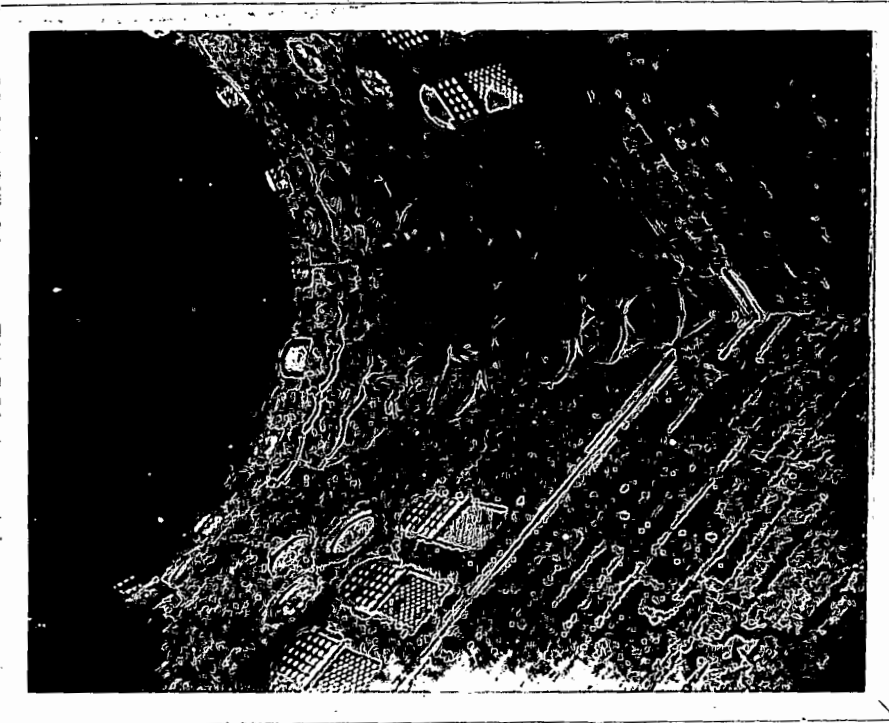


Fig. 2. Mosque of Muayyad - Cairo  
1412-1421  
Pendentive of the dome

revolved about a vertical axis. Noticeable also is the absence of any mention of Sumerian artifacts.

Since it is evident that one school of thought would discount these early domes and arches as not being true domes and arches because of their horizontal method of construction and would thereby give the palm to the builders of the Middle Ages and in this manner would enhance these writer's own nationalistic or religious egos, intellectual honesty demands a more thorough appraisal of the whole subject.

Durant<sup>1</sup> has written fluently concerning the over-all picture of Sumerian culture, and though he does mention the problems under consideration in a romanticized manner, it is preferable to quote Woolley, who has actually made the investigation and to whom Durant refers.

It is astonishing to find that at this early period the Sumerians were acquainted with and commonly employed not only the column but the arch, the vault, and the dome, architectural forms which were not to find their way into the western world for thousands of years.<sup>2</sup>

Very different was the next temple, Dublalmakh . . . . . The outer chamber was vaulted, the inner, even at this period, may have been surmounted by a high dome; but its most arresting feature was the huge arched doorway . . . . .<sup>2</sup>

In his summary Woolley handles the arch and dome together. Since the matter under consideration is the dome, no analysis of

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<sup>1</sup>Will Durant, Our Oriental Heritage (New York: Simon and Schuster, 1935), pp. 113-136.

<sup>2</sup>C. L. Woolley, The Sumerians (Oxford: Clarendon Press, 1929), p. 147.

Woolley's total statement is made here. The problem of the arch as a constructive entity has already been discussed.

The arch in building was unknown in Europe until the conquests of Alexander, when Greek architects fastened eagerly on this, to them, novel feature and they, and later the Romans, introduced to the western world what was to be the distinguishing element in architecture. Now the arch was a commonplace of Babylonian construction. Nebuchadnezzar employed it freely in the Babylon which he rebuilt in 600 B.C.; at Ur there is still standing an arch in a temple of Euri-Calsu, king of Babylon about 1400 B.C.; in private houses of the Sumerian citizens of Ur in 2000 B.C. the doorways were arched with bricks set in true voussoir fashion; an arched drain at Nippur must date to about 3000 B.C.; true arches roofing the royal tombs at Ur now carry back the knowledge of the principle another four or five hundred years. Here is a clear line of descent to the modern world from the dawn of Sumerian history. What is true of the arch is true also of the dome and the vault. Here, where the principle once invented is fixed for all time and only minor changes in form can be introduced, the sequence is easier to follow than in the more fluid arts of design . . . .<sup>1</sup>

At the time Rivoira wrote his Moslem Architecture, Woolley's work was unpublished. Rivoira's statement, however, is worthy of consideration since it involves construction, and in view of matters to be discussed later.

As for the dome in the true sense not merely courses of stone or brick each projecting a little beyond the other, as in the tombs or so-called treasuries of Atreus and Clytemnestra at Mycenae - with an ovoidal outline, and of large span, I have found no recorded instance before this one of Croesus II, perhaps introduced for the first time in this part of Asia by the craftsmen sent to

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<sup>1</sup>Ibid., p. 191.

Ctesiphon by Justinian, but employing a traditional local curve though the principle embodied was foreign.<sup>1</sup>

It should be apparent that Woolley has not made the distinction as to whether these domes rest upon circular, square, or octagonal buildings. There is no intent to minimize the extent of his very valuable contribution, which should settle the question for the moment -- until older examples are found -- of horizontal vs. voussoir construction, especially since it has been demonstrated that this is one of the issues. Neither does Woolley inform us concerning the size of these domes, nor does he give us information or even a hint concerning the matter of the pendentive, its nature, and employment. Beyond his bare statement that the arches are built in true voussoir fashion he leaves us with a question. He does state, "What is true of the arch is true also of the dome and vault." From this statement it is inferred that domes were also built in voussoir fashion. It is to be regretted that he does not furnish us with sketches or photographs of these domes. Another item which should not be lost sight of is the matter of date. Woolley has furnished a good case, but Breasted is inclined to question the validity of Sumeria's antique culture, as likewise is G. Elliot Smith.<sup>2</sup>

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<sup>1</sup> Rivoira, *op. cit.*, pp. 120-121.

<sup>2</sup> James Henry Breasted, *op. cit.*, pp. 1-234.

G. Elliot Smith, The Ancient Egyptians and the Origin of Civilization

Both Breasted and Smith offer challenges to Schweinfurt's theory based on the cultivation of barley, millet, and wheat and the domestication of cattle, goats, and sheep which Schweinfurt maintained were

If we accept Wooley's claims for Sumeria, the Treasuries of Mycenae and Orchomenos, as well as the chambers in Etruscan tombs, belong to a date approximately one thousand years later; however, these "Treasuries" do show that as early as ten or twelve centuries before the Christian era the roofing of circular edifices with stone vaults, had been accomplished, not as we construct them with radiating vaults on the principle of the common arch, but with overlapping layers of stone.

It has been stated that the treasury at Orchomenos, another in Boeotia, and one at Tiryns<sup>1</sup> possess other features which are noteworthy. In these the dome was highly ornamented. The Tiryns dome corresponds in diameter with that of the supposed Atrous, but presented blue glass inlays, and it is thought that this blue glass was the "cyanus" of Homer. It is also thought that the dome was encrusted with rosettes or stars of gilt bronze. Schliemann is said to have reported similar

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found wild in western Asia -- especially in Yemen (Arabia) -- and from there spread to Mesopotamia and Egypt. Schweinfurt, then, bases civilization upon the cultivation of grains and domestication of animals. And since recorded history of early Arabia is negligible, the whole question is open to debate. Smith admits that the mentioned grains are not known as indigenous to Egypt but maintains that it is in Egypt that the earliest signs of their cultivation are discernable and that from Egypt their cultivation, and hence agriculture and civilization, spread into Sumeria. Breasted concurs with Smith but adds that the wheel is as ancient in Egypt and Sumeria and that the mentioned grains were found in Abyssinia in their native state. It will be remembered that Breasted is a foremost American Egyptologist.

<sup>1</sup>Tiryns has been questioned, probably a reconstruction. See the Encyclopedia Britannica.

work in the citadel of Troy.<sup>1</sup> The examples (tombs) found in Crete resemble that at Mycenae, and they all bear resemblance to the chambers within the twelfth dynasty Egyptian pyramids. Therefore it has been argued that there was close contact between Crete and Egypt and that the Aegean art transmitted these ideals to northern and western Europe.<sup>1</sup> Ferguson considers the Grottoes dome larger than the Atrium dome and mentions these two as the largest known constructed on the horizontal principle.<sup>2</sup>

It seems possible that wherever the round hut or chamber was the original unit in building, irrespective of geographical location, independent invention of the dome form could have occurred.

When we begin to consider the aspects of construction we observe that, irrespective of who invented the true or radiating arch, the Romans appear to have employed the system extensively and the deduction has been made that the Romans introduced the radiating dome. It appears to be true that the Roman arch and Roman dome<sup>3</sup> are constructed

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<sup>1</sup> Lethaby, *op. cit.*, pp. 75-78; Ferguson, *op. cit.*, Vol. I, pp. 212, 236, 234; Fletcher, *op. cit.*, p. 79.

<sup>2</sup> Ferguson, *op. cit.*, Vol. I, pp. 234-235.

<sup>3</sup> *Ibid.*, p. 212. Ferguson regards the Pantheon as the earliest and finest and largest example. Lethaby, *op. cit.*, p. 122, states "The great dome of the Pantheon is wholly, or largely built of large flat bricks set in level courses." Fletcher, *op. cit.*, p. 168, gives a more comprehensive description. "The dome was found by Chedanne to be not of concrete, but of brickwork and thick mortar, laid in almost horizontal courses up to the fourth range of coffers, and also near the central opening at the summit. The intermediate portion was not examined, but the theory is that a series of arches may have been formed in this portion to take the thrust of the dome off the recessed openings below."



on the voussoir (or truncated wedge) principle. When? -- the records do not state. It is reasoned that this radiating principle enables the builder to cover a larger space than the horizontal principle. There is, it will be observed, a great difference between these two categories of domes. The history of the progress made by the Roman architects who finally arrived at this constructive principle is lamentably lacking in information.

In considering the Roman dome construction (erected by the Romans), it must be borne in mind that as far as the evidence is available it shows that all the buildings, which present domes were circular (in the interior) up to the time of Constantine, and for some time after him, although there were some which presented an octagonal external appearance. The temple built by Diocletian at Spalatro is a polygon externally and internally, its dome resting on the polygon. The Temple of Minerva Medica at Rome is a decagon with a dome eighty feet in diameter. Ferguson has assumed that in order to diminish the difficulties of construction a figure with ten sides instead of eight was adopted.<sup>1</sup> Fletcher points to Minerva Medica as being of particular interest "because here roughly formed 'pendentives' were first employed to set a circular dome on a decagonal base, a device further developed by the Byzantines."<sup>2</sup> Fletcher dates the building at about 260 A.D. and remarks that the dome is of concrete, and mentions<sup>3</sup> that Minerva Medica

<sup>1</sup> Ferguson, op. cit., Vol. I, p. 348.

<sup>2</sup> Fletcher, op. cit., p. 171.      <sup>3</sup> Ibid., p. 271.

served as the model for S. Vitale, Ravenna, (A.D. 526-547) founded by Justinian, commemorating his recovery of Ravenna.

It is noticeable that the dome over the square is attempted with a degree of timidity on the part of the Romans of comparatively early time. The domes are placed over a circular or nearly circular plan.

The Tomb of Mylassa in Caria, Asia Minor,<sup>1</sup> and one at Kerch in the Crimea (both Greek stone tombs) are singled out as the "earliest demonstrable examples of a dome over a square plan." The conclusion reached by Dalton is interesting:

. . . the area in which the dome over square plan first appeared was in the wide region between the Central Asian mountain-system and the Mediterranean. This, as Strzygowski reminds us, is primarily an 'Aryan' region, and to members of the Indo-Germanic stock he would ascribe the first adoption of the plan under discussion, which may have come into use in wood before the Greeks diverged as a Western branch, and before the Eastern or Iranian branch invaded India.<sup>2</sup>

This tomb of Mylassa is mentioned only on the basis of the dome over the square. The construction of the dome followed the horizontal method. Both Ferguson and Fletcher compare it to the method of building employed in the Jaina domes of India. It is curious in that it is the only known example built by the Romans and that despite its orna-

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<sup>1</sup> Fletcher does not date this tomb, Dalton has grouped it with others and uses the inclusive dating, 6-8th cent. B.C., Ferguson states "After the Christian era the first example is found in a tomb at Mylassa near Halicarnassus." See Fletcher, op. cit., p. 180; Dalton, op. cit., p. 80; Ferguson, op. cit., p. 212.

<sup>2</sup> Dalton, op. cit., pp. 80-81.

mentation with Roman details, it displays the similarity mentioned above and is similar to examples to be found in the Far East some ten centuries later.<sup>1</sup>

It was mentioned earlier that the Mesolens used the dome on a tomb or tomb-torque. It has been demonstrated that the dome, in general, has been associated with a tomb structure from very early times. The question can logically be asked, why? From a practical and functional viewpoint the simplest and therefore perhaps the earliest form of monument which could be erected over the dead, assuming that a people revered the departed members of their family, clan, or society, would be a mound of earth or cairn of stones. It is apparent that this was the form adopted. Certain it is that the Tartar branches of mankind did this very thing from early times. The Etruscans are assumed<sup>2</sup> to have effected an improvement by surrounding the base with supporting masonry and constructing a double type consisting of an inner and outer dome-like structure.

Earlier it was mentioned that the architecture of Hellas was, in the main, of lintel construction, while that of Rome was arch. Be that as it may, there is according to one author, proof of dome construction in Hellenistic times; what is regarded as the earliest cupola in Europe is over a bath at Pompeii and "that city was a non-

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<sup>1</sup> Ferguson, op. cit., Vol. I, pp. 212, 358; Dalton, op. cit., p. 80; Fletcher, op. cit., p. 160.

<sup>2</sup> Ferguson, op. cit., Vol. I, p. 287; Fletcher, op. cit., pp. 147-8, 179. For double type see Tomb Mogulini-Galassi, Cerveteri, Fletcher, pp. 148-179.

Roman city." The example cited is tall, conical in form; this form has already been singled out as being traditional in the east.<sup>1</sup> However, the Hellenistic architecture of the later period may be considered as Roman only to the extent that it was absorbed into the empire. The Byzantine structural system derives, in the main from the late sources. The spirit is eastern with all that the inclusive term connotes -- Egyptian, Persian, Greek, Jewish, and Christian.

The dominant concept in the Byzantine system appears to be a group of domes emerging from a roof or terrace, and this signifies an influence from further east. An instance can be cited in the case of the Church of the Holy Apostles built by Constantine and rebuilt by Justinian at Constantinople. This cruciform edifice was crowned by five domes and the building is supposed to have been copied from a church at Ephesus, and is said to have served as a model for St. Marks, Venice.<sup>2</sup> Such dome grouping was not in evidence with the Romans.

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<sup>1</sup> Lethaby, op. cit., p. 110. No other reference to this example has been found. According to Encyclopedia Britannica Pompeii was founded by the Greeks as per tradition, but "was not a Greek colony." Moreover, the Encyclopedia Britannica infers that the architecture of Pompeii represents a transition from the Greek style to that of the Roman Empire.

The baths referred to by Lethaby appear to have been small edifices similar to those found in the east, in size, and not comparable to the Roman type.

The statement made above is made more with the intent of provoking further investigation than with any thought of accepting Lethaby's undocumented, inconclusive statement as bona-fide evidence.

<sup>2</sup> Fletcher, op. cit., p. 248.

It has already been made evident that with the Romans the method of construction employed was, irrespective of the system of laying the brick or tile, an armoured concrete, the domes formed as continuous shells, built in rubble work. The Pantheon dome has been cited as an example (see footnote 3, p. 165). The Dome of S. Vitale, Ravenna, offers an example of rough pottery vases -- old wine jars -- embedded in concrete. As the jars were round they were strong and light; a dome so constructed served to lighten the structure.<sup>1</sup> Rivoira regards this last cited example as a continuation of the Roman system.

The Roman concept of the dome is intriguing in that apparently they did not think of it as a magnificent feature of external display, especially during the later days, in view of their covering the dome by other roofing as in the tomb of Costanza (A.D. 330) and S. George, Salonica (A.D. 400). In these examples the dome is covered by a flat pitched roof and the outside wall, which has been considerably thinned, is carried up and above the springing of the dome to support the tie beams and rafters. This type and arrangement is to be regarded as an early example of a custom which became common in mediaeval churches, where the dome or vault is protected by timbered roof, the vault or dome being thin and hence different from the thick concrete vaults of the Romans. The wall being projected above the springing line, and to or almost in line with the apex, by its weight exercises a vertical pressure thereby counteracting any lateral thrust the dome might exert. It is apparent from the foregoing that the treatment of the dome as

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<sup>1</sup>S. Vitale 526-547 A.D., for details see Fletcher, *op. cit.*, p. 246.

a dominant exterior feature developed in the East and in the Byzantine locale.

It is to be regretted that there is such a dearth of information concerning the Persian or Sassanian examples, for here we do find evidence of a treatment which is to be found frequently adopted by the eleventh and twelfth century builders in Italy and France as well as in Byzantine churches in Greece and Western Asia of the same period. These Persian builders have demonstrated that they had learned how to place domes on their buildings without even attempting to bring down simulating lines of support to the ground, the domes not resting on drums. They employed the pendentive which has been variously termed squinch arch, pseudo-pendentive, roughly corbelled angle semi-dome.

The Palace at Serbistan<sup>1</sup> (A.D. 350) presents the centre covered by a dome which rested on pendentives. This was effected by throwing a series of arches across the angles, thereby converting the square into the required circular form. The dome itself might be noted as being elliptical, which is on the way to the pointed form. The building was of brick with a dependence on stucco for ornamentation.

The Palace, Feruzabad (A.D. 450),<sup>1</sup> offers another example of the same system of semi-dome pendentive as a solution of placing the dome over a square.

A survey of the Persian building effort reveals that in none of these palaces up to the middle of the sixth century A.D. is the true

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<sup>1</sup>Fletcher, op. cit., p. 62.

pendentive to be found, and also that the Persian domes display a tendency to swell outward from the horizontal band and the curve in returning passes to the apex almost in a straight line.

A later example, the Tomb at Saltānieh<sup>1</sup> (1303-1316), is a building which is octagonal in plan, topped by a dome of some eighty feet in diameter and one hundred fifty feet in height. The octagon was worked into the circle by a series of brackets. The whole is covered by glazed tiles. Color, it should be remembered from the time of the old Assyrian palaces, has been in that region an element of substantial architectural magnificence, at times apparently more important than architectural form.

The type of pendentive discussed above will be observed to be the prototype of the stalactite treatment used by the Moslems, not only structurally but decoratively, however it is to be found elsewhere, also, at an early date.

Simpson has mentioned that over the east end of the Coptic churches in Egypt there are generally three domes, as well as domes over other parts of the church, and specifically points to the church of Dair-Baranous, where the principal dome is carried on stalactite pendentives.<sup>2</sup> Simpson has also drawn from Gast,<sup>3</sup> who thinks that it

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<sup>1</sup> *Ibid.*, p. 949. See Fig. 51, page 176 of this thesis.

<sup>2</sup> Simpson, *op. cit.*, pp. 195-197.

<sup>3</sup> Gast, *L'Art Copte*, quoted in Simpson, *op. cit.*, p. 197.

was from the Copts that the Moslems derived the idea of the stalactite feature. It is inferred that as Copts were forced to build for the Moslems they followed their own traditions.

It should be clearly evident from the material presented thus far that the construction of a dome offered no major problem to the builders but that the placing of a dome over any other than a circular building presented a problem not completely solved by any of them. The final and simple solution was offered by the Byzantine builders and can be accepted as perhaps their greatest contribution to architecture. The principle was known in the East but evidently it was not used in the west. An early example is to be found at Kusar-an-Eureijis, Gerasa, in Palestine<sup>1</sup> and dates from the second century A.D. Therefore the Byzantines did not invent this form of pendentive-carried dome, and while this cited example appears in isolation, the fact remains that during the Byzantine period its structural possibilities were appreciated and put to work.

A true pendentive can be described as the curved triangular portions of a hemisphere, the radius of which is half the diagonal of the square below -- which remains when its sides are cut off vertically and its top horizontally, or from a hemisphere (flat side down) remove equal portions vertically, forming four sides; the remainder of the original hemisphere is a pendentive dome; further, if the top of the hemisphere is now removed horizontally at the apex

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<sup>1</sup> Simpson, op. cit., p. 314; Hamlin, op. cit., p. 229.



of the semicircles formed by the four vertical portions which were removed, the curved triangular pieces remaining are the shape of pendentive. The circle hence can be the base for a new complete dome or a vertical drum to support a dome. Therefore domes are of two kinds: simple and compound. Simple domes are those in which the dome and the pendentive are in one, an example of which is to be found in the Tomb of Galla Placidia, Ravenna (420 A.D.)<sup>1</sup> and over some of the aisles at S. Sophia. Compound domes are of two kinds: (1) Where the dome proper rests on the circle formed by the pendentives; (2) Where a "drum" is placed between the pendentives and the dome; therefore in cases where compound domes are used, greater height is obtained.

It should also be pointed out that Byzantine domes are built of brick or cut stone, brick being preferred. In general they are not of great thickness, unlike the Roman domes. Neither are they adherent to the hemispherical form, four-centered pointed forms being evident, this being the form of the later "Moorish" domes. In general it will be observed that Byzantine construction displays more skill than Roman construction; there is less of brute strength in its composition.

From the foregoing account it should be apparent that the Moslem builders had a variety of choices and of traditions to assimilate.

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<sup>1</sup> Fletcher, op. cit., p. 227. For illustration see p. 243, figures b and c.

The Mosque Al-Aqsa, (691 A.D.), Jerusalem furnishes us a dome of thirty-six feet diameter and a height from pavement of seventy-nine feet. It is made of wood cvoid sections, supported by niche-shaped pendentives. Dome of the Rock (688 A.D.) has an internal diameter of about sixty-eight feet, the height one hundred feet above floor of aisles; it is a double dome of wood, the outer shell covered with lead, and presents a slightly curving inwards at the base. The inner surface of the inside dome has stucco decoration and gilding. The dome proper rests upon a drum, which is not uncommon with the Moslem during the seventh and eighth centuries. The Moslem builder apparently solved the problem of weight and thrust by erecting wooden domes on these drums. Moreover the use of the wooden dome in this region was a traditional practice due to the "frequency and severity of earthquakes."<sup>1</sup>

Mosque of Damascus (706 A.D.). We have no account of the first dome. The original dome was rebuilt in 1092; measuring about forty-three feet in diameter, it rests on a drum which passes from a square into an octagon, this being effected by four angle niches which partly project from the wall. Below the base of each appears a small hood-shaped niche. (Fig. 50, p. 178) The dome took an elliptical shape, because of the fact that the piers were set in a slightly oblong plan. Concerning this construction Riveira makes an interesting observation:

In the days of Walid the Moslem world as yet knew nothing of the pendentive in the form of a tall niche, still less of the kind employed at Damascus. What it did know was a squinch or raccord serving the same purpose . . . .  
So far as we can judge the ordinary niche

<sup>1</sup>Riveira, op. cit., p. 58.

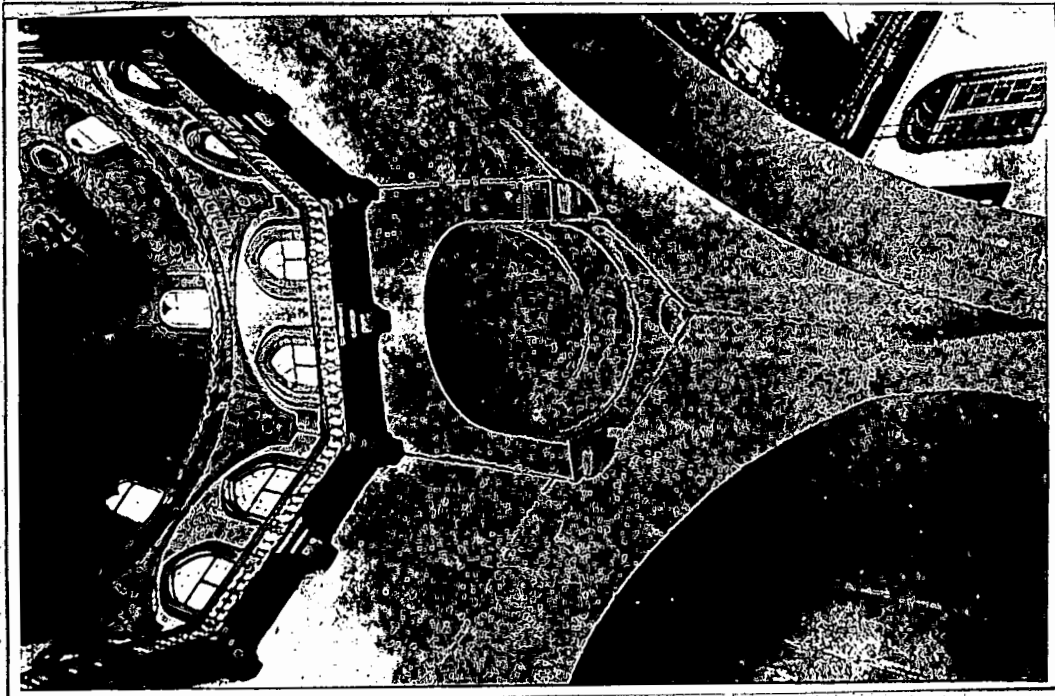


Fig. 50. Mosque of Walid - Damascus  
Central Dome

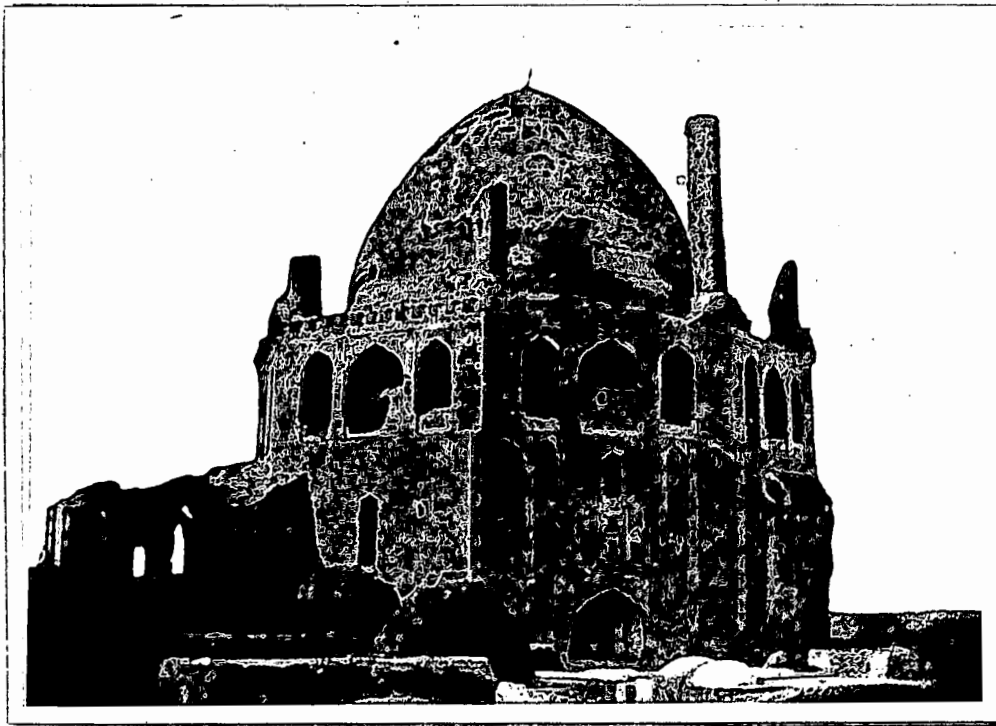


Fig. 51. Tomb, Sultanich.  
Persian - Moslem  
A.D. 1303-16 or 20

shaped pendentive did not make its appearance among the Moslems before the caliphate of Aziz (975-996). The other form which also consists of a niche, but with its sides standing free as at Damascus, is of later origin.<sup>1</sup>

Mosque of Sultan Barbook,<sup>2</sup> Cairo (1149). No adequate description was found of the dome. For the sake of completeness the following quotation is cited:

... contains an additional feature in the great sepulchral chambers which are in fact the principal part of the edifice, and betray the existence of a strong affinity to the tomb-building races in the rulers of Egypt at that time. The dome has become a truly graceful and elaborate appendage, forming not only a very perfect ceiling inside, but a most imposing ornament to the exterior.<sup>3</sup>

When we come to the Iberian peninsula, we are confronted with nothing more nor less than a very large question mark. Here it is apparent that the dome followed the tradition of the occupants of that land, who had not adopted the Byzantine dome to any extent; it can be assumed with comparative safety that the Spanish architects worked from Roman models. The mosque now known as the Church Cristo de la Luz has a bulge which scarcely can be called a dome. In the Spanish examples the dome does not appear either in the Moslem mosque or palace except as an ornamental detail. It was not built of stone or brick, but was simply a frame covered with stucco or mastic. Herein

<sup>1</sup> Ibid., p. 80.

<sup>2</sup> Also: Barqûq

<sup>3</sup> Ferguson, op. cit., Vol. I, p. 512.

lies an essential difference between the eastern and western Moslem building, for in the east the domes show some evidence of consideration on the part of the builder in that they constitute the actual roofs of the buildings and although, in some cases the dome was built of wood they are covered with more durable material than stucco.

In the Alhambra the roofs and spandrels are of plaster. Instead of the curve of the dome, in its simplicity, we are confronted with the over-present stalactite or honeycomb pattern, and the fatal frailty of plaster is everywhere apparent.

The best evidence of dome treatment in Spain is to be found in the remains of baths, which were generally vaulted or domed with brick. However, such examples of domes are generally octagonal and supported on twelve pillars, a type of construction common in the east. These Spanish examples can hardly be considered of any importance. As has been mentioned, there is a noticeable absence of tomb building from Moslem hands in this land.

It can be concluded then that the dome as a feature of Moslem architecture did not travel westward but remained in its native habitat, and if the Moslems perfected any form they perfected the primitive form; the other forms were borrowed from elsewhere.

It is indeed strange that so little, or, better said, nothing appears to be recorded concerning buildings which one might assume to have been erected by Moslems between Egypt and Spain. The French are known as an art-loving people, and sure it is that they would have had a better opportunity than others for investigating; yet the French

have not furnished us with what may serve as a link between the Eastern and Western building practices of the Moslem world.

Before discussing the one feature which appears consistently in the Moslem architectural expression -- the stalactite -- a summary of the dome and certain aspects of Moslem building should be made, for the stalactite is both constructive and decorative.

Domes under Islamic influence show a variety of forms. In Cairo the dome is usually stilted, whereas in Persia it appears bulbous or ovoid, and in Constantinople the Mosques as a rule present the low Byzantine type. Domes appear crowning a drum. In Egypt there are examples of stone domes, at Jerusalem wooden domes were pointed out, in Persia domes appear covered with glazed tile. Often the Egyptian domes presented lace-like patterns. Wherever an opportunity for decoration presented itself, it was seized and decoration effected.

(Fig. 52, page 180)

In an overall appraisal the great expanse of the Islamic conquest can be taken to represent the meeting of two classical building traditions of that age, the west representing the stone-building and the east representing the brick and plaster traditions. Both of these traditions lie at the eastern end of the Mediterranean and beyond -- further eastward. The west or stone-building tradition includes the countries of the eastern Mediterranean and a bit beyond, Egypt, Syria, and Northern Mesopotamia, which found its expression in the solid masonry examples of Egypt and Byzantium. The eastern brick and plaster found its tradition in the mud-huts of Mesopotamia and reached eastward through Persia and beyond, which had been exemplified in the Babylonian-

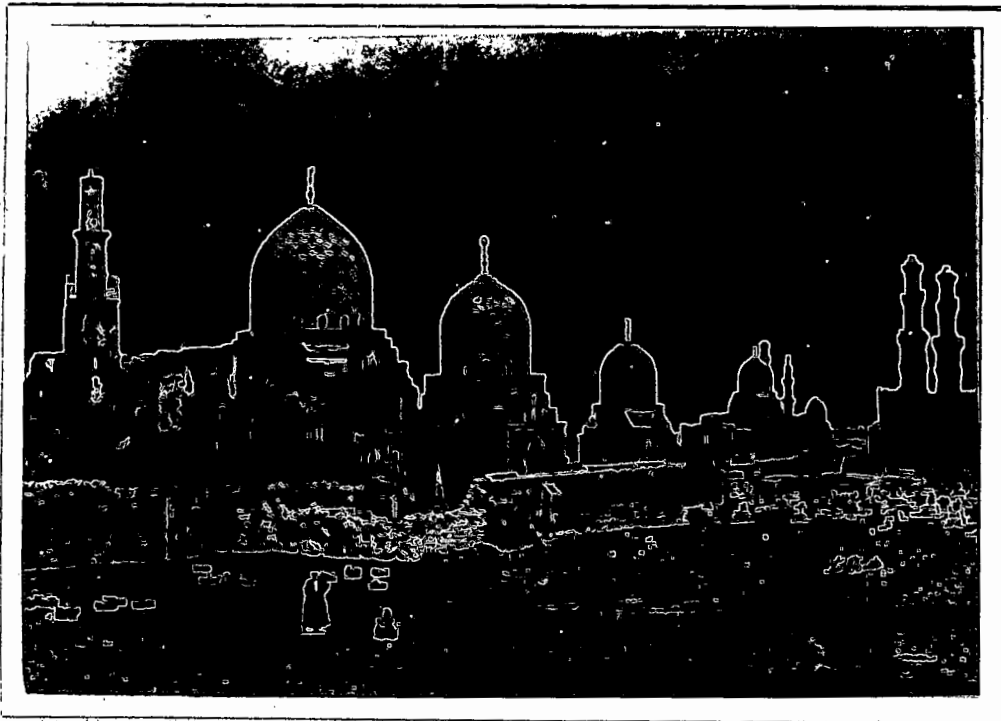


Fig. 52. Tombs of the Caliphs • Cairo  
XV-XVI centuries

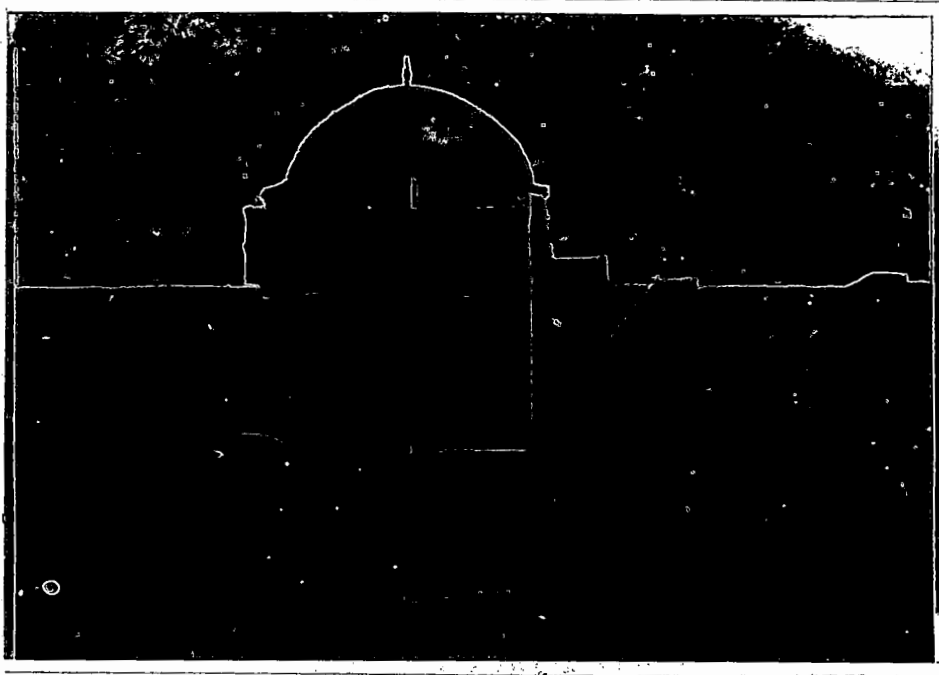


Fig. 53. Mosque Kairouan • Tunisia  
Dome of Mihrab  
Founded 675 A.D. • IX century

Sassanian-Persian brick structures and had given birth to a wealth of glazed tile, mosaic, stucco, and colored glass ornamentation. These two trends are easily discernible when one observes the changes from the Dome of the Rock and Mosque of Damascus with their stonework, which was appropriate to the geography and the political complex of its day, and the change to Persian brick and plaster which occurred when the government moved to Baghdad. This brick and plaster trend is the dominant trait for the next four centuries, and can be observed even in the mosques in Egypt which were built later, and the same tendency is noted in Spain. It seems logical then to accept this as representing an invasion of oriental taste and tradition which swept westward into the stone building regions.

