4 Papers on Arabic Culture

1. Definitions of Culture
2. Al-Farabi
* 3. The Influence of Arabian Music in Spain
4. The Arabian Presence in Spain (contributions)

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FOUR
DEFINITIONS AND COMPARISONS
of
CULTURE

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Barbara Solís
Arabic Culture 2101
Profesor Obeid

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THE FOUR DEFINITIONS OF CULTURE

According to Margaret Oliphant, author of The Atlas of the Ancient World, culture may be defined as the establishment of a national myth which represents a glorious or culturally significant past and has been salutory for a country's psychic welfare.[1] For example, the espada falcata was a forged sword first used by the Iberian culture when they went into battle. Designed for both slashing and cutting, it was remarkable for its blade which was sharpened to a fine point and its cutting edge which ran across the entire front and down one-third of the back of the blade.[2] The espada falcata later became famous throughout the Roman Empire and was carried into many battles.

Douglas I. Gifford writes in his article on Medieval Spanish that language is another definition of culture as it is able to give clues to the ancestry of a modern civilization or its culture. Language helps to determine where a people have settled and how far they may have extended their settlements.[3]

To cite an example by Mr. Gifford, the ancient Iberians had a particularly recognizable culture through their language. Inscriptions at Alcoy, Mogénte and Castellón all contain much Iberian writing.[4] Many scholars suspect that the Iberian language was the ancestor of the modern Basque language. Near Granada there once was a city called Iliberri which can be analyzed in the following way:

ili meaning place [5]
berri meaning new

.../2

The Marquis of Lozoya, Juan de Contréras, states in his article Introduction to the Art of Spain that the projection of culture is not limited to the essentially popular art forms.[6] Another Spanish author Ortega y Gasset, has been quoted within the same article as saying:

> "While rich in its popular and annoymous forms - songs, dances and ceramics, Spain is strewn with admirable monuments."[7]

Intended for public exhibition or for the adornment of palaces and courts, these monuments had deep cultural roots.[8] Examples of some well known monuments in Spain are the Alhambra Palace situated in Granada and the Great Mosque in Córdoba. Both are rich and beautiful cultural legacies left by los Árabes.

Profesór Manuel Fernández Alvárez of the University of Salamanca, España, has pointed out that a country's geography can greatly affect both its history and culture.[9] Profesór Alvarez emphasizes in his article Introduction to the History of Spain that what really made a difference to the cultural history of Spain was the arrival in Spain of the Arabs, early in the 8th century. Due to Spain's distinct geography, they managed to stay for nearly 8 centuries. The Spanish landscape often has a war-like appearance and any knoll or mountain pass was a good place to build a fortress.[10]

The arrival of the Arabs also altered the cultural dependence of Spain on Rome, Florence and Paris to that of Damascus and Baghdad, from which Spain not only took its philosophy and art but above all, its sense of life.[11] The end result was an elegant, refined Arabic influence which flourished for several centuries and can still be seen today.

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COMPARISONS OF THE GIVEN DEFINITIONS OF CULTURE WITH OTHERS

With reference to the first definition, a comparison of national myths which represents a glorious or culturally significant past may be made between the Iberian espada falcata and the flag of Mexico. It incorporates an ancient icon. The flag, seal and currency of India all bear the symbol of the Buddha wheel of dharma. This wheel of dharma was first used as a government symbol by the great Indian emperor Ashoda, more than 2,000 years ago.[12]

A comparison with another culture through its language may be drawn between the Iberian and Celtic civilizations. The Celtic place name Cluny appears as the Forest of Clunie in Scotland, the Monastery of Cluny in France and Coruna del Conde in Burgos, Spain. Each has a different spelling and is an excellent illustration of the extension of the settlements of the Celtic culture.[13]

For the third definition comparisons of projections of culture apart from the essentially popular forms may be made between the two great architectural wonders in Spain, the Alhambra and the Great Mosque with the mighty pyramids of Egypt.[14] There are also the ancient, gaunt megaliths of Stonehenge in England. All of these still serve as rallying points for national pride and foci of their cultural heritage.[15]

Finally, almost any country that has had the currents of another culture flow into it either peaceably or forcibly has had its historical culture altered. One may compare the cultural and historical changes that took place within Spain with the Arabic domination to that of the English domination of India or the Russian domination of the Far Eastern Orient during the 19th century. Even the German domination of several European

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countries in our own century during the second World War has left its impact historically and culturally.

CONCLUSION

On the basis of the four definitions of culture and their comparisons as cited in the foregoing, perhaps it may be concluded that culture is made up of many elements which have assisted in the establishment of traditions and provided insight into the history of subsequent civilizations.

And the question remained: What is culture?
The essence...
All what has been said, are a partiel configuration of a culture.

C+

B I B L I O G R A P H Y

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These references illustrate the history of a special time and/or place.

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THE QUR'AN

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Submitted by Barbara Solis
Arabic Culture 2101
Prof. A. Obeid
October 4, 1993

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THE QUR'AN
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Life of the prophet

AUTHOR

The Qur'an is a collection of revelations in the Islamic Scripture given by God to an obscure citizen of Makkah known as Muhammad.[1] The messages that came to Muhammad to preach to the Arabs, as a series of revelations, were collected, after his death, into a book called the Qur'an. Early Muslim history indicates that some of the Qur'an had been written down under Muhammad's personal supervision but the Qur'an of today was collected and ordered under the Third Khalifah Uthman.[2]

Revelations
Yes
Order -> No

As Scripture the Qur'an is the fundamental authority for Muslims in all matters of religious belief or practice.[3] The Qur'an was believed to have been derived, by Muhammad and later Muslims, from a Heavenly Original Book that is with God, a "Well-Preserved Tablet that only the Pure may touch."[4]

CONTEXT OF THE QUR'AN - HISTORICAL

The historical context of the Qur'an may be interpreted as an Islamic doctrine of prophecy. The sending of books throughout the centuries from Heaven has been one way of communicating divinely between God and man. Since man repeatedly has fallen away from the path, as marked out by Divine Guidance, the Qur'an was given so that the Arab peoples would have guidance in the proper was to live.[5]

Little history about Arabia

.../2

Geography of Arabia

GEOGRAPHICAL CONTEXT

A geographical context was given to the Qur'an when the Muslims began their great conquests and became aware of the peoples they had overrun. The civilizations of the Mediterranean Basin had a highly complex and cultural tradition. Their religions were subtle and well articulated.[6] They included Zoroastrianism, Buddhism and Christianity. As a result there was a need to defend Islamic views and its superiority over the rival religious systems.[7] Subsequent development provided an external stimulus and growth of Islamic theology [8] thus providing the Qur'an with a geographical context.

Judaism

Society in Arabia

SOCIAL CONTEXT

The social context of the Qur'an served to re-affirm to all that it was the foremost authority in all matters and that no other source of information should be placed above the expression of the Divine Will. In some cases specific injunctions were given and in others, general principles, but the authority was always Universal.[9]

Since the social order of the time was based on the superiority, power and rights of men (the veil and harim were visible signs of this)[10] the Qur'an asserted in clear terms the essential equality of men and women, to cite an example.[11]

COMPOSITION OF THE QUR'AN

In size, the Qur'an is like the New Testament. It is divided into 114 chapters known as Surahs.[12] The Surahs are arranged roughly in order of their length with the longest one coming first. Each chapter is given a name which has been taken from something mentioned within the chapter.[13]

In what order?

