

IT MuQ.ammad

is the purpose of this investigation to trace the life of
from the standpoint of influence on world

The Problem. culture. What was the power which
enabled MuQ.ammad to unite the warring tribes of Arabia, a task of such
magnitude as to pre-

.elude the emperors of Rome, Constantinople, and Persia from
undertaking it? Did the handsome camel-driver possess a
conquering personality which impelled his neighbours to
forsake their pleasures and follow him? Was the message
he gave a compilation of Christian, Jewish, and Hanifite
teachings which he had heard while leading caravans and
at the fairs near Mecca? Was he a master-demagogue or
politician? These are some of the questions which must
be considered as fundamental to our consideration of
MuQ.ammad as an educator.

The course is uncharted and the destination unpredictable. The primary topic is
the inquiry into the methods

which MuQ.ammad used to attain success where other wellmeaning and more
influential persons had failed. An

Arabic scholar told me that Mul,lammad had no method.

It is possible, however, that the best of methods is that
which is not apparent and which, therefore, does not
distract the attention of the learner from the subject.

Those who insist on the exclusive importance of
envirQnment would demand an exhaustive treatment of the
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cultural and natural landscape in the I;Iijiiz during the time
preceding the appearance of Mul,lammad. Although it is
patently true that many thousands of other Arabs were
subjected to the same or similar influences hut there was
only one MUQammad, it is quite legitimate to devote some

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attention to the historical and geographical background.

Nicholson alleges that no other religion has historical

Brief space will be accorded to the pre-Islamic development
attestations comparable to Isliim but that nowhere else do
of commerce, literature, and religious ideas.

we find pious men more given to falsehood than in Islamic

The rise of Isliim to the control of a theocratic empire

tradition. 1 In view of the fact that much of the informamore vast than that of
Rome presents another fascinating

aspect of the influence of the life and preaching of tion is

contradictory, it will frequently be necessary in this

Mul;lammad. Muir and others have made exh:mstive

study to apply

the recognized criteria of historical investigations of the origin, achievement of great power, and investigation and research to determine the reliability and authenticity of the Caliphate. The question of Muslim dominion and authenticity of the data, the shifting of internal and external evidence in is so involved and of such doubtful bearing on the core of the assignment of dates and the ascription of the problem that it must remain in the fringe of attention. acts placing a premium on resourcefulness and judgment.

The desire not to become entangled in a maze of the rather general phases of the problem In addition to logical notions dictates only passing mention of doctrinal sketches above, there are such specific tasks as tracing the authenticity points and a circumspect handling of the Shi'ite-Sunni controversy. Some assert that the student must align to Muhammad and commonly memorised by Muslim schoolchildren with one side or the other. Many scholars, even children. The following sayings are typical: The some of Sunni persuasion, defend 'Ali. The literature is replete with attacks on the Abbasids but these allegations of the martyr. Seek are usually undocumented. Labelling the Sunnites orthodox and the Shi'ites unorthodox, even though the former are in To seek learning is the duty of every Muslim man the majority, can scarcely be regarded as in the interest of and woman.

objectivity. A seat of learning is a garden of heaven.

Aside from the life of Muhammad, the most interesting Angels bend down their wings to a seeker after topic related to the educational aspects of Islam is the knowledge.

Muslim contribution to culture in its manifold manifestations : economic theory and practice, music, literature, The of my life.

Architecture, sculpture, mathematics, chemistry, physiology These and other proverbs are commonly quoted by reputable and medicine. The gifts to world civilization of the following-writers, but, almost invariably without a shred of: evidence to ers of Muhammad have been thoroughly set forth by such support their ascription to Muhammad. It should be competent scholars as Sarton, Meyerhof, Sir Thomas possible to trace the chain of evidence (is not) of. some of these Arnold, Khuda Bakhsh, and Baron Carra de Vaux. Only beautiful utterances. It would be highly

a specialist would care to survey definitively how each field significant
if it were established that such statements were
of knowledge has been enriched but it is believed that it actually made
by Muḥammad at a time when Christians
would be worthwhile to summarize the most important con- were praising
ignorance as the mother of faith.

tributions. It is proposed to render accessible the gist of
the facts and to indicate where additional data may be found.

I R. A. Nkholson. Literary History of the Arabs, p. 22.