Particularly noticeable is the fact that wherever the various nationalities settled who had embraced Islam they adopted the architectural features of the conquered country and modified it to their special requirements. These requirements, as noted in the case of the mosque, were essentially minor in detail.

Nowhere do they appear to have brought a revolutionary style with them; neither is it apparent that they forced such a style upon their conquered subjects. In this it would appear that the Moslem was wise, for it can be assumed that in general the long-time inhabitants of a country would know the form of construction best adapted to the available materials and to the climate.

Waro regards the stalactite or honeycomb as the most conspicuous



feature of Moslem architecture.<sup>1</sup> Concerning the origin of this device he is indefinite and far afield. Hamlin<sup>2</sup> presumes Persian origin, Briggs<sup>3</sup> thinks the origin is possibly Mesopotamian, while Nigeon<sup>4</sup> points that it may be Hindu, Persian, or may have originated at Ani in Armenia. It is clear that, at present, we do not know where it originated.

It is evident that this feature, the stalactite, appears in Moslem buildings throughout their vast realm. Briggs points to the first authentic occurrence on the minaret of al-Juyushi,<sup>5</sup> Nigeon<sup>4</sup> concurs with Briggs on its appearance at the Mosque al-Aqmar<sup>5</sup> as the second example.

The Moslem had to overcome the difficulty of placing the circle of the dome over a square. This difficulty he often overcame by a series of small pointed niches, in rows one above the other. Each row projected inward from the one below; hence by each gradation the

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<sup>1</sup>Wm. R. Ware, op. cit., p. 5. The most conspicuous of these (peculiarities of unusual interest) is the so-called honeycomb, or stalactite work, a singular device which is used on the under-side of all sorts of projections, almost to the exclusion of mouldings. Capitals, cornices, string-courses, brackets, arches and vaults, domes and the pendentives that support them are entirely composed of little niches piled one above another in an endless variety of fantastic combinations. Sometimes these are rectilinear, and resemble broken honeycomb, sometimes they are bounded by curved surfaces.

<sup>2</sup>Hamlin, op. cit., pp. 141-2.

<sup>3</sup>Briggs, op. cit., p. 170.

<sup>4</sup>Nigeon, op. cit., pp. 13-14.

<sup>5</sup>Hitti, op. cit., p. 650.

square was brought to the circular dome. This has been known as stalactite work and forms the elected form of Moslem pendentive, which is in striking contrast to the Byzantine, already discussed, and which was a plain curved surface. This usage, passing from the square to the circle, is the most common.

Decoratively it was a favorite form, the whole surface as well as the dome being covered with an agglomeration of minute niches, a multiplication of small pendentives.

In Spain this form of ornamentation was much used, and at the Alhambra it can be said to reign supreme, the arches being heavily encrusted with this device; in fact it greets the eye in every nook and corner.

The stalactite is the hallmark of Moslem architecture. The intelligence of its wide use can be questioned when it is considered from the viewpoint of economy and durability. For it is used to excess as a mere ornament and depends for its existence upon the extraordinary tenacity of cement (or plaster) and its adaptability to building with brick or stucco. It is at once evident that a great number of combinations are possible and might fill the void for a people forbidden the use of figure and floral sculpture.

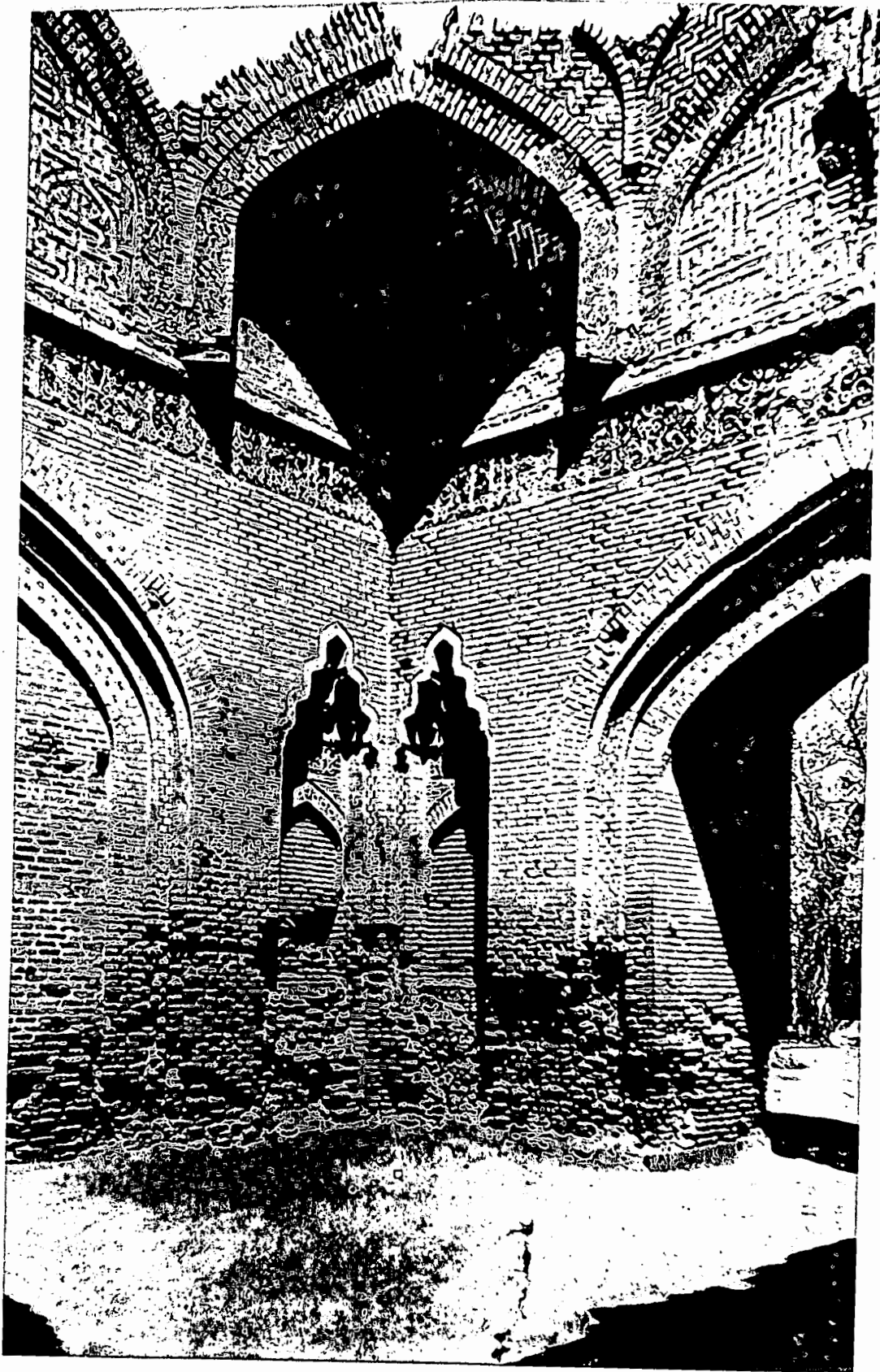
Naturally such a device which was used constructively and so excessively as a decorative feature could not escape the symbolists. Prisse d'Avenne has adopted an idea advanced by Salzman that the various forms of the "Arab" dome and the stalactite pendentives were derived from the form and structure of the watermelon. He made com-

comparisons of buildings at Cairo with the watermelon section side by side to show the similarity.<sup>1</sup>

Those who have the time and inclination may follow up the idea and symbolism.

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<sup>1</sup>D'Avennes Prisse, L'Art Arabe d'après les Monuments du Kaire depuis le VII<sup>e</sup> siècle jusqu'à la fin du XVIII (Paris, 1877) 3 vols. quoted in Havell, op. cit., p. 7.



Mosque Haydariyah, Qazvin - Iran  
Early XII century

Ornament

This section dealing with the decorative aspect of Moslem architecture makes no pretense at being exhaustive. The whole subject of ornamentation is too large to cover in a section. It would appear that this in itself is a large enough field to justify a separate thesis. The following highlights and main points of the evolution of this facet of the problem are presented simply for the sake of completing the over-all picture.

The reputed injunction of Muhammad against representational art is derived from a hadith in which Muhammad is said to have declared that those to be most severely punished on the day of judgment would be the painters. Hitti points out that the term used is musawwirun (portrayers) and that this term would include the sculptors.

Of one thing there is certainty: the theologians of Islam seized upon this hadith and developed and demonstrated a marked hostility to all forms of representational art. This is one of those cases which demonstrates the difference between a theory and its practice. It is noteworthy that the theoretical attitude of these Islamic leaders with their antagonism toward all forms of representational art could not stop its process of development any more than the injunctions of the Koran against drinking liquid of alcoholic content.

The records are clear relating to the Moslems' elaborate frescoes, pleasure-boats in the shapes of lions, eagles, and dolphins, and even to nude figure painting,<sup>2</sup> but with these aspects of artistic enterprise

<sup>1</sup>Hitti, op. cit., p. 271. <sup>2</sup>Ibid., pp. 419-420.

we are not here concerned.

Opinions formed on what little has thus far been brought to light on the Arabian peninsula would argue that the "Arabians" themselves possessed no developed feeling toward plastic or pictorial arts, and that what we term Moslem art was eclectic. Its decorative motifs, though derived either from the vegetable kingdom or from geometric figures, arose from the artistic enterprise of the minority groups within Islam. However, it was developed under Moslem authority and was uniquely adapted to the needs of Islam.

Since the chief feature of Moslem architecture, as has already been stated, lies in the field of decoration, it would appear that an empty surface was intolerable to the eye of a Moslem. Wherever one looks, the wall, the ceiling, the pages of a book, utensils of daily use, everywhere there is a richly decorated surface.

#### Adaptation of Moslem Decorations

Damascus, Cairo, and Cordova may be cited as examples wherein is displayed the ingenuity with which the minority group, artists and workmen, adapted themselves to the new circumstances attempting to enforce the stringent Mohammedan decree. The endless designs in mosaic, in marquetry, or in stone, in which there was to be no living thing, vegetable or animal, led to a very individual style of decoration. However, by the seventh century, when the Moslems began their building program, the Byzantines had developed sufficient skill adequately to

cope with such restraint; in short they were skillful enough to make light of such exclusions. The ingenuity exerted gave rise to a simple ornamental style, leaving an abundant field behind, which was enriched by the unique Moslem custom of elaborating inscriptions into the designs. Henceforth, more curves and angles and interlacings were to carry the chief burden of a design, often enhanced by color. The curves, however, quite naturally fell into the standard forms and floral shapes. The lines and angles soon developed into a species of tracery and were agreeably diversified by the ornamental introduction of the inscriptions. Despite the fact that flowers were not palpably admitted, the great mass of Moslem designs, in the minor details, are composed of flower forms which are disguised.

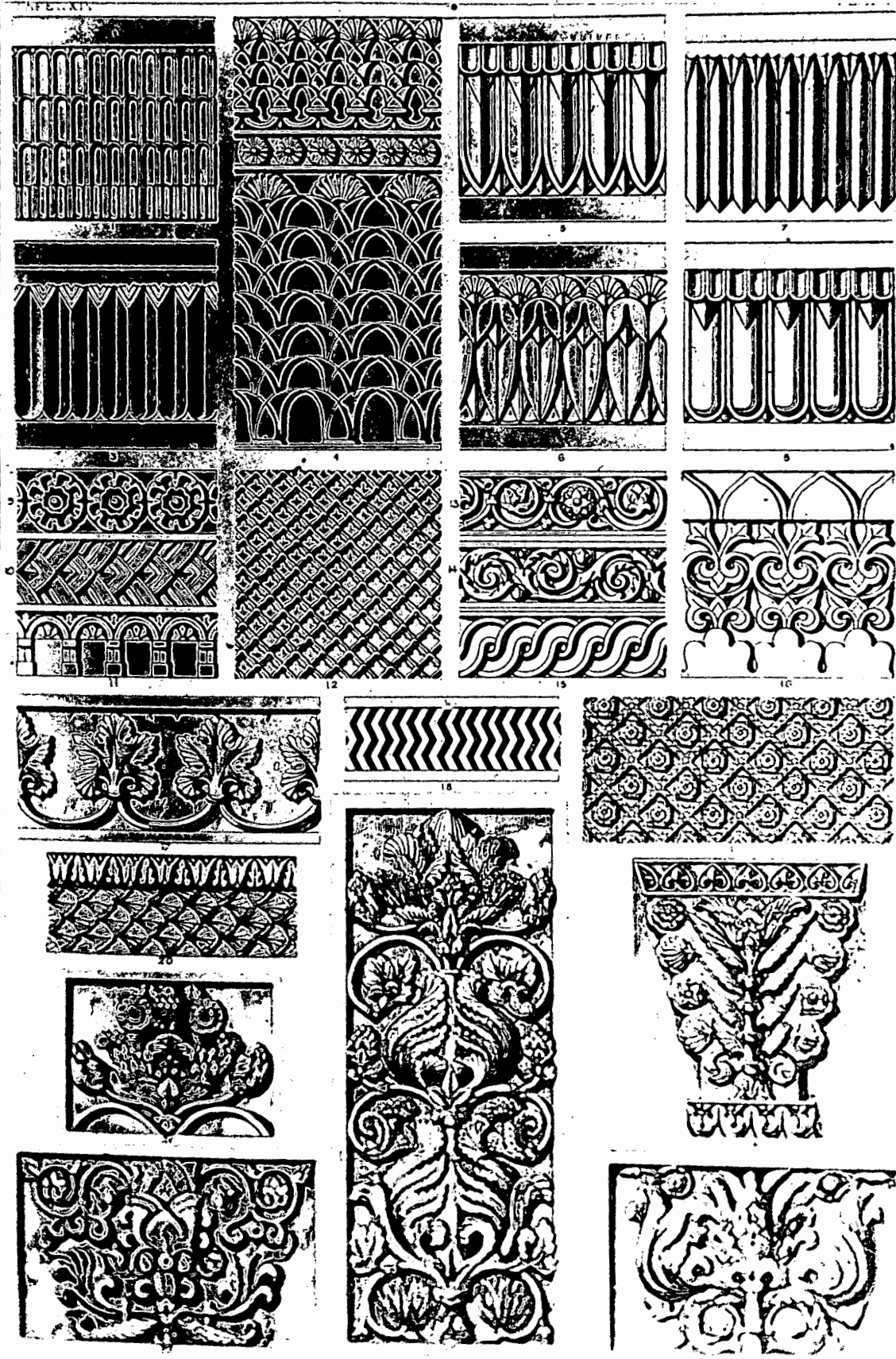
### The Arabesque

The commonest Moslem decorative motive, and this appears everywhere, is the arabesque. Strictly speaking the arabesque is an ornament which is composed of gracefully curving scrolls; these may be crossed or interlaced and may bear stylized motives suggesting a leaf or a flower. The development of the arabesque was gradual.

Assyrian ornaments, in relief and painted, appear in the nature of diagrams showing little surface-modelling. Plate III, page 109 shows details from Persepolis, Bi-Sutoun, and Tak I Eostan.<sup>1</sup> Figures 3, 5, 6, and 7 from Persepolis might be taken to be a modification of Roman ornamentation. Figures 12 and 16 are from Bi Sutoun. Owen Jones

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<sup>1</sup>See index of plate. These are from Flandin and Coste.





considers these two examples in these words:

... (they) contain the germs of all the ornamentation of the Arabs and Moors. It is the earliest example we meet with of lozenge-shaped diapers. The Egyptians and Assyrians appear to have covered large spaces with patterns formed by geometrical arrangement of lines; but this is the first instance of the repetition of curved lines forming a general pattern enclosing a secondary form. By the principle contained in (no. 18) would be generated all those exquisite forms of diaper which covered the domes of the mosques of Cairo and the walls of the Alhambra.<sup>1</sup>

### Byzantine Influences

Rothery infers that the decorative art of the Moslems was derived from the Byzantine, "being a surface style built up of fragments."<sup>2</sup> It is a commonplace that Byzantine architecture partook of Greek, Roman, and Western Asiatic elements; the same is true of the accompanying ornamentation. In general, the "pure" Byzantine ornament is characterized by broad-toothed, acutely-pointed leaves. In sculpture these leaves as a rule are bevelled at the edge, present deep channelling, and are drilled with deep holes. The running foliage is generally thin. There is a limited introduction of animal or other figure subjects in sculpture.

### Roman Ornamentation

The Roman ornamentation appears to be dependent upon sculpture

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<sup>1</sup> Owen Jones, The Grammar of Ornament (London, Day and Son, Ltd., 1856), p. 30.

<sup>2</sup> Guy Cadogan Rothery, Ceilings and Their Decoration, (New York: Frederick A. Stokes Company, n.d.), p. 45.

for effect, presenting deep cuttings, massive projections with intermixture of figure subjects, foliage, and conventional ornament.

Plate number IV, page 192 shows ornaments from the Mosque of Ibn Toulon which demonstrate, to an extent, emancipation from total imitation of the current style. It does show affinity to examples shown in plate III, particularly figure 16. Jones thinks that the types displayed here reach their culmination in the Alhambra.

The ornaments from the Mosque of Toulon are very remarkable, as exhibiting in this early stage of Arabian art the types of all those arrangements of form which reach their culminating point in the Alhambra. The differences which exist result from the less perfection of the distribution of the forms, the leading principles are the same. They represent the first stage of surface decoration. They are of plaster, and the surface of the part to be decorated being first brought to an even face, the patterns were either stamped or traced upon the material, whilst still in a plastic state, with a blunt instrument, which in making the incisions slightly rounded the edges. We at once recognize that the principles of the radiation of the lines from a parent stem and the tangential curvature of those lines had been either retained by Graeco-Roman tradition, or was felt by them from observation of nature.<sup>1</sup>

#### Grecian Influence

A study of figures 2, 3, 4, 5, 12, 13, 32, 36 on plate number IV reveals faint traces of Greek similarity, but with an essential difference in that, with the Greek, the flowers or leaves are not a part of the scroll but seem to grow out of it. In these examples from Ibn Toulon the scroll is transformed into an intermediate leaf.

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<sup>1</sup> Owen Jones, op. cit., p. 57.

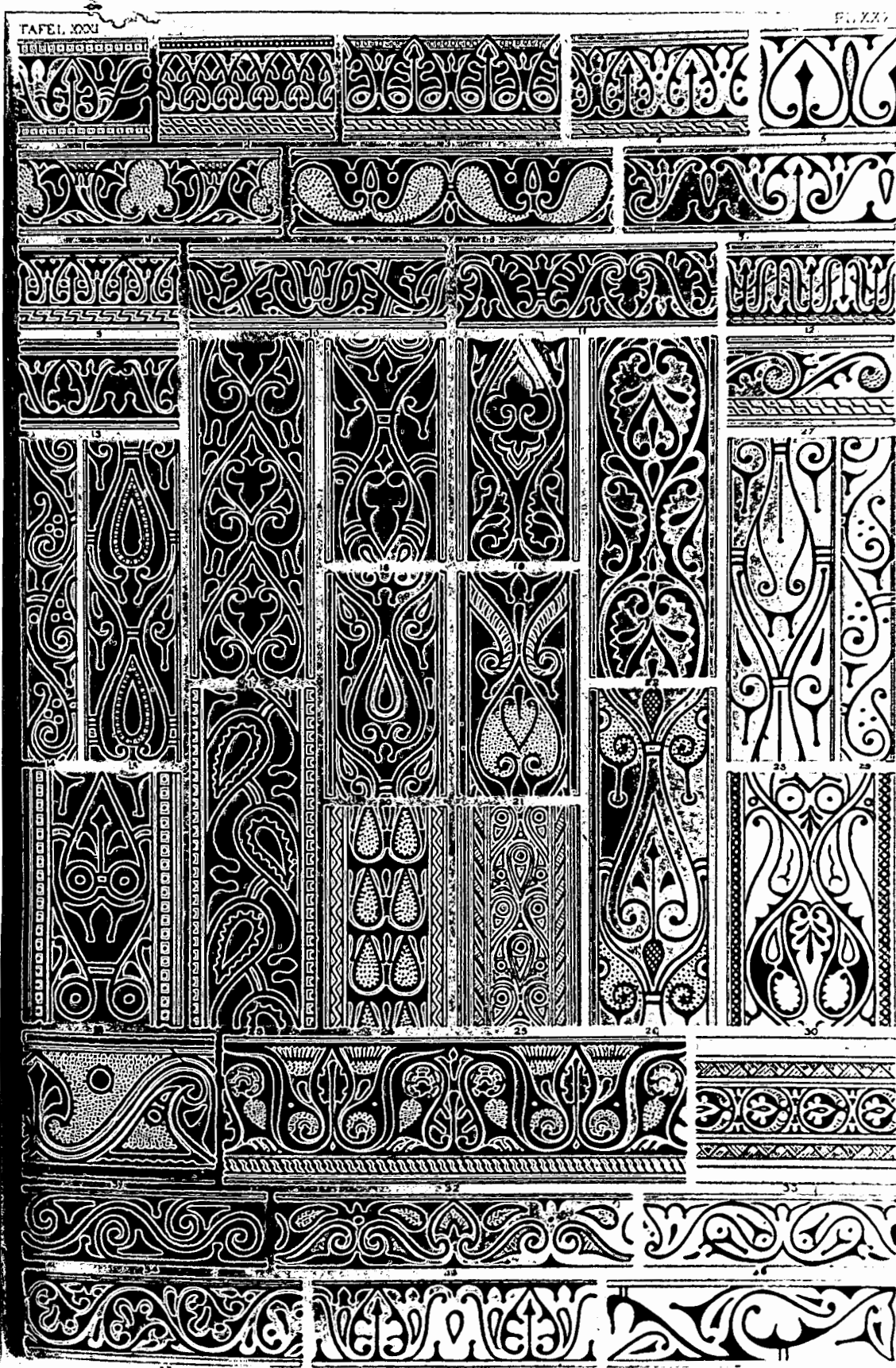
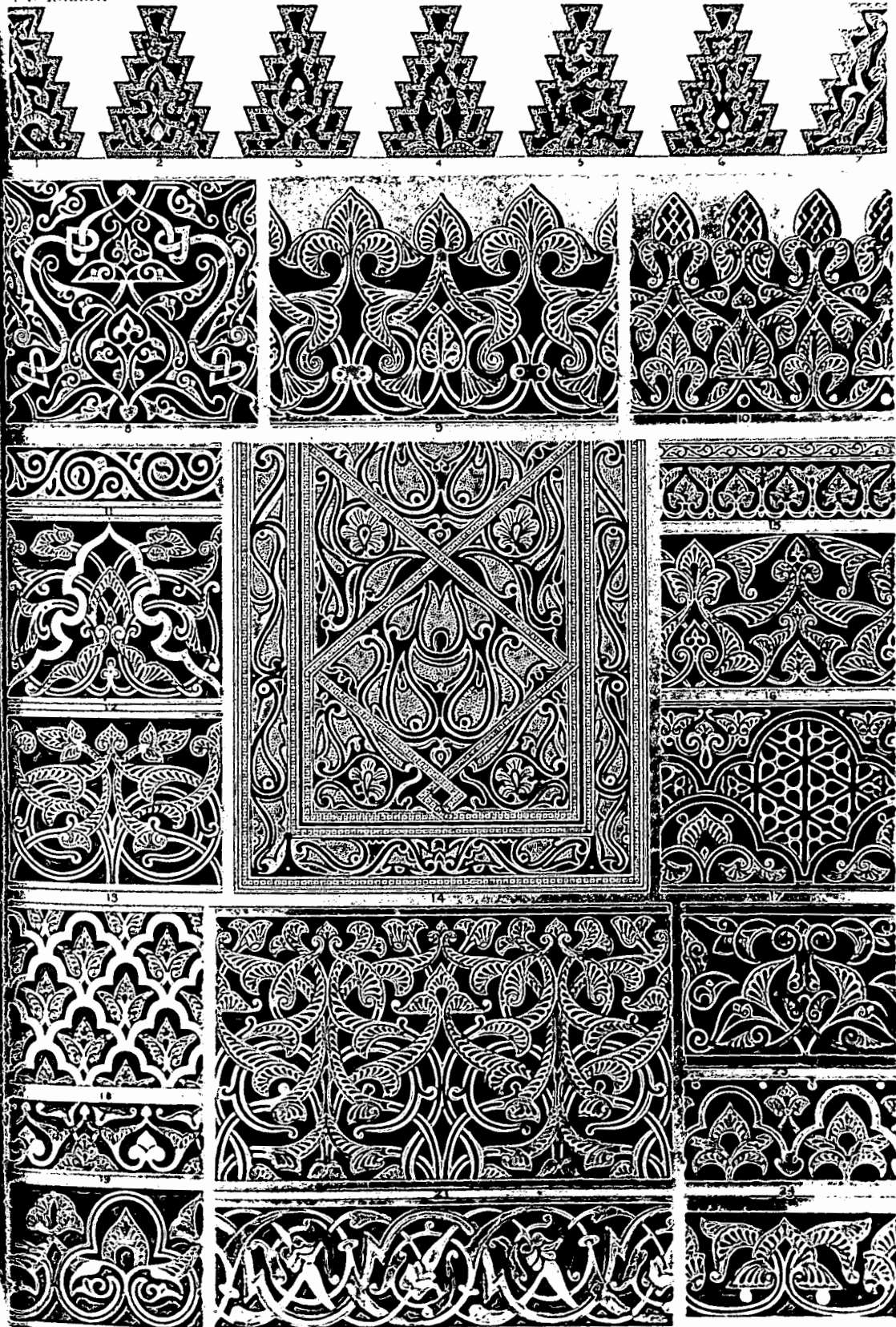


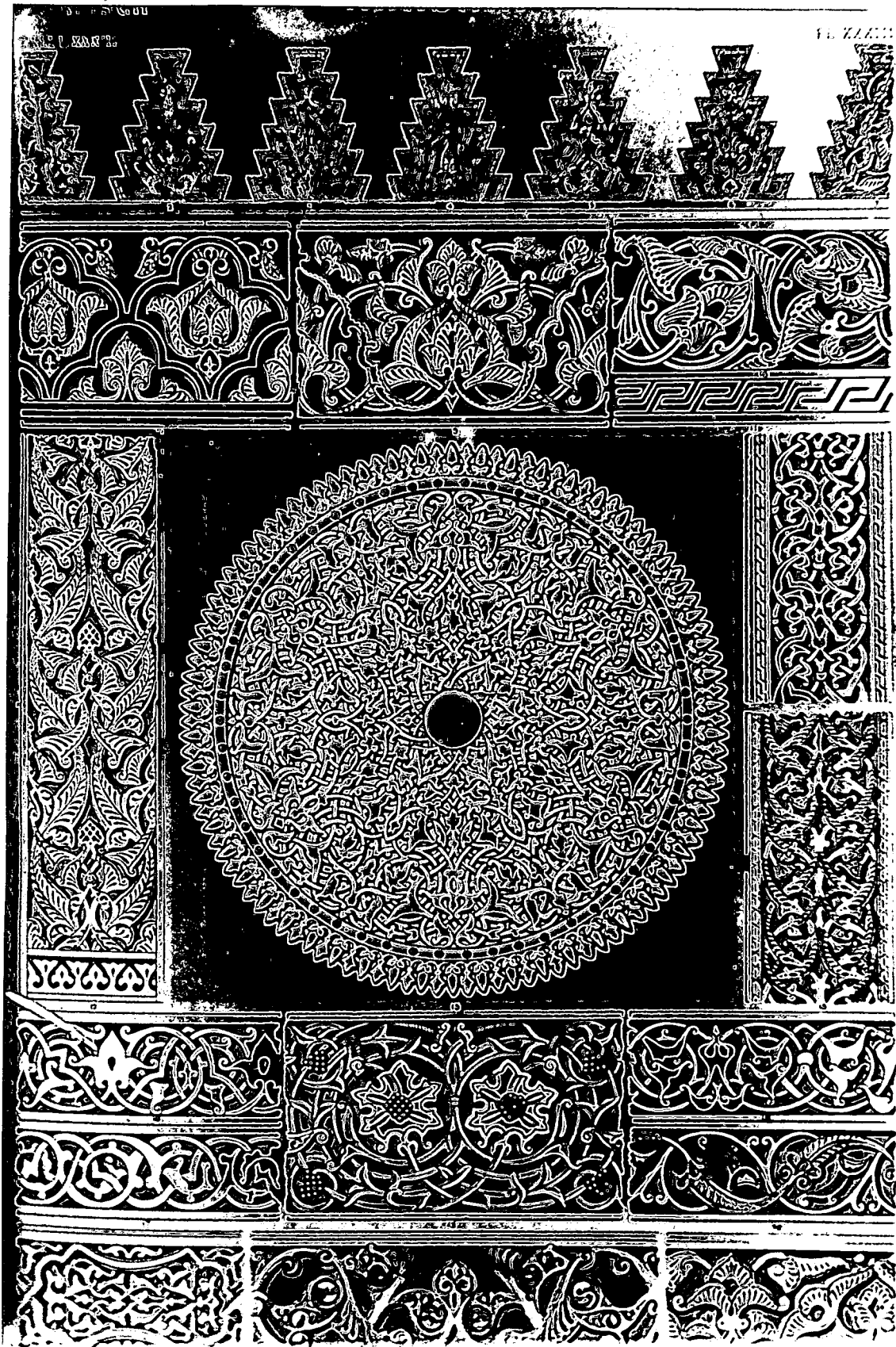
Figure number 37, plate number IV shows a continuous scroll with Roman similarities. Figure number 14, plate V, page 194 is from one of the main arches at Ibn Toulon. All other examples on this plate (V) and on plate number VI, page 195 belong to the thirteenth century and were executed in plaster and appeared to have been cut while the stucco base was still wet. A comparison of the examples on these plates with the center on figure 14, is interesting in that it represents work four hundred years apart; yet these later examples are of the same period as the Alhambra. A further comparison between figure 12, plate VI, and two examples from the Alhambra which have been placed together on plate VII, figure 54, page 196 shows that the Alhambra examples display a greater skill. There are no great gaps or holes, there is less monotony, and there is a greater sense of relationship.

From these plates it is apparent that the many elements of the arabesque are already in evidence; therefore it seems advisable to discuss this facet of the problem before considering the more mature evidences presented by the Alhambra.

The wall panel, plate VIII, figure 57 from Samarra is a good example from the ninth century. A comparison of this example with figure 16 from plate III, which is enlarged as figure 56, plate VIII, is interesting, as well as a comparison with figure 55, plate VII which is a carved-wood door panel from Egypt of the eleventh century. Here the arabesque is more developed. It will be noted that the connecting lines (or stem) become part of the ornamentation and assume more prominence.

XXXII





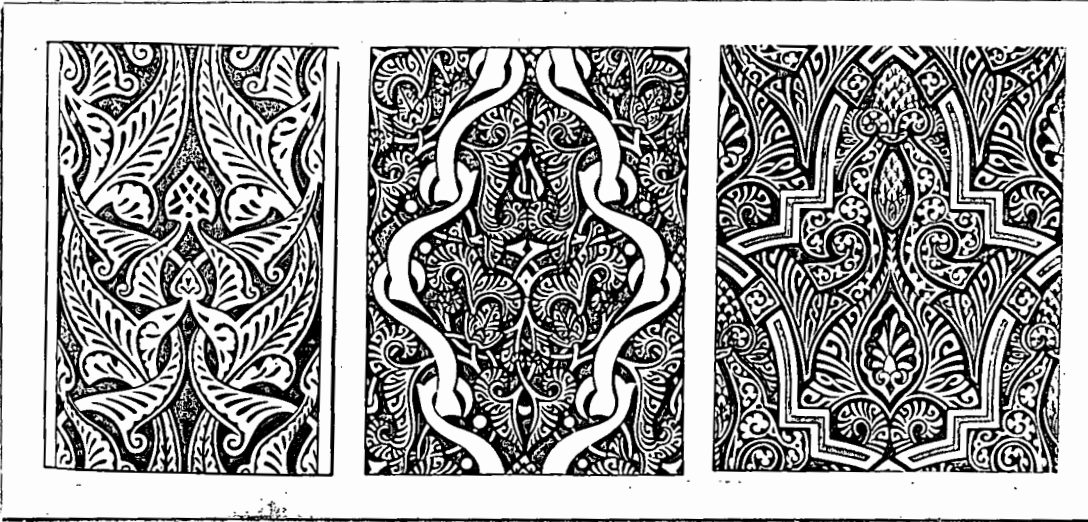


Fig. 13 from Plate VI

From Alhambra

From Alhambra

Fig. 54. Comparison



Fig. 55. Carved-wood door panel  
Egypt - XI century

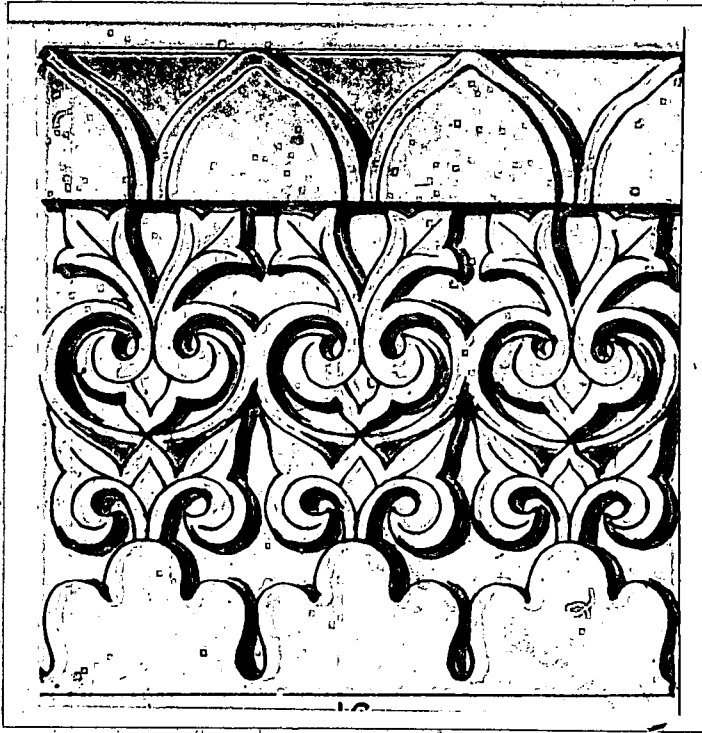


Fig. 56. Enlargement of Figure 16, Plate III



Fig. 57. Samarra - Wall panel  
IX century



### Zenith of Arabesque Decorations

Plate IX, Figures 58 and 59 are examples of wood and ivory carvings from Egypt belonging to the XIII-XV centuries. These belong to the period in which the arabesque reached its most elaborate form throughout Islam. In these examples it will be observed that there is decoration with linear scrolls or with incised lines suggestive of veining. This adornment with linear scrolls, which on occasions forms the main ornament, would appear to be common throughout western Asia and Egypt during the twelfth and thirteenth centuries.

It is to be noted that, although arabesque ornament was popular in sections of Islam, it was modified to accord with local taste and changes in local tastes. There is also to be observed in Moslem art of all periods a representation of plants, foliated and floral scrolls, at times conventionalized and also naturalistically rendered, and from the beginning of this art expression geometrical ornament is found to be in use. These are found alone or in combination with scrolls. Also, the Kufic characters are often intertwined with these ornamentations.<sup>1</sup>

Figure 60, page 200 (same as figure 13, plate VI) is of pierced metal and shows an approximation to the distribution attained by the Spanish Moslems, in that as the pattern approaches the center there is a proportionate diminution of the forms. There is a dominant disposition demonstrated by the Moslems of the Iberian peninsula in this regard, that it makes no difference how intricate a pattern may

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<sup>1</sup> Rothery, op. cit., pp. 47-49.