.../3

For example, "The Surah of the Believers," (Surah 23) is derived from the use of the word "believers" found in the first verse.[14] Each Surah is introduced by the words "Bismallah al-Rahman, al Rahin, In the Name of God, the Compassionate, the Merciful."[14(a)] The one exception to this introduction occurs in Surah 9.[15]

The Surahs are divided into ayahs or verses. The word "ayah" means sign or indication. The term "ayah" appears several times to reinforce the idea that the Qur'an is a Heavenly Book sent down by God.[16]

The Qur'an was set down in calligraphic art dating from the eighth or ninth centuries. This beautiful writing was intended to enhance the aesthetic values of the Heavenly Book.[17]

THE FIVE PILLARS OF ISLAM

The most basic duties of the Muslims, found in the sections on ibadat, in the books of figh are known as The Five Pillars of Islam.[18] These five essential obligations owing to God are:

1. shahadah - witnessing
2. salat - ritual prayer
3. sawm - fasting in the month of Ramadan
4. zakat - almsgiving
5. hajj - pilgrimmage to Mecca[19]

The Five Pillars of Islam are accompanied by other religious celebrations, occasions and practices of varying degrees.[20]

.../4

1. Shahadah - it is the obligation of every Muslim to testify in public that there is no God but the One God and Muhammad is his Prophet. The willingness to do this in the presence of witnesses affirms that one is a Muslim and can therefore have membership in the community and share in its rights and duties.[21]

2. Salat - is the most visible mark of piety. Everyone in sound mind and body is expected to perform the ritual prayer five times a day. The ritual prayer is performed in streets, public places and the mosques. Salat consists of a set ritual that differs with the time of the day, slightly.[22] The worshipper must be in a state of ritual purity which is always preceded by washing or a full bath. This depends upon the state of impurity at the time of the salat. Salat is usually performed with others but can be performed alone.

3. Sawm - fasting takes place for the entire month of Ramadan since it is considered to be the "sacred month the Qur'an came down."[23] The fast begins at dawn "when it is possible to distinguish a white thread from a black one"[24] and ends at sunset. It is forbidden to take anything into the body "even one's own saliva"[25] when it is avoidable.

.../5

4. Zakat - in the early days of Islam, the payment of alms along with salat was a sign of submission to the authority of the Prophet.[26] The basis for this tax is to place emphasis on charity and its virtues which is a continuous and important theme throughout the Qur'an.[27] It is specifically used to help the poor and needy or to finance holy wars against the infidel.

5. Hajj - the last of the Five Pillars is to perform the pilgrimmage to Mecca at least once during one's lifetime. The ceremony of the hajj takes several days to fulfill and dates back to pre-Islamic times. It is an outstanding example of maintaining continuity with the past and promoting a new perspective on life.[28] The principal parts of the ceremony are the donning of pilgrim dress and kissing the black stone set in a corner of the Ka'bah after circumambulating it.[29]

Although the range of Islamic ceremony and religious celebration extends beyond the Five Pillars of Islam, they are the fundamentals of Muslim worship.[30]

CONCLUDING STATEMENT

The Qur'an is the most precious possession of the Muslims as a body of truth and a guide for this life and the life hereafter, given by God Himself and in His own words.

- I can see the effort made to write this paper. Read the remarks through the Work

B

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B I B L I O G R A P H Y

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NB: This reference book was photo-copied and enlarged thanks to the Dept. of Religion at the University of Alberta in order to accommodate my vision impaired problem. Unfortunately the pub-lisher and year of the book were not noted and time and circumstances have not permitted me to procure this information for this paper's deadline. Please accept my apologies for this incomplete reference.

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THE LIFE AND WORKS OF AL-FĀRĀBĪ

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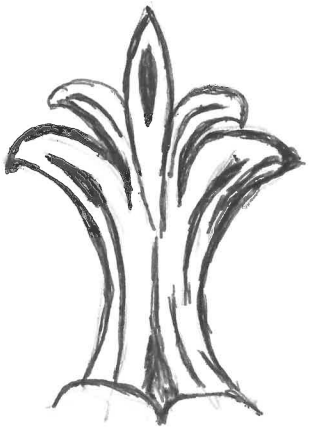
Professor Obéid
Arabic Culture 2101
November 1, 1993
Barbara Solís



F O R W A R D

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Al-Farabi's masterly treatise, the Kitab al-Musiqi, was written at the special request of his friend, the wazir Abu Ja far Muhammad ibn al-Qasih al-Kurkhi and the reason for writing the treatise is related in part in this forward taken from the dedicatory preface of the Kitab al-Musiqi.

> "You mentioned your desire to investigate the content of the art of music which is referred to the Ancients and you ask me to demonstrate this for you in a book which I should write, aiming to explain it in such a way that would make its attainment easy to him who investigates it...
>
> Now I found in all of them (the Greek theorists) an incompleteness in the various branches of the art. The chief aim of most of them is speculative theory....
>
> Their writings in the perfection of this branch of knowledge have either perished or what was handed down from them in Arabic were defective writings."**
>
> Al-Farabi

** H.G. Farmer, Historical Facts for the Arabian Musical Influence. (London: William Reeves Bookseller Limited, 1925), p. 287.

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THE LIFE AND WORKS OF AL-FARABI

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Abū Nasr Muhammad ibn Tarkhān was born in the year 870 A.D., in Wasij, district of Fārāb, Transoxiana. He died in Syria in 950 A.D. Known as Al-Fārābī, he became one of the greatest of the Islamic philosophers and writers on music in Arabic history.[1]

Of Turkish origin, Al-Fārābī went to Baghdad to study philosophy under Abū Bishr Mattā ibn Yūnus. He later went to Harrān to continue his studies with Yūhannā ibn Khailān.[2] Mastering the sciences of the Greeks, he soon surpassed his contemporaries. He was a "perfect musician" and an "excellent performer on the lute."[3]

His fame spread and he was invited by the Hamdānid ruler, Saif al-Daula to settle in Aleppo.[4] There, he attracted pupils from all over. They thronged to his lectures which were held in delightful gardens outside the city.[5]

His writings included logic, ethnics, politics, mathematics, alchemy, philosophy and music.[6] Many of these works were translated into Latin and had an immense influence on the culture of Medieval Europe.[7] "Alpharabius," as the West affectionately called him, was considered to be the "Second Master to Aristotle" and without doubt, the "greatest philosopher the Arabs ever produced."[8]

Among his musical writings were the following:

Kitāb al-mūsīqī al ka-bir
Kilām fi'l mūsīqā
Kitāb fī ihsa'al-īqā'
Kitāb fi'l nuqra mudāf ilā al-īqa[9]

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Of all these musical writings of Al-Fārābī, only the first one seems to have survived. There are 3 copies of the Kitāb al-mūsiqī al ka-bīr and they are preserved at Madrid, Leyden and Milan. The Madrid copy which dates prior to 1138 was made for the celebrated Ibn Bajja, another philosopher, whose artistic gifts included an "agreeably colored and well-trained voice" and great skill upon the lute.[10]

One of the most imposing of all Arabic works on music, the Kitāb al-mūsiqī al ka-bīr was written in two volumes. The second volume has been lost. The surviving volume consists of an introduction and 3 books. Each book is in two sections. The first volume is important for its elaborate treatment of theory which has been based largely on Greek concepts and the material on contemporary practice which can be found in the sections on instruments and rhythm.[11]

The introduction to Book I is extensive and of particular interest as it presents some of the material that Al-Fārābī develops in the first book. It constitutes primarily, an introduction to the art of music.[12]

The first section of Book I deals with the elements of music. The essays discuss the physics of sound, intervals, intervallic relationships and the tetrachord and its species. Both the subject matter and its treatment by Al-Fārābī have had a great influence on later theorists.

The second section concerns itself with octave divisions in the context of the Greater Perfect System. As well, beginning with the chronos priotos, various rhythmic structures are surveyed.[13]

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In Book II, musical instruments are described. Section 1 is devoted to the ūd, the short-necked lute and there is also a rather elaborate discussion of frettings followed by a presentation of different string tunings.