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The title of this study, Muḥammad the Educator that
character which qualified it to transcend all
assumes that Muḥammad is entitled previous periods of
evolution. For although there

Importance of

is not a single aspect of human growth in which the

Problem. to a place in the ranks of those who

have influenced the educational and decisive influence of

Islamic culture is not traceable

cultural progress of the human race. Is Muḥammad usually

nowhere is it so clear and momentous as in the

so regarded and is the assumption justifiable? Does reli-

gion of that power which constitutes the paragon of feeling becloud the

vision of investigators? It is a most distinctive force

of the modern world and

doubtless true that Muḥammad is seldom regarded as an

the supreme source of its victory-natural science

educator and this fact largely accounts for the unwillingness

to find the scientific spirit What we call science

of reputable scholars in the English-speaking world to deign

arose in Europe as a result of a new spirit of

to write his biography from a pedagogical standpoint. It

inquiry, of new methods of investigation, of the

method of experiment, observation, measurement,

seems at first glance incredible that an unlettered man

should be hailed as an educational leader. Muḥammad

of the development of mathematics in a form unsaid that the Qur'an was his only

miracle. It being the known to the Greeks, That spirit

and those

revelation of an untutored mind and the first book in

methods were introduced into the European world

Arabic. That an educator could be illiterate might be the

by the Arabs. •

corollary of this miracle. The writer believes that only

Stanwood Cobb, founder of the Progressive Education

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the most provincial concept of education would gainsay the Association. states ill similar vein :

legitimacy of placing MUQammad among the great educators

h~arp, impinging culturally upon adjacent Chrisof all time for, from the pragmatic standpoint, he who tian cOl!ntries, was t!:J,e virtual creator of the Renaisellevates human behaviour is a prince among educators. In sance in Europe. .

line with the usual tendency to ignore the greatest Arab is That i\|portapt contributions to world intellectual

the absence of articles on either MUQammad or Islam ili progress were made by the Arabs is not open to qllestitution,.

Monroe's Cyclopedia of Eaucation. 1 But'

were these developments the result of thein£luence of

There is no intention to imply that the importance of MUQammad?

Were the propagators of the Muslim creed

lukewarm and unbelieving apostles? Briffault contends

Islamic culture in the development of contemporary civilization has been wholly ignored. On the contrary. some that at the time of its origin and througho!..!t its heyday

scholars give full credit and recognition to the fruit of the these leaders of thought were utterly indifferen t to religion. 2

seed sown by Mu\lammad. Briffault traces the scientific It appears incredible that anyone acquainted with the

method and spirit of inquiry to the Arabs in these words2 :

struggles, hardships, and sacrifices which characterized t1)e

It is highly probable that but for the Arabs modern lives of the companions of MUQammad could draw 114.ch a

European civilization would never have assumed conclusion.

It may well be, of course, that Briffq~It's

1 Stanwood Cobb. "Islam's Contributio!1 to ,the Wo~ld C~lture."

1 Monroe's Cyclopedia of Education, 1, does contain an article on

Arabic Education; a tree is recognized but a forest is overlooked, World Order 6 : 20~ (9/40).

• Robert Briffault" The Making of Humanity, pp. 190-91. •

Briffault, op. cit., p. 186.

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evidence of a corroborative nature 1 :