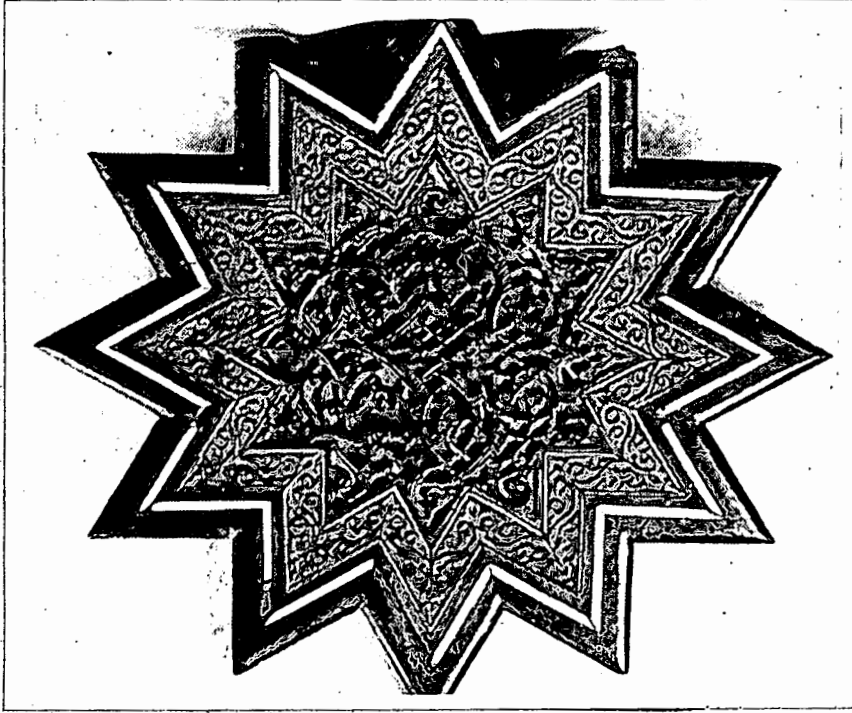


Fig. 58. Wood and ivory carving  
Egyptian mosque - XIII-XV centuries

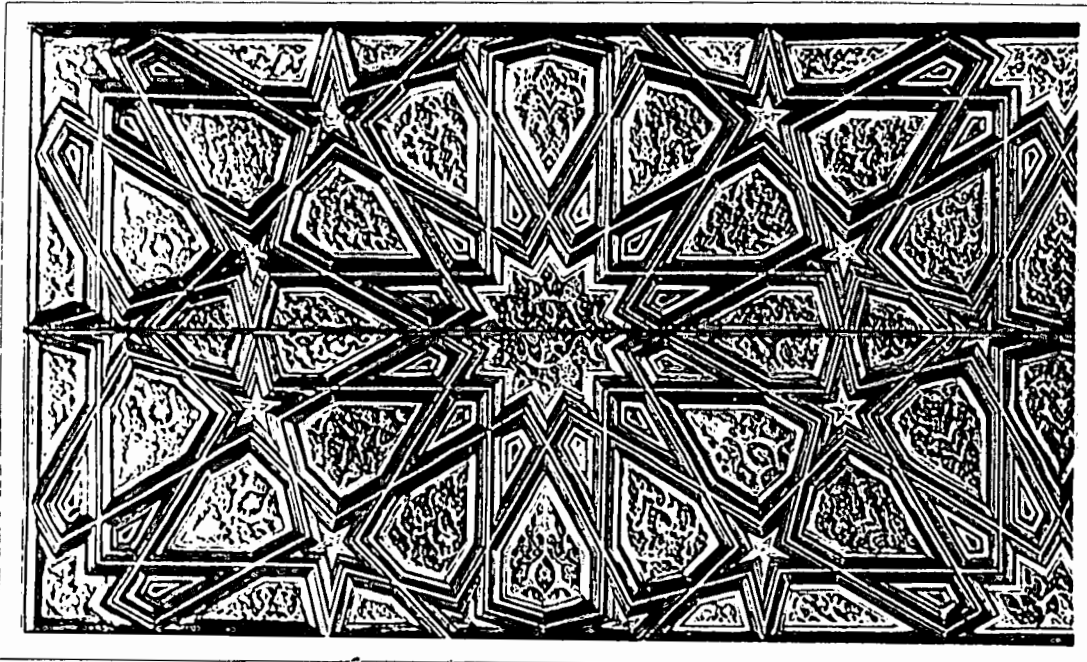


Fig. 59. Wood and ivory carving  
Egyptian mosque - XIII-XV centuries

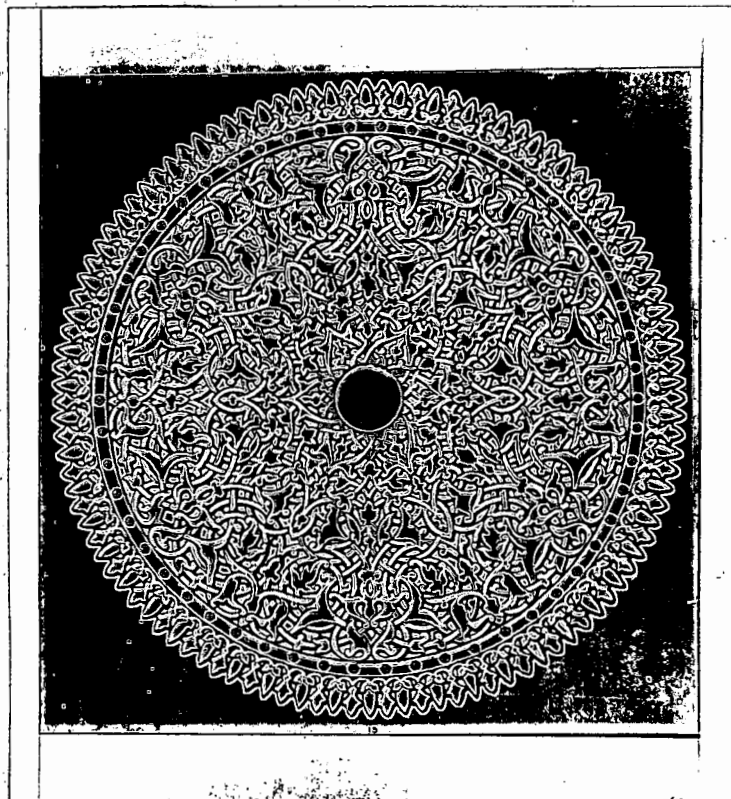


Fig. 60. Mosque El Barhookayeh - Founded A.D. 1564  
From a door  
Pierced metal

be -- it may always be traced back to the branch or root.

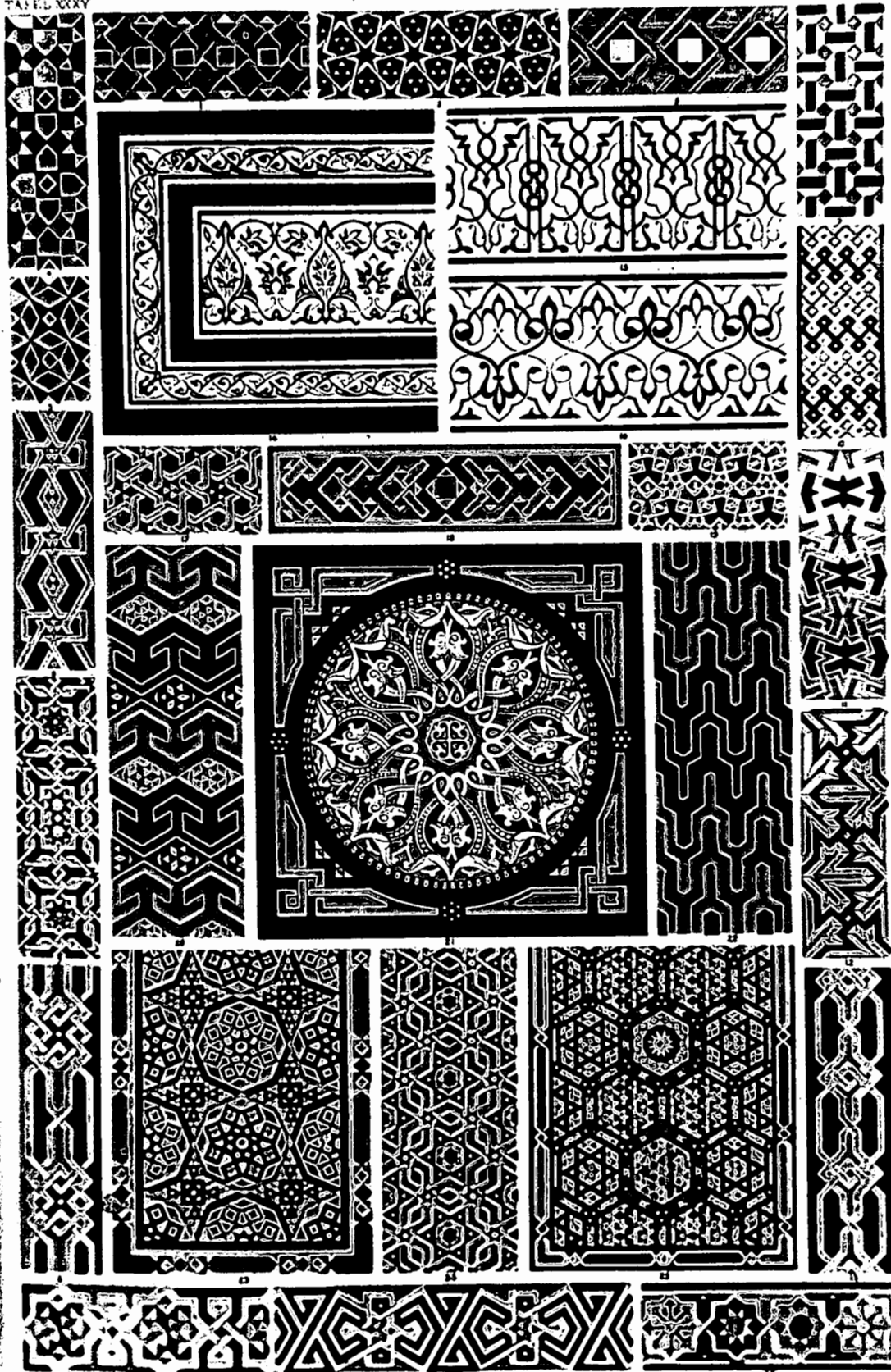
In the field of mosaics a comparison of plate X, which is from Mosques in Cairo, with plate XI, which represents Byzantine examples of mosaic, and plate XII from the Alhambra clearly show that though they appear different, there is hardly a form appearing in one which is not to be found in the other examples. These Alhambra mosaics again exhibit the Moslems' addition to geometrical forms. Fundamentally, all of these patterns are based on the intersection of equidistant lines around fixed centres.

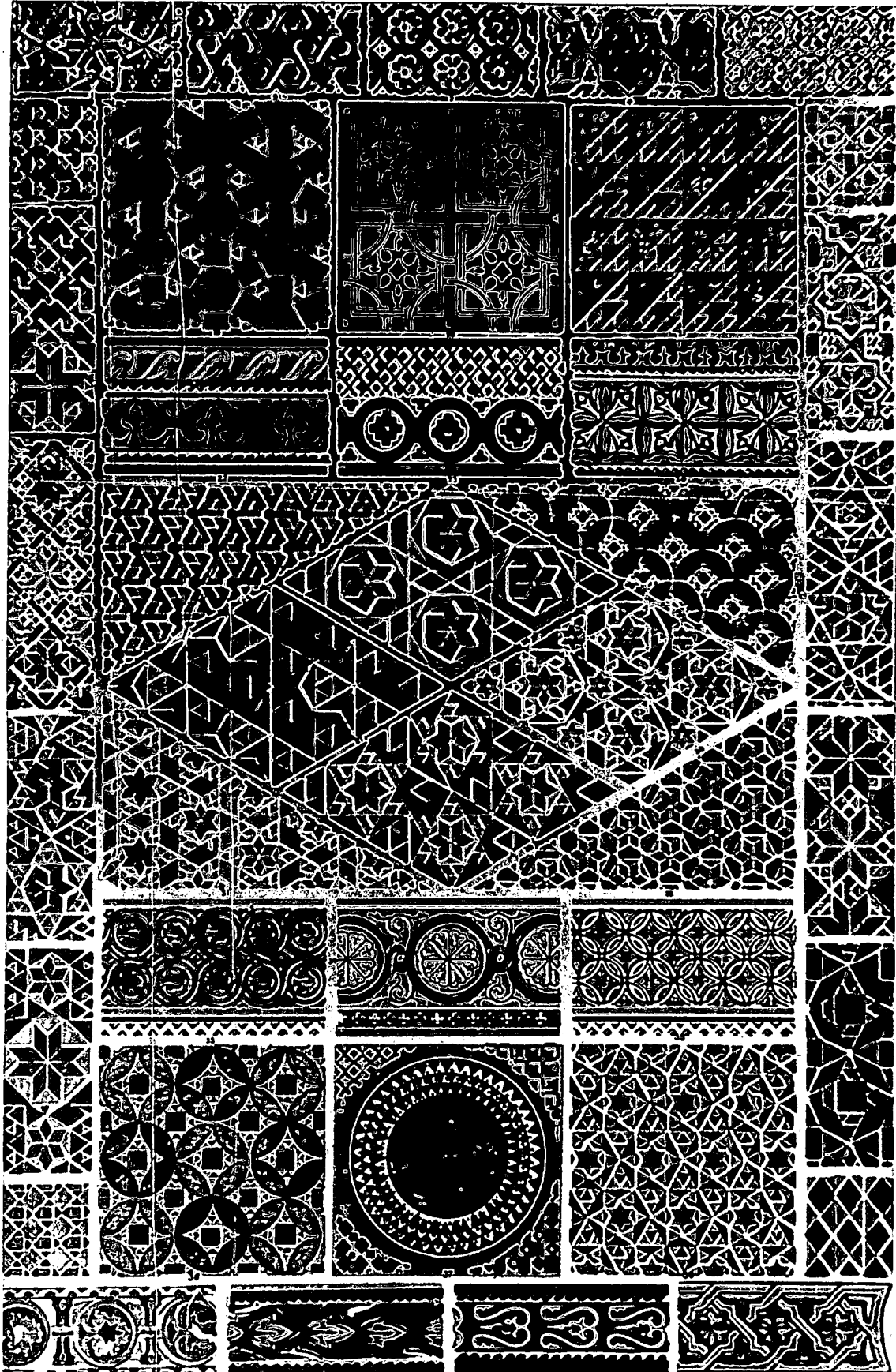
Plate XIII shows spandrels of arches from the Alhambra. Stalactite ornamentation is observable. The color treatment in all of these is effected in red, blue and gold.

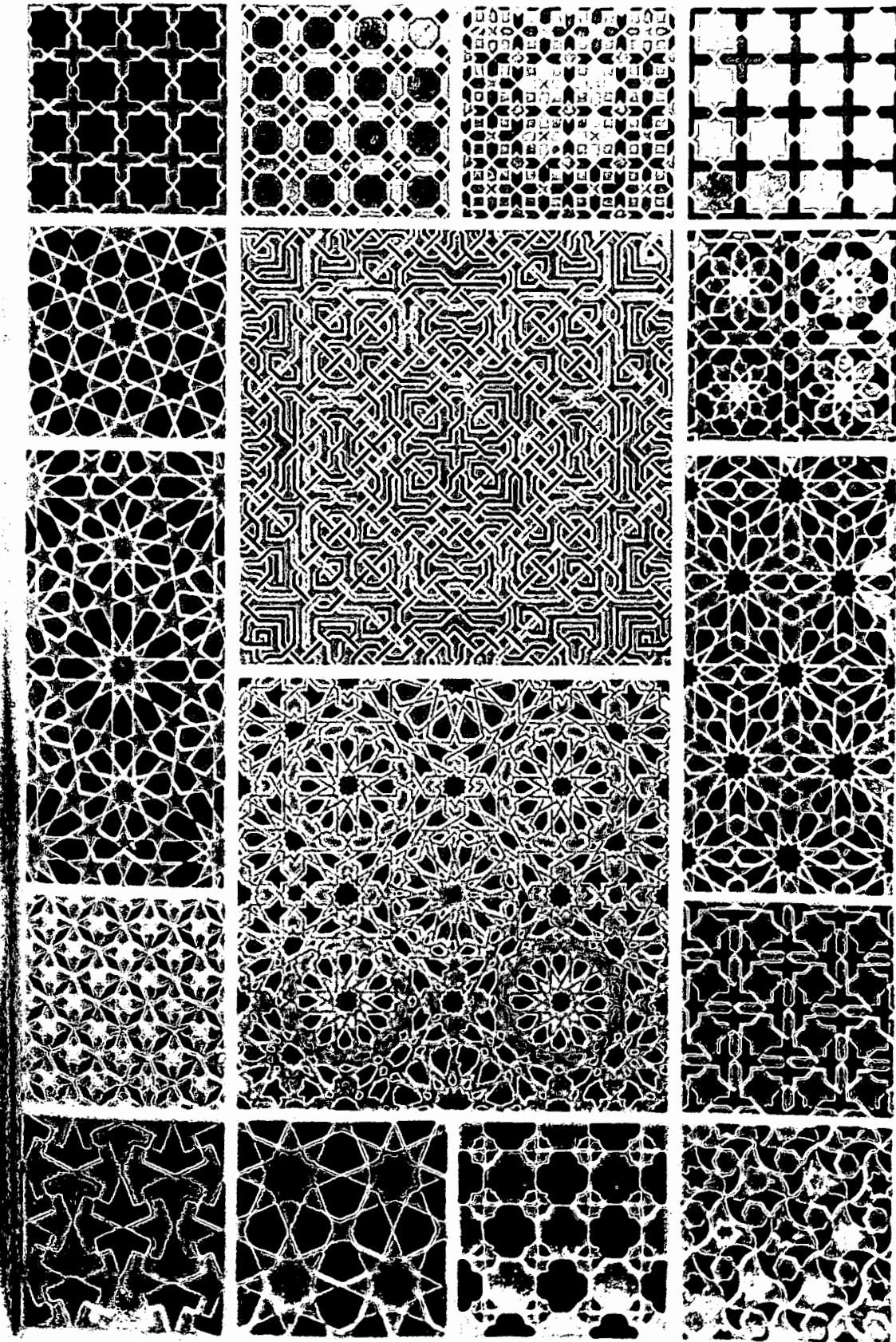
Plates XIV and XV offer illustrations of losenge diapers from the Alhambra. The coloring is here, again, the three primary colors, namely, red, blue, yellow (gold). In these examples will be noted the dominant features of this Spanish-Moslem decorative system, where each leading line reposes upon another, where a curved line gradually leads to another curved line, and where each stylized flower is traced back to its branch.

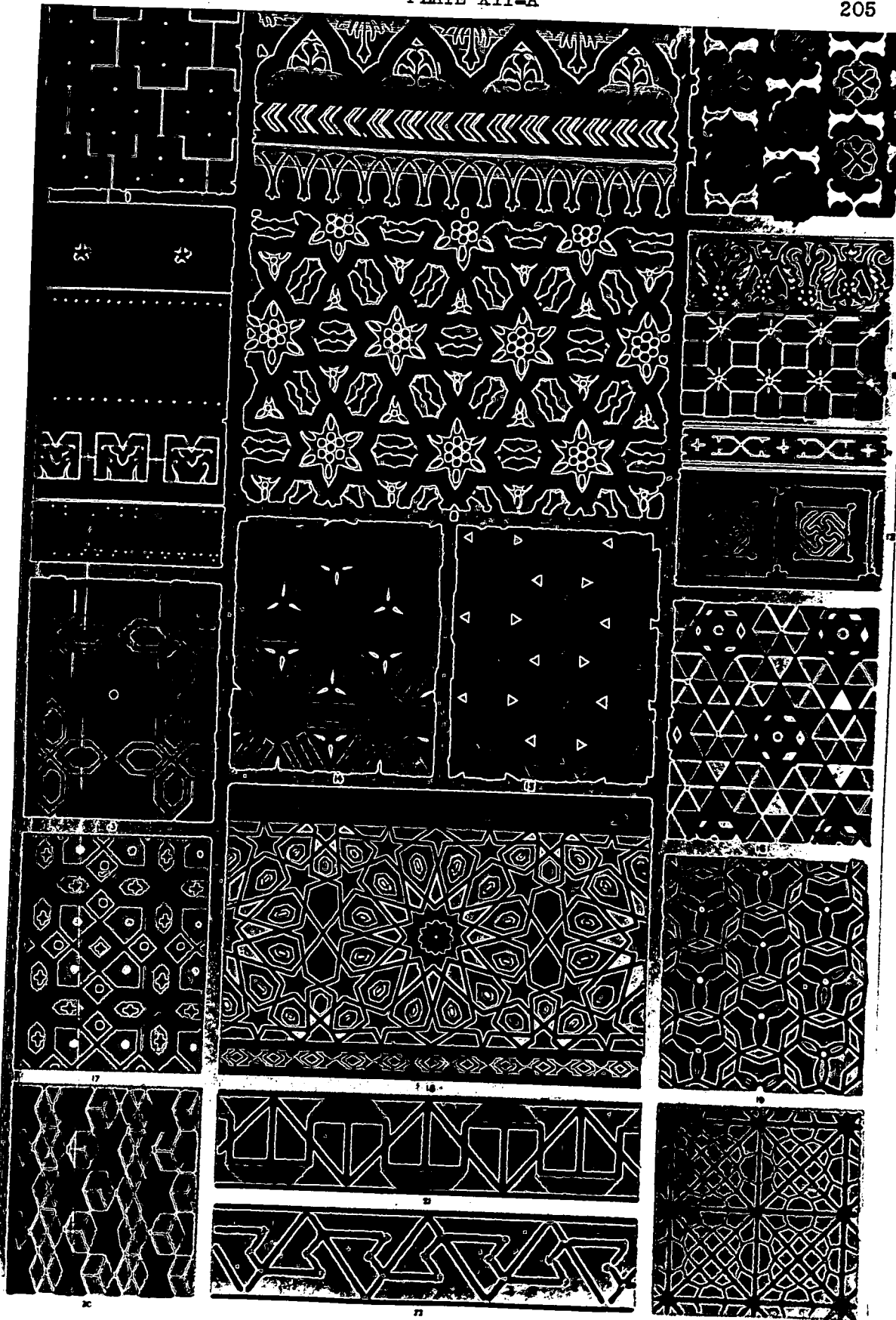
Plates XVI and XVII show examples of square diapers, also from the Alhambra. Here we observe horizontal, perpendicular, and diagonal lines contrasted by circles, producing a complete harmony. A comparison of figure 1, plate XVI and figure 3, plate XVII with several of the interlaced examples from the Alhambra on plate XVIII shows that the leading lines are produced in the same manner. In these examples additional patterns are produced by the arrangement of color as well

TAFEL XXXV

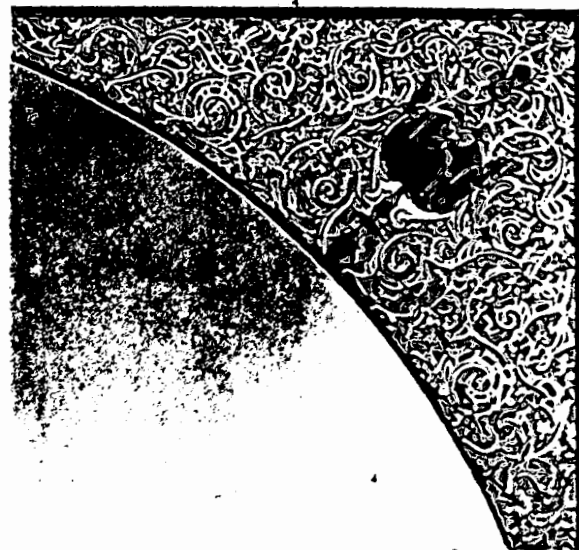
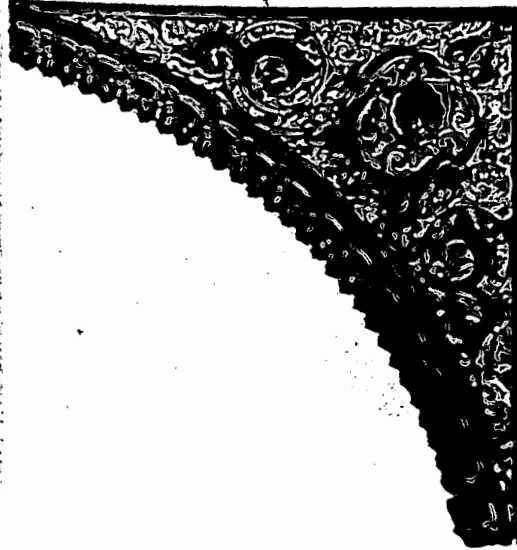
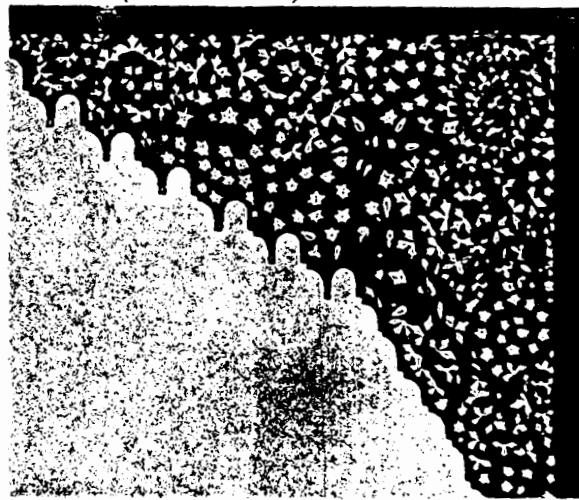
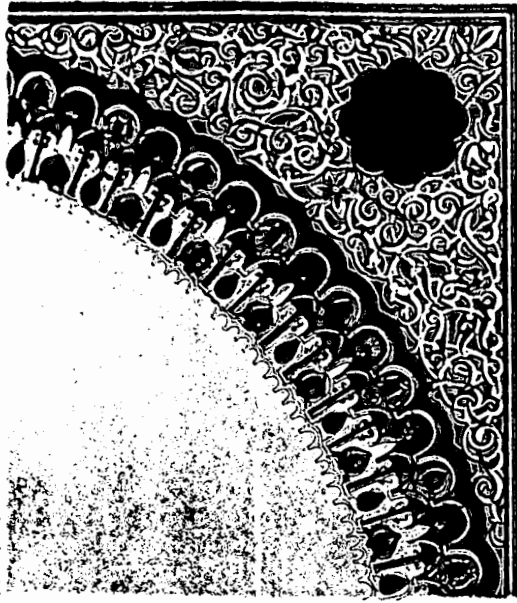


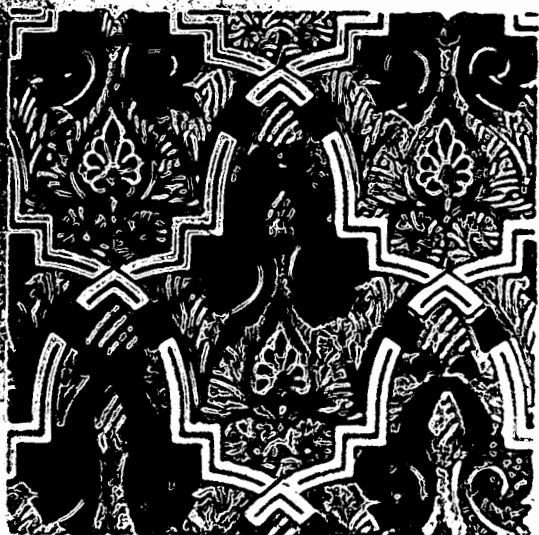














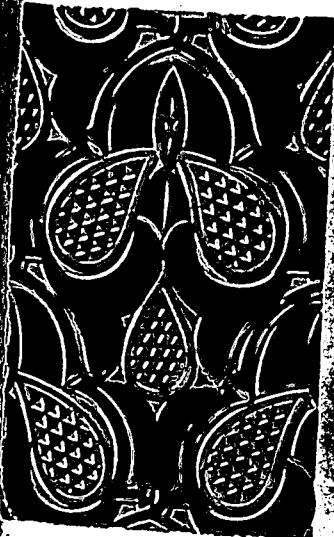
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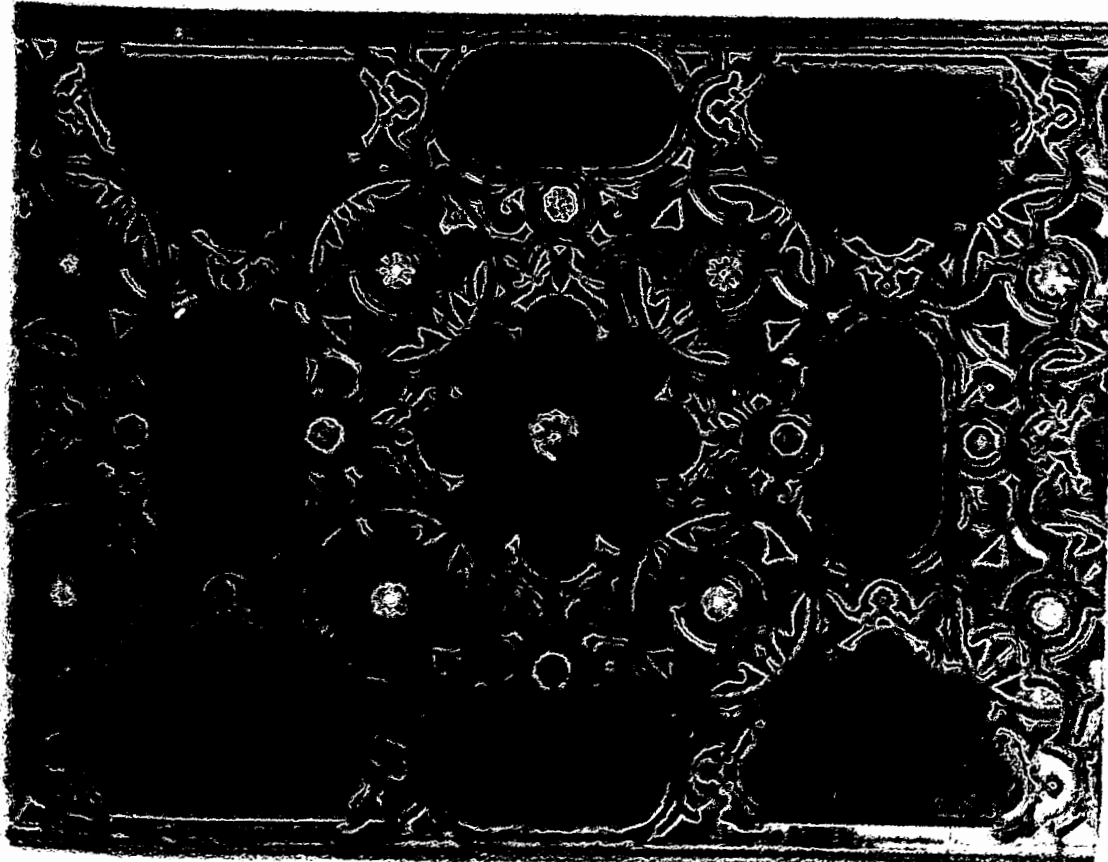
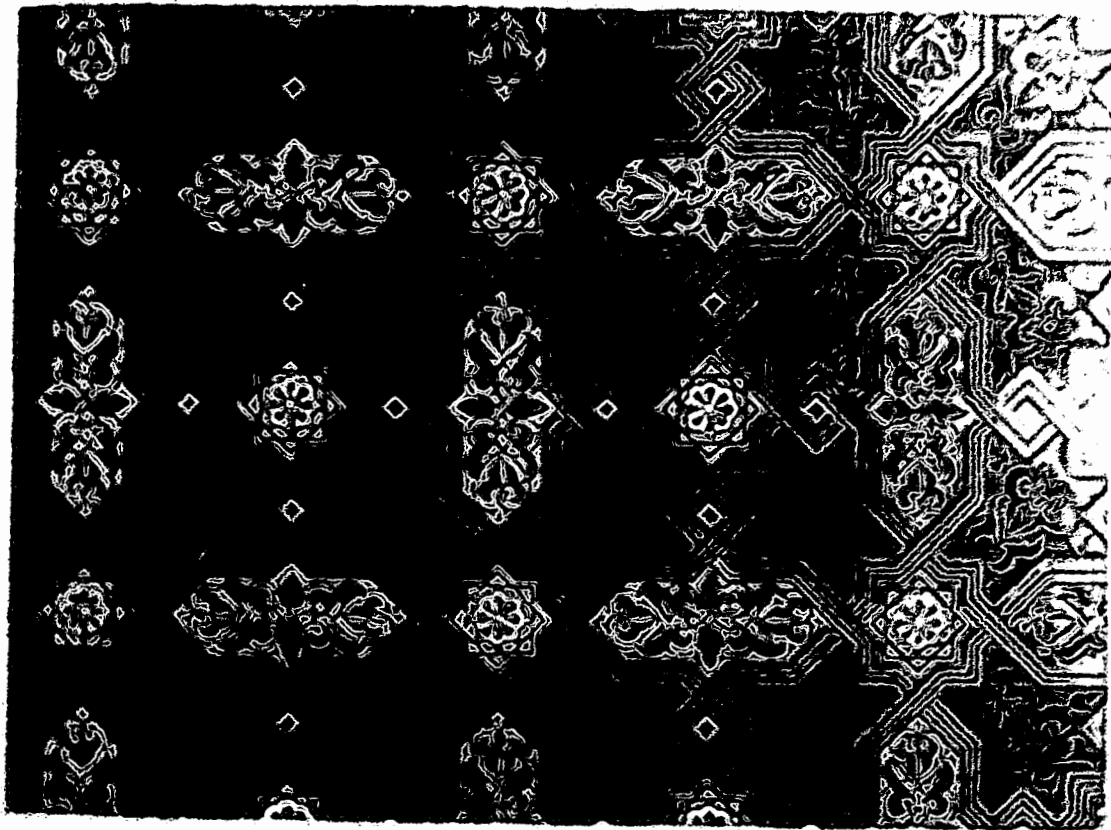
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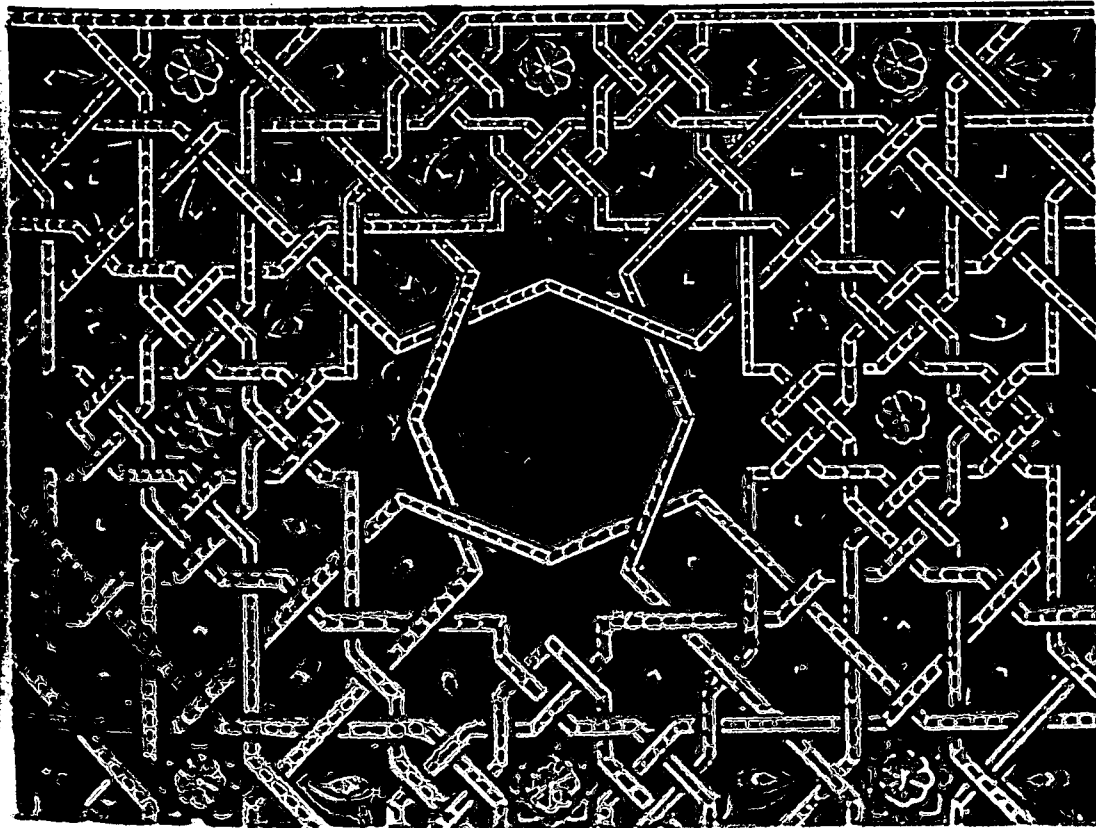
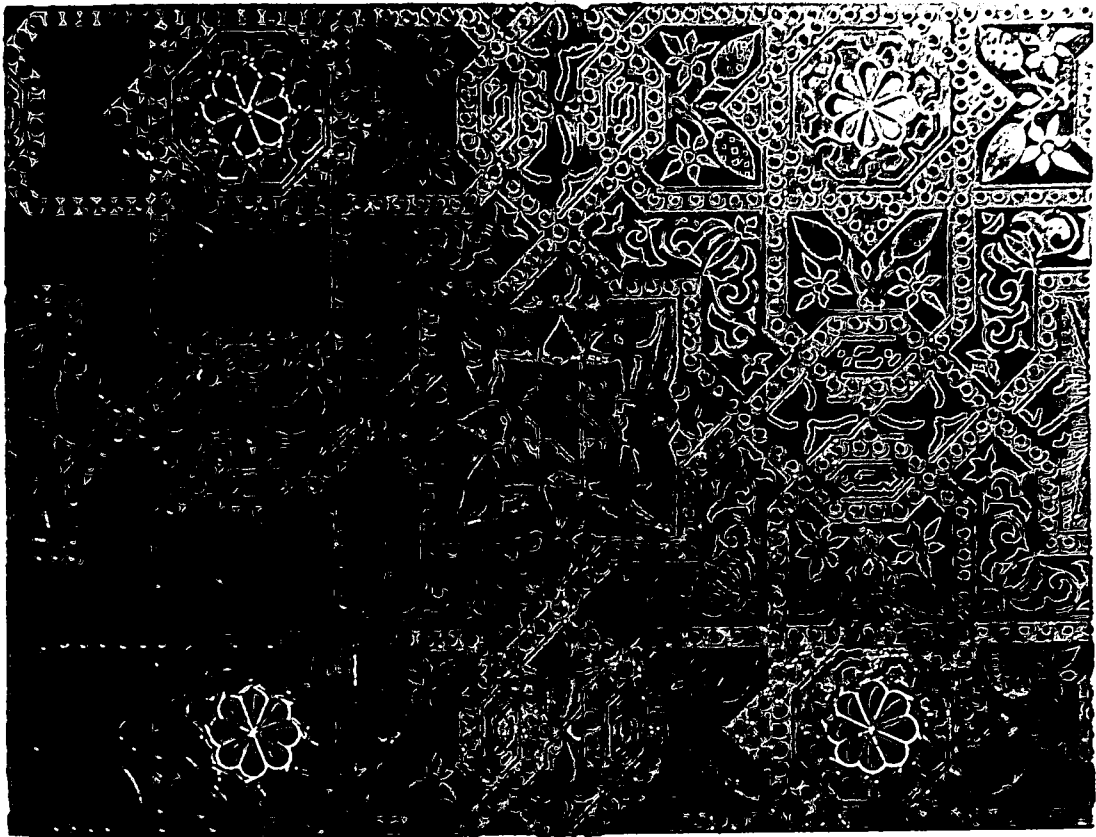