Section 2 covers two kinds of tunbūr, wind instruments and the bowed rabāb. This is in fact, the first time the rabāb is mentioned. Instruments with unstopped strings such as the harp are also described. The main emphasis is on the scales that can be produced on all of these instruments and the considerable differences that occur from one to the other.[14]

Book III is concerned principally with song structure and composition. Song structure is viewed by Al-Fārābī in terms of general melodies and perfect melodies or kamila. The kamila are those which are set in poetical statements.[15] The poetical statements are composed according to arrangement (tartīb), regularity (intizām), art of the poetical statement and central purpose of the melody. Composition was an abstract survey of certain combinations of notes and schematic melody patterns.[16]

A further discussion of the rhythmic cycles is also included in the last book. Al-Fārābī returns to the subject using a different approach from his Kitāb al-īqā'āt and again in his Kitāb ihsā' al-īqā'āt.

Unlike his purely musical works, Al-Fārābī's Kitāb ihsā' al-'ulūm, which is a book on the classification of the sciences, divides the science of music into the sciences of practical and theoretical music and is but a brief outline of his Kitāb al-mūsīqī al-kabīr.

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There is a definite correspondence between the eight essays of the Grand Book of Music and the first 5 parts of the Classification of the Sciences. The several topics are covered simultaneously with little or no deviation from one another.

In the Classification of the Sciences Book, the greatest difficulty that is encountered lies with the musical terms that Al-Fàràbī uses because they are in Arabic. What so often appears to be a general term has, in fact, a more precise meaning. For example, enumeration of the rudiments of theory that comprise the second part of the Classification includes some of the most difficult terminology in the Book as mentioned.[17] It is at this point that the second pair of essays in the Grand Book when read in conjunction with the second part of the Classification, contain the more detailed explanations that enable understanding of the terminology.[18] To further assist with the understanding of the complex musical terms, Al-Fārábī uses the lute much the same way that Western theorists used the monochord to illustrate his system and the various derivations at which he has arrived with respect to notes and pitches, etc., as well as to clarify the musical terminology.

The purpose of the Classification of the Sciences Book was to provide an abstract scheme for the understanding of music in the context of other scientific disciplines.[19] The Grand Book of Music became a "required help" to do this.

Al-Fàràbī wrote a second volume to the Kitāb al-mūsīqī al-kabīr which did not survive. It comprised four chapters (maqalāt) in which the theories of the Greeks were examined and commented upon.[20]

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With respect to Al-Farabi's Kitāb ihsā' al-ulūm, it should be noted that the work was translated into both Hebrew and Latin and was often quoted by Medieval writers under its Latin title De scientiis.[21] Finally, a work attributed to Al-Fārābī but not mentioned under its titles by his biographers was the Kitāb al-adwār. It can be found in the Library of Ahmad Taimur.[22]

The contribution made by the writings of Al-Fārābī on culture was of enormous importance. His works helped to establish the role of Arabian Musical Theory in the Middle Ages. The 13th century Latin writer, Jerome of Moravia, made the greatest use of the philosopher's writings and included Al-Fārābī's general definitions of music and musical theory in his treatise De Música. Al-Fārābī's works also brought the now-employed diatonic scale to Europe. Lastly, where particular thoughts appeared to have Greek roots, his works transmitted Arabic musical currents to the West with truth and logic.

You elaborate very well on Al-Farabi as a musician and expert on music but you neglect another important facette of Al-Farabi: Philosophy. Excellent work on the musical side of Al-Farabi.

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THE ARABIAN MUSICAL INFLUENCE ON THE MUSIC OF WESTERN EUROPE

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Musicology
Dr. P.Merkley

Barbara Solis

F O R W A R D

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By way of introducing this paper The Arabian Musical Influence on Western European Music I should like to, first of all, take this opportunity to thank Dr. Paul Merkley for allowing me to research the subject and to acknowledge the University of Ottawa inter-library loan department for their co-operation and assistance in procuring the necessary books for the project which have come from as far away as Simon Fraser University in B.C. and as near as the University of Toronto.

Secondly, I should like to clarify the use of the word "influence" in this paper by saying that:

(a) influence, in the English language, has been defined as a physical or moral effect by a gradual process, an agency, a force or a tendency of any kind which effects, modifies or sways;

and

(b) influence with respect to the context in which it is used in this presentation implies "possession by the Arabs of a body of theoretical and practical knowledge developed by them. Not only does this body of knowledge bear the imprint of their race during the process of transmission but it also displays novel features of which they were the originators." **

Thirdly, the purpose of the paper is not to fan the flames of the debate as to whether European music is indebted to the Arabs but rather to explain one system - the Modes - of the Old Arabian Musical Theory and to perhaps shed some illumination on the question - did the Arabs by some agency, force or tendency of any kind, ie., the modes, bring about some effect on the art and science of music in Western Europe and in so doing, did they modify or sway said art or science of music in any way.

**
H.G. Farmer, Historical Facts for the Arabian Musical Influence. (London: The New Temple Press, 1925),pp. 128-129.

Barbara Soltis

Submitted December 2, 1993.

"Man yatul dhailuhu yata fihi."

An Arabic Proverb.

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It has been argued for centuries "that the Arabs had no musical theory of their own save what they borrowed from the Persians and Greeks and could therefore not have had any influence on European music."[1] Author of the book Precursors of The Violin Family, Kathleen Schlessinger has pointed out that

> "In the sixth century, the Arabs conquered Persia and finding the musical system of Persia so far in advance of their own, they adopted it....." [2]

The facts are, in response to the above statement, that the Arabs conquered Persia in the 7th century and not the 6th century and that the Arabs had their own system of musical theory prior to the conquest of Persia. [3]

EARLY ARABIAN MUSICAL THEORY

The first information that tells us of an indigenous Arabian system of musical theory is given in the famous Kitab al-Aghani, written in the 10th century, by a group of Arabic scholars. The system was made up of many things which constituted a "theory of music" and included melodic modes, compound modes and rhythmic modes.[4] These modes were known as the ancient national music of Arabia, or the Pre-Islamic System.

The earliest Arabian musical theory or "native system" was recast in the 8th century by Ibn Misjah and termed the "Old Arabian System."[5] A former slave who had won his freedom due to his outstanding musical abilities, Ibn Misjah was given permission to go to Syria about 705 in order to learn Byzantine melodies and to

.../2

take practical instruction on the barbiton, a Byzantine instrument, as well as to study the theory of said instrument. He then went to Persia to pursue the art of accompaniment and the Persian song form known as the ghina. The Persian ghina consisted of 3 styles.

1. songs of the camel riders and singing-girls
2. songs with very heavy refrains, that is to say the refrain had a lot of notes
3. the light song that was meant to stir and excite the heart. An example of the 3rd style of the Persian ghina is as follows:

"Love has so emaciated me
That through it,
I am almost melting away.[6]

The poetry of the Persian ghina was set to a specific type of melody known as a mode and was either masculine or feminine, according to the arrangement of the notes or musical sounds within the mode.

Returning to his own country, Al-Hijaz, several years later, Ibn Misjah extracted the most advantageous melodies that he had collected during his travels and introduced only those Byzantine and Persian notes and intervals which were not alien or disagreeable to the existing national modes or melodies and established what became known as the Arabic ghina.[7] There were two new modes created for this Arabic song form and included elements of the Pythagorean and Chaldean scales which Ibn Misjah had picked up in Syria.

→ i.e. those which fit his system of tuning? the range of his instrument? Certainly this points to an anatolian style.

.../3

To the two new modes, Ibn Misjah applied a rhythm which was independent of the beat and which functioned like harmony. This special innovation was strictly Arabic since rhythm was, at the time, unknown to the Persians. Despite the argument then, that the Arabs were not supposed to have had a musical theory of their own and therefore could not have influenced European music in any way, the new ideas introduced by Ibn Misjah became the basis for the Old Arabian System of Musical Theory which we shall see later, did in fact, have an influence on Western European music.