materialistic outlook led him to ignore the element of red

While the Germans had nothing with which to

ligious faith and devotion so clearlY discernible in the lives

oppose the Christianity of the Empire, the Arabs

of 'Ali Abu Bakr Hamza, and numerous other outstanding were

exalted by a new faith. It was this, and this

men who were willing and eager to endure persecution, to
 alone, that prevented their assimilation. For in other
 have friends turn against them, and to abandon their
 respects they were not more prejudiced than the
 possessions in order to proclaim allegiance to the One God
 Germans against the civilization of those whom
 ("Ahadun ! Ahadun ! "). Even so, some writers feel that it they
 had conquered. On the contrary, they assume as ridiculous to claim for Islam
 the work of Ibn Sina as it related themselves to this civilization
 with astounding
 would be to point to the discoveries of Galileo as bestowals
 rapidity; they learnt science from the Greeks and
 of the Catholic Church. Without attempting to settle the art
 from the Greeks and the Persians.
 issue in that particular application and context, it is un- The
 Germans had no influence on Romanic civilization
 undeniable that Muhammad did introduce the order and but were
 Romanized as soon as they entered Roman
 stability which stimulated the development of Islamic territory. On
 the other hand, the Romans became Arabized
 culture, a veritable revolution of unparalleled tempo and as soon as
 they were subjugated by Islam. In ninth century virility. Concrete examples
 to verify these century Spain the Christians no longer knew Latin and
 the
 points will be cited as ,the study proceeds. texts of the
 Councils were translated into Arabic.~ The
 Henri Pirenne, the late Belgian historian, pointed out Arabs apparently
 had a motivation of an intensity and
 that, generally speaking, the Roman Empire had had prac- profundity
 unknown to pagan peoples.
 tically no dealings with the Arabian peninsula before the Writing
 over a century ago, the Reverend George Bush
 Muhammadan epoch. | The Arab conquest was without had this to
 say about Islam and its influences:
 precedent, the swiftness of its victory comparable to that No
 revolution .in history, if we except that
 which marked the beginnings of the Mongol ,Empires of
 effected by the religion of the Gospel, has intro-
 Attila, Jenghis Khan, and Tamerlane. To quote from
 duced greater changes into the state of the civilized
 M. Pirenne 2 :
 world, than that which has grown out of the rise.
 But these Empires were as ephemeral ,as the con- progress, and
 permanence of Mohammedanism.
 quest of Islam was lasting The lightning-like The Arabs
 customarily refer to the period prior to the
 rapidity of its diffusion was a veritable miracle a~. advent of Muhammad as

the rlahiliyya or "time of ignorcompared with the slow progress of
 Christianity. ance." Muslim authorities may go a bit too far in their
 The point as to whether the vast dominion of. the proneness to
 designate that period a "dark age," but the
 contrast between it and the epoch subsequent to the coming
 followers of Muhammad and the Islamic world culture w~re
 directly attributable to religious faith has been partl~ of Mu1;Iammad
 is most striking. Without becoming overtly

answered in the affirmative. Pirenne provides additional
 1 Henri Pi renne, Mohammed (md Charlemagne, p. 150.

2 Ibid., p. 152.

1 Henri Pirenne, Mohammed and Charlemagne, p.147. • Reverend
 George Bush, The Life of Mohammed, p. 17.

3 Ibid., p. 149.

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involved In controversy, it can be concluded that the of
 connotations and significations. Then, too, the verses
 genesis of the greater Arabic culture was centered on of the
 Qur'an are a poetic prose in which sound and rhythm
 Muljammad's miracle, the Qur'an. Moore presents the idea. are vital
 factors. The late Marmaduke Pickthall in the
 tersely and convincinglyl :

introduction to his attempt at translation rhapsodizes in
 A people whose religion is revealed to them in a this word-picture of
 the Qur'an: "that inimitable symphony
 book must make provision for the study and inter- the very sounds of
 which move men to tears and ecstasy."

pretation of that book. Translation may be a
 bold effort, but that it is not a too

The most important and authentic of these sources is forbidding one
 is attested by the number who have essayed
 the Qur'an itself, probably the most it. A curious part of the record is
 the fact that the early

Primary sources for studied book in the world. It was renderings
 into English were made by enemies of Islam.

a biography of
 Muhammad. the first book written down and The first
 one worthy of consideration was published in 1734
 copied in Arabic. Parts were in by George Sale who regarded
 MUQammad as an impostor.

writing during the lifetime of Mu1).ammad and all of the This
 translation is surprisingly accurate although Yusuf 'Ali,
 'verses had been memorized by ear-witnesses. A few a recent
 translator. charges that Sale's work was based on
 months after the death of Mul;Iammad a collected edition the Latin