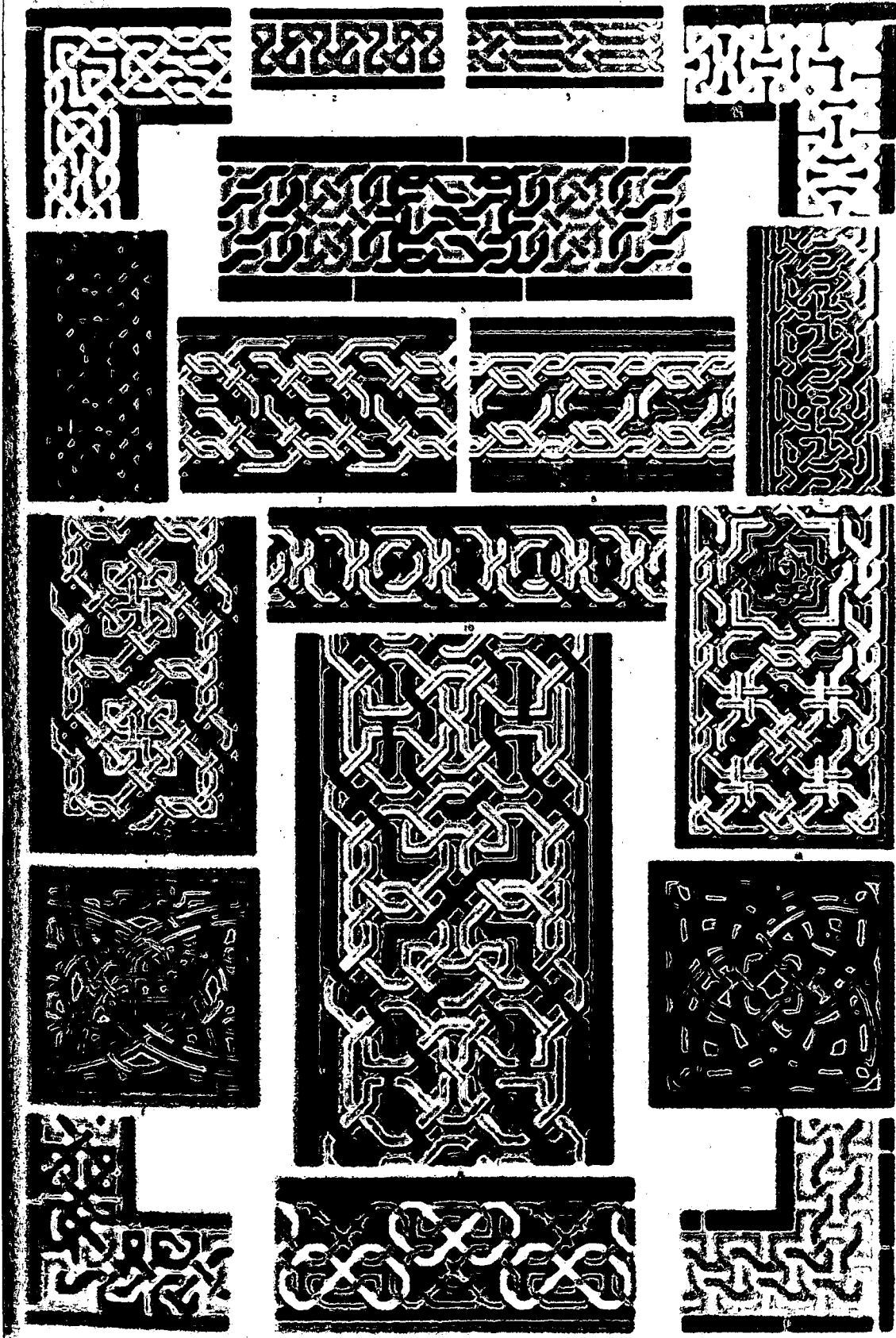
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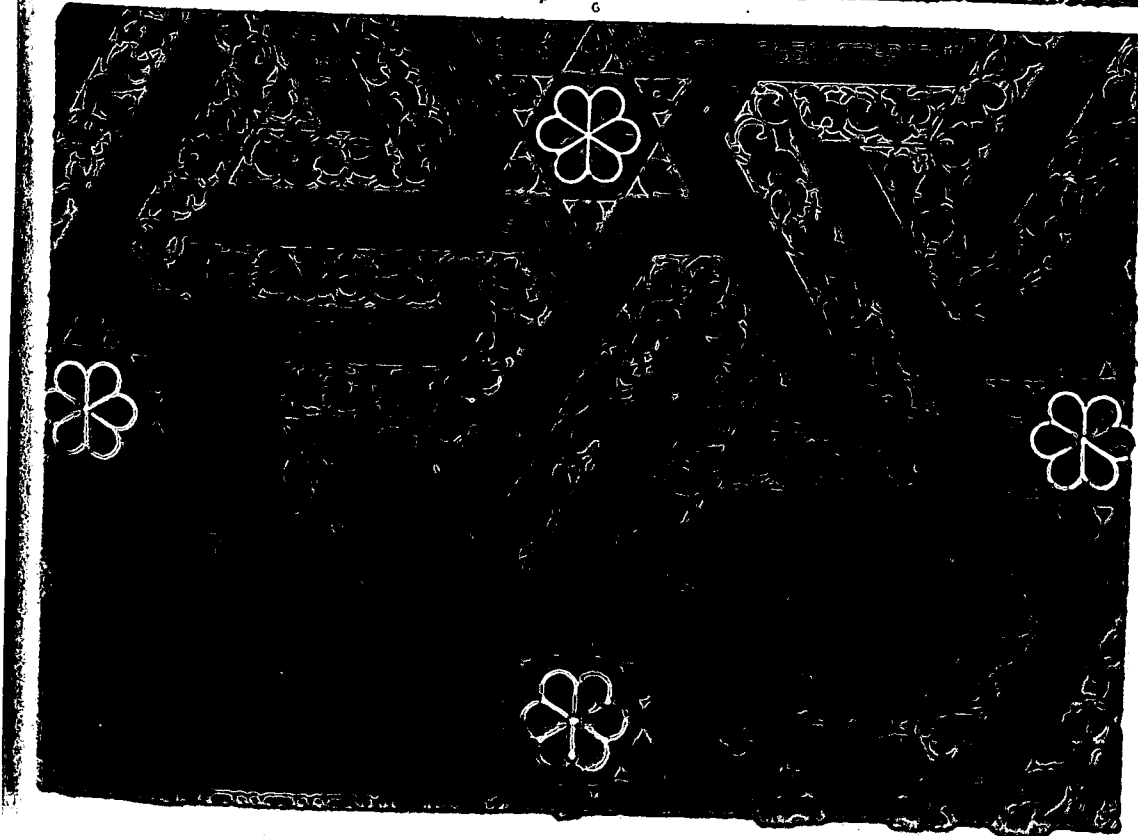
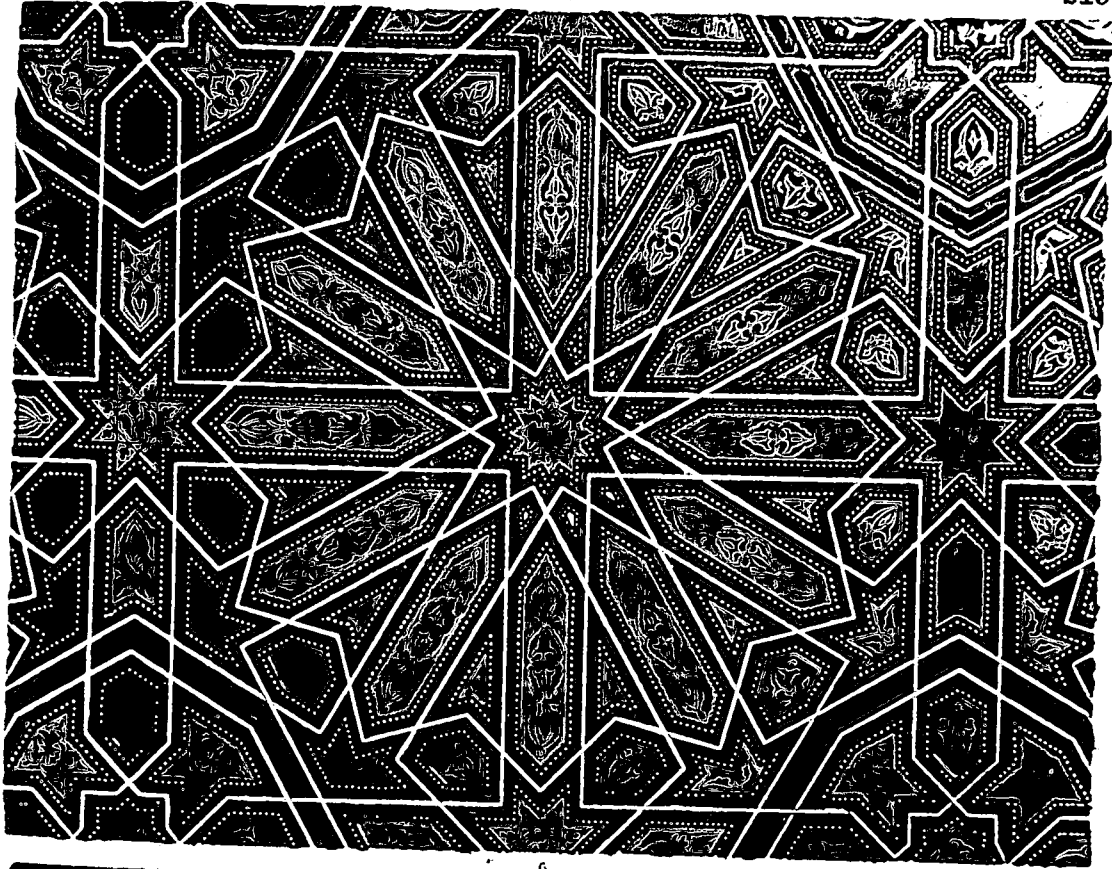
as form.

Plate XIX, figure 1, is a portion of the ceiling in the Court of the Alberca and demonstrated the effect produced by divisions of the circle crossed by intersecting squares. Figure 2 on this plate shows an effect produced by the repetition of a few simple elements and reveals an ingenious application of a simple principle.

The Spanish-Muslims demonstrated something of a fixed principle in the coloring of these stucco and mosaic ornamentations. Primary colors, yellow, blue, and red were used on stucco. The secondary colors, orange, green, and purple appear in the mosaics (dados). Further, the primary colors appear to be used on the upper portion of the colored objects and the secondary colors on the lower portion. Moreover, some of these ornaments being constructed on different levels, red appears in the deepest level, blue at a second level, and yellow (or gold) on the surface. The various colors are separated by white bands which prevent their impinging upon one another. Blue is allocated to the larger areas.

Older cultures, such as those of the Egyptians and Greeks, demonstrated that during the earlier periods of their artistic development primary colors were used and that secondary colors are in the ascendancy during the decadent period. Herein the Moslem was no exception.

Plates XX and XXI present some details and ornamental features of Spanish Pre-Islamic building. A comparison of these with some of the preceding plates requires no explanation.





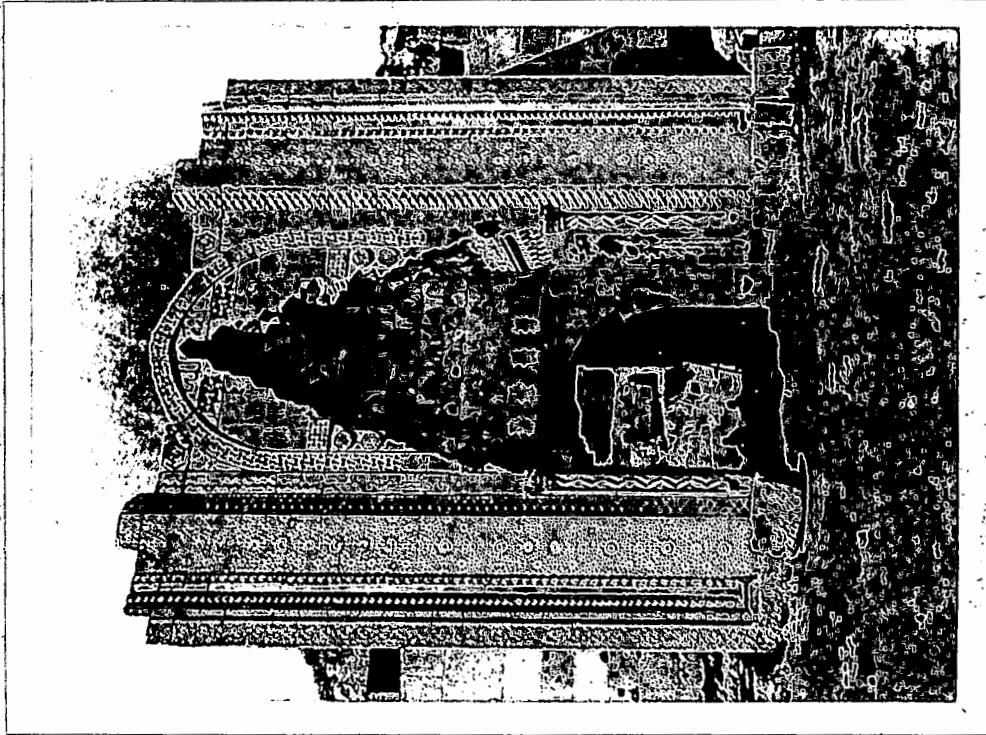


Fig. 61. Caravanserai Sultan Khan  
near Konia, Anatolia  
Outer portal, XIII century

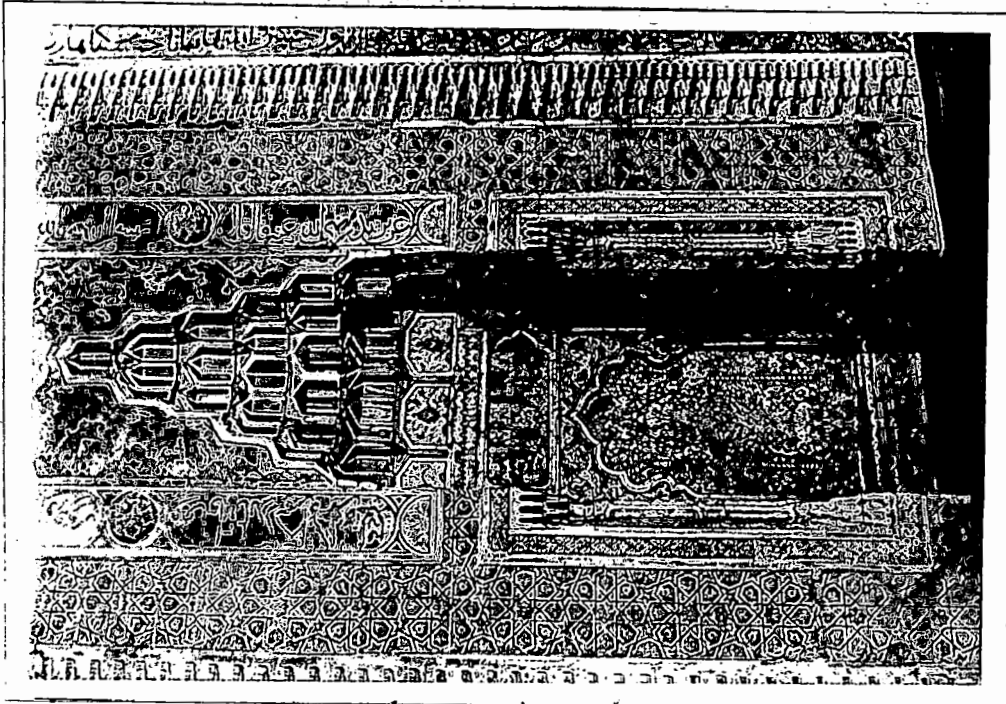
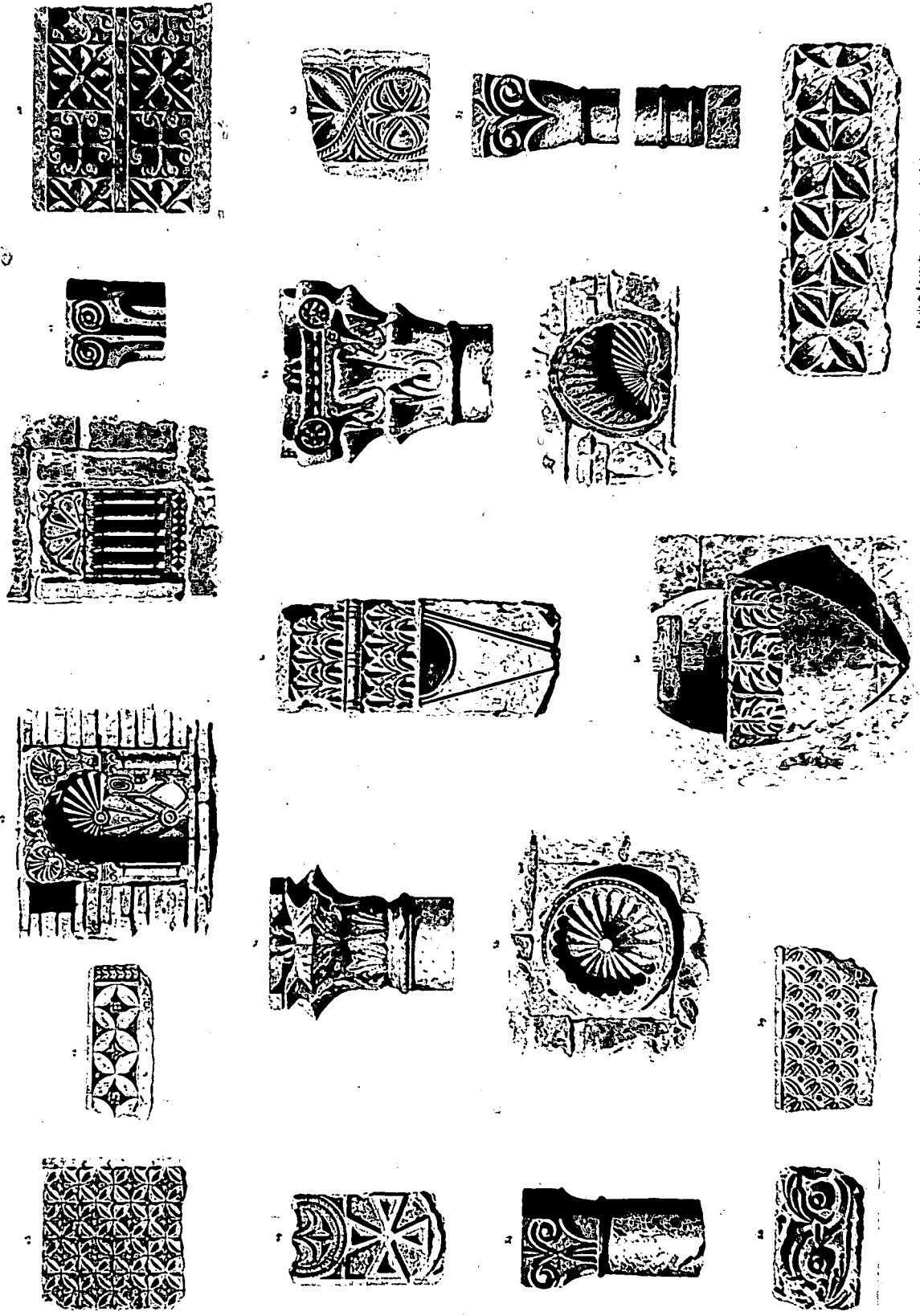
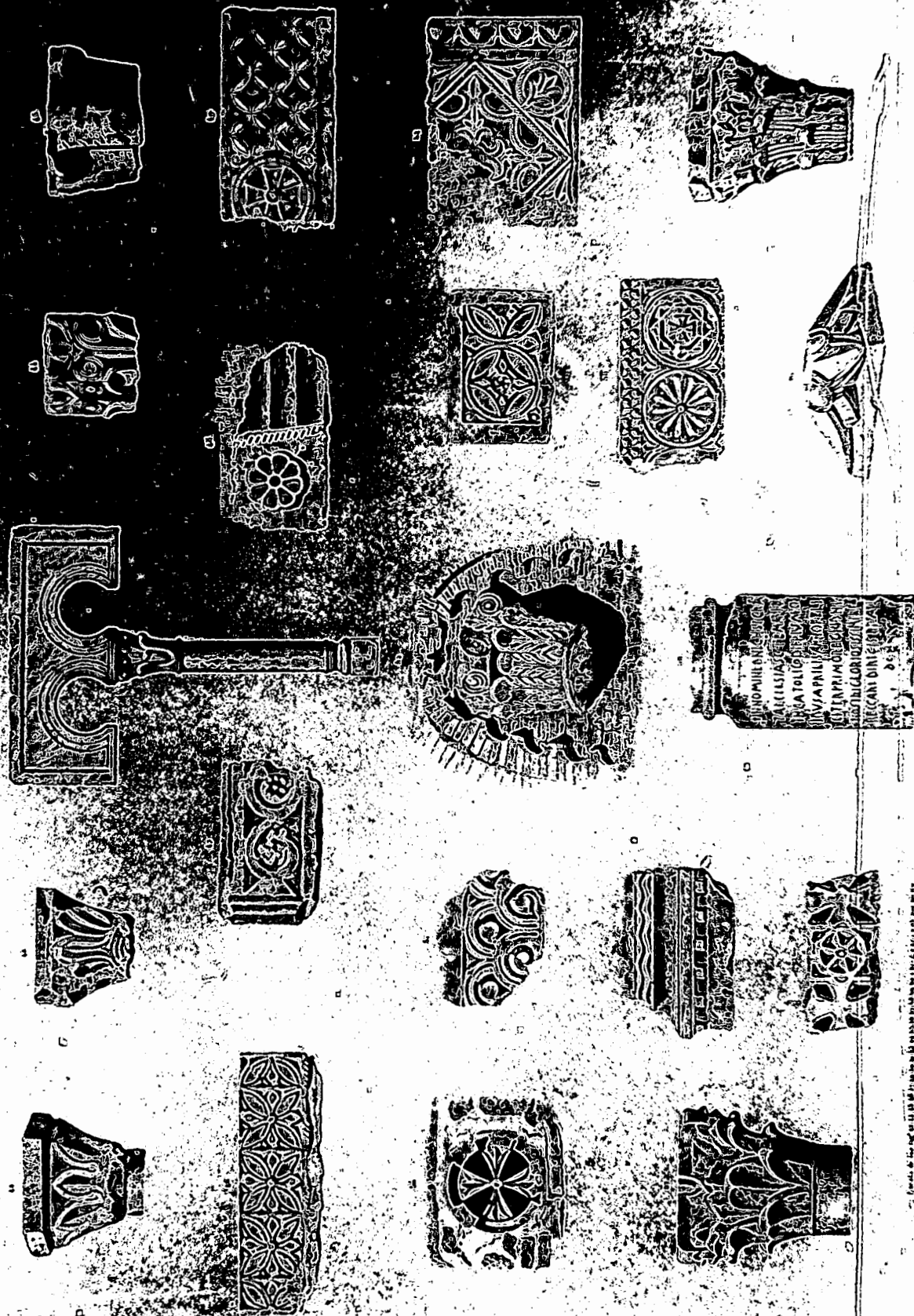


Fig. 62. Green Tomb (Turbah)  
Brousse, Asia Minor  
c. 1421



*Miembros Arquitectónicos y Fragmentos Decorativos Anteriores á la Irupcion Alahometana (Toledo). Provincia de Toledo. Estilo Latino-Bizantino.*



Miembros Arquitectónicos y Fragmentos Decorativos Anteriores á la Irrupcion Mahometana (Toledo).  
 Provincia de Toledo. Estilo Latino-Bizantino.

Summary and Analysis

In conclusion it is to be observed (1) that decoration or ornamentation appeared to have become a madness with the Moslems, especially in Spain; and whereas decoration arises from architecture and should attend upon that art, the Moslem neglected his architecture and focused his attention upon decoration. (2) That if architecture reflects the material wants, the intellectual activity, and the sentiment of a people at the time of that architecture's creation, it is evident that the Moslem, as a rule, had no great care for the future. His plaster and rubble construction, his apparent contentment with an "left over" plan, though revealing adaptability, betrays the lack of a solid constructional principle. The Moslem's emphasis upon ornamentation to the point of a total coverage of available space might be said to savor of the orgiastic. It is the acme of excess -- especially at Cordova with its labyrinth of arches, and at the Alhambra with its totality of embellishment.

(3) This serves to point out the violation of the maxim that construction should be decorated and that decoration should not be purposely constructed. And finally (4) if we consider the ornament for ornament's sake, we cannot quibble on the following basic Moslem traits, to wit: (a) The Moslem ornament is designed upon a geometrical basis; (b) In his ornament the general form is first cared for, then subdivided, and often again subdivided, ornamentation being present in the subdivisions; (c) The whole and each member of the whole is a multiple of some simple unit; there exists proportion throughout; (d)

These ornamental details reveal contrast of the straight, the inclined, and the curved; (e) All lines proceed from a parent or foundation stem or root, and every ornament is traceable back to its root. This reveals a typical Oriental artistic practice; (f) the junction of curved with curved or curved with straight lines is effected tangentially; (g) the best periods of artistic expression reveal that flowers and other natural objects are not used in ornamentation, but that use was made of conventional representations based upon them and suggestive enough to impart the intended subject to one's mind. This stylized representation should not destroy the unity of the decoration.<sup>1</sup>

It is readily apparent that the Moslems, especially in Spain, run the gamut of ornamental display. The variety of pattern combinations appears to be endless.

<sup>1</sup> For general statements concerning principles of ornamentation see,

Ralph B. Worum, Analysis of Ornament, the Characteristics of Styles (London: Chapman and Hall, 1896), pp. 8-25.

Koechlin and Higon, Oriental Art (New York: Macmillan Company, n.d.), pp. 7-12.

O. M. Dalton, East Christian Art (Oxford: Clarendon Press, 1925), pp. 359-386, for principles and especially for controversial ideas concerning origins, applications, etc., Strzykowski vs. Riegl, et. al.

Ferret and Chipiez, Histoire de l'Art dans l'Antiquité, Vol. IV (Paris: Hachette & Cie., 1894)

Levis, Les Monuments Mérovinges du Maroc (Paris: n.p., n.d.)

De A. Beaumont et E. Collinet, "Ornements Arabes", Encyclopédie de Arts Décoratifs de l'Orient (Ganser Libraire, 1892)

Les Mosquées de Samarcande (St. Petersburg: Commission Impériale Archéologique, 1905)

"The aim of a writer in every theoretical art should be determined by three axioms: The first, a complete statement of fundamental principles. The second, the ability to elucidate what follows from these principles. The third, the ability to combat errors which meet him in that science, and strength to restrict the opinions of others, to discriminate between the right and the wrong, and to rectify the imperfections of those whose opinions are obscure."

Al-Farabi,  
Opening lines of  
Kitab al-Musiqa

## CHAPTER IV

### MOSLEM MUSIC

In the field of music, as well as in some other fields, it has been a custom to accept as correct some concepts which impress one as being of a fundamental character. Writers proceeding on this basis have constructed systems, classifications, and even histories. But eventually we become conscious that something is amiss, either because we discover some little detail which is of a suspicious nature, in which case we are timid in arriving at a definite conclusion, or we become aware of some fact which throws light on the whole question.

#### The Traditional Approach

It has been and still is the fashion for writers of musical history to commence their works with a chapter or two on so-called primitive, Oriental -- or as one well-known music historian classifies it -- savage, semi-civilized music.<sup>1</sup> Following a presentation of the "Oriental" data one usually finds a more or less elaborate account of Greek music, then a chapter on the medieval or ecclesiastical modes. Not always will the reader be implemented with material connecting the Greek period with its modes and the medieval modes. The Gregorian

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<sup>1</sup>Waldo Selden Pratt, The History of Music (New York: G. Schirmer, Inc., 1930), p. 24. Under semi-civilized music Pratt lists China, India, The Mohammedans, Babylonia and Assyria, Israel and Egypt.

Chant may be treated, oftentimes leaving the student in something of a quandary. We can usually be assured of some discussions leading up to the polyphonic era. After that we are on home territory. The point is that for the occidental mind music history can be said to begin with the polyphonic era.

Our beginnings in the field of "pure" choral music can be placed at about the eleventh century, and according to some writers would not be acceptable to our ears. If we accept such a thesis, we are confronted with a curious feature, namely, that in our culture the artistic cultivation of polyphony preceded the emphasis placed upon melody. Of course in such reasoning it is evident that we are excluding the music of antiquity on the assumed ground that its single line or lines of melody, sung in unison or octaves, did not have the background or support of a harmonic structure. On the other hand, the appraisal of the music of antiquity forces the acceptance at face value of the somewhat elaborate accounts of Greek music which are offered us — accounts which are based on literary references; i.e., on the writings of the Greek theorists, philosophers, etc.; and these references can be limited to eighteen which are the most important.<sup>1</sup> From these literary references

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<sup>1</sup>The section of the Canon attributed to Euclid (c. 500 B.C.)  
 Passages in the Laws, Republic, Georgias, Philebos, and Timaios,  
 of Plato (427-347 B.C.)

Passages in the Metaphysics, On the Soul, etc. of Aristotle  
 (384-322 B.C.)

Harmonics of Aristoxenos (d. c. 354 B.C.) (incomplete)

Fragments of the lost Rhythmical Elements of Aristoxenos

Concerning Music attributed to Plutarch (A.D. 50-120).

Doubtful authenticity.

Concerning Music of Aristeides Quintilianos (1st-2nd cent. A.D.)



we have derived our dogma concerning Greek music. The fact is that the examples of actual Greek music extant<sup>1</sup> are exasperatingly insufficient in number, and these examples are disappointing in view of the descriptions often given them. Moreover, they are ascribed to a date later than that which is reputed to have been the most productive period.

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Problems attributed to Aristotle, particularly Book XI The Voice and Book XIX Music.

The Manual of Nicomachos (2nd cent. A.D.)

Two hand-books, each termed Introduction to Harmonics of Kleonides and Gaudentios.

The Harmonics of Klaudios Ptolemy of Alexandria (2nd cent. A.D.)

Book XIV of The Delphosophrists of Athenaios (2nd - 3rd cent. A.D.)

The Commentary on Ptolemy's Harmonics by Porphyry (3rd cent. A.D.)

The Introduction to Music of Alypios (c. 360 A.D.)

The Introduction to the Art of Music of Backcheios the Elder (4th? cent. A.D.)

The Introduction to the Art of Music of Dionysios

A treatise known as Bellerophon's Anonymus.

See Gustave Reese, Music in the Middle Ages (New York: W.W. Norton Company, 1940), pp. 17-19. Also, W.S. Pratt, op. cit., pp. 58-60, who states: "The total number of classical works on music that are now known is perhaps seventy, of which however, about one-third are known only by title, author or topic, while many others exist only in brief citation or other fragmentary shape." A listing follows.

<sup>1</sup>The complete list numbers fifteen examples, the oldest dating from c. 250 B.C. No consideration is given to Pindar's first Pythian ode, since it is thought to be a 17th century forgery and its authenticity was debated again in 1932. For evidence pro and con see: J.F. Mountford, "The Music of Pindar's Golden Lyre," Classical Philology, XXI (1930), p. 120. For concise listing of the fifteen examples, comments and location see Gustave Reese, op. cit., pp. 48-50.

### Primitive Music

The accounts given of primitive, exotic, or Oriental music are fragmentary, to say the least; of assumption there is overmuch. The essence of discussions on exotic music can be summed up in a few words: a people had music but little is known of its nature. Such a statement can be applied with the most monotonous regularity to the earlier periods of all preliterate peoples. The reason for such opinion as is expressed is quite evident. We assume from myths and legends, from proverbs, from tradition, from instruments and from reproductions of instruments, that the ancients played and sang. However, these peoples did not write their music; they had no means of preserving in writing its actual sounds. It would appear that up to a certain stage of cultural development no ethnic groups wrote their music. We assume that they took their music for granted and that it was so much a part of their lives that they never thought to record it as they did the deeds of some hero. We are confronted with the fact that we have no written record, and therefore we have inherited and indulged in enticing assumptions. It is also assumed that music and poetry developed side by side. The step from a music, either vocal or instrumental, handed down from father to son, to a written music when no form of notation existed would be a prodigious leap.

### Music a Part of General Culture

The further back we push the frontier, that is to say, the further we recede from the assumed strong and sure foothold of our own epoch, the more necessary it becomes to consider music as the product of a culture than from the viewpoint of musical technique. It would appear that in order to understand the effect of a music it is necessary for us to familiarise ourselves with the particular culture under consideration and to appraise its music as a product of that culture.

Approximately a millennium, more or less, passed between the time of the estimated zenith of Greek music and the Polyphonic Era. In that space of time Europe was convulsed more than once, and in more than one of these periods of turmoil some sections of the European continent experienced impact from the East. Yet occidental music history has been written from the European viewpoint, which is somewhat romanticised. A case in point is the Byzantine period. The Eastern Empire did exert considerable political influence, and there are examples of diffusion in the other arts; however, our musical history is almost totally void of any reference to a possible influence from that source, with one possible exception -- we do acknowledge the transmittal of the organ. Only recently has investigation begun concerning a positive Byzantine musical heritage, but the puzzle at present still remains unsolved. It is assumed that a thorough inquiry, with the deciphering of available manuscripts, into the Byzantine music, eastern European music, and the

music of certain "Oriental" peoples will help to fill that long void and answer numerous questions concerning our own music.