ISHAQ AL-MAUSILI AND THE OLD ARABIAN MUSICAL THEORY

The musician who was to exert a strong Arabian influence on Western European music, most particularly through the modes, was Ishaq al-Mausili. Persian by parentage but an Arab by birth and education, he perfected and expanded the system of modes which had been built up by Ibn Misjah in his Pre-Islamic System and classified them into 8 melodic and 6 rhythmic categories.[8]

Do you suppose this to be derivative from the Byzantine System?

Al-Mausili originally classified the modes by naming them after the 8 fingers of the two hands (thumbs were not regarded as fingers) and according to their course. A course was like a key (key of C) or a scale that took its name from the tonic or principal note that occurred on a particular string of the lute. For example, if the tonic or principal note was located on the open string, it was called mutlaq, therefore the mode was named the Mutlaq Mode.[9]

The 8 melodic modes were each made up of two tetrachords. Thus they continued to retain the old form as set down originally by Ibn Misjah. The tetrachord was also a theoretical landmark of the Arabs and could be contained within the stretch of the hand upon the lute.

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There were 3 genres of Arabic tetrachords known as the
qawi
khunthawi
and rasim.

The genre was a Greek device which had been adopted by the Arabs in the 10th century and became the basis of their modes since it allowed them to expand their circulation.[10] It is interesting to note that the 3 genres of Arabic tetrachords mentioned corresponded to the Greek genres of diatonic, chromatic and enharmonic.

Another revision to the Old Arabian Musical Theory was the introduction of compound modes. A compound mode was made up of the first tetrachord of one mode and the second tetrachord of another mode with the arrangement of notes and rests following a much more complex formula.

The system of rhythmic modes changed very little from the first casting of the Old Arabian Musical Theory by Ibn Misjah. They continued to appear in a definite form and had been assigned names which were also not altered. The names of the 6 rhythmic modes were as follows:

by fingers like Greek system of pitch modes?

thaqil awwal
thaqil thani
khalif thaqil
hazaj
ramal
ramal tunburi

Al-Mausili replaced the ramal tanburi with the new khalif al-khalif mode.[11]

Other modes were eventually added to the 8 principal melodic modes and some were given Persian names as a result of the "borrowed" influence of the Zalzalian and Persian scales, to make up 12 modes.[12]

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SOME OF THE ARABIAN RHYTHMIC
MODES

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Thaqil awwal 

Thaqil thani 

Hazaj 

Ramal 

Each rhythm has two forms:

(a) andante and adagio

(b) allegro and allegretto

Rhythm corresponded to meter of poetry.

Subject matter of the words guided the speed of the rhythmic mode, lively for joy, slow for sorrow, etc.

After he had assembled the 12 modes, Al-Mausili called them the maqamat. Six secondary modes were formed later. The names of 11 of the principal modes have been listed for further reference purposes. They are:

Ushshaq	Iraq
Nawa	Zirafkand
Abu Salik	Buzurk
Zankula	Rahawi
Rast	Husaini
	Hijazi [13]

regional? qualitative?

It is not known what happened to the 12th mode.

ETHOS IN THE MODES

The Greek notion of ethos can also be seen in the ideas and attitudes of the Arabs towards their modes, although it must be clearly understood that the doctrine of ethos can be traced back to the ancient Arabic civilization. Ancient Arabic ethos likened their modes to the movement of the spheres and stars.[14] The primary function of the modes was to provide harmony among the spheres since "all the world was a cesspool of destruction."[15]

The harmony, as provided by the modes, among the spheres equalled the temperaments of the body and natures of mankind. The Arabs believed that contained within each mode was a single note that resembled and fitted every temperament and every nature on earth.[16]

For this reason modal music was used in hospitals in order "to lighten the pain of illness and affliction."[17] Every melodic and rhythmic mode had an "ethical value."[18]

.../6

Modes were allocated to certain periods of the day and night and musicians were strongly urged to tune their instruments accordingly. If one was up with the false dawn, the Rahawi mode was advised. If tuning took place at the true dawn, then the better mode was the Husaini. Should tuning commence at sunrise, the Rast mode was exhorted. For those tardy with their tuning, not having risen from their beds until noon, the Ushshaq mode was unquestionably the only mode to be considered.

It is noteworthy that the Byzantine tradition has no rhythmic modes and no point of relation between rhythm and pitch, except indirectly through poetic rhythm.

Between prayers one had to refer to the Hijaz mode. At sunset the Isfahan mode would prove to be irrestible to the ladies because of its immense popularity with them. But during the time of sleep, so as not to create any unnecessary disturbance the Mukhalif mode was absolutely mandatory.[19]

The Arabs further believed that modes influenced the soul. The Ushshaq most assuredly gave the soul courage as did the Abu Salik and Nawa modes. However, if one hoped to pacify and delight the soul, then this fulfillment was to be found within the Rast, Iraq, Nauriz and Istafan modes.[20]

MODAL NOTATION

One of the elements associated with the modes which was to an important impact upon Western European music was phonetic notation. A phonetic notation for modes had been known and had been in use as part of the Arabian musical system as early as the 9th century. The notation was specifically for instrumental music and was exclusive to the practical musicians who really cared "very little for theoretical matters" as we are informed by the Kitab al-Aghani. That the Arabs had and used a phonetic notation has been well-documented in many of their treatises.[21]

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Yahya ibn Ali ibn Yahya, a pupil of Ishaq al-Mausili, used the following notation for his lute.

ARABIC SYMBOLS:	A.	B.	J.	D.	H.	W.	Z.	H.	T.	Y.	
Notes:	G	a	b^b	b	c	d	e^b	e	f	$f^\#$	or g 22

The great Arabic music theorist who died in 874, Al-Kindi, also had a phonetic notation that follows the modern day chromatic scale.

ARABIC SYMBOLS:	A.	B.	J.	D.	H.	W.	Z.	H.	T.	Y.	K.	L.
Notes:	a	b^b	b	c	$c^\#$	d	e^b	e	f	$f^\#$	g	a^b 23

The major difference between the two notations can be seen between the notes of the first 4 symbols of each theorist.

THE ARABIAN MUSICAL INFLUENCE

The Arabian Musical influence on Western European music through the modes was brought about largely by 3 factors. The first factor was the political contact of the wandering minstrels. These musicians who most often were Arabs began to travel to Europe at the beginning of the 8th century. With them they carried their musical ideas which embodied their national modes, and introduced them vocally and instrumentally. There was little doubt upon their arrival to Western Europe that the cultivation of Arabic music was much more advanced than the music of the European nations.[24]

The second factor which contributed to the Arabian musical influence on Western European music was the literary and intellectual contact which began to spread to Europe during the 10th century.

.../8

MUSICAL NOTATION.

From the "Risāla fī khubr ta'līf al-alḥān" of Al-Kindī (d. 874).

The literary and intellectual contact involved the transmission of the practical theory of the Old Arabian Musical system. The phonetic notation of the modes was one example of the transmission and its influence in Europe was evident during the 10th century when it was employed for European secular and instrumental music.[25]

The last factor to play an important role in the Arabian musical influence was the advent of Christianity. With the coming of Christianity to Western Europe, the science of music was thrown aside along with the other nobler sciences. Through wide circulation of their own treatises, the Arabs were able to restore the science of music to medieval Europe. Saved from oblivion were also the translations into Arabic of the ancient Greek music theorists.[26] Many were lost in the fire in the library of Alexandria.

One of the outstanding classifications of the Arabian Sciences of Music was the mode. Transmitted to Europe through the treatises of great Arabic scholars and music theorists, the modal theories of the Old Arabian Musical system were introduced to Western Europe.