version of Father Lewis Maracci, a confessor to
 was made 'by Zayd-at the command of-Caliph Abu Bakr~ ,Pope
 Innocent XI. Maracci's translation was produced in
 who 'i'gathered it together, from date-leaves, and tablets :of 1698 for
 the all~ged purpose of giving the worst pos.sible
 white stone and ;from the breasts 'of men:2 In his travels
 -impression of Islam to the literate Europeans; it was
 a warrior ~amed Hodzeifa noticed that the copies of the dedicated
 to the Holy Roman Emperor Leopold I and was
 Qur'an exhibited variations of text and he warned Caliph preceded
 by,a refutation upon which, according to Yusuf
 "Uthman to "stop the people before they should differ "Ali, Sale
 basedihis,notes and "Preliminary Discourse." It
 regarding their Scripture, as did the Jews and Christians.',,g ds true
 that Sale regarded the Maracci translation as
 Some tiine after -33 AH.,.Utbman ordered Zayd and three very
 exact and the only one "which represents the sense of
 others of the Qm:aysh to make a new and careful recension. _ the
 original" But Sale considered Maracci's "refutations"
 This became the established text and copies were sent to .as of
 little or no use and sometimes impertinent. He con-
 Basra, Kufa, and Damascus, and one wasretained-at-Madina. ,tinues1 :
 The text has remained unaltered to this day. The Treaty
 The work, however, with all its faults, is very
 of Versailles required Germany to surrender one of these
 valuable, and'I should be guilty of ingratitude. did
 'Uthman Qur'ans. 4 I
 not acknowledge myself much obliged thereto ...
 Translation of the Qur'iin into any other :language from: The Rodwell
 translation of 1861 was less literal than
 the original Arabic results in loss of effectiveness. A single 'Sale's but
 more poetic and the Suras were arranged in
 Arabic word may be a shorthand way of expressing a wealth .rough
 chronological order. In 1876, Palmer produced a
 sort of American revised version which Yusuf 'Ali, with
 some justification, condemns as "careless and slipshod."
 1 Earnest Carrol Moore, The Story. of Instrllction. p. 279.
 Among the more recent translations consulted in connec-
 2 Sir William Muir, The Life of Mahomet, p. 555.
 a Ibid., p. 556.
 'Moore, op. cit., p. 256. 1 George
 Sale, The Koran, pp. x-xi.

don with this stu,iy are those of Pickthall (1930), Bell the
 tenth-century revision by Wazir al-Magbribi. The

(1937), and Yusuf 'Ali (1937-38). When passages from the Kitdb al-Maghdzi of althe Qur'an are quoted herein and the translation is not Waqidi CABdu'Uah MUQammad ibn 'Umar al-WaqidO.

Another important book is the Kitdb at-Tabaqdt al-Kabir, designated, that of Sale is employed.

written by al-Waqidi's secretary, Ibn Sa'd (Abu 'Abdu'llah

The next most important source of biographical data is

the hadith literature. A hadith is an act or saying attributed to MuQammad. A man who said and did things in public

Two-thirds of the account of the life of Muhammad

for over three-score years would naturally inspire a vast

body of traditions. The most respected collection of

and it is interesting and revealing to compare

hadiths was that assembled by AI-Bukhari in 879 AD. ; from

version with the recension of Ibn Hi~.ham. We are

an accumulation of some 600,000, he selected 7,398 traditions.

indebted to Tabari for one of the outstanding tafsirs

Bukhari's great work is available in French as well as in

commentaries, the Book of Religion and Empire (published

Arabic. Also highly esteemed is the collection of Muslim,

English). The later biography of Abu'l-Fida (Isma'il b.

a contemporary of Bukhari. The genuineness of traditions

MUQammad Abu'l.Fidii), who lived from 1273 to'

rests largely on the number and character of the witnesses

was a compilation of earlier sources and is

in agreement. Traditions, like condiments, are best used

an inferior authority,

in moderation to supplement and add flavour to what is

foending of Quranic exegesis has been ascribed to

more substantial. Guillaume gives an excellent, even if

'Abdu'Jiih b. 'Abbas, cousin of the Prophet. The gist of

somewhat hypocritical. discussion of the leading recorders

researches on interpretation is to be found in the

of hadiths and provides an insight into the complexity of

encyclopedic commentary of Tabari (died 922 A.D.) and

~racing isndds. the tafsir

of Baydawi (died 1286 A.D.) are highly prized in

The principal authority for the life of MUQammad is the

world. The Itqdn, a general survey of Quranic

Sira of Ibn Ishaq (Abu 'Abdu'llah sciences, was compiled by Suyuti

(died 1505 A.D.).

Secondary authorities.