### Proponents of Moslem Music

At the outset it should be definitely stated that the available evidence concerning Moslem music is very far from convincing. The subject itself is extremely controversial, and for these reasons it is imperative to present certain data at this juncture.

Hitti<sup>1</sup> has drawn largely from literary references, from Henry George Farmer and from one reference to Julian Ribera's La Musica de las Cantigas via its English translation and condensation, which will be discussed in due time. Trend,<sup>2</sup> who has made an attempt at the study by tracing certain present-day features of Spanish music to an assumed source, has drawn from much the same sources, supplementing them with Spanish writers, including Ribera. Schlesinger has appeared in various English Journals in her memorable debates with Farmer. It should be remarked that Miss Schlesinger's attempt in the Greek field appears to be an effort to reconcile certain of her deductions made from extant and reconstructed instruments with the Greek theoretical writers. She has touched upon the "Arab" question<sup>3</sup> lightly and only where necessary

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<sup>1</sup>Hitti, op. cit.

<sup>2</sup>J. B. Trend, The Music of Spanish History to 1600 (Oxford: Oxford University Press, 1926)

<sup>3</sup>Kathleen Schlesinger, The Greek Aulos (London: Methuen & Company, Ltd., 1939)

for her Greek thesis. Miss Schlessinger has made what appears to be a thorough study of the material presented. Her work, for the most part, appears convincing.<sup>1</sup>

Farmer stands out as the chief champion of the "Arab" cause. In 1921 he wrote his The Arabian Influence on Musical Theory.<sup>2</sup> In 1923 he delivered this in a lecture form before the Glasgow Oriental Society. The work was printed in the Journal of the Royal Asiatic Society in 1925 and re-issued by Reeves in 1926. Farmer then delivered a lecture before the Musical Association of London, in April, 1928, on The Influence of Music From Arabic Sources,<sup>3</sup> which was printed the same year by Reeves. Farmer has been challenged on almost every point presented in his Arabian Influence, so much so that his subsequent explanations consume three hundred and fifty-eight pages,<sup>4</sup> and it is the opinion of the writer of this thesis that Farmer has not satisfactorily explained himself even in his rebuttal. In 1929 appeared A History

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<sup>1</sup> These statements are made primarily for the reason that Miss Schlessinger looms upon the horizon as the most vocal antagonist of the ideas put forth by Farmer.

<sup>2</sup> H. G. Farmer, The Arabian Influence on Musical Theory (London: Harold Reeves, 1925)

<sup>3</sup> H. G. Farmer, The Influence of Music From Arabic Sources (London: Harold Reeves, 1926)

<sup>4</sup> H. G. Farmer, Historical Facts for the Arabian Musical Influence (London: Wm. Reeves, n.d.)

of Arabian Music to the XIII Century,<sup>1</sup> in 1931 The Organ of the Ancients,<sup>2</sup> and in 1934 Al Farabi's Arabic-Latin Writings on Music.<sup>3</sup>

Farmer has also touched upon the subject of "Oriental" instruments in two other volumes.<sup>4</sup> There are other tomes published bearing Farmer's name.

Ribera is professor of literature in the University of Madrid, and he plainly states in his introduction that he is neither a musician nor a student of musical history; but notwithstanding these facts, he has advanced his volume in behalf of the Moslem music claims. Ribera has staked all upon the Cantigas of Alfonso el Sabio, which comes to us in a compressed translation, one volume of two hundred and thirty-four pages. The original is entitled La Musica de Las Cantigas,<sup>5</sup> but the English translation bears the title Music in Ancient Arabia and Spain.<sup>6</sup>

<sup>1</sup> H. G. Farmer, A History of Arabian Music (London: Lucas & Company 1929)

<sup>2</sup> H. G. Farmer, The Organ of the Ancients (London: Km. Reeves, 1931)

<sup>3</sup> H. G. Farmer, Al Farabi's Arabic-Latin Writings on Music (Glasgow: The Civic Press, 1934)

<sup>4</sup> H. G. Farmer, Studies in Oriental Musical Instruments (London: H. Reeves, 1931) and H. G. Farmer, Turkish Instruments of Music in the Seventeenth Century (Glasgow, The Civic Press, 1937)

<sup>5</sup> Julian Ribera, La Musica de Las Cantigas, Cantigas de Santa Maria, Vol. III (Madrid: Tipografia de la Revista de Archivos, 1922)

<sup>6</sup> Julian Ribera, tr. by Eleanor Hague, Music in Ancient Arabia and Spain . . . being La Musica de Las Cantigas (California: Stanford University Press, 1929)

The original and the translation have been carefully compared, as well as the two preceding volumes<sup>1</sup> (not translated) published in 1889, edited by the Marques de Valmar. A comparison of Vol. III of the original (Ribera) with the translation is curious in that the Spanish version presents us with not only the musical examples, which also appear in the translation, but with twenty-four of the Cantigas upon which have been bestowed harmonizations in the manner of "drawing room accompaniments."

Naturally, the Encyclopedia of Islam contains an article on music; however, this article is written by Farmer. Hence no further comment is necessary.

The volumes and authors mentioned do not, by any means, represent all of the sources, but the mention of them does serve to point out the most recent investigators. An inspection of their work reveals a heavy leaning upon literary sources, and the general tone of the recent publications, as well as earlier works, is controversial and seriously questioned.

#### Critical Approach

If we begin by attacking the problem from the point of view of actual music MSS, we are defeated at the outset. In 1919 appeared the first, and to this day the only, complete study of musical notation.<sup>2</sup>

<sup>1</sup> Marques de Valmar, ed., Cantigas de Santa Maria, de Don Alfonso el Sabio, 2 vols. (Madrid, Real Academia Espanola, 1889)

<sup>2</sup> Johannes Wolf, Handbuch der Notationskunde, 2 vols. (Leipzig, 1919), p. vii.

The year 1942 saw the first treatise of this nature in the United States, and this volume deals primarily with polyphonic music.<sup>1</sup> Hitti has incorporated a considerable account of music in his study of the Moslems, and as Hitti's volume is regarded as a classic in its field and as his presentation is straightforward, lacking the ambiguities and assumptions of Farmer and the enthusiasms of Ribera, his views should be presented.

Notes, when known, were transmitted by word of mouth from one generation to another and have consequently been entirely lost. The Aghani is replete with verses set to music . . . . yet it has preserved not a solitary note for us.<sup>2</sup>

Arabic music, with its notation and its two constituent elements of nagham (melodic modes) and iga (rhythmic modes), has been therefore transmitted by word of mouth only, and has been finally lost. Arabic chants today are scant in melody but strong in rhythm, and no modern person can interpret properly the few surviving works on classical music or understand fully the meaning of their ancient designations of rhythm and their scientific terminology. Many such terms may be traced to Persian and Indian origins.<sup>3</sup>

Other opinions corroborate Hitti:

The Moors in Spain, the Saracens in Sicily and South Italy, might well be expected to have influenced European music, and the Crusades offered further opportunity for the musical approach of East and West. But in the absence of any Arabic musical notation it is impossible to obtain direct evidence. It has not been possible even to ascertain the influence of the Moors on Spanish folk-song, although a Moorish tune Qalbi alb

<sup>1</sup> Willi Apel, The Notation of Polyphonic Music (Cambridge, Mass.: Medieval Academy of America, 1942)

<sup>2</sup> Hitti, op. cit., p. 276. Underlining is by the writer of this thesis.

<sup>3</sup> Ibid., p. 428.



Arabic is frequently mentioned in Spanish literature from the time of the Archbishop of Toledo (contemporary with Chaucer) to the seventeenth century, and four bars of it were recorded in our notation by Francisco Salinas.<sup>1-3</sup>

... in the complete absence of Arabic musical MSS, any assumption of an Arabic influence upon European secular melody must be regarded as speculative.<sup>3</sup>

The evidence adduced by Ribera must, in the absence of fresh discoveries, remain purely circumstantial.<sup>3</sup>

It is difficult to say to what extent Spanish music was influenced by the music of the Arabs, for the Arabs had no regular musical notation. With one exception,<sup>4</sup> no genuine Arab tune was recorded until the end of the eighteenth century.<sup>5</sup>

The Arabs never used a musical notation.<sup>6</sup>

Ribera has given an elaborate and enthusiastic presentation of the "Arabic" case; however, a comparison of two of his statements is revealing:

The lack of accurate notation makes it impossible to determine the exact compass of these songs now, but we may remember that in the *Alfaith* the octave

<sup>1</sup> Oxford History of Music, Introductory Volume (London: Oxford University Press, 1929), pp. 205-6.

<sup>2</sup> Gustave Reese, Music in the Middle Ages, op. cit., p. 575 speaks of the *Qalbi bi qalbi* tune as "probably of Moorish origin" and states that it was sung to "at least words sounding like Arabic." The song has been much discussed. For another account see J. B. Trend, "A Sixteenth Century Collector of Folksongs," Music and Letters, VIII (1927), p. 19.

<sup>3</sup> Ibid., p. 240.

<sup>4</sup> refers to the *Canis et Saltatio*, Galinae Coll. 599.

<sup>5</sup> J. B. Trend, The Music of Spanish History, op. cit., pp. 15-16.

<sup>6</sup> Ibid., p. 88.

is called the total interval. Is this not an indication of the ordinary melodic limit of that period?<sup>1</sup>

After some ten pages of florid description relative to song and instruments, and after an inference concerning instrumental ensemble, we are confronted with the following:

But for lack of written notation not an authentic fragment of any of these songs remains. However, the preceding chapters show that this music was both vocal and instrumental, simple for the untrained and elaborate for the skilled professional, emotional and yet very well ordered. These qualities must have been present to make possible its performance by the large orchestras of which we have heard, such as that at the palace of Harun-al-Rashid, which at times numbered two thousand musicians. Then came the decadence and music fled to other climes . . . . . After the invention of musical notation its form could be fixed, so that it may be recreated today as it was in the tenth century.<sup>2</sup>

"These qualities must have been present" is an assumption on the part of Ribera; moreover, there is no documentation of even a single literary reference for these assertions. Furthermore, after the invention of whose musical notation?

#### Nature of Musical Notation

Since the more aggressive champions of the cause of Moslem music focus their attention upon Spain, and since the majority of textbooks, histories, and musical literature in general mention the lute as an instrument that was introduced into Europe from the East, in some cases

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<sup>1</sup> Julian Ribera, Music in Ancient Arabia and Spain, tr. by Eleanor Hague, op. cit., p. 84.

<sup>2</sup> Ibid., pp. 95-6.

by Moslem transmittal, it would appear wise to scrutinize this angle of the problem. That the lute did have a wide usage cannot be challenged. But what form of the lute?

If we accept the ideas of Sachs,<sup>1</sup> the "short lute" is indigenous to Iran and was in use as early as the eighth century B.C., and there are no further evidences of it until its reappearance in the Islamic Near East. Sachs points out evidences of this instrument in Egypt, Byzantium, and Italy, and states that this is the instrument "frequently pictured on Spanish miniatures of the thirteenth century." The number of strings has varied from three to five. The "lute with a Frontal Stringholder"<sup>2</sup> is the variety referred to by the classical Arabic name 'ud; however, it is to be pointed out that the Persian Ibn Sina referred to the lute as barbat, and along the North African coast the instrument was called guitarā. Sachs enumerates the classic number of four pairs of strings. Named from the lowest up these are: barān, matlāt, matnā zik. At this point we might assume a Greek influence: barān means "high," as does the Greek hypatē. Beside this similar concept of high and low there appears a like disposition on the part of the Moslem to make certain symbolic associations between the strings of the lute and the elements, phases of the moon, weeks of the month, divisions of the day,

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<sup>1</sup> Curt Sachs, The History of Musical Instruments (New York: W.W. Norton & Company, 1940), pp. 251-257.

<sup>2</sup> Ibid., p. 253. Also, Francis W. Galpin, A Textbook of European Musical Instruments (New York: E.P. Dutton & Company, 1937), pp. 89-102.

and the four humors → yellow bile, blood, phlegm, and black bile.<sup>1</sup>  
 Apparently a fifth pair of strings came into vogue about the ninth century. The Long Lute, tambūr, varied from two to five strings. Sachs is of the opinion that the long lute was "probably identical" with what is referred to as the "tanbur from Baghdad."

In view of the claims advanced on behalf of the lute and the notation for it, the following is submitted. The date of publication is 1942.

... the lute was of oriental origin, and that in its earliest preserved description by Al-Farabi ... it is said to have had four strings tuned in fourths. As early as the 12th cent., the lute had five strings, or more accurately, nine strings in five courses, the highest being single, while the eight lower strings were arranged in four pairs (of equal pitch). There is no document of music extant for the four or five-stringed lute. The earliest lute tablatures known are designed for a lute with six strings (the five lower ones doubled in unison or octave), an instrument typical of the 16th century.<sup>2</sup>

The use of the word "document" is to be noted in the above quotation, especially since Apel follows it with "tablature." This would seem to close any argument which could be advanced on the difference between tablature<sup>3</sup> and notation, since "document" is interpreted as

<sup>1</sup> Ibid., p. 264.

<sup>2</sup> Apel, op. cit., p. 55.

<sup>3</sup> Since the term tablature has often been used to designate a notational system for soloist music, and the term has taken on a nationalistic complexion by designating French, Italian, English, etc., tablature, clarification as to its specific use in this paper is desirable. The term tablature is used to designate that type of written music which employs figures or letters instead of "notes."

referring to any written record irrespective of whether the music record was notation or tablature. Moreover, Apol has definitely connected the number of strings, documentation, and century.

Farmer advances a claim which would refute the findings stated above, but it is imperative that Farmer's statement should be read carefully with the reader's attention focused upon Farmer's source of information.

There is yet one other point to be mentioned in connection with the Arabs, and that is the introduction of the *colfeggio* and instrumental tablature. The claim that the Arabs introduced the *colfeggio* is one of old standing. Pigeon de Saint-Paterne, an interpreter of Oriental languages to Louis XVI, gave material for this claim from an Arabic MS, presumably in the *Bibliothèque Royale*, now the *Bibliothèque Nationale*. I have not been able to trace this material in any of the Arabic musical MS, in this collection, so that it is impossible to do more than quote from this writer, who supplied information for La Borde's *Essai sur la musique*. In comparing the names of the Arabic notation with that of European *colfeggio*, one cannot help being struck with the phonetic likeness. At the same time, the present writer has not seen any other examples of the Arabic alphabet used in this sequence for musical notation.<sup>1</sup>

Fourteen pages later Farmer states:

Through the political contact Europe seems to have come in contact with discant, organum, and instrumental tablature, and possibly *colfeggio* . . . . Through the literary and intellectual contact Europe may have got its first idea of a definite pitch notation. It certainly took partly, if not wholly, its system of mensural music, and perhaps mensural notation, from the Arabs.<sup>2</sup>

<sup>1</sup> Farmer, The Arabian Influence on Musical Theory, op. cit., pp. 8-9. The underscoring is by the writer of this thesis.

<sup>2</sup> Ibid., p. 22.

Farmer's elaborations and attempt to fix his claims will be found in his Historical Facts for the Arabian Musical Influence.<sup>1</sup> There is no use in quoting further for the discussion is far too lengthy. Farmer bases his claim on a similarity. That the Greeks used letters of the alphabet to designate tones is too well known to require discussion. Moreover, we have examples of the Greek alphabetical symbols. How far these symbols were used in practice is another matter for speculation. It is thought that such devices were in use by the philosophers (theoretical writers) to indicate certain tones. That much we are sure of; the employment in practice by the performer is another question.<sup>2</sup> It will be noted that Farmer is again basing his claims upon literary references.

His claim for organum is based on a document of a Spanish chronicler, Virgilius Cordubensis,<sup>3</sup> and on Ribera.<sup>4</sup> As far as the Cordubensis document is concerned, we will not consider it, since it is a reputed forgery.<sup>5</sup>

Ribera is too enthusiastic to give his subject careful and

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<sup>1</sup> H. G. Farmer, Historical Facts for the Arabian Influence, op. cit., pp. 72-112.

<sup>2</sup> Farmer is evasive in admitting the use of notation by the performer; he states: "a mere performer who learned, for the most part, 'by rote'." Ibid., p. 4.

<sup>3</sup> The Arabian Influence on Musical Theory, op. cit., p. 7.

<sup>4</sup> Farmer, Historical Facts for the Arabian Musical Influence, op. cit., p. 106.

<sup>5</sup> Gustave Reese, Music in the Middle Ages, op. cit., p. 260 and f. 43.

impartial consideration.<sup>1</sup> On page 6 of the Arabian Influence Farmer states:

The earliest Arabian writer on music whose works have come down to us is Al-Kindi (d. 874), and there is no definite mention of organum in the fragments of his works that have been left us. In the portions of Al-Farabi (d. 950) quoted by Rosegarten, it is not definitely referred to. But in the *Shifa* of Ibn Sina (d. 1037) both magadising and organizing are dealt with, under the names of tad'if and tarkib. Since these are found in Ibn Sina, there is every likelihood that Al-Farabi also dealt with them. At the same time, we must remember that organizing is alien to pure Arabian music, and it was only adopted by the Arabs after contact with Greek theories, when they would appear to have extended Aristotle's principle of magadising into organizing.<sup>2</sup>

On page 105 of the Historical Facts Farmer tries to make a case for Al-Kindi in the matter of organum. Farmer does mention that his find is "what I believe to be another treatise by Al-Kindi." This document is refuted by Reese; in absence of positive proof of the validity of the MSS, the claim cannot be substantiated.<sup>3</sup> The above quotation provokes this question: if Ibn Sina mentioned organum, does it hold that Al-Farabi knew of it? Moreover, Al-Farabi died in 950 and Ibn Sina was born in 980.

<sup>1</sup>"The evidence adduced by Ribera must, in the absence of fresh discoveries, remain purely circumstantial." See Reese, op. cit., p. 246.

"The parallels drawn by Prof. Ribera between the melodies of the Cantigas and Andalusian folk-songs cannot withstand a careful examination of the original MSS, or of the beautiful facsimiles which he provides; for it is seen that his transcriptions are of very doubtful value. They are inconsistent, and they set aside every rule of musical palaeography; if they were correct, the French troubadour songbooks and all music of the 13th cent., might have to be interpreted in a manner radically different from that which is generally accepted." See Trend, op. cit., p. 54.

<sup>2</sup>H.G. Farmer, Arabian Influence, op. cit., pp. 6-7.

<sup>3</sup>For argument pro and con see H.G. Farmer, Historical Facts, op. cit., pp. 102-327.

The presentation of controversial and indefinite assumptions could be continued ad infinitum. Pratt states: "The historical puzzle thus presented is insoluble" and leaves the problem entirely.<sup>1</sup>

It will be noted that each of the proponents has made an attack upon the problem from the viewpoint of proving a large Moslem or "Arabic" influence and contribution. Trend apparently tried to find a way out of the labyrinth and in so doing, it would seem, discounts to some extent the "Arabic" dominant influence. The following quotation is made in order to present as complete a picture as possible:

Yet the traditional songs of Southern Spain contain something else besides hypothetical Byzantine remains and Moorish influence. In 1447 the first shipload of gypsies was landed at Barcelona; those who reached Granada often dropped their wandering habits and settled down outside the walls, where their descendants remain until this day, distinct from the gitano bravos who retain their nomadic spirit. The gypsy tribes came from the East; and though they have always been renowned as musicians . . . the music they made was generally not their own, but that of the people among whom they lived, sung in a wilder and more decorated manner than it was by the natives. This is particularly the case in Hungary, where Bela Bartok has shown that the gipsified Magyar music is as different from genuine Magyar tunes as Canto flamenco is from Canto habano. The same thing may have happened in Spain. Southern Spanish song is probably more influenced by the gypsies, who still remain in the country and sing, than by the Moors, who have been gone for three hundred years.<sup>2</sup>

#### Critical Exponents of Moslem Music and Notation

The first book on "Arab" music to be published in English

<sup>1</sup>W.S. Pratt, op. cit., pp. 41-43. Of course, Pratt was writing a textbook.

<sup>2</sup>Trend, op. cit., pp. 32-33.



appeared in 1914,<sup>1</sup> a translation of the work of Salvador-Daniel, at one time director of the Paris Conservatoire de Musique. He had lived among the Moslems and collected by audition and with the help of Moslem musicians some four hundred specimens of Moslem music.<sup>2</sup> First hand information is to be preferred.

The Arabs do not write their music, and moreover, they have no kind of theory, nothing which can assist research. All sing and play by rote, most often without even knowing the mode of the tune they are performing. The memory was the only means by which musical works were preserved. Thus, all the past of this art is lost in the East, and nothing remains of the ancient compositions. Today no Arab knows the meaning of the ancient designations . . . . I have not been able to find a single Mussulman who knew what the great romancero or the Arani wished to indicate by the musical terms which he quotes in specifying the genres of musical compositions.<sup>3</sup>

This statement would appear to be substantiated today by judgment formed on the basis of the writings of such men as Bertram Thomas,<sup>4</sup> Byng, and van Ess, who have explored in one way or another the Islamic regions. But Salvador-Daniel's statement is direct and to the point. Moreover this appears to be an "oriental" or Semitic music behavior pattern. If we look to the surrounding territory either in antiquity or in more contemporary times, we find the same situation.

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<sup>1</sup> Salvador-Daniel, Arab Music and Musical Instruments (London: Wm. Reeves, 1914), p. 37.

<sup>2</sup> Ibid., p. 9.

<sup>3</sup> Ibid., p. 46.

<sup>4</sup> Bertram Thomas, op. cit., p. 163.

Music is never written down, but transmitted ORALLY. Consequently "ear"-marks were developed by which music is recognized. The entire theory of Oriental music is based upon these 'ear-marks', i.e., signs for musical patterns learned by ear. All these elements and features are to be found in the religious and secular music of the Mohammedans and of the Oriental Christian churches: the Greeks, the Jacobite, the Nestorian, and the Maronite.<sup>1</sup>

Lest there be an idea that an inspection of the music of the peoples adjacent to the Moslem world would cast light upon the subject, it should be added that inquiry reveals that the Syrian melodies (chant) were not notated,<sup>2</sup> the Byzantine is at present not of help,<sup>3</sup> the Armenian is undecipherable,<sup>4</sup> the Coptic is without notation,<sup>5</sup> the

<sup>1</sup>A. Z. Idelsohn, Jewish Music (New York: Henry Holt, 1920), p. 27.

<sup>2</sup>Reese, op. cit., p. 67. "The ancient Syrian melodies (Syrian chant) were not, it seems, usually committed to writing, but transmitted by oral tradition. We therefore lack, in connection with these melodies, equivalents of the remarkable documents from which it has been possible for modern scholars to restore the Gregorian repertoire."

<sup>3</sup>Ibid., p. 90. "No comprehensive study of the style of Byzantine Chant, comparable with that undertaken in the Gregorian field, is yet possible; not enough of the surviving melodies have thus far appeared." Chief workers and contributors in this field: Fleischer, Gastoue, Gombosi, Tillyard, and Wellesz.

<sup>4</sup>Ibid., p. 91. "Byzantine and Syrian influences met and mingled at least until the separation of the Armenian Church from the Greek in 536. The cultural growth of the country took on impetus with the introduction of the Armenian script in the 5th cent. . . . The oldest Armenian notation was of alphabetical type" . . . in speaking of this and later notation Reese says: "Even so the notation is undecipherable, the key to it having been lost during the Turkish occupation and no enlightening tract, apparently existing . . . . Whether the new notation, introduced early in the 19th cent., preserves ancient melodies or merely chants originating shortly before, cannot now be determined. The early music may be irretrievably lost."

<sup>5</sup>Ibid., p. 92. "No notated MSS. preserving the old Coptic chant have come down to us, if indeed any ever existed. The nearest thing we have to them are a few MSS. for the solemn reading, . . . to what

Ethiopian has not as yet been deciphered,<sup>1</sup> and the Mozarabic chant<sup>2</sup> with MSS. dating from the end of the ninth century are just beginning to be looked into and it is thought that these present similarities to the Ambrosian.<sup>3</sup> As for the Spanish sources, it is believed that evidence has been presented to make the unquestioned acceptance of it hazardous in the extreme.<sup>4</sup>

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extent the melodies now sung preserve the old ones, cannot be determined. Notation is not used even today, since most of the singers of the Chant are blind, it being thought that only such people can be expected to have the seriousness and other worldliness necessary for the correct singing of ecclesiastical melodies." See also Egon Wellesz, Byzantine Music in Proceedings of the Musical Association, 1932, p. 6.

<sup>1</sup> Reese, op. cit., p. 93. "Psalmody, however, is taught among the Ethiopians exclusively by oral means despite the existence of diacritical signs." "The Ethiopian chant too, it is claimed, shows relationship to Coptic practice, as well as to Syrian, Armenian, and Hebrew."

<sup>2</sup> Ibid., p. 111. Unfortunately, the tradition has been lost, since the chant itself died out. "While we have a heritage of Mozarabic chant books, they are almost entirely undecipherable."

<sup>3</sup> Ibid., pp. 104-107. Despite the antiquity of the Ambrosian liturgy, the earliest collection of Ambrosian chants that has survived is the twelfth century, Codex Add. 34209 in the British Museum.

<sup>4</sup> The collection, assembled by Alfonso X, el Sabio (1252-84) forms the bulk of the legacy of Spanish songs of the Middle Ages, texts in Galician-Portuguese.

"The earliest known decipherable examples of peninsular secular monody in the vernacular are the Galician songs, Siete canciones de amor, attributed to Martin Codax." See Reese, op. cit., p. 245.

Transcriptions of six of these may be found in Speculum IX, 1934, 3; 18-20. One of them may be found in Oxford History of Music, Vol. II, p. 295.

In Chapter I and in Appendix II will be found testimony relative to the conservatism, immobility, and exclusiveness of the Moslem. This reflects the opinions of those who have lived in Moslem communities. As it was centuries ago, so it is today, this seems to be the expressed viewpoint of all of them. The few who have investigated the field of music appear to be enchanted. It should be remembered that the Arab is a Semite and that the inferred and expressed exclusiveness is a dominant culture pattern of the Semite. The musical investigators seem to have attacked the problem from the focal point of the "Arab." If we lift this problem out of its isolation and place it within the totality of the Semitic group, the writer of this thesis, at the moment, believes that, although speculative as it is, some deductions might be made. The contradictory nature of the available material and lack of actual musical notation make a different approach necessary. Hence the

#### Discussion of the Modes

From his collected examples Salvador-Daniel deduced twelve modes, although fourteen and more<sup>1</sup> are reported. He states, definitely, that the "grouping of sounds is made by tones and semitones as with us . . . all the musicians play in unison and there is no other harmony than that of drums of various sizes."<sup>2</sup>

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<sup>1</sup> Christianowitch and Rouanet mention eighteen, name fourteen and fifteen respectively but give proof of only twelve.

<sup>2</sup> Salvador-Daniel, op. cit., p. 46.

In listing the basic elements of Semitic-Oriental music Idolsohn says:

In the first place, Oriental music - whether Semitic, Altaic, or Hindu - is based on the modal form. (a) A Mode (in Arabic and Persian: Makam or Maqam) is composed of a number of motives (i.e., short music figures or groups of tones) within a certain scale. The motives have different functions. There are beginning and concluding motives, and motives of conjunctive and disjunctive character. The composer operates with the material of these traditional folk motives within a certain mode for his creations. His composition is nothing but his arrangement and combination of these limited number of motives. His "freedom" of creation consists further in embellishments . . . . .<sup>1</sup>

Knowing the Jewish modes (from Idolsohn) the Greek modes, and the Ecclesiastical (Gregorian) modes, and comparing these with Salvador-Daniel's findings, which have been arranged in order, (Table I) one can observe a number of items.

Table I presents the above data with pertinent footnotes.

The four principal modes of the Moslems are (according to Salvador-Daniel):

(I) Irak, (II) Mastoun, (III) Edseil, (IV) Djorka. Roman numerals are used on Table I to indicate these.

Idolsohn has designated the four modes which are indicated by the Roman numerals (Table I) under the Jewish heading as the "most popular scales,"<sup>2</sup> the most representative Oriental modes. Here are

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<sup>1</sup> Idolsohn, op. cit., pp. 24-25.

<sup>2</sup> Ibid., p. 75. See also Saminsky, Music of the Ghetto and the Bible (New York: Block Publishing Company, 1936), p. 32.

Idelsohn's comments:

The most popular scales are I, which corresponds to the ancient Greek Phrygian (the medieval Dorian); II, which corresponds to the ancient Greek Dorian (the medieval Phrygian); III, which is similar to the ancient Greek Lydian; IV, similar to the scale of the Aulos,<sup>1</sup> and corresponds to the Adovoh Rabbon<sup>2</sup> scale.

On each of these scales several modes are based.

These are the four representative scales which form the basis of cantillation and hence the four principal or basis modes of the Jews. It does not, by any means, represent all the modes. Various names are ascribed to these and other modes, for the sake of clarity, several names appear on Table I for the same mode.

If we add to this series of representative modes the Hebrew Tefillah or adoney-Eloloh<sup>3</sup> which is one of the oldest of the Hebrew modes, if we place it opposite its corresponding modes and place the mode of Daniel<sup>4</sup> opposite its similar modes, we find modes in the "Arab", Jewish, and Greek tabulations which are identical with the Ecclasiastical

<sup>1</sup> Ibid., p. 87. "It is the same scale which Olympus was supposed to have introduced into Greece about 800 B.C.E. with the Aulos."

<sup>2</sup> Ibid., p. 13. "This scale (Aeolia) (introduced at beginning of 4th cent. B.C.E.) survived even in Greek Catholic song to the present day."

Ibid., p. 12. "The structure of the Halil (bib pipe) was similar to that of the Greek aulos, (i.e., with a mouthpiece) and, according to Maimonides, similar to the Arabic Muzmar." Idelsohn documents his Maimonides reference: "Maimonides' commentary to Mishna Arachin II."

<sup>3</sup> Ibid., p. 78; Seminsky, op. cit., p. 32; Jewish Encyclopedia, op. cit., p. 536, Vol. III.

<sup>4</sup> Ibid., p. 61.

Authentic modes. This procedure does not represent a forcing into place of the Jewish modes. Idelsohn has made it clear that he was regarding the modes indicated as I, II and III under the Jewish heading as representative of Oriental music. If we pursue this course further, on the basis of "popularity," the Prophets mode or Hogen-Ovos<sup>1</sup> of the Jews which Idelsohn has pointed out as being the Bayant-Huseni of the "Arabs" and which on analysis shows itself to be the mode called Irak by Salvador-Daniel, we find that it is the standard scale of Jewish music under the name of the Prophets and the standard scale of folk song.<sup>2</sup> Farmer in quoting Ibn Sina's discussion of the ethical value of particular modes mentions a Husain mode,<sup>3</sup> later Farmer mentions Husaini.<sup>4</sup>

At this point we find a curious parallel. Salvador-Daniel mentions that nearly all the chants of the Madras Hanafi rite are in this particular mode and also that the religious song Allah ya rabbi sidi appears in this mode. Lane in his Modern Egyptians observed that the Koran chant was in this mode.

Only those modes which Idelsohn considers as constituting "the

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<sup>1</sup> Ibid., p. 84. On p. 50 "mode of Prophets . . . is standard scale of Jewish music not only in synagogue song but folk song."

<sup>2</sup> See footnote 1 on this page.

<sup>3</sup> H.C. Farmer, History of Arabian Music, op. cit., p. 197.

<sup>4</sup> Ibid., pp. 198, 204.

TABLE I

ARAB<sup>1</sup>

JEWISH<sup>2</sup>

GREEK<sup>3</sup>

Diatomic genus

ECCLESIASTICAL<sup>4</sup>

... ..

... ..

... ..

... ..

... ..



oldest, the most genuine, and the most Oriental-Semitic part of Jewish music<sup>1</sup> are taken into consideration in this table.

Farmer does not offer any definite identification but a compilation of extracts taken within a hundred pages substantiates the findings made. The first four quotations refer to Al-Kindi and the fifth to Ibn Sina.

There is another very interesting passage which reveals the fact that the Arabs employed genres similar to the Ancient Greeks. The tetrachord was the theoretical landmark of the Arabs.<sup>2</sup>

It is rather unfortunate that we get no information from either Al-Kindi or Al-Farabi on the construction of the melodic modes.<sup>3</sup>

Whether Al-Kindi derives his theories of Greek music from Greek originals or from Arabic translations is a question for further discussion.<sup>4</sup>

(Al-Kindi) He then goes on to mention the difference in the musical art between the celebrated modes of the Persians, the eight modes of the Byzantine theorists and the eight modes of the Arabs in each of which these nations specialized respectively.<sup>5</sup>

We know from Ibn Sina that there were twelve principal modes. By the time of Dafi al Din 'Abd al-Ruh 'im (d. 1294) these principal modes were called Maqamat. There were also six secondary modes called awazat which are stated to be of later origin than the principal modes.<sup>6</sup>

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<sup>1</sup>Idelsohn, op. cit., p. 89.

<sup>2</sup>Farmer, History of the Arabs, op. cit., p. 107. <sup>3</sup>Ibid., p. 179.

<sup>4</sup>Ibid., p. 150. <sup>5</sup>Ibid., p. 151.

<sup>6</sup>Ibid., p. 203. Underlining is done by the writer of this thesis.

Here we have evidence of similarity between the Greek and Moslem. Nowhere does Farmer, or any source consulted, mention a Jewish similarity.

According to Kwalwasser, the most common scale met with in Jewish Folk song is one (name unavailable) which corresponds to IX Aolian of the Ecclesiastical Modes.<sup>1</sup>

Idelsohn, as will have been noted from quotations already made, has referred to the "Arabic," although Idelsohn confined his treatise to Jewish music.

#### Conclusion

Of two things we can be sure: (1) That of the making of scales there is no end, and (2) that scales are the tabulation of the facts of folk-songs.

The literature available, unfortunately, gives only a hazy idea of what the Moslem writers actually thought and wrote, for instead of giving us the actual translation of the Moslem writings, such as exist, Farmer and others who are qualified by virtue of their knowledge of the Arabic language have offered their own individual interpretations and comments. It would appear to have been far wiser and more scholarly for them to have made translations, added their individual interpretations and comments, and allowed interested researchers to judge of the validity of their comments. For it is evident, and even an indictment of the searchers for the musical truth among the Moslems, that while they could have deduced the scales if they had known the melodies, they could never hope to ascertain the melodies from the theorist's

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<sup>1</sup>Jacob Kwalwasser, "Jewish Folk-Songs", Musical Quarterly, XI (1925), p. 55.

writings.

### Motive and Ornament

Generally speaking, it appears that the typical music under consideration is limited in range, that is to say, that many "compositions" do not exceed four or five notes in range.

No clear perception of Moslem music is possible without grasping the unique importance of the motive in "Oriental" music, for Moslem music is "Oriental." These basic rhythmic-melodic units -- the motives -- determine the nature of the music to a far greater extent than do scale tendencies. The "Oriental" works more with motives than with tones. A mode comprises certain motives, all within a certain scale.<sup>1</sup> The composer is bound by the motives relative to the mode in which he is writing. The only freedom of expression that he has is in ornamentation. The difference between the use of the motive in Occidental music and "Oriental" music is well expressed by Idelsohn:

The creation of compositions of European folksongs and even art music is essentially also an arrangement of variation of motives traditional in a folksong of a certain people or race. Many motives are common to the music of the different European peoples. Not only are the creations of the classics based upon melodies or motives which the composers have conspicuously taken from their folk-song, but they have likewise been unconsciously influenced by the motives of the music of their people. The fundamental difference between the manner of composition in the Orient and in the Occident is that in the Orient a motive is employed in its mode and in a customary position with relation to the other motives of that mode; whereas in Occidental music, a motive is a unit unbound to mode, scale or position.<sup>2</sup>

<sup>1</sup>Idelsohn, op. cit., p. 24.

<sup>2</sup>Ibid., note 2, p. 497.

Not only do motives determine the tonality and regulate composition, but, in unrhymic music, they correspond to the metric and logical accents and thus have metric and systactic, as well as musical, meaning.<sup>1</sup>

#### Ornamentation

The prevalence of ornamentation in Eastern music and the readiness with which "Oriental" musicians improvise are obviously results of the strict regulation by motives.