HISTORY OF THE MODES

Despite the fact that some Western European writers have not been able to unlock the mysterious past of the modes, the history of the modes can be traced back to Persia between 400 and 200 B.C. At that time Persia had 7 modes while India, during the same time period, possessed 7 jatis or ragas. Between 590 - 628 A.D. the number of modes Persia had, was increased to 12.[27]

In the 8th century a Book of Modes was written by two Arabic theorists, Al-Khalil and Yunus al-Katib, in which 8 modes are mentioned.

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This point has been touched upon primarily because modal theories of Western Europe claim that there are no records of theory and "no notated music" between the 6th and 9th centuries.[29] One writer states that:

> "During this period (the 6th to 9th centuries) a system of 8 modal categories, for which there was no genuine precedent came to be associated with Western liturgical song and was proximately of medieval Greek origin." (abridged)[30]

Said writer continues:

> "the origins of the 8 modes are not entirely clear but were adopted by Carolingian theorists."[31]

The fact is that at the Carolingian time to which said writer is referring, the empire of Charlemagne had already touched upon the superior civilization of the Arabs of Al-Andaluz. Although there was not much literary contact there was most definitely intellectual contact. Furthermore, there can be little doubt that ~~due to~~ because of the political domination of the Arabs, Christian Spain had absorbed at least some of the elements of Arabic culture.[32]

The 3 men who contributed to the Carolingian renaissance of learning were Theodulfus, Claudius and Agobardus. All were Goths who had been born or educated in Spain or Southern Spain. All three had also been influenced by the Arabian modes.[33] This statement would imply that the origin of the 8 modes was quite clear.

But the eight pitch modes in the west have a complicated derivation; partly./10 through Greek treatises translated into Latin, partly through the octoechoi (Byzantine). Arabic influence seems to be more in the areas of rhythm, instruments,

CONCLUSION

Did the Arabs have their own system of musical theory and did their system or any part of it have any influence on Western European music? It is the opinion of this writer that European music is deeply indebted to the Arabian musical influence because of a system of musical theory by a civilization that was far in advance of the European system.

It is a further opinion and observation that one of the most "deplorable things" in musical history is the systematic way in which European writers have contrived to put out of sight any significant contributions that have been made by this great civilization.[34]

It is to be hoped that with time, new ground will be broken and what is the "accepted opinion of musicologists today" will be drastically altered in favour of the Arabian Musical Influence on European music.[35]

and performance style (something that is difficult to assess).

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T H E
A R A B I A N
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Arabic Culture 2101
Prof. A. Obeid
Submitted Dec. 13, 1993

Barbara Solis

F O R W A R D

I should like to take this opportunity Professor Obeid, to thank you for a most interesting lst term with respect to your Arabic Culture course.

It has helped me to understand better, although I have not always successfully relayed the information back to you in our assignments accurately, one of the cultural strands if not the most important strand that is such a part of my own Andalucian background.

I have chosen to focus entirely on the contributions the Arabian Presence in Spain made to the Western European civilization and in so doing, I have become much more aware of the many ideas, customs, art, music and architecture that I came into contact with during my years in Spain but could never quite find an explanation for these things.

Thanks to you when memories of those years surface now, the legacy of my Andalucian ancestors is so much richer and fulfilling and will reflect itself most certainly through my medium of expression - music - with far greater clarity.

The paper is lengthy and for this I do apologize but I wanted to gather as much information as I could in case my path does permit me the time to return this way again. I shall so look forward to being your pupil in the 2nd term of your course and thank you again for all your encouragement. I have copies of both papers if you wish to keep the ones I have submitted for future reference.

Dios le Guarda,

Barbara Solis

"The world is supported by four
things only: the learning of
the wise, the justice of the
great, the prayers of the right-
eous and the valour of the brave.

Inscription over the portals
of Andalucian Universities

T A B L E O F C O N T E N T S

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THE ARABIAN PRESENCE

THE INVASION OF SPAIN

Heirs of an ancient civilization, the Arabs first absorbed and assimilated the main features of the Greco-Roman culture then acted as a medium for transmitting what became a superior culture gradually to medieval Western Europe. Its legacy, in the form of many important contributions, awoke Europe from the ignorant sleep of the Dark Ages and set it on the path towards modern renaissance.[1] One of the main bridges the Arabs used in order to transmit the cultural influences to Western Europe was Spain.

The Islamic cultural influence on Europe began after the occupation of Spain by the Arabs. The expedition into Spain holds a unique place in military annals, so swift and complete was its success. A first reconnaisance was made in July, 710, when 400 Arabs crossed from North Africa and landed on Tarifa, the southern tip of Spain. Encouraged by the dynastic problems in the Visigothic kingdom of Spain, a serious invasion was launched. Under Musa's Berber freedman, Tariq, the Arabs landed near Jabal Tariq (Gibraltar). Tariq met the armies of King Roderick and decisively defeated them.[2]

Spain became a province of the Arab Empire and under Arab rule, enjoyed a period of peace. When control of the Islamic Empire passed to the Umayyad dynasty, a young Umayyad prince who had escaped death was invited to Spain and in 756 he became the emir Abd al-Rahman, head of the first Umayyad dynasty of Cordoba. Although Spain retained its cultural and economic ties to the Arab Empire, it ceased to be a province under the new dynasty.

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During the reign of Abd al-Rahman III (912-61) Spain reached its height of power and prosperity.[3] In 1008, the Umayyad dynasty disintegrated due to loss of power and the inability to maintain unity. A measure of prosperity still continued but more dissension led to the fall of Toledo in 1085.

Appeals were sent by the Arabs to the Almoravids, rulers of the Berber Empire when it appeared as if the Christians were becoming a serious threat.[4] They ruled from 1090-1145. The Almoravids were succeeded by the Almohads who ruled Islamic Spain until 1223. Dynasty quarrels led to their withdrawal and Spain was taken over by the Christian kingdoms. The only Islamic state left in Spain was Granada under the Nasrid rule. Finally the fall of Zaragossa put the Arabs in Western Europe.

TRADE AND COMMERCE

The Arabic presence in Spain from the 8th century left many influences from the Arabian culture. Many features of the Arabian influence were adopted and made important contributions to the Western European world. One notable influence was trade and commerce. Goods were produced in Spain by the Arabs and then carried far beyond the frontiers of the Arabic Empire.

Trade had long been an important aspect of the Arabic civilization. Islam itself contributed to its importance because it was first and foremost "the religion of traders."[5] The morality of Islam was linked to the desert and the desert was the medium merchants used to carry out trade and commercial endeavours.

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Once Spain came under Arabic domination, she too became involved in trade and commercial relationships. Thus through trade contacts and the political presence in Spain, the superior culture of the Arabs made its way into Western Europe.

The precise form of trade between the Arabs and Western Europe is obscure. It is known though that old patterns of trade were altered in North Africa and Spain and this caused Western Europe to look to the north rather than to the Mediterranean for trade and commercial activity.

The contributions made by the Arabs to Western Europe can be seen through the influence of trade in the technique of shipbuilding and seafaring. For example, the lateen sail was invented by the Arabs on the Indian ocean. Later, in order to sail on the Mediterranean, the Arabs introduced the lateen caravel ship. The advantage of such a ship was that it could beat against the wind whereas the square-rigged carracks could only sail with the wind.

The lateen sail was adopted by European shipbuilders and further developed so that eventually larger ships were constructed that were capable of crossing the Atlantic and leading to voyages of discovery.

The mariner's compass was another major contribution by the Arabs to Western Europe. An important invention connected with the Chinese was the discovery of the directive property of the magnetic needle. The discovery that the needle was a suitable instrument for navigation developed in many stages. Its development began with the placement of a needle or magnetized piece of iron on a piece of wood floating in the water. The Arabs were the first to make practical use of the mariner's compass through lively sea trade between the Persian Gulf and Far Eastern waters.