MUQammad Ibn Ishaq), native of

of MUQammad written

Among the leading biographies

of MUQammad written

Madina. He received his education in his home town, in the twentieth century are those of Emile Dermenghem, later travelling to Egypt, Iraq, and finally to Baghdad at Tor Andrae, and Sirdar Iqbal' Ali Shah: these are available the invitation of Caliph al-Mansur. Thus the Szra was able in America. The late D. S. Margolioth, most widely written under Abbasid patronage, which may account for read of the biographers, was an ordained clergyman; his its hostile treatment of the Umayyads and its eulogy of the contempt for MUQammad is often subtle and concealed, a Hashimites from whom the Abbasids claimed descent. Uncharacteristic which renders his writings perhaps less trustworthy, none of Ibn Ishaq's works is extant in its original worthy than those of a candid opponent. Father Lammens, form but this oldest biography of MUQammad has been a man of great erudition, applies impossible criteria for preserved in a recension by Ibn Hisham (Abu Muhammad judging hadith.s, important biographical sources; he avers, 'Abu'l-Malik Ibn Hisham b. AiYilb al-Himyari ai-Basri), for instance, that when traditions agree with the Qur'an, they copy who died around 833 A.D.. or about 65 years after the the Qur'iin and are not authentic. Ordinarily, death of Ibn Ishaq. Ibn Hisham's work is entitled Kitdb Sirat Rasuldldh. The present form of the work dates from 1 De Lacy O'Leary, Arabia Before Muhammad, p. 214.

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the agreement of sources is held to constitute substantial.. regard the differences of wealth, nation, and race as of minor tion, but it may be that the Jesuit scholar is concerned importance, whose vision of democracy excels that of the ancient more with trans-substantiation than with substantiation. picture of Greeks.! Townsend presents this rare Prejudice is not confined to the Christian presentation. picture of Islam 2 :

Some Muslim writers are not without sin; rare is he who The slave who embraces Islam is free; not simply adheres to bare facts without exegetical ornamentation; a freed man, but a free citizen competent de Dinat <lild MIQ.ammad 'Ali go so far as to attribute miracles facto as well as de jure to all and every office in the to Muhammad. state.

Those who have no religious predilections, frequently He goes on to say that "Under Mahommed there sprang up ex tackle the subject and often with less success than the necessitate rei a form of democratic equality

religionists whether judged from an academic or an artistic more absolute
than any the world has elsewhere. 9
standpoint. Dibble in his flippant book asserts that he has Mul;tammad was
a more thorough educator than the modern
found the secret which explains the power of MUQammad: reformers
whose libertarian teachings during the inter-war
~pilepsy. But Dibble cites no instance of a proved epilep- period in
Europe could not measure up to the task of
tyranny and war. preventing

opinion of competent medical men that the trances of
Muhammad could not have been epileptic because occur-
~en~es or ideas experienced during fits of epilepsy are not
remembered afterwards.

At the outset, it must be conceded that absolute
objectivity is impossible. The body of material is so vast
that selection is essential and selection involves subjective
judgment. Even so, the tu quoque argument used by both
Christians and Muslims can be eliminated, thus advancing
that much toward unvarnished reality. The goal is to
present Mu1;J.ammad as a moulder of human affairs an~"
if possible, to discover his eminently successful Q1~thods.
Treatment of the subject by one who approaches it from
the view-point of educational interest, sh(}l}ld be of value
at least to teachers. In this brief paper, only a beginning

can be made. Insha'lliuh, this humble effort may stimulate
others to undertake more ambitious research projects. As
Apu'l-Fidii has written "knowledge of a part is better than
ignorance of the whole." The writer believes that it is.

~ort!:lwhile to shed even ol,'le candlepower of light OA
the Islamic' attitude towards human brotherhood, the
Rutter, *Triumphant Pilgrimage*, p. 230.

attitude of several hundred million human beings who
Townsend, *Mahommed*. p. 34.

I Ibid., p. 50.

THE SETTING

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At the beginning of the ~eventh century Central
Arabia was not even externally organized as a State.

This makes it all the more remarkable that precisely
Chapte:r 2

that portion of Arabia which was
wholly uninfluenced by the neighbouring civilizations should be
THE SETTING , the issuing-point of the great
Islamic movement.