The second point necessary to an understanding of this music is its modal basis and modification by the display of motive-combination, what Saminsky calls "a sort of racial tonal caprice."<sup>2</sup> It is this modification, whether by "racial tonal caprice" or by something else, which makes the problem of modal classification of "Oriental" music so difficult. It is all very well for writers to remark that a certain scale fits into such-and-such a mode if the second step is lowered, or if the interval between the seventh and the octave were a half-step instead of a whole step; but our minor mode would also be very similar to our major if the minor's third degree were to be raised a half-step.

This problem of fitting "Oriental" music into modes is primarily a question of how much latitude is to be permitted in the modification of a mode and whether embellishments are to be considered within or without the tonality. The first of these does not cause too much

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<sup>1</sup> Saminsky, op. cit., p. 202.

<sup>2</sup> Ibid., p. 203.

difficulty in some classifications of "Oriental" music (Jewish cantillation) because the modes are not modified sufficiently to render the mode unrecognizable.

The case of embellishment is more pertinent. Whether the ornaments, i.e., "coloratura passages" (trills, abbreviations and "drawled-tone" as referred to by Salvador-Daniel,<sup>1</sup> or, as the Occidental calls his approximation to the "Oriental" or Moslem effects, shakes, trills + appoggiatura + the term is "gloss".) that are integral parts of this music should be considered as essentially belonging to, and affecting, the modes; or whether these should be considered to hold the same relation to the mode that the passing tone or chord does to harmonic structure, must remain a matter of individual opinion. Keeping in mind that the ornament is almost the only means of free expression which the "Oriental" musician has at his disposal and realizing the important fact that this must lead to embellishment, we should not subscribe to the separation of so important an element from what appears to be its intrinsic place in the music. On the other hand, to create new modes to include the tones used in ornamentation would cause even greater confusion. But we are viewing the matter through Occidental eyes. The Moslem, as has been demonstrated, seldom, if ever, know even the mode he was performing in.

The following quotations clarify the issue presented:

The best musician is he who enriches the melodies

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<sup>1</sup> Salvador-Daniel, op. cit., pp. 73-69.

(by means of the 'gloss') and who quickens souls . . . .<sup>1</sup>

The Oriental musicians and laymen are fond of IMPROVISATION. Even set tunes are largely varied and modified. The improvisation occurs in a certain mode, and the improviser has to operate with the traditional motives therein. His "freedom" of creation consists further in embellishments . . . .<sup>2</sup>

This (the singer's improvised variante, with which he adorns his melody) is one of the most interesting parts of this music, and the most difficult to grasp, and has made so many writers say that the Arabs have no idea of measure. Yet it is the one essential point in their music.

These erotic verses were intoned to a melancholy air, which by its trills, its languishing intonations and the absence of all rhythms, recalls our plain-song. It was a kind of broken and plaintive tremolo, alternating without any transition from forte to piano, the rapid movement of which was little in harmony with the song.<sup>3</sup>

Variations . . . . were prolonged interminably on a syllable, word or hemistich, in such a way that the singing of a cantilena of two or three verses might be prolonged for hours. Even to-day this same custom lasts . . . . the timbre of the voice, its mobility and vibrations, the feeling which made it creak or quaver, determined the merit of the singers.<sup>4</sup>

<sup>1</sup> Aghani I, p. 125, quoted in Farmer, History of Arabian Music, op. cit., p. 73. The nasal quality of singing, gliding from note to note, especially the gloss appears to be the quality of Moslem music which has led some writers to speak of quarter tones. Wekerlin, Salvador and others state there is no use of such a quarter tone device, but that the drawled scale and nasal quality are responsible for the impression. See Salvador-Daniel, op. cit., p. 87: "This nasal intonation and portamento is an absolute necessity to an Arab singer, and the more exaggerated its character, the greater is the merit of the performer. Precisely the same idea exists with instrumentalists, the portamento being cultivated to the extreme."

<sup>2</sup> Idelsohn, op. cit., p. 25.

<sup>3</sup> Felix Normand, La Vie Arabe, quoted in Salvador-Daniel, op. cit. p. 75.

<sup>4</sup> Femmes Arabes avant l'Islamisme, Chapter xxxi, quoted in Salvador-Daniel, op. cit., p. 79. See also Bertram Thomas, op. cit., p. 164.

It is this addiction to musical ornamentation which has led some observers to remark, as in the above quotation, that this music lacks rhythm.

As was demonstrated in the section dealing with architecture, so is it also to be observed in the music of the Moslems, that the emphasis is upon ornamentation.

### Rhythm

Since the Moslems have not a written notation and since we lack actual examples, it is impossible to reach any definite and accurate conclusions regarding this aspect of the problem. From the literary references and from the accounts of travellers some general ideas may be formed. As has been pointed out, there is a danger in such assumptions.

It would appear that the Moslem's concept of rhythm was to consider it as a support, a rhythmic counterpoint to the melody.

Trend, while not quoting directly, states:

For Al-Farabi it was the arrangement of sounds within intervals of time of definite length, whilst Avicenna defined it as a group of beats separated by definite pauses. In general, the Arab idea of Rhythm was to consider it as 'the metrical support given to the melody by groups of beats, which might be equal or unequal, but which always followed an identical arrangement in the same period. The basis of rhythm, as has been said, lay in the length of the syllables with short ones, a 'long' always being regarded as the equivalent of two 'shorts,' indeed the rhythm of classical Arabic verse depends on the arrangement of long and short syllables, in something the same way as does the rhythm of classical poetry in Latin and Greek.

Rhythms, and combinations of conflicting rhythms produced by instruments of percussion, was -- and still is -- the only kind of accompaniment admitted in Arab music. In principle this accompaniment consists of a series of dull and sharp beats, generally called by Muslim performers *tun* and *tak*. In practice, the combinations of rhythm reach a degree of complication which civilized Western music has hardly yet achieved.<sup>1</sup>

Salvador-Daniel tells us:

The Arab singer will easily dispense with a singing instrument, but the percussion instrument for beating time he must have \* \* \* he must have his rhythmic accompaniment, his real and only harmony.<sup>2</sup>

Putting our accounts -- literary references -- together, we find that Moslem music appears to be primarily a vocal expression. The Moslem singer may or may not have a group of accompanying instruments (singing instruments), these instruments duplicating the melodic line of the song, the singer "improvising" the variants (the gloss) within the limitations imposed by tradition and local taste, supported by his rhythmic (percussion) instruments, which are of prime necessity. Or, as Farmer puts it:

In Arab music we have the 'singing instruments' and the voice, which start out to intone the theme proper. Then, each instrument takes the theme which it improves with the 'gloss' in its own particular fashion: The Kancun has its rapid scales, the Kouitra its repeated notes (a la mandoline) and left hand pizzicati, the Kemedjah, its ornaments without end, to which must be added the *gasse trainee* of the singer. It is these several "glosses" of the theme played together

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<sup>1</sup>Trend, op. cit., p. 20.

<sup>2</sup>Salvador-Daniel, op. cit., p. 76.



that have led the uninitiated to conclude that different themes were in progress.<sup>1</sup>

Again it is to be noted that the attack upon the problem has been made by taking the music of the Moslem in isolation.

Idelsohn in his classification has designated "Oriental" music as being "Chiefly unrhythmical";<sup>2</sup> that is to say, the narrative or recitative, and he says that it (oriental music) is rendered by a solo voice with an accompaniment which repeats the melodic "line" uttered by the singer. Idelsohn does classify "rhythmical" music and designates it specifically with the Arabic name Anshada and mentions that it is considered inferior to the unrhythmical music designated by the Arabic name Tartil.<sup>2</sup> He couples Anshada with bodily motions and dancing.

This is not a new idea, for music has developed in two directions in most cultures, if not all. Music used as an organizing medium (marching, work, dance) imposes some device to mark strict rhythm. The unmeasured (recitative) type is employed for the interpretation of text. Idelsohn's views are somewhat provocative, especially if we will, submit the inspection of Moslem music to the totality of Semitic music.

The Arabs . . . were not differentiated from the Jews in their preference for modal music. Yet at the same time they developed secular rhythmical music for those of their poems which were accompanied by bodily motions. This poetry and this music made a great impression upon the

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<sup>1</sup> Salvador-Daniel, op. cit., p. 258, (notes by Farmer).

<sup>2</sup> Idelsohn, op. cit., p. 25.

the Jews. The influence was enhanced by the political freedom which the Jewish people received from the same source. Gradually the Arabic type of verse and music was introduced not only into Jewish secular life but also into the Synagogue, so that by the tenth century we find poetry in Arabic meter together with Arabic melodies in the Synagogal service in Babylonia, Syria, Morocco, and Spain. Hence, rhythmical song among the Jews of the Orient became synonymous with Arabic music from that time on until the present day.<sup>1</sup>

It is therefore quite obvious that the Arabian meter, though it opened the way for rhythmical music in the Synagogue, did not remain the only moulding and determining creative power of rhythmical song . . . . It was Arabic tunes which were first adopted for the Hebrew poems based upon Arabic meters.<sup>2</sup>

Idelsohn lists eight meters which he claims are Arabic and from which the Hebrew poetry adopted the first five.<sup>3</sup> Farmer points out that in the days of Da'if al-Din six were in use, that Al-Kindi, Al-Farabi and Ibn Sina mention eight; however, Farmer gives no description of any of these. Moreover, he states:

Eight rhythmic modes are given by Ibn Sina and Al-Hussain ibn Zacila, and they are quoted not only on the authority of Al-Kindi and Al-Farabi, but also according to the contemporary practitioners. Agreement between them is lacking, and it is difficult even to make them conform to the rules of the *Mafūtih al-'ulūm* and the *Ikhtār al-Safā*.<sup>4</sup>

<sup>1</sup> *Ibid.*, p. 112.

<sup>2</sup> *Ibid.*, p. 124.

<sup>3</sup> *Ibid.*, p. 114.

<sup>4</sup> H. C. Farmer, *History of Arabian Music*, op. cit., p. 199.

There being no descriptions of the various rhythms and in view of Idelsohn's statement, the following are acceptable:<sup>1-2</sup> (See Plate XXIII, page 261)

1. Hazag U - - - . This foot has the first chronos (time-unit), a half syllable followed by three syllables, the last being prolonged. For Hazag meter, the foot occurs twice. In case it occurs three times, the meter is called Wafir. The foot is called Mu-fā-i-lūn. The musical rhythm of the meter can be rendered in 4/4 measure.
2. Ragāz U = U =, repeated three times; mūs-tāf-i-lūn. This meter takes on the triplet character and is rendered in 6/8, having the character of the Greek iambic meter (twice).
3. Mutakarib U = - , repeated four times; fā-ū-lūn. Its musical rhythm is 8/8, and has, likewise, the triplet character.
4. Ramal is a compound meter of - U = - , which occurs twice, and - U - ; its formula being: fā-i-lā-tūn (twice), fā-i lān. The musical rendition of this meter, however is in 2/4.
5. Tawil is likewise a compound meter of - - - , which occurs twice and - - - - ; its formula being: fā-ū-lūn (twice) and mā-fā-i-lūn. The musical measure is 4/4.
6. Saria, compound: U U U = twice and - U =, i.e., mūs-tāf-i-lūn twice and fā-i-lūn. The difference between the Ragāz formula and that of Saria lies in dividing the second time-unit (the syllable tāf) into two halves (tā = f), while the musical value of the unit remains the same as before.
7. Kāmil has the basis of U U - U = occurring twice, its formula being mūs-tā-fā-i-lūn. This meter is a combination of anapaest (U U =) and iambus (U -). Yet its musical rendition is in 4/4.

<sup>1</sup> Idelsohn, op. cit., p. 114.

<sup>2</sup> Apparently writers on the subject of Moslem music have overlooked the possibility of a Jewish source of information for nowhere in any of the material and sources consulted has the writer of this thesis found a reference of this nature. Idelsohn is convincing: "The custom of adopting tunes from local Arabic or other music made a breach in the unity of Synagogue song, for until the rise of the piyyut (poetry) the traditional modes prevailed in the worship of all communities in the Diaspora." Ibid., p. 127.

8. Basit is a compound meter of U U U = and U U =, using the terms mūs-tāf-i-lūn, fā-i-lūn in a different time value than in the previous meters. This meter must be rendered in the musical scheme of  $3/8 = 4/8$ .

It is to be sincerely regretted that we do not possess a single manuscript of Moslem music; that we have no documentation concerning the time of the use of these rhythms; in fact, nothing that can stand the test of scrutiny. Ribera and Farmer, especially the former have advanced a claim that the steps necessary for the development of the system of rhythmic modes were first taken by Arabs, rather than by Europeans. That the Moslems had a system of rhythm must be accepted in view of Idelsohn's testimony concerning rhythmical music in the Synagogue. It is too speculative a problem, and a question too involved and covering a field too broad to be within the scope of this paper. In view of these facts and in view of the nature of the available sources consulted intellectual honesty makes the further pursuance of the problem of Moslem music impossible at the present time. It has been assumed that the "Arab" system is of greater antiquity than the European.<sup>1</sup> Though European efforts are to be noted in this direction, the treatise of Franco of Cologne (fl. c. 1250) on Measured Music is apparently among the first to give full expression to the theories of intervals and of the time that they were becoming generally accepted (in that era.) It is here stated "among the first" for the reason that the anonymous treatise Discantus Fecitio Vulgaris (c. 1230-1240)<sup>2</sup> is often regarded as the earliest treatise on mensural music.

<sup>1</sup> Reese, op. cit., p. 274.

<sup>2</sup> Ibid., p. 307.

### Instruments

It is the conviction of the writer that a survey of the Moslem instruments would be trite should the purposeless recounting of a list with descriptions be offered. Let it suffice to state that the interested reader will find the names varying according to different writers. This is to be expected, since the Moslem demonstrated, to some extent, the completion of the occupied territory. A serious study of this facet of the problem is without doubt in order. However, the researcher should have access to Arabic documents, if possible, in order to ascertain just how far the works of the theorists-philosophers tally with the resources of the instruments.

Sachs'<sup>1</sup> researches have recently been revised and translated into English. For the most part this standard volume offers detailed descriptions.

Of far more interest than a tabulation of instruments would be, if it lay within the province of this study, to ascertain the suggested similarity of "Arab" instruments with those instruments of a reputed older culture. Such a possibility is offered by the studies of Galpin.<sup>2</sup>

### Summary and Conclusions

From our treatment of this subject matter of Moslem music the following conclusions stand out:

- (1) It has been demonstrated that authorities differ widely in

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<sup>1</sup>Curt Sachs, The History of Musical Instruments (New York: W.W. Norton, 1940)

<sup>2</sup>Francis W. Galpin, The Music of the Sumerians, Babylonians & Assyrians (Cambridge: University Press, 1937)

their opinions concerning Moslem music and its theory, (2) that the nature of the Arabic manuscripts are primarily concerned with theoretical-physical (acoustics), this is assumed, since no actual translation was reproduced in the source material, (3) that theory and practice, among the Moslems differed and that the Moslem performer was unaware of theory, (4) that the approaches made to the problem thus far have proved to be unsatisfactory and not conclusive, (5) that Moslem music has been considered in isolation, (6) that there was no notation in practical usage, such as may have existed was within the province of the philosopher-theoretician and may not have been of use to the performer, (7) that Moslem music was monodie, (8) that rhythm was an important element of this music and finally (9) that ornamentation, the chief feature of Moslem music was in high esteem among the Moslems, both performers and listeners.

It is apparent from the foregoing that a sound judgment cannot be made nor valid claims set forth without inspection of actual artifacts. It is a mistake to consider this musical expression in isolation. It has been demonstrated, on the basis of the similarity to Hebrew examples and on the basis of the written record, that "Arabic" music did have an effect upon the synagogue music of the Jews, therefore it is thought that an approach to the entire subject might be made through that channel. Hence, on the basis of available evidence, it may be said that the modes employed by the Greek, Hebrew, and the Moslem are

similar, and in some cases identical. The Moslem writers did have access to Greek manuscripts, their translations of certain of these documents is proof of their acquaintance with Greek musical theory. It would hold that through this medium there could be similarity. Moreover, similarity appears between Greek, Moslem, Hebrew and Ecclesiastic modes.

# Arabic Meters

Hazağ 0 - - 1, 0 - - 1



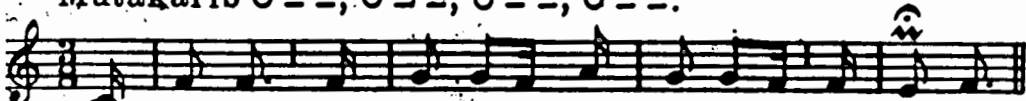
mě - fā - 'ī - lūn, mě - fā - 'ī - lūn.

Rağaz 0 - 0 1, 0 - 0 1, 0 - 0 1.



mūs - tāf - 'ī - lūn, mūs - tāf - 'ī - lūn, mūs - tāf - 'ī - lūn.

Mutákarib 0 - 1, 0 1 1, 0 - 1, 0 - 1.



fā - 'ū - lūn, fā - 'ū - lūn, fā - 'ū - lūn, fā - 'ū - lūn.

Ramal 1 0 - -, 1 0 - -, 1 0 1.



fā - 'ī - lā - tūn, fā - 'ī - lā - tūn, fā - 'ī - lān.

Tawil - - 1, - - - -, - - - -, - - - -.



fā - ū - lūn, mū - fā - ī - lūn, fā - ū - lūn, mū - fā - ī - lūn.

Saria 0 0 0 0 -, 0 0 0 0 -, - 0 1.



mūs - tā - fē - 'ī - lūn, mūs - tā - fē - 'ī - lūn, fā - 'ī - lūn.

Kámil 0 0 1 0 -, 0 0 1 0 -, 0 0 1 0 -.



mū - tā - fā - 'ī - lū - nō, mū - tā - fā - 'ī - lū - nō, mū - tā - fā - 'ī - lūn.

Basit 0 0 0 -, 0 0 -, 0 0 0 -, 0 0 -.



mūs - tāf - 'ī - lūn, fā - 'ī - lūn, mūs - tāf - 'ī - lūn, fā - 'ī - lūn.



## CHAPTER V

### CONCLUSIONS

Any conclusions regarding, or appraisal of, Moslem art can be offered only as a general preliminary statement and must be eclectic in nature, since we are only beginning to undertake the study of that art expression. A considerable number of the artifacts are of comparatively recent evaluation, and there remains the possibility of discovery of other monuments. Even now, at the most, we are in the third generation of investigators. These facts, in contradistinction to the assumptions of the past and the antagonistic attitude toward things Moslem, should serve to orient any objectively inclined person to the true status of the case.

In spite of the existing contradictory material and the fragmentary nature of the data, certain general conclusions with regard to the ecology of Moslem art can be deduced.

I. As to Architecture: In this thesis it has become apparent (1) that the chief features which are taken as characteristic of Moslem building are not inventions or developments of the Moslems; (2) that the mosque did not follow a definite and concrete plan -- examples were cited of square, rectangular, octagonal, cruciform, and T-form ground plans (the essential requirements of the mosque were simple)

(3) that while the dome, the pointed and rounded horseshoe arch, and the minaret may be thought by some to be a characteristic of Moslem buildings, particularly the mosque, the usage of these features was not consistent. A large variation in actual practice was demonstrated; in the main the buildings show a large use of alien materials.

On the other hand there appears to have been a fairly consistent employment throughout Islam of plaster, stucco, or similar material because, it is thought, of its workability and adaptability to the Moslems' desire for ornamentation.

The pointed arch generally appears to have been adopted from the first, and as Islam advanced its architecture presents us with a free use of the arch, particularly the round horseshoe and the pointed horseshoe, decorative trefoil and multifoil arches being much in evidence.

In the case of the dome it is clear that each locale reveals a different type of dome. Moreover, the dome was not essentially a characteristic, or even a dominant or focal aspect of Moslem architecture. The dome as a feature of Moslem architecture did not travel westward, but remained in its native habitat. The Moslem did not create a type, but he borrowed from the indigenous types with which he came into direct contact.

It is to be noted that wherever Islam settled it adopted the architectural features of the conquered country, modifying these features to the essential requirements of the Moslem. Nowhere is a revolutionary style apparent.

However, in all regional divisions there is to be observed one fundamental tendency, a tendency which accelerated as Islam spread -- a growing indulgence in surface ornamentation which reached a point where decorative considerations were dominant over structural considerations. In ornamentation the Moslem firmly left his imprint. An empty surface apparently was intolerable to Moslem eyes. Even in this respect it is apparent that the decorative motifs, though derived either from the vegetable kingdom or from geometric figures, arose from the artistic enterprise of the minority groups and show variation.

One feature appears throughout Islam, the stalactite. Used decoratively, it can be taken as typical. Constructively, it was the favored form of pendentive.

II. As to Music: In the music of the Moslem, irrespective of claims advanced by certain writers, it has been demonstrated that there was not a written notation -- at least not for the practitioner. That the translators did have access to and did translate the Greek authors is fact. Moreover, it was found that the controversial material offered no solution to the major aspects of the problem; therefore a different approach was made. If the observations made are valid, then it would appear that there was a marked similarity to, and in some cases identity with the Greek, Jewish, and Ecclesiastical modes. That being the case, it could be argued that Moslem music following such a tonal system would bear a resemblance to Occidental music of the early Middle Ages. For while the scale system may be identical or similar, the manner of execution, of performance, would be different. Here again we meet with the Moslem's fondness of ornamentation.

Since the Moslem music was primarily a vocal expression there can be little doubt but that the language had considerable direct influence upon the music, but since we lack any actual musical documents, such deduction or generalization is out of order. But of several things we can be sure. The Moslem had a scale system, a definite consciousness of rhythmic order which manifested itself early, a predilection for ornamentation, no harmonic system as we think of it, and we know that as early as the tenth century "Arab" melodies and "Arab" meters were adopted by the synagogue. As to a direct influence upon European music, no safe and incontrovertible conclusions can be made at present.

III. As to Media; The features enumerated above are what have been seized upon as "Arab" or Moslem art -- characteristic facets, as it were, of the art expression of those people; features which determine the "style." That there are variations within the totality of the Moslem expression has already been demonstrated. Differences are the outcome of the urge for adaptation. The perfect style is that which is best adapted to all the conditions under which it has to be presented. A variety of factors, naturally, contribute to its development. The most obvious influences are the properties of media. When a work of art which is to be executed in stone, plaster, or alabaster, the particular qualities of the material impose a style of art different from that of an example executed in iron. Hence the effects produced by one material are different from those produced by another kind of material.

**Summary:** In a summary of the two arts considered in this thesis it is to be observed that we were not primarily or solely concerned with showing sequences, interrelations of styles, of forms, or of single motifs. It is evident that Moslem art was derived from older traditions which had been in vogue in various countries which Islam overran.

Arabia of and before Muhammad's time presents a picture of a society in which the arts had little, if any, standing. The religion of pre-Islamic Arabia contributed hardly anything to artistic enterprise; hence there is no artistic heritage passed on to Muhammad from Arabia proper. Muhammad can be regarded as a product of his age and his society in so far as art is concerned, and there is nothing in his career to mitigate or improve this picture. That he was dependent upon the culture of his era is reflected in the simple demands made for the new religion in his mosque at Medina and the mosques erected immediately following his death. That Muhammad was subject to local and foreign influence even in his religious concept is clearly evident.

It would appear that the four basic concepts of Muhammad's religious pronouncements are as vital to the dogma as to Moslem art -- vital to Islamic art not in the Moslem's adherence to the injunctions of the Prophet or to the rules of the legalists, but owing to the fact that the Moslem found ways and means by which he circumvented the initial restrictions of Muhammad's dogma. These concepts are as follows: (1) the wrath of the coming day of Judgment; (2) submission

or resignation to Allah; (3) The Koran as a book of heaven. These devices were designed to inculcate a spirit of humility, to fix the Moslem's mind upon the doing of deeds rather than the fixing of the follower's attention upon the earthly embellishments of life. This result is observable in the attitude of the early austere followers who regarded art objects as symbols of earthly splendor, denoting luxury, ostentatious display; hence the possessor was regarded as the victim of earthly vices. Despite the glorification of Allah, the mosque made no use of a priesthood, or of luxurious paraphernalia such as gold, silver, or jewelled vessels. In short, the essential requirements of the religion itself could be satisfied with the humblest materials, and they did make use of brass, clay, plaster, and brick. This is clearly reflected in the plaster ornamentation for the mihrab, which was the focal point of the mosque. That the Caliphs did transgress the original mandates is not to be gainsaid. (4) The essential nature of Muhammad: The Prophet, although maintaining that he had made a journey to the heaven of heavens, had conversed with Gabriel, was in direct communication with the supernatural, did not claim divinity. While the Prophet of Allah claimed these esoteric experiences, he it repeated he never claimed divinity, nor was he regarded as divine by his followers. He claimed no great supernatural attributes. We are not concerned with the claims nor counterclaims. Muhammad by his assertions forestalled the possibility of the developing of a sanctified iconography. The results are observable in a number of ways, some of which are curious and even naive. For instance: figure art as presented in painting is reduced to a point of degradation, while

on the other hand it was permissible to make representations of the human figure in rugs, pillows, and the like, for one walked or sat upon them or those articles were subjected to cutting by sharp instruments. Animals, birds, and living things appeared in decoration of ordinary utensils in a manner contrary to the idea of the utensil. Creatures appear ornamented in a manner which has no relationship to the bird or animal, hence they are not among the living. In short, all objects negate their forms by the device of ornamentation. The heavily encrusted decoration of the otherwise humble base with materials of allegedly precious substance is a simple device which to the Moslem mind robbed the representation of earthly substance. A rationalisation and a compromise are all too evident.

The ornamentation reveals an obstinate unwillingness to offer one central pattern which would be individual, self-contained, and the sole, simple, evident, bold, decoration on that particular object. The technique of the Moslem was to evade such apparent focal point. Instead, the Moslem, with his endless arabesques, his geometrical complexities, and his interweaving of those devices, avoided any closed form and made his complete patterns indefinite.

The very nature of the materials used could be taken to indicate a consciousness on the part of the Moslem that all things are transitory. He built for the moment, not for tomorrow. However, such a generalization is speculative in the extreme.

Moslem art does show a circumventing of all the rigid, austere, and puritanical rules and regulations promulgated by Muhammad and the legalists. It reflects the conflict with, and triumph of the desires of the Moslem over the elite as represented by Muhammad and the legalist teachers.

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## APPENDIX I

### ARABIA, DESCRIPTION

Arab Asia is a convenient term to include that part of south-western Asia where the Arab race is predominant, includes roughly the whole of the continent lying south of the main mountain belt of Armenia and west of the Zagros. Until the Great War practically the whole of Arab Asia formed part, at least nominally, of the Ottoman Empire. It is now divided between the French mandated territory of Syria, the British mandated territories of Palestine and Transjordan, the Kingdom of Iraq, the Arab kingdoms of Arabia and the British sphere of influence extending from Aden.

Apart from the linguistic homogeneity of the area, there are other features from certain aspects which render it convenient to consider the area as a whole. Through Arab Asia lie the routes between Asia and Africa, between Europe and the Far East, and the land routes between Europe and Africa. The vast stretches of desert have resulted in the routes lying in the narrowly circumscribed area of the 'fertile crescent' from the Mediterranean to the head of the Persian Gulf, with the result that the countries controlling this area have had, from time immemorial, a strategic importance out of all proportion to their intrinsic value. This fertile crescent includes within its borders the birthplace and home of some of the earliest civilizations of which history has any records and has witnessed the rise and fall of the metropolises of at least three mighty empires -- Assyria, Sumer and Babylon.

**PHYSICAL FEATURES.** Arab Asia is clearly demarcated on the north by the mountainous rim of the plateaus of Asia Minor and Iran, -- the Taurus and its eastward continuation as the Kurdistan scarp. Except for the narrow isthmus of Suez which separates it from Africa, Arab Asia is defined on all other sides by the sea. The Mediterranean to the north-west, the Red Sea to the south-west, the Arabian Sea to the south-east, and the Persian Gulf and the Gulf of Oman to the east.

The dominant orographical feature of the whole area is the great plateau of Arabia with its high south-western edge overlooking the Red Sea and its long gentle slope to the north-east towards the plains of Mesopotamia and the depths of the Persian Gulf. At both its eastern and western ends the Arabian Plateau is flanked by orographical features of a different character. To the east, occupying Oman, are fold ranges

believed to be structurally connected with those of Southern Persia. To the west, are the mountain systems of Syria and Palestine, which are sufficiently important to merit careful note. Along the Mediterranean there is locally - especially throughout Palestine - a coastal plain. This is succeeded inland by a belt of upland country running from north to south, forming the range known as Lebanon in Syria and the hill-country of Western Palestine further south. This is succeeded by a deep trench, also with a north-south trend, occupied by the Orontes in the north and the Jordan with the Dead Sea in the south. This trench is succeeded in turn by another range comprising the Anti-Lebanon of Syria and the hills of Moab or Transjordanian further south. On the landward side stretches the plateau. Mention must also be made of the mountain range in the extreme north-west of Syria with a north-east to south-west trend, reaching the coast south of Alexandretta, which is probably an offshoot of the Taurus Chain and is known as Amanus. This lofty range separates the Plains of Cilicia from Northern Syria.

\* \* \* \* The even north-easterly slope of the Arabian Plateau, so contrasted with the dissected slope of the Indian Plateau, is the result of the aridity of the climate and the absence of permanent streams. The great barriers of the region are not mountain chains - excepting of course the bounding heights on the north - but the broad waterless tracts of desert. The rivers are naturally restricted to the damper fringes. The great twin rivers, the Tigris and Euphrates, the life of Iraq, rise amongst the snowy heights of the Armenian Knot. In the west the Orontes and the Jordan are the only two large streams.<sup>1</sup>

\* \* \* \* Although Arabic is the common language of Arab Asia, it is very far from the truth to suppose that the Arab race is the sole race of the region. The geographical position of Palestine, Syria and Iraq, on the great routeways of the ancient world is, in itself, sufficient to have caused a great diversity of races. Peoples from outside, such as the Egyptians, Greeks and Turks, who from time to time have dominated the lands, have frequently left a permanent impress of their rule.

The Arabs are the natives of Arabia, and, bearing in mind the aridity and poverty of their land, they are remarkably numerous. Normally they are organized as small tribes ruled by a chief or sheikh, and it was only in the early days of Islam that they moved as a nation and placed nearly all the lands between India and the Atlantic under their sway. At the present day the Arabs are found all along the southern borders of the Mediterranean and throughout Arabia and Syria. Their language, being the language of the Koran, tends to be coextensive with the Mohammedan religion.

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<sup>1</sup> L. Dudley Stamp, Asia, (5th ed; New York: E.P. Dutton & Company, Inc., 1939), p. 106.

The Arabs fall readily into two classes - the settled, or Hagaruin, and the nomadic or Bedouin. The settled Arabs include the Syrians, but the Syrians are actually of very mixed blood. They may be defined as including all these peoples, except Jews, who spoke Aramaic at the beginning of the Christian era. They now speak Arabic, and from time to time there have been fresh infusions of Arab blood. Indeed, it is common among highclass Syrians to claim descent from definite Arab tribes. A large proportion of the Syrians are Christians.

The Bedouin Arabs are still almost entirely nomadic, though amongst the northern tribes a few practice agriculture, pitching their long black tents amongst the fields and migrating to mud villages in winter. The pure Bedouin Arabs are fine, tall, well-built men with dark skins, dark piercing eyes and black hair. They are brave, hardy and hospitable, but simple in their habits and food. The latter consists chiefly of bread, milk, dates and a little goat's flesh.

A few Turks are found in Northern Syria and Mesopotamia and the Kurds are closely related to them. Armenians are scattered through the cities of Syria as traders, and during the War large numbers came to Mesopotamia as refugees. The Jews are in the main restricted to Palestine.

**COMMUNICATIONS.** Excluding the northern routes through Russia, the possible lines of communication between Europe or Egypt on the one hand and India and the Far East on the other, which were available to the ancients, are not numerous. The passage through the complex of mountains of Armenia was extremely difficult, and we may concentrate attention on two groups of routes - (a) the Red Sea Routes, (b) the Persian Gulf Routes.

(a) The Red Sea Routes. Glancing at the map, one would say that one obvious route to India, available to the ancients, was across the narrow Isthmus of Suez and via the Red Sea - exactly the route followed to-day to India via the Suez Canal. Curiously enough, the Suez route was dangerous in ancient times and traffic went up the Nile to Thebes, east across the desert to a port on the lower Red Sea coast. It will be noted that the Suez Route to India is to-day controlled by the nation which commands Suez on the one hand (Egypt) and the nation commanding the southern entrance to the Red Sea on the other. Here Great Britain holds Perim Island in the Straits of Bab-el-Mandeb and the Aden coast; France the opposite coast of Africa.

(b) The Persian Gulf Routes. Because of the mountains on the north and the desert on the south, the routes from the Mediterranean to Mesopotamia and the Persian Gulf had of necessity to pass by the 'Syrian Saddle', otherwise referred to as the 'fertile crescent' or the 'piedmont', since it lies at the foot of the mountains. From the Mediterranean three lines of approach converged on Aleppo:

- (1) From Cilicia across the Bogtcho Pass to Sendjeik and Aleppo.
- (2) Alexandretta across the Boilan Pass to Aleppo (Alexander's route after the Battle of Issus in 332 B.C.)
- (3) Mediterranean coast via Orontes Gorge to the plains of Antioch and Aleppo.

From Aleppo the route went across to Zeugma on the Euphrates (from which there was a certain amount of river traffic) and thence to Mosul (Nineveh) and Babylon. Whilst emphasizing the importance of these routes, for the control of which Egypt, Babylon, Assyria, Persia and Greece struggled in the past, one must not ignore the caravan trade across the desert country south.

Turning to modern times, we find Britain and France in control of the Red Sea route; hence the bold bid of Germany for the control of the Syrian Saddle and the Persian Gulf route. There is not need to retell the well-known story of the 'Berlin-Baghdad' Railway.<sup>1</sup>

Arabia proper is a great peninsula with an average breadth of 700 miles and a length of 1,200 miles, having thus a total area of about 1,000,000 square miles, or considerably greater than that of the Indian peninsula. The Arabs usually refer to their home as the 'Isle of the Arabs' emphasizing thus the geographical isolation of the peninsula. With the Red Sea on the west, the Arabian Sea on the south-east, the Gulf of Oman and the Persian Gulf on the north-east, Arabia is cut off from the rest of Continental Asia on the remaining side by a great desert barrier, the desert of the northern Nejd.

Arabia, properly speaking, extends roughly as far north as latitude 30° or 31°, though the great triangle of the Syrian Desert of the Hamid, which the ancient geographers included in Arabia, lies to the north of this line.

The broad physical features of the peninsula are already familiar - the plateau with its high western edge overlooking the Red Sea and its long, gentle slope to the Persian Gulf. Actually the edge of the plateau is higher than its function merely as an edge of elevated block would warrant. Peaks in Midian and Yemen rise to over 8,000 and even 10,000 feet and the western and southern edges of the plateau appear as mountain ranges, not only from the sea, but also from the interior. This is due in part to the presence of volcanic piles, or of lava-flows resistant to denudation which have protected the underlying sandstones and in part to the different nature of denudation at high levels producing jagged outlines which contrast with the sand-stream plateau slopes. The recent explorations of H. St. J. Philby have shown that the general eastern slope is not as simple as was supposed; a great ridge of highland 4,000-5,000 feet high, and with granite peaks rising to over 6,000 feet, crosses the heart of the peninsula from northern Yemen to Sodeir. Most of the sand of the plateau is derived from the

<sup>1</sup>Ibid., p. 111.

disintegration - largely due to the alternate heating by the sun's rays and the cooling at night of the rocks - of mesozoic sandstones which were deposited over the ancient crystalline massif.

There are no really perennial rivers in Arabia; their place is taken by countless river-valleys (wādīs) which carry water after rainstorms. The high western edge of the plateau is naturally the main water-parting. The wādīs which descend to the Red Sea have deeply eroded beds which form a great obstacle to communication from north to south; at the same time the waters are useless for navigation or irrigation. The wādīs which descend towards the Persian Gulf (though often never reaching it), on the other hand, are long and shallow, their floors are often so slightly depressed below the general level that the traveller may cross them without being aware of their existence. Whereas the western wādīs to the Red Sea are obstacles to communication, the wādīs to the east are of distinct value. Though they may not carry permanent surface water, water is at all times present below their beds and may be reached by wells, and where the water level rises sufficiently near the surface strings of oases are found. These broad, shallow valleys are characteristic of Arabia; the 'badland' type of desert scenery so common in many deserts - as in parts of Central Asia - is rarely seen.