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The discovery was passed on to Western Europe and technical knowledge was shared between the Arabs and Europeans. The first use of the mariner's compass is mentioned in Arabic literature around 1220.

A further contribution to European seafaring techniques as a result of the influence of trade were nautical charts. An important tool for the navigator, these were developed from Islamic cartography and passed on to Western Europe.

Arabic seafaring words also had a part in contributing to the European languages. Some of these still in use particularly in the English language are "admiral," "cable," "sloop," "barque," and "monsoon." [6]

GEOGRAPHY

It was from the Arabs that Western Europe gained its wide and precise geographical knowledge through maps. In the beginning of the 12th century the thought was that, that part of the world which did not belong to the Western Europeans, must surely belong to the Arabs. This idea changed about mid 1200 when two kings of Sicily, Roger II (1127-54) and his son William I (1154-66), gave patronnage to an Arabic scholar from Cordoba whose name was al-Idrisi (1100-66). Al-Idrisi produced a complete description of the world known only to the Arabs.

As a result of this contribution to the Western European civilization accurate knowledge of India, China and the northern part of Africa became accessible to Western Europeans. Al-Idrisi accomplished this by studying the writings and observations of early Arabic geographers, extracting information from returning

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travellers and travelling extensively himself. His knowledge was set out in a series of 70 maps accompanied by written descriptions and comprised what is sometimes known as the Book of Roger.[7]

AGRICULTURE

The Arabian presence in Spain also saw the advancement of agriculture through irrigational techniques which in turn made a substantial contribution to Western Europe, although this is not generally associated with the Arabs. Islamic laws discouraged landowners from making improvements or adopting superior methods of cultivation. In spite of rigid laws, a prosperous agricultural system existed in Spain where agriculture was possible.[8]

Rainfall in Spain, apart from the North, was very very little (and still is) and without some form of irrigation, agriculture would not have been possible. Both Visigothic and Roman Spain had had irrigational systems. The Arabs improved upon these and extended the systems on the basis of what they themselves had learned about conservation and distribution of water.

The Arabs also introduced certain forms of water wheels. These are still used in Spain today especially in the region of Andalucia along with the arcaduz or water bucket.[9]

The development of irrigational techniques led to the introduction of new plants into Spain which could only be grown where there was sufficient water to do so. Some of these plants were sugar-cane, rice, oranges, aubergines, artichokes, apricots and cotton. Those plants which were already cultivated in Spain were further developed by the Arabs. These included grapes, olives, figs, almonds and the pomegranate.

.../6

Plants used for flavour and colour were continued - saffron, carthamus, cumin, coriander, henna, woad and madder. To the warmer regions such as the Canary Islands, the banana and palm tree were brought. In Alicante palm trees that were brought to Spain several centuries ago, still line the colourfully tiled plaza that faces the Mediterranean Sea.

One of the most important contributions made by the Arabs to Western Europe as a result of the development of irrigational techniques and introduction of new plants was sugar. It was partly as a result of the Crusades which were going on about the same time as the transmission of agriculture to Western Europe through Spain that Europeans came into contact with sugar. Previously they had always used honey to sweeten their table.[10]

Once Western Europeans became acquainted with sugar-cane its influence made a major contribution to the domestic economy and to medicine. Soft drinks, rosewater, all varieties of candies and sweetmeats flowed from the introduction of sugar to Western Europe.[11]

GRACIOUS LIVING

Gracious living was a by-product of the agricultural development through the Arabs yet made an enormous contribution to the Western European style of life and poetic genius of the Romance peoples.[12]

.../7

For all classes of Spanish people gracious living was the norm simply because there were so many beautiful things available to all levels of society. Ceramics, for example, were highly developed. The painting of the tiles and the rendering of certain colourings of green and blue found only in Granada was introduced by the Arabs. The ceramic industry and special techniques of painting varied from region to region but still exist today in Spain. One of the great Spanish ceramic centres which dates back to the Arabic presence is Telavera de la Reina.

The secret of manufacturing crystal was discovered in Cordoba in the second half of the 9th century.[13] The ancient method of crystal-making continues in centres such as Rhonda, in Andalucia. Fine metalwork displayed to advantage the skilled craftsmanship of elaborate vessels and shapes of animals in brass and bronze and inlaid with silver and gold.

Carved ivory and wood, mother of pearl, leatherwork and the art of bookbinding all reached high levels of technical and artistic attainment through the Arab presence in Spain.

The influence for a gracious, genuine style of life in Spain began in the eastern centres of Medina and Baghdad. It was formed in Spain in the upper layers of society and disseminated by such leading figures as Ziryab, a musician and singer, who lived in Cordoba from 822 until his death in 857. Not only did Ziryab raise the level of playing and singing, he also became an arbiter of fashion and taste.[14] From the east he brought many recipes and preparations for different dishes. Through this contribution, the spice ginger found its way into the menu of Western Europeans.

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Ziryab introduced the use of crystal as part of his table setting in order to demonstrate that fine glassware was far more elegant than gold and silver goblets. Hairdressing and other forms of beauty aesthetics, change of clothing with the seasons all received his particular attention and became widely accepted among the upper classes of Spain.

The refinement of gracious living in Spain and its many contributions as a by-product of agriculture eventually spread to Western Europe. The Crusades also played some role in the simultaneious transmission of these contributions. As a result of the Crusades, Christians had come into contact with the new plants and crops previously mentioned and were introduced to new tastes in food and fashion. These tastes supported Western European commerce.

With the demand for the agricultural products, fine fabrics, spices and drugs such as alum and aloes a new European market opened up. A rapid circulation of money was needed and a system of credit notes was devised. Firms of bankers arose in Genoa and Pisa. The Templars instituted letters of credit and received money on deposit and lend with interest. Thus the first banks were established.

The agricultural contributions made to Western Europe from the Arabic presence in Spain helped Western Europeans to open their eyes to a dramatically expanded world and to becme more self-aware.[15]

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SCIENCE AND PHILOSOPHY

A major contribution to Western Europe was made by Spain in the transmission of science and philosophy through translation in the 12th century. Hugh of Santalla translated scientific works in Zaragossa while two scholars from the Pyrenees translated works of astronomy, meteorology and theology. The scholars were Hermann of Dalmatia and Robert of Ketton who became the archdeacon of Pamplona. In Barcelona, Plato of Tivolo and Abraham bar Hiyya translated works of geometry and astronomy from both the Hebrew and Arabic.

Another important contributer in the transmission of science and philosophy during the 13th century was King Alfonso X the Wise of Castilla. He commissioned translations of historical and scientific works and founded several higher learning institutions.

Through the translation of science and philosophy, contributions were made to the intellectual life of Western Europeans and assisted them to attain an increased measure of competence as they moved on to fresh discoveries.[16]

MATHEMATICS

The adoption of Arabic numerals began in Europe in the 13th century although its acceptance was slow. Western European mathematicians persisted in the use of antiquated Roman numerals and the abacus, which greatly increased the difficulty of most mathematical operations and definitely impeded the study of mathematical theory.[17] The Greek sexagosimal system was known by a few.

The introduction of the Arabic numeral system to Western Europe took place through the publication of the Liber abaci by Leonardo Fibonacci of Pisa in 1202. The work was a landmark in the introduction of Arabic numerals and marked the beginning of European mathematics.[1] Ten signs were given to simplify and extend arithmetical

.../10

operations.[19] Once the facility of the Arabic numeral system had been demonstrated, it was used for most practical purposes.

One of the most important mathematical contributions the Arabic civilization made to Western Europe was the zero or sifr. The sifr was applied to the ten signs to show that a particular position (units, tens, hundreds) was empty. [20]The sifr became part of European languages and was applied to all ten figures.