Climatically, the great feature of Arabian conditions is dryness. Intense dryness makes the heat of the day comparatively bearable and, generally speaking, conduces to cool nights. The healing virtues of dry desert air have become proverbial, but when one visits the fringes of dry areas and sees the effect of clouds of dusty, germ-laden air in the diseased eyes, nose and mouth of dwellers near by one wonders why. It is in the heart of a vast, dry tract such as Arabia that the familiar statement is justified; conditions seem quite unsuited to germ life; human fertility is great, mortality is low, and longevity is the rule. The limiting factor in the multiplication of the human race is food and the advantages of the healthy climate tend to be outweighed by the shortage of food. Much of Arabia may be described as truly rainless. Yemen profits by the summer monsoon, heavy storms penetrate along the western watershed to beyond Mecca. Northern Arabia, not being shut in by mountains from the Mediterranean, gets slight winter and spring rains from that region. The heights of Oman in the south-east also attract a slight rainfall. It is the heart of the plateau which is rainless.

Arabia lies in the world belt of greatest heat in summer; the hottest regions are naturally the littoral tracts of Oman, Yemen, the Red Sea and Gulf Coasts. In winter, snow usually appears on the highest crests of the northern heights, and occasionally on the surface of the plateau in the extreme north. The heights of Yemen and the western ridge have frost but not snow.

The dweller in more favoured lands might be tempted to regard the whole of Arabia as desert, with a few scattered oases. Actually, however, one should distinguish:

- (1) True deserts.
- (2) Dry steppes or steppe-deserts.
- (3) Oases and cultivated land.

True deserts, wherein vegetation is absent, and where all fodder and water necessary for the journey from oasis to oasis must be carried, are of four kinds:

1. Dahanah is comparatively hard gravel plain, covered at intervals with sand belts of varying width. Ground water may be present at depth, but dahanah may elsewhere form a complete barrier.

2. Nefud is a continuous area of deep gravel or sand, formed by wind action into high dunes.

3. Ahqaf is very soft dune country and cannot be crossed except in narrow belts, owing to the extreme physical labour involved. It is rare in Arabia.

4. Harrah is the name given to tracts of rough lava surface which cuts the feet of man and animals to pieces.

In the south there is the huge Ruba 'al-Khali (The Abode of Emptiness) termed also in the vulgar tongue Er-Raml, 'The Sand' par excellence. This vast stretch, 400-600 miles wide - dahanah and nefud in the east, ahqaf in the west - completely cuts off the southern coasts from the heart of Arabia. The desert was crossed for the first time in 1931 by Mr. Bertram Thomas. A tongue of this great desert stretches northwards and cuts off Najd in the centre from the Persian Gulf. It is mainly of dahanah type and northward passes into the nefud which separates the Syrian steppe-desert from Central Arabia. The important point to notice is that the deserts stretch as a great semicircle around the heart of the peninsula.

Dry Steppes or Steppe-deserts, which may be likened to what we have elsewhere called by Sir Aurel Stein's name of 'tame deserts', occupy most of the rest of Arabia. They are vast tracts, with a hard or dusty surface, level or undulating, which justify the use of the designation steppe by having occasional natural water-holes and permanent coarse vegetation in hollows. The inhabitants include camel-breeding nomads and what to a European would seem useless desert supplies sufficient sustenance to maintain life amongst these frugal folk.

The Oases and Cultivated lands of Arabia lie in two tracts:

- (a) The heart of Arabia, surrounded by a ring of deserts.
- (b) The tracts along the coasts and margins.

In the heart of Arabia, in the region sometimes designated Najd, lie three groups of more or less connected oases. Jebel Shammar receives the drainage from two ranges and includes the towns of Ha'il and Baid and a score of villages - a real oasis surrounded by desert. Qasim

owes its fertility to constant ground water from the great Waddi Rummah and includes the large settlements of Ansizah and Doreidah - the largest and most commercial towns of Central Arabia - and about fifty other settlements. Hafd is by far the most extensive group and hence the frequent use of this name to cover the whole of Central Arabia. The chief town, Riyadh, lies in the central oasis, but there is a large series of settlements.

The outer ring of fertile tracts reaches its greatest importance in the Yemen and the south-east. On the east are the settled tracts of Masa; along the shores of the Gulf of Oman is the fertile littoral of the Batinah district of Oman. The south coast is almost entirely desert until longitude 50° is reached. Then the coastal tract becomes fertile in patches and vegetation runs inland up the valleys towards the plateau. In Yemen, along the shores of the southern Red Sea, there is a low coastal strip, fertile where the wadis reach the shore, and behind it are towering slopes rendered fertile by the monsoon rains. Even over the crest, the rainfall is sufficient to give good steppe land. This was the part of Arabia known to the ancients as 'Arabia Felix', the home of the celebrated Mocha coffee. The excellence of the coffee, grown on the slopes, is said to owe a great deal to the rising mists which protect the trees from the heat of the day. Northwards along the Red Sea, fertile tracts become fewer and the interest of the Hejaz lies in the celebrated Moslem sacred cities of Mecca and Medina - both utterly different from other Arabian cities in that they depend for their existence on pilgrims. Hejaz, as a whole, is divided into northern and southern halves by a huge uninhabited stretch of hurrah, lying between Medina and Mecca and stretching to a point on the Red Sea. Of great importance to Mecca is the near-by oasis of Ta'if.

The population of Arabia can only be guessed at - it is possibly between 5,000,000 and 7,000,000. Of this total there are probably 2½ million along the Red Sea coasts (including over 1½ million in Yemen); 1½ million in the rest of the coastal settlements (including a half a million in Oman); half a million in the central oases, and about a million nomads. It is the nomadic folk who have influenced the history, not only of Arabia, but of the whole world, out of all proportion to their numbers. There is a virtual impossibility of increasing the food-producing area anywhere; climatic conditions favour the growth of a virile and fertile race. With a high birth-rate and low death-rate there are two possibilities, emigration or death from starvation. The surplus population usually remains for some time within the peninsula, gradually accumulating and tending to form new nomadic groups, which try to establish rights to wells and pasturage already occupied. At last the action of some tribe or tribes, or sheer want, forces them out, with all their predatory habits and defective experience of settle life, towards the borders of Egypt, Syria or Mesopotamia. In ancient times the Semitic invasions of Babylonia, the

Canaanite invasion of Syria, the Hyksos invasion of Egypt, and the Hebrew invasion of Palestine are all to be explained in this way: in more recent times the settlement of north-western Africa. Hardly any part of the peninsula is unaffected by the features of life on steppe and desert, agriculture is impossible in three-quarters of the area; even the single family must keep on the move in order to live. Yet so is these wandering folk, with their fierce struggle against nature, their distrust of their fellow-man, who may rob them of their mess of pottage, who have given the world the great philosophic religions of Judaism and Mahomedanism, and obviously to some extent, Christianity.

Though more numerous, the settled folk of the oases are of less real interest. Among the products of the oases, the chief food is the date, though grain is grown in considerable quantities in the larger oases. The fine Mocha coffee is exported in small quantities, the cheaper Brazilian or Javanese being imported for home use. Gums, hides and wool are produced and exported in small quantities. The breeding of camels is carried on by the nomads, and camels are sold to surrounding settled peoples; the breeding of the famous Arab horses (chiefly in Nejd) is less important. Asses are only of slightly less value as means of transport than camels and are bred in large numbers in Nejd, Yemen and Nejd.

Nearly all the inhabitants of Arabia are Moslems, but adhere to several sects. The great annual pilgrimage to Mecca (and to a less extent, to Medina) is a feature of the greatest importance. The annual influx is estimated at between 100,000 and 500,000, and the passage of pilgrims is the occasion of much trading and is also, unfortunately, the great cause of the spread of epidemic diseases. The pilgrims follow four chief routes:

1. From Damascus to Medina and Mecca. The railway from Damascus to Medina at present (1935) only functions as far as Khan in Transjordan. A motor route from Jahaif to Medina was opened in 1935.
2. From Cairo via Sinai and Yambo<sup>1</sup> to Medina or Mecca.
3. From Baghdad through the heart of the peninsula via the oasis of Bah'li.
4. By sea to the port of Jiddah (Jodda) - this is by far the most important route now.

Before the War much of Arabia was, at least nominally, under Turkish influence or constituted part of the Ottoman Empire. Since 1913 the Arabs have really been working out their own salvation unchecked by foreign control. Their now (1936) exist two independent kingdoms - the Kingdom of Saudi Arabia (Nejd and Nejd) and the State of Oman. The Sultanate of Kuwait is under British influence; the south coastal tracts come under the British Protectorate of Aden; the Bahrain Islands are British; the Hadramaut is loosely under British influence, whilst the Kingdom of Yemen was defined by Treaty with Britain and India in 1934.<sup>1</sup>

<sup>1</sup>Ibid., p. 138.



## APPENDIX II

### ARABIA YESTERDAY AND TODAY

Toward the end of February and during the first weeks of March, 1945, the press, radio, and cinema chronicled the meetings of the President of the United States and Kings Farouk, of Egypt, Haile Selassie of Abyssinia, and Ibn Saud of Saudi Arabia aboard one of the United States battleships in Bitter Lake in the Suez. While this event may not strike the fancy as one of great importance, the fact remains that attention is being given or conditions are forcing attention to be given to the Near East.

In 1939 nationalism as we conceive and practice it was, in the Near East, and still is, in an adolescent stage, and nobody loves an adolescent boy except his mother, who sees him as her baby or as the wished-for strong man. A survey of conditions reveals that there was interest in the externals of civilization and culture but little consideration of permanent values. Independence meant independence of imperialist powers, especially Britain and France. Perhaps from an ostrich-like viewpoint the Near East in its wishful thinking may have desired independence from outside powers and yet remained fettered to habits and instincts of a "lower" status. It was and still is possible and fashionable for the rich and the powerful to exploit the poor and the weak; among the "Arabs" this is playing with dynamite.

Arab history records the "Era of the Fum-tom." It can happen again; when the proletariat in the Near East becomes self-conscious and arises, as in all probability it will, the massacre of the privileged classes will not offer a pretty spectacle for contemplation. Did not the German general staff see just this, and do we not at this date simply stay the evil day a little longer?

The problem will be to sponsor and support an economic and social structure there that will forestall the causes of future conflict; the alternative is to ready our taxes and human sacrifice for 1970.

This term -- "Near East" -- appears to be one which is seldom defined but often used; it is an indefinite geographical expression. It has been used loosely to signify all the lands between Libya and India, while some writers use it to refer to the countries within Asia which border on the Mediterranean, and some even include India. Then one will find the terms "Middle East" and "Levant" used for Palestine, Iraq and some adjacent areas; however, one finds the term Middle East used at times to designate North Africa and even India. Similarly the term "Far East" is used loosely. Since the term "Near East" does not signify any definite or clearly described place on the map, the term will be used sparingly. In its place Southwestern Asia will be spoken of. Southwestern Asia should concern us also in order that we may acquire a sense of proportion and thereby become humble. Traditionally it is the ancestral home of all of us unless you wish to accept some other idea concerning the origin of man.

Here was located the garden of Eden, where as tradition goes man had everything in his favor and was given his great chance. Eden was the Babylonian name for plain. In this Near East we see the remnants of more than a dozen civilisations; Sumerian, Accadian, Amorite, Hittite, Assyrian, Chaldean, Parthian, Greek under Alexander, Roman under Trajan, Abbasid, Mongol under Genjis Khan, Neo-Persian, Turk, and British.

A cross section of history taken about the year 2000 B.C. reveals that there are two great nations, both in this part of the world. Egypt has embarked upon her twelfth dynasty -- The Middle Kingdom (Egyptian) Era. The three colossal pyramids at Gizeh are approximately five hundred years old. The capital has moved from Memphis to Thebes. The followers of Amon have a developed and a fulsome ritual. The classical age of Egyptian Literature is at hand, a literature no longer purely religious; fiction begins with the story of Sinuhet. Egypt stands with a developed agriculture, with dams, canals, reservoirs. Government, law, and mathematics are developed already. She has a navy for both commerce and war. In two hundred years, more or less, Egypt is to campaign in Palestine. In Mesopotamia Babylonia has become a reality built upon the remains of the Sumerian civilization, which had developed war chariots drawn by donkeys twelve hundred years before the Egyptians, who organized the phalanx of Alexander, who developed commerce, banking practice, standard weights and measures, written contracts, who fixed prices and wages and were the first to codify law in writing, who contributed the sexagesimal system. Hammurabi, the sixth king of the First Babylonia Dynasty, is soon, within fifty

years (c. 1950), to formulate his code, the predecessor of modern codes in form and content, although this Memorable code has for its fountainhead that of Dracon and of Dungi, who codified the statutes of Ur.

Five hundred years later Egypt is still great; she had developed a literature and is engaged in international commerce. The horse has been introduced by the Hyksos. She has fought in Palestine and Syria, reaching the Euphrates. She is now to produce her Napoleon, Thutmose III (1801-1487), who in nineteen years and seventeen campaigns conquered Palestine, Phoenicia, and Syria. Amenophis IV (Ikhnaton) (1579-1558) has envisioned a single god of the whole world. Babylon has absorbed the Sumerian and Accadian cultures; their script has left us amazing tablets. A powerful priest cult has emerged which denotes a high degree of centralization. Assyria has become independent (Shamshi-Adad c. 1850). Babylon has had her Hittite raid and conquest by the Kassites and is to be ruled by the Kassites for five hundred and seventy years. Assyria is hard pressed by Hittites, Egyptians, and Hurrians, but is able during a period of less than five hundred years to consolidate her position through campaigns in all directions. For a space of time these two are to exist side by side and then play at the game of alternately ruling each other.

After another five hundred years (1000 B.C.) Egypt has had her Ramses I-III and is in her twenty-first Dynasty. She has defeated on land and sea the attacks of the Peoples of the Sea, (Sardinians,

Sicilians, Ashaena, Lycians -- a movement of Aegean peoples connected with the war against Troy reported in Homer and which brought the end of the Hittite Kingdom). The Philistines have settled on the Palestinian coast. Egyptian power in Asia becomes nominal. Moses (c. 1225) has led a revolt of the Joseph clan in Egypt and brought it to the oasis of Kaash, living among the Canaanites, ten tribes, without central government, worshipping Jehovah and regarding themselves as parts of Israel. In Babylon Nebuchadnezzar I has been defeated by the Assyrians; for a hundred years Babylon has been invaded by Aramaic tribes. In two hundred and seventy-one years Babylon will pass over to Assyrian domination (729 B.C.) and is to remain a part of the Assyrian Empire until 625 B.C. By 800 B.C. Assyria appears predominant, having forced others to the wall. But it remained for Tiglath-pileser III (745-727) to force Israel to submission, take Damascus which had been under Egyptian rule (c. 1450-1350, Hittite 1350-1200, Egyptian 1198-1187 and emerged as a Kingdom c. 1000 to 732), and to consolidate his conquests by deporting entire populations -- he needed lebensraum.

By 500 B.C. Egypt has attempted and failed to regain her Asiatic empire, and has attempted and failed (according to Herodotus) to connect the Nile with the Red Sea by means of a canal. She has passed to Persian rule. For over a hundred years there has been a disintegration of the Assyrian empire. The Kingdoms of Israel and Judah have ceased to exist; they are passing through Babylonian and Persian rule (Babylonian 586-538, Persian 538-332); they have yet to anticipate Alexandrian rule (332-323), the Ptolemies of Egypt (323-198), and the Seleucids (198-168). Damascus is to be revived by the Persian Kings, conquered by Alexander, Ptolemy I and the Seleucids

(301); Cyrus (560-530) has founded the Persian Empire which extended from the Hellespont to the Indus, from the Caucasus to the Indian Ocean.

If we cast a glance at two other sources of culture and (or) civilisation, Greece and Rome, we find the much questioned date of 1194 B.C. for Fall of Troy, about 1104 given for the Dorian invasion of Greece, 1100-850 for the Aeolian and Ionian migrations, 750 as the probable period of Hesiod and 750-594 as the Age of Aristocracies after the Greeks had settled the Thracian peninsula. Rome emerges into history with a king, limited by a senate of one hundred, advisory, and a popular assembly of clans (curiae), the *comitia curiata*, which conferred upon the elected king his imperium, and with the early personalities Tarquinius Priscus, Servius Tullius, and Tarquinius Superbus, who span the period from approximately 616 to 510, may represent the Etruscan domination in Rome. The traditional date of the Founding of the Republic is given as 511 or 509 B.C. When can Western European Civilization be said to have commenced? -- probably about 550 B.C. or 550 A.D. Even in the foregoing sketch no consideration has been given to empires which had persisted for centuries, the Hittite which was in the stages of formation by 2000 B.C. and covered Asia Minor for some of the following centuries. The Iranian civilization has not been contemplated, a civilization which may precede both the Sumerian and Egyptian and which is said to have developed an art and architecture which easily rivaled the Greeks.

The truth is simply that those of Teutonic blood can look back to 500 A.D. and even a little later and find their ancestry in the role of raiders, roughneck and generally uncivilized. For those of English antecedents a decided progress has been made since 1066. And it was a very long time before our civilization could compare with any of the Southwestern Asiatic civilizations of a millennium or two before. It is only the Jews (Semites), Greeks, and Chinese who were culturally potent when the Christian Era began.

Another reason which can justify an interest in Southwestern Asia is that three similar, though divergent, religions find their birthplace in those regions. Abraham is reputed to have "heard the call" at Ur of the Chaldees on the Euphrates in Iraq; you will follow him to the promised land, his descendants to Egypt, back again, and through a part of Arabia where the Law was received. Israel, in the Near East, was the first of all people to place religion first in all of life and to place an emphasis which some find well to return to after being supersaturated with Greek philosophy. Today there are 10,162,089 adherents to this religion. In the Near East Christianity was born and according to some reached its finest consummation. On Easter Sunday is observed the resurrection of a thirsty, bleeding, and forgiving Jew, whom so many of the 595,860,813 adherents of Christianity profess and so many have betrayed. And five times a day there are 220,978,940 Moslems who with their faces in the dust turn to a city in Southwestern Asia and pray to Allah.

A realistic interest in Southwestern Asia is not due to the fact that it is a land of "milk and honey" but of other liquid potentialities — oil. The world's longest pipe line was constructed connecting the wells of the Iraq Petroleum Co. in the Kirkuk region to Haditha on the Euphrates, to Rutba in Iraq Arabi in Arabia and thence to Haifa on the Mediterranean. The line from Kirkuk to Haifa is 617 miles. From Haditha a line runs through Syria to Tripoli. From Kirkuk to Tripoli is 831 miles. Haifa in Palestine is under British control, while Tripoli, the northern terminus, is in Syria and under French control. The first oil went through in 1924, and from 1924 to January 1942 twenty-four million tons were delivered. Eighty-three million dollars has passed to the Government of Iraq in royalties, rent, etc., the highest royalty percentage in the world. Iraq's total annual revenue is in the neighborhood of six million pounds, oil royalties supplying two millions.

The percentage of ownership and interests of the Iraq Petroleum Company is as follows:

D'Arcy Exploration Company, Ltd. (Anglo Persian Co., Ltd.)	23.75%
The Anglo-Saxon Petroleum Co., Ltd. (Royal Dutch Shell)	28.75%
Compagnie Francaise des Petroles (French group)	23.75%
Near East Development Corp. (Standard Oil Co., N.Y.) Standard Oil Co. of N.Y., Gulf Refining Co.	23.75%
Participations and Investments, Ltd. (C. S. Gulbenkian, et. al.)	5.00%
	<hr/> 100.00%



Recently a concession on the opposite bank of the Tigris River was granted the British Oil Development Co.; it is reported that this company also plans to lay a 500 mile pipe line to the Mediterranean.

Oil fields may be divided into two main classes according to their location within or outside of the territory of the controlling interests. Most of the oil fields in the United States are being exploited by American capital, the Royal Dutch Shell being the only important foreign company drawing on the crude oil supplies and engaged in important marketing operations in this country. At present Russian oil resources are being developed exclusively by the Soviet government through its oil trust, the Soyuzneft. Apart from these two important exceptions, most fields of the world including even the European fields of Rumania and Poland (Galacia), are being exploited by foreign capital interests, mainly American, British, Dutch and French.<sup>1</sup>

The Iranian oil field at the head of the Persian Gulf (The Anglo-Iranian Oil Co.) is the richest single oil field in existence. The normal present yield was 86,250,000 barrels, most of this from Haft Kel and Meshid-I-sulaiman fields.

The Bahrain Petroleum Company (Standard Oil Co.) produced some thirty million barrels and the seventy-one wells producing have made the islands independent from their former dependence upon the pearl industry. In 1933 King Ibn Saud despite offers from British and Japanese interests granted the Standard Oil Co. of California a concession for a term of sixty years and an area of 100,000 square miles. This area later was enlarged and according to the World Almanac of 1942 now covers the entire kingdom. Drilling commenced in

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<sup>1</sup>Erich U. Eisemann, World Resources and Industries (New York: Harper & Brothers, 1935)

1935, and oil was brought in at about 5000 feet in 1939. About twenty wells are now producing with an output in 1940 of approximately nine million barrels. The Arabian-American Oil Company (California Arabian Standard Oil Company) (amalgamated with Texas Corporation, SOG) has an investment in Arabia of about thirty million dollars. Royalties have made Ibn Saud independent of the revenue derived from the pilgrims to Mecca, formerly his chief source of income. The Dammam field on the mainland of Arabia near the Bahrain Island fields had a normal prewar output of approximately 6,000,000 barrels. The Arabian American Oil Company's daily output is 57,000 barrels.<sup>1</sup>

Raw materials, both mineral and agricultural, are absolutely necessary in the world of today. In the past some nations have achieved conspicuousness or greatness in art or philosophy, but in this century national greatness apparently rests, too much, on coal, oil, iron, copper, etc. It was Lord Curzon who remarked that during World War I the Allies "floated to victory on a sea of oil." Are they not trying, during World War II, to fly to victory on a cloud of gasoline?

This dynamic interaction between energy and machine resources differentiates the modern post-mechanical revolutionary world from ancient civilizations. The old historical records tell of the use of minerals, particularly metals. Knowledge and control of supplies and techniques have been factors in determining or affecting the course of

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<sup>1</sup>Waters of Mecca, "Petro", XLV (March 5, 1945), pp. 21-22.

history. S. Adams in The New Empire, states, "Egypt became a world power coincident with the acquisition of the Maghara copper deposits of the Sinai Peninsula about 4000 B.C."<sup>1</sup>

The knowledge of the source of tin, said to have been carefully guarded for more than 200 years, and the monopoly in the trade so acquired by the Phoenicians, materially aided in building up their supremacy and in part enabled the Carthaginians to control the tin commerce of the world.<sup>2</sup>

The Roman Empire reached its supremacy after it attained political and industrial control of the mineral resources of Spain.<sup>3</sup>

It was the possession of iron-tipped spears that enabled the Assyrians to 'come down like a wolf on the fold,' and to lay under tribute proud, peaceful, prosperous cities of the coast whose merchants and artisans knew brass and bronze but were unacquainted with iron.<sup>4</sup>

The development of modern science is dependent upon the use of metals and mineral fuels. Metals can be worked and manipulated with greater precision than wood, and precision is vital to the advanced developments of science. The increased productivity of modern industry has made possible the accumulation of surplus funds without which the cost of modern science would be unthinkable.

<sup>1</sup> S. Adams, The New Empire (New York: Macmillan Company, 1912), p. 4.

<sup>2</sup> G. Smith, The Cassiterides (London: Longman, Green, 1888)

<sup>3</sup> J. W. Furnace, Mineral Raw Materials (Washington, D.C.: U.S. Bureau of Foreign and Domestic Commerce, Trade Promotion Service, No. 78)

<sup>4</sup> H. R. Bain, Place of Minerals in a Power Controlled World, (Berlin: World Power Conference, 1930), p. 7.

At the moment imperialism and colonization, empires in the form of agglomeration of exploited colonies are over, and now we face the alternative of transformation or disintegration. Eighteenth century individualism, nineteenth-century nationalism, and Mid-Victorian imperialism are equally out of place. If the benefits of regional specialization and world-wide exchange of products are to be shared on an equal basis, neither the scheming of nationalistic-minded statesmen aiming at the promotion of economic and political interests of individual nationalities, nor the self-satisfied, passive dependence on the fabled workings of so-called economic law offer a solution, a lasting solution to present problems. The problem is bewildering in complexity and magnitude in world-wide economic planning. Unless a new system is introduced which will strip nationalistic political power of its meaning, the "have nots" will not stand by and watch the "haves" at their feast. Counter-colonization will be the answer to colonization; rising nationalism will stifle vested rights; the Orient will go industrial or go down in the attempt. The rationality can be questioned, but when has history been and when is it a rational process?

Southwestern Asia appears as a land of frustrations, as a mixture of "races" and an admixture, the crossroads of empire, and a field for exploitation. Edward J. Byng states:

Today, the Arab world lags behind the West, not in culture and spirituality, but in science and industry, that is, in civilization. Why?

Because it has lost its independence, is dominated and exploited by the West.

Civilization can just barely survive under foreign domination, but cannot progress under it, because

it lacks the spiritual incentive of liberty. The Spirit is a plant that needs the fresh air of freedom. Conversely, in the course of history we see how again and again, the genius of a people soars to hitherto unequalled heights when the fetters of foreign domination fall from it. Hardly had Greece shaken off the invading armies of Achaemenid Persia, when it rose to the apogee of its civilization in the great fifth century B.C. Immediately after the liberation of the Netherlands from the Spanish yoke, Dutch vitality blossomed forth in the creation of a great empire.

The East, including Islam, is by no means in a state of decadence. Tremendous creative energies will become manifest as soon as the Atlantic Charter has really ceased to be merely Atlantic, and is fully applied to Africa and Asia.

The governments of the Western powers have consciously and methodically prevented the industrialization of the Arab and non-Arab East. They have administered those huge regions, not from the viewpoint of the prosperity of the natives, or even of the joint prosperity of the governing and the governed, but primarily in the interest of the Western imperialist powers. The East was and still is, not a partner of the West, but an object of methodical exploitation by the West. Major industrial colonial powers can exploit the Oriental markets for their own benefit. To the West, the East is above all a source of raw materials, obtained largely without compensation to the natives except labor wages and conditions which would land the same employers in jail at home. The living standard of the natives, their nutrition and housing, often is actually such that millions are chronically underfed and their physical growth stunted.

The Oriental's conscience, his lack of the "touch" of handling machinery, are a time-honored fable. What the Occidental takes for conscience in the East is absence of haste, not absence of energy. The statement that the Arabs - or, for that matter, any other people with an old civilization of its own - are unable to acquire skill in modern science and industry is foolish. Let it be said again: by repeating an untruth we make it not a truth but a prejudice.

Inside our own generation, the Turks and the Russians have given the lie to the same dogmatic claim that they are unable to handle machinery, to become machine-conscious. Once they had the machinery, and the chance to build up industries, the Russians and the Turks both showed that they are the equals of the West in modern civilization also.

So firmly rooted was the dogma of Russian incompetence in matters of industry and engineering that the Russians themselves accepted it. They used to consider the Germans paragons of perfection in these fields, and referred to them as khitri nyerote — "the smart Germans". There was a saying in Russia that even the Moon had been made, and was being constantly renewed, in Kazan. Following the Second World War, the Moon will probably be made in Magaitogorsk or Irkutsk, and its light made available to the Germans by special license from the Kremlin.

When I first met the late Kemal Ataturk, founder of modern Turkey, in Aleppo, in 1917, he was one among many major generals in the army of the "decadent" Ottoman Empire. Ten years later, Ataturk was the chief executive of a thoroughly modernized country. In another memorable conversation with him, this time in Ankara in the summer of 1928, I asked him point-blank whether he did not think that the pace at which he was introducing reform after reform would arouse bitterness and opposition among his people.

Ataturk replied: "Don't underestimate our sense of progress. All we want is liberty. We are neither better nor worse than anybody else. Up to now, we were denied political and economic freedom. We have established it through our own strength and vitality. Unless we are attacked again, we intend to be a peaceful neighbor to other nations. We will vie with them, not on the battlefield but in the field of human progress."

The voice was Ataturk's. It was the entire East that spoke.

The first task of the Western powers in the postwar East lies in the field of ethics. The East generally, and the Arab East with it, must be made a partner, cease to be an object of exploitation for the sole benefit of Western political overlords.

I repeat that no individual Western nation is to blame for present and past methods of domination in the East. These methods are inherited, traditional.<sup>1</sup>

In contrasting the above quotation with another which is submitted herewith it is interesting to note that Mr. Byng, the writer just quoted, has had extensive experience in Southwestern Asia, if one takes his introductory remarks at face value. He draws from Moslem and non-Moslem, Arab and non-Arab. He was for twenty-six years military commander at Aleppo, Syria's largest city. Mr. Byng points out that our Western picture of Islam and of the Arabs is the result of thirteen hundred years of religious propaganda, that a great enemy of calm and correct observation and unbiased evaluation of peoples and problems is emotion which often springs from its twin habit: generalization, another great enemy of spiritual growth.

M. Andre Servier furnishes another point of view in his Islam and the Psychology of the Musulman.

That France is a great Mahomedan Power may be a commonplace, but it is a truth that ceases to be a platitude, however often repeated, when we remember that our country holds in tutelage more than twenty million Mahomedans . . . . Islam is not only a religious doctrine that includes neither sceptics nor ronegades, it is a country; and if the religious nationalism, with which all Musulman brains are impregnated, has not as yet succeeded in threatening humanity with serious danger, it is because the various peoples, made one by virtue of this bond, have fallen into such a state of decrepitude and decadence that it is impossible for them to struggle against the material forces placed by science and progress at the disposal of Western civilization. It is

<sup>1</sup> Edward J. Byng, The World of the Arabs (Boston: Little Brown & Company, 1944), p. 287.

to the very rigidity of its dogma, the merciless constraint it exercises over their minds, and the intellectual paralysis with which it strikes them, that this low mentality is to be attributed. But even such as it is, Islam is by no means a negligible element in the destiny of humanity.<sup>1</sup>

We have got to realize the necessity of treating over twenty million natives in some better way than tacitly ignoring them. For they will always be the only active population of our Central and West African colonies, whilst their present numerical superiority in Algeria, Tunisia and Morocco cannot fail to increase as time goes on.<sup>2</sup>

In outlining France's foreign Musulman policy M. Servier continues:

The slow work of breaking up the Musulman block which should form the foundation of our policy in North Africa, should also be the basis of our foreign Musulman policy. Islam is the enemy, not because it is a religious doctrine differing from our own philosophical conceptions, but because it is an obstacle to all progress, to all evolution.

We should, therefore, scrupulously avoid any policy that could add to the power and prestige of those nations who are strict adherents to the doctrines of Islam. On the other hand we should support those who have only received a light impression of this doctrine, and whose faith is free from bigotry.

The Turks are the least Islamized of all Musulman peoples.

The Arabs of Arabia, on the contrary, are those who have received its deepest imprint. And naturally so, since Islam is nothing but a secretion of the Arab brain: the dogmatic crystallization of Arab thought. To support the Arabs is, therefore, to help to give a new lustre to Islam, that is to say, to a politico-religious conception of fanaticism and xenophobia.<sup>3</sup>

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<sup>1</sup>M. Andre Servier, Islam and the Psychology of the Musulman (New York: Charles Scribner's Sons, 1924), p. 2.

<sup>2</sup>Ibid., p. 3.

<sup>3</sup>Ibid., p. 262.



It is interesting to note that by the time M. Servier reaches page 265 he has reduced the Moslem population:

From our particular point of view, as a State having fourteen or fifteen million Musulmans under our tutelage, we have no interest in protecting the fanatical section of Islam, whose aim and object is to rid their co-religionists of all foreign domination.<sup>1</sup>

The present Musulman world is divided into two portions: the Turks, but slightly Islamized, devoid of ambition, wishing to live in peace; and the Arabs, penetrated to the marrow by Islamic doctrine, by Mahometan ideas, and cherishing the hope of re-establishing the reign of Islam in all its primitive purity as soon as circumstances permit. This ideal is shared in common not only by the Arabs, but by all strongly Arabized nations, such as the Persians, Berbers, etc.

This being the case, it is clear that if the power exercised by the Turks were to suffer any serious injury, it would be to the profit of the Arabs, that is to say, of the fanatical element in Islam. The result would be an upheaval of the Musulman world, an explosion of fanaticism and xenophobia.<sup>2</sup>

Servier has written an interesting document, even though one may not agree with him in total, even though one may recognize in him a symbiosis of emotion-ridden habits of thought, a collection of allergies, prejudices and hatreds, from which oftentimes spring private and public feuds, bloodshed and war. In his solution for an avowedly great problem, neatly tucked away, we find the nationalistic personal interest for M. Servier's defamation of the Moslem:

The Turks constitute an element of balance; they oppose their indolence to the fanatical aspirations of Arabia and Persia; they form a buffer State between Europe and the Asiatic ferment. So long as they exist we have nothing to fear from Asia. If they were to disappear, their place could only be taken by either European or Asiatics; in either case Europe would be in direct contact with Asia, with the necessary result of a conflict.

<sup>1</sup>Ibid., p. 265.

<sup>2</sup>Ibid., p. 266.

It is our interest, therefore, to make the best of the Turks, to consolidate their power. There is no other people that could replace them in this role, for it is necessary to be a Musulman to act upon Musulmans. . . . The Turks fulfil both conditions, and they are the only people who do so.

The Turks could cause no uneasiness to any European people. They do not dream of any territorial acquisition; content with their lot, they want nothing. Besides, from want of imagination and from their indolent temperament, they are incapable of conceiving any vast project. In short, they will never raise themselves among civilized nations to a position which would permit them at any time to indulge in grandiose ambitions. Their culture is superficial. What they have copied of our institutions is nothing but a caricature; in reality they have shown themselves powerless to rise to the rank of a great modern State, and the organizations they have borrowed from us can only be made to work by the help of European agents. So there is nothing to fear from Turkish ambition; they are as a people politically fast asleep. . . . The Turks are and will remain neutral. The Arabs are and will remain irreconcilable enemies of Western civilization. . . . there is nothing to be done with these fanatics.<sup>1</sup>

Let us leave them to live their own life, to their habits and traditions -- inferior beings in the midst of a civilized world leading the life of barbarians of their remotest ages, they are doomed to disappear. Other races will absorb them.<sup>2</sup>

There are other currents and counter-currents which make this problem and its solution interesting. It is evident that M. Servier reflects the old Cordon Sanitaire policy; also M. Servier makes no claim to any extended period of contact with the Moslem or any claim to diplomatic service in Arab countries. On the other hand Mr. Byng has had an extended period of observation and service in Moslem territories. It is also worthy of note that M. Servier in discussing

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<sup>1</sup> Ibid., p. 267.    <sup>2</sup> Ibid., p. 269.

future French foreign policy toward the "Muslim" writes as if the "Muslim" had no mind, no future, no destiny of his own -- in short no, or at least very few, rights to have his own wishes considered. Servier has failed to consider several important factors of the problem.

The "Arab" problem or "Arab" nation is, so to speak one, of the Versailles orphans sponsored or sired by Colonel Lawrence. In considering national consciousness one might pose the question as to what constitutes "political legitimacy"? Geographical boundaries fail to answer the question. A common language -- this can be refuted by the example of Switzerland. Religion and/or race? -- our own situation in the United States will disprove such a thesis. One might argue that there are ethnic groups with strong national consciousness and characteristic national modes of life, and the question may be posed, are these causes or results? In all probability it is the desire, the will to be a nation that makes a nation. Does not the Pan-Arab movement demonstrate the desire and the will of these peoples to become nation-conscious? The obstacles are many, both foreign and local. If we view the problem from the viewpoint of "race," the "Arabs" of the Arabian peninsula are the purest of them all; the peninsula proper has not been invaded by a European army since 26 B.C., but there is evidence of other racial strains. Then, if the "Arabs" are to be considered as Ishmaelites -- as they claim -- Hagar was an Egyptian. Iraqis have an admixture of Turkish and Persian; Syrians are a mixture of some Hittite, Canaanite, and Aramean. Egyptians have a large dosage of Coptic strain.

Geographically, the Arab territory spreads over Southwestern Asia and North Africa.

The unifying bond of these various peoples and their pride can be found in the Arabic language and in Islam. Islam is the product of "Arab" life and "Arab" thought and the language which traveled with the spread of Islam and to a great extent remained the language of many of its followers. Much has been made of these language-conscious people. It is well known that as the Islamic territorial conquest slackened, a lethargy both political and religious overcame them. The Turks in the thirteenth and fourteenth centuries assumed domination, but by the middle of the nineteenth century their virility had run its course, and the disunited Moslems chafed under the Turkish domination. However, it is here that the soil was prepared for present-day effects.

In 1805 Mohammed (Mehemet) Ali, an Albanian Turk, was appointed governor of Egypt by the Sultan. Mohammed Ali (b. 1769) appears to have been an illiterate tobacco merchant from Kavalla who had gone to Egypt in command of an Albanian contingent about 1799. By supporting the Mamelukes and freely intervening in the intrigues of the Mamelukes and the Turkish officials, he drove out the Turkish governor and established himself, with reluctant recognition by the sultan. After his banquet slaughter of the Mamelukes in 1811 he was supreme. Mohammed Ali appears as a firm believer in western technique and reorganized the country administratively on the French model, organizing state monopolies of trade, introducing the culture of cotton and hemp and developing the irrigation system. In 1828 he acquired the governor-

ship of Crete as a result of his intervention in behalf of the sultan against the insurgents in Greece (1825-1828). Had not Mohammed Ali secured military ascendancy for the Ottoman Government in Egypt following the defeat of Napoleon, and had he not intervened in the Greek question? Now Mohammed Ali had tasted blood and went forward for an empire of his own; therefore he demanded all of Syria as a reward. The sultan refused. By 1832 Mohammed Ali had succeeded in quarreling with the Pasha of Acre and had sent his son Ibrahim with an army to occupy the country. Ibrahim took Acre, Damascus, and Aleppo and defeated a Turkish army at Alexandretta. The sultan appealed to England for aid, but England was busy with the Belgian situation and failed to grasp Mohammed Ali's threat and design. Russia intervened, and with the arrival of a Russian squadron in February of 1833 France and England became alarmed and commenced mediation procedures. It is to be noted that France abetted Mohammed Ali's grandiose scheme and induced the sultan to grant Mohammed Ali all of Syria and Adrana. The sultan tried to hold out on Adrana. The British and French fleets appeared at Smyrna; the Russians landed troops on the Asiatic side of the Bosphorus; and the sultan yielded. Then came the Treaty of Unklar Skelessi with its secret clause relieving the Turks of their mutual aid responsibility in return for an engagement to keep the Dardanelles closed to all foreign warships. France and England interpreted this clause to mean that Turkey was in the future to be at the mercy of Russia.

By 1840 England, Austria, Prussia, and Russia had agreed to force a settlement upon Mohammed Ali -- he was to receive Egypt as an hereditary possession and southern Syria for life, give up Crete, northern Syria, Mecca, Median and to return the Turkish fleet. Mohammed, relying on France, rejected the terms, but England induced the sultan to depose him. Eventually Mohammed Ali returned the Turkish fleet and abandoned his claims in return for hereditary rule of Egypt. In 1843 Ibrahim was formally invested as khedive. Mohammed Ali's dream of empire, though thwarted by the British, who did not relish the idea of a strong, independent empire on the road to India, had other than political contributions. In order to produce Arab leaders, he had stimulated education, established schools throughout the country, with education in Arabic. He left a desire for education in a language-conscious people. Likewise in Syria the torch was lit; the movement began to bring to life again and to cultivate the Arabic classics. Presses were set up, and the beginnings were made, and it is a short line from literary consciousness to political consciousness. Although Mustapha Kamel is best known as leader of the liberal, pacific, cultural program of the First Nationalist Congress (Egypt 1907) it should be pointed out that he established the first Arab National Committee in 1895 at Paris, at an incredibly early age of twenty-one, since he was thirty-four at the time of his death February 10, 1908. The object of the Arab National Committee was to overthrow Turkish rule and to lead the way for national development, this by the means of secret clubs or societies within and without the Turkish army.

When on November 14, 1914, the Turkish sultan Muhammad Rashad as Khalif, declared "Jihad" (Holy War)<sup>1</sup> against all those making war on Turkey or her allies, the Central Powers, events occurred which are not as yet settled.

An allied victory was to the interests of the Arabs. Britain added stimulus to this interest and solicited their active co-operation. In October 1914 Lord Kitchener offered Hussein, then the Grand Sherif of Mecca, a conditional guaranty of independence. Hussein, it should be mentioned, had been a "guest" for years at Constantinople, where it was assumed that he would acquire the Turkish viewpoint, and had been appointed guardian of the holy places at the time of the Young Turks assumption of power in 1909. Negotiations between Hussein and the British Government were embarked upon in 1915. These negotiations were carried on between Sir Henry MacMahon, the then British High Commissioner in Egypt, and Sherif Hussein. This correspondence has been described as tortuous in motive, method, and expression, and it is around this correspondence that the "Arab Jewish" question revolves, a point which M. Servier failed to note and a point which will be discussed presently. Hussein's terms required Great Britain to recognize the independence of the Arab countries south of 37° N.L.; the British did not wish to acknowledge the Arab claims to the Hama-Alexandretta region and to Syria west of Damascus, Hama, Homs and

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<sup>1</sup> C. Smuck Hurgronje, The Holy War "Made in Germany" (New York: G.P. Putnam's Sons, 1915)

Aleppo. The boundaries of the proposed Arab state were accepted with respect to "those portions of the territories therein in which Great Britain is free to act without detriment to her ally, France."<sup>1</sup> Note the proposed bargain offered Hussein by General McMahon.

The districts of Hama and Alexandretta and the portions of Syria lying to the west of the districts of Damascus, Hama, Hama and Aleppo cannot be said to be purely Arab, and should be excluded from the proposed limits and boundaries. With the above modifications, and without prejudice to our existing treaties with Arab chiefs, we accept these limits and boundaries, and in regard to those portions of the territories therein in which Great Britain is free to act without detriment to the interest of her ally, France, I am empowered in the name of the Government of Great Britain to give you the following assurances and make the following reply to your letter:

Subject to the above modifications, Great Britain is prepared to recognize and support the independence of the Arabs within the territories included in the limits and boundaries proposed by the Sherif of Mecca. Great Britain will guarantee the Holy Places against all external aggression, and will recognize their inviolability.

When the situation admits, Great Britain will give to the Arabs her advice, and will assist them to establish what may appear to be the most suitable form of government in these various territories.

On the other hand, it is understood that the Arabs have decided to seek the advice and guidance of Great Britain only, and that such European advisers and officials as may be required for the formation of a sound form of administration will be British.<sup>1</sup>

Now, Hussein wished to retain Beirut, Aleppo, Baghdad, and Basra, though he accepted Great Britain's proposal regarding Hama

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<sup>1</sup> T. R. Fowell, No Base in Zion (New York, A.A. Knopf, 1939)  
p. 91.



and Alexandrette and he was willing to accept the British right to temporary occupation of Baghdad and Basra. France would accept the idea of Arab administration of the Western part of Syria but only if it was to be under French influence. By 1916 Great Britain had accepted Hussein's proposals but left Baghdad, Basra, and France's influence in Syria undefined. Hussein did subdue the Turkish garrison at Medina; the garrison at Mecca surrendered; and Hussein was proclaimed King of the Arabs and issued his summons for all Arabs to make war on the Turks. Britain recognized Hussein as King of the Hijaz.

However, there are two other points to be remembered: -- In December of 1915 there was concluded an agreement between the government of India and Ibn Sa'ud, King of Nejd, by which the Government recognized certain territories along the Persian Gulf Coast of Arabia, Nejd, Qatif, and Jubail as possessions of Ibn Sa'ud. There was a contradiction between these concessions and those made to Hussein. In 1915 France and England had promised Russia Constantinople and the Straits, and there was the Anglo-Russian-French agreement concerning the dismemberment of Asiatic Turkey. This agreement looking toward the future Arab State gave to England as a "sphere of influence" the Syrian ports of Haifa and Acre and Mesopotamia. France was to have for her "sphere" a strip on the coast of Syria; Cilicia, Adana, southern Kurdistan, with Kharput. Palestine was to be under an international administration and to Russia would go Armenia, northern Anatolia (to be determined at a later date) and a part of Kurdistan. By the time the Sykes-Picot Agreement (between England and France, May, 1916)

came into being, the claims of these two major powers became more specific, and the above-mentioned "spheres" became "administrative zones" while the rest of Arabia loomed as a territory to be divided into French and British "spheres of influence," although they would be organized as an Arab state.

It has already been pointed out that the British agreements made with the two Arab "chiefs" were not compatible. It is to be noted that these agreements were not compatible with each other nor compatible with the agreements reached with the "chiefs."

In all fairness to Hussein it should be stated that he registered protest as to the original understanding but postponed or waived an insistence of his contentions until the close of the war. On the basis of the original agreement Hussein rallied his Arabs against the Turks. And not once is Palestine mentioned. Palestine's international status revealed itself in the Sykes-Picot Agreement, and it must be remembered that this agreement was in secret and was exploded in Hussein's unsuspecting face when the Bolsheviks came into power and repudiated all secret treaties (1917).

Before considering another of the major problems in this complex and a problem slighted by Servier, an inspection of policy and events leading to the transactions just discussed might clarify an understanding of the "Arab" world, which seemed to lie fallow and inert, held fast in its neurosis of subjection.

The British Empire had been built upon naval supremacy during the sixteenth, seventeenth, and eighteenth centuries, when Britain

emerged victorious from lengthy naval wars. After conquering the seas England found that the process of building colonies was a slight task. This colonial empire has never been static, but changed with the needs of the mother country, i.e., the needs of British industry and finance. The shift was made from the Atlantic to the Indian Ocean, and at present Great Britain is in fact an Indian Ocean Empire; the richest Colonies and Dominions -- South and East Africa, Aden, India, Burma and Ceylon, the Malay States, with Singapore as gateway to Australia; New Zealand, and China -- are grouped round the Indian Ocean -- like a wreath. The lightly populated "Arab" Countries of Southwestern Asia and Palestine hold the keystone position -- midway between England and India. And just recently this line has been challenged.

By the second decade of the nineteenth century England had mastered the control of the Mediterranean and until 1935 the Mediterranean appears as a territory of constant colonial penetration by the two trusting allies and at the same moment jealous rivals -- Britain and France. Britain wanted to protect her imperial communications, France to replace her lost colony and to restrain Britain from complete domination, especially in the Eastern Mediterranean, and to maintain her second-place position. France followed this defensive attitude consistently followed from the time of Napoleon III to Pierre Laval. For a while under the co-operative efforts of the two allies the Mediterranean looms as a British-French lake. Then rivalries appear at the eastern terminus of their joint sphere of interest. While Franco

contemplated the canal at Suez (opposed by Mahomet Ali) England schemed for the Syrian Trans-Desert Railway Company to link the Mediterranean with Baghdad and the Persian Gulf. Then came France's humiliation by Germany, and for a period of time she was practically impotent. In 1875 England obtained the controlling stock in the Suez Canal; in 1878 Britain occupied Cyprus and in 1882 occupied Egypt. In a short span of years England had obtained control of the eastern end of the "lake" — she was moving ever eastward. England with Suez in her pocket needed control of Egypt and a mutual guarantee between France and England, of a free hand in Morocco and Egypt, respectively, brought England to a point of control over Gibraltar, Malta, Cyprus, and Egypt, but she now needed the eastern side of the Suez Canal — Palestine.

Long before the Sykes-Picot Agreement, England had been interested in Palestine. The Peel Report reveals that:

As long ago as 1840 Lord Shaftesbury had proposed a scheme of Jewish colonization under international guarantee as a means of using the wealth and industry of the Jewish people for the economic development of a backward area . . . . . But the British Government was not in a position to force Zionism on the Sultan.<sup>1</sup>

Bearing in mind the challenge to Britain made by the proposed Berlin to Baghdad Railroad, the British aims as stated in 1916 by General Smuts and quoted in Lloyd George's Memoirs (pp. 1631-32) are revealing:

The destruction of the German colonial system with a view to the future security of all.

communications vital to the British Empire. This has already been done (An achievement of enormous value which ought not to be endangered at the peace negotiations.)

Tearing off from the Turkish Empire all parts that may afford Germany opportunities of expansion to the Far East, and of endangering our position as an Asiatic power. This has essentially been achieved, though the additional conquest of Palestine may be necessary to complete this task.

Remembering that Palestine had not been mentioned in the agreement with Hussein and had exploded in his face following the Bolshevik rise to power with the Bolsheviks' repudiation of all secret treaties, we arrive at the other major problem, as yet (1945) unsettled, in this international jockeying for power.

The use of the words "national home" in the Balfour Declaration of November 2, 1917, appears to be the pivot point. The ambiguity of the rubbery phrases is apparent.

His Majesty's Government view with favour the establishment in Palestine of a National Home for the Jewish people and will use their best endeavours to facilitate the achievement of this object, it being clearly understood that nothing shall be done which may prejudice the civil and religious rights of the existing non-Jewish communities in Palestine, or the rights and political status enjoyed by Jews in any other country.<sup>1</sup>

Was this pronouncement made to bring the Jewish Zionist multitudes to the British and allied side? Is it merely a compromise made between statesmen some of whom favored a Jewish State and some whom did not favor a Jewish State in southwestern Asia? It makes little difference, now; the problem is with us and it is explosive.

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<sup>1</sup> Moshe Burstein, Self-Government of the Jews in Palestine Since 1900 (Tel-Aviv, 1934), p. 35.

Naturally, the Zionists would interpret this document to mean that Great Britain sanctioned the ambitions of a political Zion. By promise and counter-promise a situation has been created concerning what is to become of these remains of the Turkish Empire. The Syrians, since they have been freed from Turkey, do not wish to come under Arab domination and do not wish to be under the French.<sup>1</sup> The Moslems of Palestine resent the Zionists' ambition to obtain control of that land. The Zionists have the Balfour Declaration with all its ambiguity behind them.

It is quite likely that if personal ambitions, nationalistic interests, and the jockeying for position by major powers had not interfered that out of the Pan-Islamism and Pan Arab movements some more unified or concerted action might have occurred.

The notion of uniting the Islamic communities for the purpose of resisting European aggression and ultimately ousting European rulers from Asia and Africa is expressed in Arabic and Turkish by a phrase meaning 'Islamic union'. Pan-Islamism, a translation of this phrase, first appeared in English (it would seem) in an article published in the Times (London) of January 19, 1882, agreeing in most points with, though apparently independent of, one by M.C. Charmes which had appeared a few months before in the *Revue des deux Mondes*, (1881, vol. xlvii, p. 924), where the word occurs for perhaps the first time in French. The French writer traces the movement to a league originally founded about 1870 in Bokhara, of which Khudayar Khan, ex-ruler of Khokand, served as emissary in Arabia; he preaches to various Arab, Kurd, and Indian sheikhs and Mullahs the necessity of a Holy War against Russia and England.<sup>2</sup>

<sup>1</sup>See the statement issued as Bulletin, Vol. I, No. 9, by the Syrian National Society, Syria for the Syrians (Boston, 1919)

<sup>2</sup>Peace Handbooks, Mohammedanism: Turkey in Asia (London: H.M. Stationery Office, 1920), p. 44.

However a number of orientalists give Sayyid Jamal al-Din (1826-98) the credit for inventing Pan-Islamism. They had an idea that by accomplishing unity among Moslems, European aggression might be stopped and lost territories eventually regained. Jamal al-Din appeared in Paris in 1884 embarked on a journalistic enterprise, an Arabic journal -- The Firmest Handle; his point of attack was Great Britain. He espoused the idea that England held in tutelage the greater number of Moslems, that England wished to deprive them of independence, take their possessions and humiliate them. Eventually the publication of this journal was suppressed. Jamal al-Din then appeared as Minister of War in Persia, his journalistic efforts having attracted the attention of the Shar Nsirud Din. Suspecting the Shar, he left for European travel but returned to Teheran to spread his revolutionary doctrine and was expelled in 1890. His next move was to induce the British Government to depose the Shar, though he had openly disapproved of European and British influence in Moslem matters. About 1891 he found comfort in Constantinople, enjoying the Sultan's favor. During the period 1891 to the time of his death in 1896 he made efforts to have the Persian Shiaks recognize the Caliphate of Abdul Hamid. The motivation for this is easily apparent. Persian recognition of the Turkish Sultan's claim to dominance of Islam would unite Turkey and Persia, united, Jamal al-Din reasoned they would be able to defy European aggressions. These negotiations almost became successful, but either the plotters were exposed and betrayed, or the negotiations came to the

eyes of the Persian Government, with the result that an execution of Jamal al-Din's collaborator Ruhi Effendi was in order.<sup>1</sup>

It is revealing to trace the efforts of this and offspring organizations, the conflict of political ambitions, and the contradictions which are evidently products of the aspirations of political entities within the purported League of Moslem Ambition. In all probability one of Jamal al-Din's colleagues saw clearer than other leaders -- the Sheikh Mohammed Abdo -- who afterwards became a Mufti in Egypt and was friendly toward the British occupation. Mohammed Abdo in two papers which first appeared in The Firmest Handle (1894) and were reprinted in his biography (Cairo, 1326 A.H. ii, pp. 279) presented the idea that the political subordination of any Islamic community to non-Moslem dominance is a violation of the Islamic religion, but he went further and pointed the finger at a rather crucial point, i.e., that the actual subjection of the great majority of Moslems to non-Moslem Governments was due to the neglect of Moslem rulers of their duties and to the private quarrels of those potentates, who invoked the help of outsiders to settle those quarrels, with the ultimate result that the outsider became master of the situation. These petty princes and petty governors, who thus sacrificed the interests of Islam to their own petty interests, "had become chains on the necks of those lions (the Islamic warriors) keeping them from their prey, nay, making them the food of foxes."<sup>1</sup> Mohammed Abdo concluded

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<sup>1</sup>Ch. Hecquard, La Turquie sous Abd Al-Hamid II (Brussels, 1901), p. 123 sqq.



with a hope that the call to such a union and co-operation would come in the first place from the most exalted of the Islamic potentates. He outlined two essentials for success in a nation -- unity and imperialism, explaining that unity was essential before conquest could be contemplated, but that it was necessary to arouse the Moslems and that in the sanctuary to which every true Moslem goes on pilgrimage there was a center where joint effort could be made the subject of deliberation and where practical plans could be devised. This idea, veiled as it is, of course, suggests Mecca as the ideal site for such purpose, and the organization of the religious order was already being turned to account. Result -- request for holding a Pan-Islamic Congress in Mecca was denied by the Sultan. Mohammed Abdo died in 1902. The followers of Jamal al-Din and Mohammed Abdo envisioned other means, the founding of Islamic colleges, newspapers, and societies. The Pan-Islamic society founded in London in 1903 presented a program:

1. To promote religious, social, moral and intellectual advancement of the Mussulman world.
2. To afford a centre of social reunion to Moslems from all parts of the world.
3. To promote brotherly feelings between Moslems and facilitate intercourse between them.
4. To remove misconceptions prevailing among non-Moslems regarding Islam and the Mussulmans.
5. To render legitimate assistance to the best of its ability to any Mussulman requiring it in any part of the world.
6. To provide facilities for conducting religious ceremonies in non-Moslem countries, and to found centers of Moslem thought.

7. To found branches of the Central Pan-Islamic Society in different parts of the world, hold debates and lectures, and read and publish papers likely to further the interests of Islam.
8. To collect subscriptions from all parts of the world in order to build a Mosq in London and endow it.<sup>1</sup>

There apparently is great difference of opinion as to the validity of the Pan-Islam Movement. It is pointed out that Pan-Islamism has produced no result; it has been described as "a phantasm abstracted from the Moslem profession of religious fraternity, and magnified by the European imagination,"<sup>2</sup> it has been mentioned as an invention of European politicians, with a desire to excite animosity against the Moslem and thereby justifying fresh attempts against their Moslem independence; yet others have pointed out that the Crusades and the Mongol invasion failed to produce co-operation among the Moslems and that the milder prospects which European aggression held out could not be expected to solidify the Moslems. Then there is the statistical fact that Islam spreads faster in Asiatic and African countries protected by European Governments than in independent states; this latter point is calculated to discourage the efforts of intelligent Moslems in the direction of realizing Jamal al-Din's plans.<sup>2</sup>

That the disintegrating sectarianism of the Pan-Islam or Pan-Arab movement is its main hindrance from within cannot be gainsaid even

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<sup>1</sup>Peace Handbooks, Mohammedanism; Turkey in Asia (London: H.M. Stationery Office, 1920), pp. 50-51.

<sup>2</sup>Peace Handbooks, Pan Islamism (London: H.M. Stationery Office, pp. 53-54.

at the present day. Supporting this idea are the words of Ibn Saud reputedly quoted by Ameen Rihani in an article "The Pan-Arab Dream."

The plight of the Arabs is not of the foreigners' making but of their own. Let the Arabs unite today, and there will be no foreigners to give them a headache tomorrow. The Arabs are a stubborn people, and their minds are in their eyes. That is why they must be made to see, before they can be made to think.<sup>1</sup>

But it should be remembered that Ibn Saud often makes use of and often quotes an Arabic proverb, "Likulli maqamen maqal" (To every situation a suitable word).

From without, the same old power-politic game is still at play; in the same article is found the following:

As for the external factors in keying up this all-Arab movement, the most important is the colonial policy of certain powers, who are determined, it seems, to have complete control of the eastern seaboard of the Mediterranean. The presence of the Turks in Alexandretta, the French in Mount Lebanon, the British and the Jews in Palestine, together with the intended separation and independence of these countries from Arabia, is producing storms of resentment throughout the Arab world. The governments of Iraq and Saudi Arabia, have both protested and are still protesting against the separation of Alexandretta from Syria and are still protesting against the British policy of partitioning Palestine. What is equally significant is that the people of Nejd and Hejaz are becoming as vocal and active as their brother Arabs of the north.<sup>2</sup>

Hans Kohn puts the situation into these words:

Since Napoleon's expedition to Egypt turned the eyes of Europe to the long-forgotten land route to India across the Near East, the countries of the Near East have been for more than a century the storm center of European diplomacy and politics.

Arab Nationalism was unknown in 1900; it was still

<sup>1</sup>"Pan-Arab Dream," Asia, XXXVIII (January 1938), p.45. <sup>2</sup>Ibid, p.46.

to many observers an element of doubtful strength and vitality in 1920. In many respects Turkey, Iran and Egypt had a much easier task before them than the Arabian lands, for they formed a well-defined unity from the outset. The Arabian lands were split by geographic conditions and by imperialistic ambitions, by the rivalry of dynasties and families and by the ancient hostility of religions and sects . . . . . During the past twenty years a definite progress in the integration of all these warring factions and creeds into a common nation has been achieved. There is only one Arab nationalism, the same in Saudi Arabia or in Syria. Its aim is the unification of the Arab lands in Western Asia . . . . . After the consolidation of Turkey, Iran and Egypt during the past twenty years the Arab lands still remain on the road to the fulfillment of their aspirations. The ultimate success will depend upon the possibility of finding a solution to the Jewish problem in Palestine and to the Maronite problem in Syria. That can be only the result of constructive and far-sighted statesmanship, but without it the old unrest, characteristic of the whole Near East twenty years ago, may continue for some time to make these regions a battleground of rival claims and ambitions . . . . . The straits of Istanbul, the ports of the Syrian coast, Alexandria and the Red Sea are strategic key positions should a major war break out in the Mediterranean or for the control of the Mediterranean. In such a conflict the sympathies of the Near Eastern peoples may be of decisive importance. They will go to that nation or group of nations which seem to them to hold out a promise to restore or to respect the independence and autonomous development of Near Eastern peoples, and which will give convincing proof of their willingness to abide by the promise.<sup>1</sup>

Dr. Morris Jastrow has outlined a "solution" for the problem.

Briefly stated, it consists of the internationalization of certain areas,

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<sup>1</sup> Hans Kohn, "The Restless Near East," Asia, XXXVIII (January 1939), pp. 17-200.

See also, "Wooing the Moslems," New Republic, XCV (Sept. 8, 1941), p. 295.

the vitally coveted areas.<sup>1</sup> Mr. Edward J. Byng has in his "Five Year Peace Plan"<sup>2</sup> advanced a quasi "Federation Idea" with a "viceroys" or "Governor for the North" with a tenure of office of either four or seven years, the office to rotate, on a mandatory basis between Iraqi, a Syrian, and a Palestinian, with Damascus or Aleppo as the best location for the seat of the governor. However, Mr. Byng evidently has inward doubts as to the workability of this plan, for one year later, in 1944, in his "World of the Arabs" he advances the idea, as an alternative to a formal Arab federation, of a customs union, including Egypt, Saudi Arabia, Transjordan, Palestine, Syria, Lebanon, and Iraq, with possibly Yemen and Libya.<sup>3</sup> Hitti disposes of the future by calling attention to the fact that the Egyptian government in 1943 was issuing invitations to its neighboring Arab countries to a federation congress to be held in Cairo. Hitti states:

Such federation, if affected, would no doubt be conducive to stability and peace in that part of the world. A federation would also be easier than small separate units to relate the new world order which we hope will emerge from the war.<sup>4</sup>

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<sup>1</sup> Morris Jastrow, The Eastern Question and Its Solution (Philadelphia: J. B. Lippincott Company, 1920)

<sup>2</sup> Edward J. Byng, Five Year Peace Plan (New York: Coward-McCann, Inc., 1943), p. 72.

<sup>3</sup> Edward J. Byng, World of the Arabs (Boston: Little, Brown & Company, 1944), p. 238.

<sup>4</sup> Philip H. Hitti, The Arabs (Princeton University Press, 1943), p. 215.

Dr. John Van Ess, who has lived in Arab countries for some forty years and has served in various capacities, appears to have an impartial insight into the various aspects of the problem, historical, religious, political, geographical, and has written a pertinent article entitled "A Solution for Palestine," from which the following comments and plan are extracted:

I shall try to be fair. I am in a sense an outsider, and yet I have lived intimately with Jews and Arabs for most of my life. I speak, read and write Arabic, and have a respectable knowledge of Hebrew. I have studied the history and literature of both and admire both greatly.

To begin with, I think the Jews have no inherent right to Palestine. If they quote Scripture to sustain their right, then by the same Scripture, I can prove that they have forfeited that right; for the promise was conditioned on obedience to God Almighty and the exile and the destruction of the second temple were the result and seem to have been God's verdict. If they assert that Palestine belonged to their ancestors, then let us in all conscience give back the United States to the American Indians. But there is the Balfour Declaration. Well, aside from the fact that the Balfour Declaration came two years after the McMahon Commitment to the Arabs, the Balfour Declaration promised the Jews only a national home . . . . In the nature of the case, only a very small percentage of the Jews or even of refugee Jews could live in Palestine, if, as the Balfour Declaration also states, "due regard be had for the civil and religious rights of the inhabitants of the land." And to my mind the British have already paid in full their obligations by fostering and protecting the home for Jewish culture which is by all odds the most precious thing the Jews possess. If room must be made for Jewish refugees, as far back as 1903 the British offered Uganda for that purpose, a generous and adequate offer . . . . I would not detract for one moment from the splendid constructive effort shown by the Jews in Palestine. But it is also fair

to state that a great measure of their unpopularity among the Arabs is definitely their own fault. I think I have rarely seen more provocative conduct and genuinely bad manners than among the young Jews of Palestine . . . . .

What is the case for the Arabs? Well, first of all, it is their homeland where they have lived from time immemorial. But the fact emerges that though they lived there, they did not govern it. The Turks had governed it for four hundred years, and in all that time the Arabs, chiefly because they could not unite among themselves, did not gain their independence. And it was in the last analysis the British forces under General Allenby that drove out the Turks. To be sure, some Arabs had fought against the Turks, but, as it said, they were not Palestinian or Syrian Arabs. They were Bedouins . . . . and if I knew the Bedouins at all, they fought more for the gold, five million pounds of it, ladled out by Colonel Lawrence, than for love of independence, and indeed, like the Irish, they fought chiefly for the love of a fight. They themselves were independent anyway. And if I know Arab politicians at all, these Bedouin tribes would have been given little place or consideration in the new national set-up.

I would not detract for a moment from the sacrifices made by the Arab patriots who were hanged by the Turks at Damascus and Beirut. It was they who had fifted-columned the Turkish army, and who had fired the imagination of their fellow Arabs. Then there was of course the MacMahon Commitment by which Britain promised Hussein to grant independence to the Arabs at the price of participation in the struggle. I cannot, nobody can, justify the tortuous diplomacy involved in the Balfour Declaration, the Sykes-Picot Agreement and the MacMahon Commitment. But, if you come down to reality, the whole scheme of independence was impossible of fulfillment until the Arabs had become more united among themselves . . . . .

It must not be forgotten that, as over against the Jews, it was the Arabs themselves who sold the land at fancy prices to the Jews . . . . .

Be this said, the Jews have had all the advantages of publicity. Many Jews were in the British Parliament.

Further as you know, in the Anglican Church there is always a lesson from the Old Testament, in which the Jew is always held up as one of God's covenant people, while the Arab, if mentioned at all, is mentioned as a rough-neck and a bad actor . . . .

Is there a possible solution for the Palestine question? In the summer of 1937, after having talked at length with all classes of Jews and Arabs, as well as with British officers, I offered a program which was printed in the Palestine Post under date of August 2, 1937, but which the London Times refused to print. It is as follows:

#### THE UNITED STATES OF THE NEAR EAST

The forming of a federation consisting of five states: Lebanon, Syria, Jebel-Druse, Israilliye (for the present purpose a convenient name for Palestine of the Jews to be formed from most of Judea and the south country to the Gulf of Agaba) and Urduniye (for the same reason a convenient name for the rest of Palestine plus Trans-Jordan), the federation to be bound together on the general plan of the United States of America, constituting a federal government which should legislate for that which concerns all, namely posts and telegraphs, communications, currency, defense, foreign affairs, federal courts, general health, etc. In this federation each constituent state should be autonomous within its own borders in affairs which concern itself alone, as for example, local revenue, security, justice, education, health and immigration. Again, as in the United States of America, the federal constitution should declare and define the limits of state sovereignty and national union. It seems to me that the following advantages would accrue:

1. The Balfour Declaration would be fulfilled to the letter inasmuch as it did not promise national sovereignty for the Jews but a national home. In such a state autonomy would afford the fullest scope for Jewish ideals and enterprise. Jewish immigration could be unlimited so long as confined to Israilliye, with the inevitable result that the Jews themselves would have to be selective in their immigration quotas, out of sheer self-interest. With full recognition of the fact that it is a debatable question,



I would favor redrawing the map as outlined by the Royal Commission and giving to Israiliyeh a substantial part of the Negob (the south country) at the expense of a part of Galilee (which, indeed, is called by Isalah himself Galilee of the Gentiles).

2. As in the United States of America, Washington, the capital, is in no state, but in the District of Columbia, which in itself has no state sovereignty but is controlled by a commission of the Senate, so Jerusalem, situated, say in the District of Jerusalem, could be constituted the capital of the federation.

3. Fear on the part of the non-Jews that they would be unmandated by Jewish immigration would be eliminated. Indeed, greater scope for the fostering of a national spirit would be afforded.

4. The federation would have the prestige and momentum of several million inhabitants. I personally happen to be a native of Chicago and a citizen of the State of Illinois, but I bear an American passport with whatever that implies. So, instead of going about the world apologizing for the smallness of his state, a citizen of the United States of the Near East could hold up his head among the nations.

5. There would be no partition (as recommended by the Peel Report) no more than the seam in your coat is a partition.

6. A corridor would be unnecessary (as suggested in the Peel Report to connect Jerusalem with the coast). To put it inelegantly, but forcefully, I diffidently submit that far from being a corridor it would become a sewer. We have historic parallels.

7. Artificial frontiers which now hinder trade and intercourse would be erased.

8. As in Iraq where, by treaty, Britain has two air bases west of the Euphrates, a similar arrangement might be concluded.

9. Federal education for federal service could be fostered. My own judgment would be that in such education the study of Arabic and Hebrew should be made compulsory in federal schools.

10. The virility of the people of Jebel Druze and their religious neutrality as ever against Muslim, Christian and Jew could be utilized in the federal gendarmerie.

11. Speaking as an outsider who, however, observed the security of the shrines even in Turkish days, I should not fear for their continued security under a federation.

In the nature of the case, the consent and cooperation of Brancos would have to be secured . . . . Matters such as national revenue and no doubt many other questions would have to be fairly and expertly studied but if the general principle were agreed upon, most of the other matters would be questions of detail. <sup>1</sup> Anyway, no formula would be free from all objections.

This suggestion takes the whole problem into a larger area where there is more room for compromise or mutual understanding. Is there any physical, political, or economic reason for the isolation of Palestine? Is there logical argument for the present condition of travellers' having to show passports and undergo examination at each frontier of Syria, Lebanon, Transjordan, Palestine, etc.? The immigration impasse would have to be squarely faced by the Jews themselves, and only they could know what they could be responsible for in human material from which to build their state. The idea which has presented inter Jewish-Arabic education has its point in that if the holding of federal position were dependent upon federal education for the leaders of the future, each leader would learn the human and ethical values which each culture possesses in a reputedly ample measure; the program does not preclude each state from establishing its own system of

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<sup>1</sup> John Van Een, "A Solution for Palestine," Asia, XLII (May 1942), p. 272.

education to meet special needs. It is a commonplace that education in Arab states has consisted of laying stress on facts impregnated with the coloring of passing ideologies and not always including the dignity of manual labor.

One of the great weakness of the Palestinian economic structure lies in its artificial economy, existing largely on subsidies from outside and fostering a standard of living which is impossible to maintain under stress, and hence forcibly maintained by militant labor unionism; this might be fair and good in a country which produces more than it consumes, but approximately one-sixth of the Palestinian population is producing, while the other five-sixths are consumers and hence parasitic. Therefore it can be argued that Palestine is doomed economically unless some such idea as expressed above is brought into operation. Iraq can be irrigated by some such simple system as that used by the Babylonians, after impounding the waters of the Euphrates, eliminating the annual floods and drying up the marsh lands. The present nomadic Bedouin who is dependent upon the whimsy of rainfall would or could be converted to a settled occupation. Sheep are not raised in Egypt, for there is little lime in the soil; Syria and Palestine are reputed to be too rocky for extensive culture of sheep; but Iraq could become a producing area and the wool could be sent to Palestine for processing; likewise cotton from Egypt could be sent, as could other raw materials from this entire composite area, thereby converting the "federation" into a self-sustaining region. It is a fair wager that with each

region needing the other, with financial independence, with a modicum of political entity and self-determination, many of the political animosities of the past and present might disappear. All, naturally depends upon a political organization which would unify and stabilize foreign policy, in the main along the lines of economic co-operation with the rest of the world.

#### Addenda

**Pan-Arabia.** In this explosive area last week a new force was rising, and Ibn Saud was at its crest. That force was Pan Arabism, an old and often thwarted dream, now coming to real life in Cairo.

**Five Arab States--**Egypt, Iraq, Syria, Lebanon and Trans-Jordan--had already signed a protocol for a federation of Arab states. Ibn Saud, holding out to the last while Britain and Egypt's King Farouk laid the groundwork, had accepted only when assured that he would be the federation's kingpin (*Time*, Feb. 5). Now his and other representatives in Cairo were drafting a constitution.

The looming federation did not herald a militant Pan-Arabia, overrunning southern Europe as the hordes of Allah did in Islam's great past. Exhausted by that past and outrun by the present, Arab Islam could hope only to federate its weaknesses, find in loose political and economic union the strength to exact a better deal from the Great Powers who dominate its world.

From the start, Britain's mark was on the federation; the project began to breathe only when Anthony Eden gave it his backslap in 1943. Russia, rapidly expanding its consulates, ministries and other agencies in the Middle East, had its eye on the Arab doings, but had yet to show its hand.<sup>1</sup>

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<sup>1</sup>"waters of Mara," Time, XLV (March 5, 1945)

Russia, perhaps, can afford to wait to "show its hand." Since when has British and Russian policy been compatible in this section of the world? Their interests collide. The geographical boundaries between Russia and the countries or states under scrutiny are slight. Russia has issued her "invitation" to any "states" desiring to enter the United States of Soviet Russia.

One prime difference looms between the doctrine or practices of Christianity and Islam. A "native," a negro let us say, may become a Christian; he enters the Christian brotherhood or fraternity, but the acceptance of Christianity does not give to the negro the rights, privileges and emoluments of education and other graces. If the negro embraces Islam, he has exactly the same rights as any other Moslem. There are examples of American negroes who have sent their children to Soviet Russia for this very reason. It would seem that the only difference, in this respect, between Russian practice and Islamic practice is one of name only -- political ideology vs. religious ideology, and the difference might serve as the point of reconciliation between the Russian and the "Near East" unless the other powers can quickly arrive at a safe and sane solution to this problem without unnecessary and to-be-condemned explosives. Furthermore the "Near East" has been and still is -- hungry.

Typed by Madge Chilcote