The foundation of algebra is attributed to Al-Khwarizmi while another of his works focuses on the present day decimal notation. Decimal fractions were traced to a man known as al-Uqlidisi.[21]

The Arabian presence in Spain played a full part in mathematics and European scholars were able to come into contact with her "living disciples."[22]The earliest mathematician and astronomer was Maslama al-Majriti (from Madrid). He lived for the most part in Cordoba and died about 1007.[23]Ibn Aflah or Geber (not the alchemist) was especially noted for his work in spherical trigonometry, a discipline in which the Arabs made great advances.[24]

Without these many contributions particularly the Arabic numerals and the sifr, continued use of the Roman numerals would have made mathematical progress impossible. The zero, Arabic numerals, decimal system and spherical trigonometry and algebra continue to be the basis of the science of mathematics as it is known today.

BOTANY

In the field of natural history, that is to say botany, pure and applied, the Arabic civilization enriched the Western European world with its contributions through research.

.../11

A treatise on botany by Ibn al-Awwan of Sevilla, towards the end of the 12th century was a most outstanding work in Arabic not only for medieval times but for our own times. Based on both Greek and Arabic sources as well as the experiences of Arabic husbandmen in Spain, al-Awwan's treatise deals with 585 plants and explains the cultivation of over 50 fruit trees. It also presented new observations on grafting, the properties of soil and manure and addressed the symptoms of certain diseases of vines and trees and recommended types of cures.[25]

Another well-known botanist and pharmacist, Ibn al-Baytar of Spain also left a medieval treatise on "simple remedies."[26] As a result of the Arabian presence in Spain, the contributions through research to Western Europe included the ability to make correct observations on the sexual difference between such plants as the banana, hemp and palm and to classify and identify plants that would grow from cuttings, seed or spontaneously.

MEDICINE

The transmission of medicine to Western Europe took place for the most part in Toledo where Gerard of Cremona and Michael Scot worked. It was in Toledo that the 3 main medical traditions, Arabic, Jewish and Christian were brought into a position where they could be amalgamated.[27] Through the translations of these 3 great traditions, several medicines and medicinal terms were introduced into the European languages. The word "julep" (julab) from the Persian "gulab" was an aromatic medicinal drink. Syrup from the Arabian word "sharab" was a solution of sugar in water made according to a special formula and often medicated.[28] "Soda" which in medieval Latin meant "headache" came from "suda," the Arabic word for "splitting pain in the head."[29]

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Chemical terminology too, was passed into Western European languages through Latin from Arabic. One notes words in the modern English language such as "alcohol," "alembic," "alkali" and "antimony."[30]

Through the Arabian presence in Spain the Arabs made their greatest scientific contribution in chemistry to Western Europe. In the study of chemistry they introduced the objective experiment, which was a decided improvement over the hazy speculation of the Greeks.[31] Accurate in the observation of phenomena and diligent accumulation of facts, the Arabs were able to project proper hypotheses and draw correct scientific conclusions.[32]

The Arabian presence in Spain produced a Latin writer known as Abulcasis. His writings on surgery and surgical instruments was the outstanding contribution to surgical medicine. Previously, surgery had been very slowly accepted for study in the medical schools and surgeons were in fact looked down upon. In 1163 surgery was forbidden to be a part of the medical curriculum.

The change in attitude was due to the writings of Abulcasis and the great widening of medical studies when translations from Arabic became available through Arabic Spain. These translations included the great medical encyclopedia of Rhazes and his Book of Secrets on alchemy which became the chief source of chemical knowledge. Rhazes in addition to inventing the seton in surgery, was responsible for influencing medical minds for centuries through his medical books. The Canon of Avicenna became the textbook for medical education in European schools and contains material on 760 drugs. Works translated from Arabic in Spain by Averroes, Hunayn ibn-Ishaq, Isaac the Jew and Haly Abbas all show conclusively that the Arabian influence and contribution to European medicine was much greater than that of the Greeks.

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ASTRONOMY

Astronomy was a practical subject in the sciences for the Arabs because of the widespread belief in astrology and because they needed to know the direction of Mecca which they were required to face during prayers.[33]

In Spain, astronomical studies were assiduously cultivated. Most Andalucian astronomers believed in astral influence as the cause of most events between birth and death. The study of astral influence was known as astrology. It necessitated the determining of places throughout the world together with their latitudes and longitudes. Astrology became the "mother of astronomy."[34]

Through Spain, Western Europe found Oriental inspiration in astronomy and astrology. The leading Arabic astronomical works were translated in Spain into Latin and the Alfonsine tables were compiled by King Alfonso X the Wise of Castilla. These, however, were really only a development of Arabic astronomy.

From the studies of the stars, Spanish Arab authors wrote the first chapters on spherical and plane trigonometry. Like algebra, the science of astronomical trigonometry was largely founded by the Arabs.[35]The names of the stars readily reveal that Spanish Arab astronomers had left their immortal traces on the celestial spheres. Most of the star names in the European languages are of Arabic origins. Some examples are Acrab (aqrab-scorpio), Algedi (al-jadi-the kid), Altair (al-ta'ir-the flyer), Deneb (dhanab-tail), Pherkad 9farqad-calf)and so forth. A number of technical terms further testify to the rich Arabic legacy the Arabian presence left to Christian Europe. These include such words as "azimuth" (al-summut), "nadir" (nazir) and "zenith" (al-samt).[36]

There can be little doubt that the new concepts in astronomical geography and mathematics made a major contribution to Western Europe through the Arabian presence in Spain.

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PHILOSOPHY

The crowning achievement with respect to the contributions made by the Arabic civilization to Western Europe was in the realm of philosophical thought.[37] Philosophy was the strongest and last link in the transmission chain and the Arabic contribution helped to reconcile faith, reason, religion and science.

The great philosophers of Arabic Spain included Ibn-Tufayh who died in 1185. His masterpiece was an original philosophic romance entitled Hayy ibn-Yaqzan, translated "the living one, son of the vigilant."[38] The theme of the work was that "human capacity unassisted by external agency may attain the knowledge of the higher world and may find but by degrees, its dependence upon a Supreme Being."[39] The story is one of the most original and delightful in medieval literature and may be likened to Robinson Crusoe.

The Hispano-Arabic astronomer, physician and Aristotelian commentator Averroes (ibn Rushd) was the greatest of the Arabic philosophers. Born in Cordoba in 1126 his chief contribution to medicine was a work in which the fact was recognized that one did not get smallpox twice. In the same work, the function of the retina was accurately described.[40]

In Western Europe Averroes was primarily known as a commentator on Aristotle. Medieval Europe was more agitated by Averroes Aristotle than by any other author which remained the dominant school of thought in spite of the adverse reaction it created amongst Arabs, Talmudists and Christian clergy.[41] The writings of Averroes eventually became a part of the prescribed studies of higher learning at the University of Paris. They continued to be a living factor in European thought until the birth of modern experimental science.[42]

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The most famous Hebrew physician and philosopher of Arabic Spain was Maimonides. Born in Cordoba in 1135, his family left Cordoba due to Arabic persecution and settled in Cairo about 1165. In Cairo he became court physician to Saladin and his son.

Maimonides distinguished himself as an astronomer, theologian, physician and above all, as a philosopher. His contributions in medicine included the improvement of the method of circumcision, the relation of haemorrhoids to constipation, proscribing for the uncomfortable malady, a light vegetarian diet and advanced ideas on hygiene.[43]

His leading philosophical work was the Dalalat al Ha'irin in which he tried to reconcile Jewish theology with Arabian Aristotelianism, or if one prefers, faith with reason.[44] His works were far-reaching in space and time and remained the principal medium through which Jewish thought reached the Gentiles.[45]

The ruling mystic of the age was a Spanish Arab known as ibn-Arabi. Considered to be the greatest speculative genius of Islamic Sufism, ibn-Arabi lived in Sevilla and died in Damascus. In one of his works he developed the nocturnal journey of Muhammad and his ascension to Heaven.[46]

By the end of the 13th century Arabic science and philosophy had been transmitted to Western Europe. The intellectual path leading from the portals of Toledo wound its way over the Pyrenees through Provence and finally the Alpine passes down into Lorrain, Germany, Central Europe and across the Channel into England. Spanish Arabic learning had finally permeated all of Western Europe.[47]

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THE FINE ARTS

In all of the fine arts, the Arabs displayed a keen appreciation of the particular and the subjective with a delicate sense of detail.

LITERATURE

The most significant contribution of literature to Western Europe due to the Arabian presence in Spain was the influence of the form of literature. The form of Spanish Arabic literature liberatedWestern European imagination to a large degree from narrow and rigid discipline surrounded by convention. Arabic models abount in Spanish literature and one such example is Cervantes' Don Quixote.[48]

One of the forms that emancipated Western European literature from the fetters from convention was poetry. The passion for poetry in Spain was intense. There was a sheer joy in speaking it and verses were passed from mouth to mouth. This was the most outstanding characteristic of the Arabic poetry that manifested itself on Spanish soil.[49] Spanish poetry developed new metrical forms and acquired a sensibility to the beautiful in nature.[50] Through its ballads and love songs it manifested the romance idea that anticipated chivalry.

The lyric type of Spanish Arabic poetry gained Western European admiration and became a potent factor in assimilation.[51] The two lyric forms which developed into the Castillian popular verse form of the villancico were later used for Christian hymns and carols in Western Europe.

A distinctive contribution of Arabic poetry was the emergence of a definite literary scheme of Platonic love in Spanish as early as the 8th century. The troubadours who flourished in the 12th century imitated the Spanish zajal-singers. A noble monument of

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early Western European literature, The Chanson de Roland, owed its existence to military contact with Spain.[52]

BOOKS - PAPER MAKING

Books constituted an important contribution to the civilization of Western Europe. The accumulation of books in Andalucia would not have been possible without the manufacture of writing paper.[53] Paper had been invented in China and the manufacture of paper passed into Spain in the 12th century. It was also soon evident that paper was better and cheaper than papyrus from Egypt. From Spain, the art of paper making was established in Italy about 1270.

After the destruction of Arabic power in Spain, 2,000 volumes were collected by Philip II and formed the nucleus of the El Escorial Library which is not far from Madrid.

The Spanish Arabic author who stood for highest literary accomplishment was Ibn al-Khatib. The most important book by Ibn al-Khatib was the extensive History of Granada,[54] a most notable contribution to Western European literary knowledge.

ARCHITECTURE

Two years before his death in 788, Abd al-Rahman founded the Great Mosque of Cordoba. It was completed and enlarged by his successors became a shrine of Western Islam.[55] He also built a bridge over the Guadalquivir river which featured 17 horseshoe arches. The famous horseshoe arch was first realized and developed in Cordoba and made a substantial contribution to one of the elements of Western European architecture with respect to design.

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The royal palace at Cordoba named al-Zahra after a favourite concubine was built by al-Rahman III. It featured marble from Numidia and Carthage and columns and gold statues from Constantinople.

Cordoba itself was a monument to architecture. It had 113,000 homes, 70 libraries, bookshops, mosques and palaces. Its streets were paved and illuminated by 700 lights. In Western Europe, London, at that time, did not have even one public lamp and in Paris "one stepped in mud up to the ankle on a rainy day."[56] Modern day cities all over the world are indebted to the great architectural contribution made through the Arabian presence in Cordoba.

MUSIC

During the Arabian presence in Spain music flourished with such brilliance in Al Andaluz that its light reflected to Western Europe. One of the contributing factors to this brilliance and which was to have considerable influence with respect to future contributions to Western European music was the musicians themselves.

The most famous of the Andalucian virtuosi was Abd Wahhab al Husain ibn Ja far al Hajib. Known for his bounty and hospitality towards other musicians (he was often poor himself due to his munificence, he was also known for his unique, beautiful music and most capable playing of the ud in the different modes. He was also a Peninsula composer who wrote original works.

Abul Husain ibn Abi Ja far al-Waqshi, son of a Toledo wazir, was a celebrated teacher of music. Abul Husain Ali ibn al-Hamara was a poet and musician from Granada who surpassed all others as a composer of melodies. He also invented a special type of ud.

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The Andalucian virtuosi also included a few Spanish ladies. Hind, a singing girl excelled on the ud. Her naghamat of the ud in the thaqil awwal rhythm were famous.

The musicians most of whom were also composers were not mere imitators of the Arabic music that had been brought to Spain but renewed and transformed it, thus preserving it from decadence.

When Arabic music first reached Spain it was through the palace with all its refinements. Eventually it was brought out of the palace and into the plaza where its simplicity was restored and its forms moulded to suit public tastes.

Two of these forms were the popular lyric patterns of the zajal and muwashshah. They became general vehicles for songs which again not only prevented decadence but permitted their transmission to Western Europe through the wandering minstrels who were most often Arabs and where they made a contribution to the musical life of Europe.

Schools of music were another important factor which contributed to the brilliance of Al-Andaluz. Ziryab, a famous Arab musician-singer came to Cordoba in 822 and among other things, he established a School of Music and a new curriculum of teaching music which became famous throughout Spain. Other schools of music were established at Sevilla and Granada. Among these famous schools was the School of Singing in Cordoba renowned for its perfection and ordered by a famous female singer, Nozha la Wahdya.[57]

Western European theory was particularly indebted to the Arabian presence in Spain for its modal theories. Even though Western European scholars claimed (and still do) that "there were no records of theory and no notated music between

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the 6th and 9th centuries" there is still overwhelming evidence to support the historical facts that there were music theorists in Spain who taught the science of music and wrote treatises on the subject.[58] The first to teach the science of music in Al-Andaluz was Abul Qasim.

A final major contribution which came to Western Europe from the Spanish Arabs were musical instruments. Produced most notably in Sevilla, these included the Arabic lute, rebec, nakar and guitar. The Arabs also invented and improved upon other instruments which eventually found their way to Western Europe. Some of these were the pandore, psaltery and flute which were used to accompany songs. Drums and tambourines were used to enhance and strengthen rhythm.

The transmission of music to Western Europe and the contributions that resulted was possible because of 3 things. The first was the political contact of the wandering minstrels. With them they carried their musical ideas which embodied their national modes and introduced them vocally and instrumentally. The second thing which contributed to the Arabian musical influence on Western Europe was the literary and intellectual contact. The phonetic notation of the modes was an example of this kind of transmission. Later it was employed for European secular and instrumental music.[59]

The last factor to play an important role in the contribution of music to Western Europe was the advent of Christianity. With its coming, the science of music was cast aside along with many of the other nobler sciences. Through wide circulation of their own treatises, the Arabs were able to restore the science of music to medieval Europe.

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C O N C L U S I O N

The influence of the Arabian presence in Spain on Western Europe has been far greater than realized. The contributions briefly summarized were as follows:

1. The Arabs shared with Western Europe material products and technological discoveries in the areas of trade and commerce.

2. The Arabian presence in Spain stimulated Western European thinking and assisted towards fresh discoveries in the fields of science and philosophy.

3. The Arabian presence in Spain provoked Europe through the Fine Arts and the Crusades which were going on simultaneously with one another, into forming a new image of itself.

The Western European reaction to the Arabian presence in Spain as well as the contributions that have resulted, has been to belittle the Arabs and exaggerate dependence on its Greek and Roman heritage. It is most important that this false emphasis be corrected and that the debt Western Europe has to the Arabian presence in Spain for its many valuable contributions be acknowledged fully.

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