Reverend Zwemer would make it appear that Muhammad

K NOWLEDGE of the histoJical and. geqgraphic<1.1 background of the Arabs

1 Owen

t Meredith

contributes in an essential way
 borrowed the elements of Islam from "Heathenism;" (comprising all religions
 rejected by Christian missionaries, e.g.,
 Foreword. to an understanding of the influence
 of Mohammed. The methods and the teachings of Zardusht and Buddha
 as well as Arabian
 techniques of Muhammad must be considered, not from the (idolatry),
 Judaism, and Christianity. The facile charge of
 continental, popular American standpoint, held in the light of the plagiarism
 may more readily be preferred than substantiated
 exigencies of time and place. Writers of history often feel
 particularly when directed against an unlettered man. It is
 constrained to ascribe, every important idea or outstanding recalled
 that some have claimed that the teachings of Jesus
 in his contact with the natural and social landscape are so
 strikingly similar to those of Gautama Buddha as to
 escape. It is not difficult to argue the dominant significance make
 credible the notion that the forty days reportedly
 of environment but beyond a certain point the theorising is supported by
 Christ in the wilderness must have been passed
 tends to get out of hand and clash with facts. In a
 Buddhist temple. Actually, the Faith of Islam contains
 Dr. O'Leary draws this conclusion on the development numerous
 administrative provisions and laws concerning
 of Islam: fasting,
 marriage, providing for orphans, prohibition of the
 The result of the ancient penetration of Arabia is the use of wine, abolition
 of gambling and infanticide and so
 and the intercourse of the Arabs with their neighbours, which are not to
 be found in any of the creeds mentioned
 It was that the religion of Islam, so far from being by Zwemer. It is
 undeniably true that many of the
 taking its rise amongst secluded desert tribes, was doctrines concerning
 belief in God, immortality, the brotherhood a natural stage of development in the
 religious life of the East, and the law of love are either implicit or
 of West Asia ... explicit in religions
 preceding Islam. The fact, however
 Now it is important to be aware of the ferment in the East that an
 individual reiterates a thought previously expressed
 religious thinking induced by the Jews and Nestorians elsewhere by another
 elsewhere should not lead a scholar to the con-
 Christians but some of the critics of Muhammad go to the conclusion that
 a causal relationship necessarily exists. The
 extreme of assuming that the ideas of Islam were offered by a writer in
 meditating on the subject of the effect of music
 to a people waiting and anxious to receive them. Such a
 reached the conclusion that good music will not

theory is refuted by the known facts of the persecutions of people good nor will bad music make good Mu1jammad and his followers. Hell provides an antidote persons bad. That same day, he opened a book by Alfor O'Leary's analysis of Islam as an evolutionary pheno- Ghazzali, none of whose writings he had previously read,

~n9na ;, and chanced upon a passage in which the revered man of 1 Samuel M. Zwemer, Arabia: The Cradle of Islam, p. 17tl. 1O'Leary, op. cit., foreword; 2 Joseph Hell, The Arab Civilization, p. 9. MUHAMMAD THE EDUCATOR

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16 • h 1 of the spiritual man natives negotiate them barefoot with impunity.

God held that music exalts t e ;~re was no borrowing of The south-west corner of Arabia is the location of but degrades the se~sual man. that AI_Ghazz ali had Yaman which is similar to the Hijaz in that it is composed ideas notwithstand1Og the Ifact centuries earlier than the of two main ranges which encompass a series of plains. expresse d sImI ' 'l ar thoughts e even' f hether the l'd eas. , 'd the questlOn o w . The tihama or coastal belt has an enervating c1Jmate with writer. Leavmg aSI e God or whether they were indI- extremes of temperature. The outer ridge, a bit off the of Mul;1ammad came from ' t h t Muhammad alone ' th fact remams a. . coast. has a favorable climate and is suited to the cultiva-

A genous to ra la, e b 'L the spiritual dynamism r to ml.use tion of coffee. Ancient cities of Yaman include San'a, possesse d t h e powe " h ' crete realizatlOn. Nijran, and Adin.

requisite for t elr can , h t pertain to these aspects

. , ne to thIs c ap er d To the east of Yarnan lies Hadrarnaut, probably the TOPICS germa . ligion geography, art, an of Arabian life: lIterature, re '11 b' noted in discussing Hazar-Naveth of Genesis 10 : 26 and First Chronicles 1 : 2U, 'cS political features WI e Hazar-Naveth was the third of the sons of Joktan of the econo ml ' family of Shem (2210 B.C.). Joktan settled in the Yaman

family and tribe, ... ists of desert. There are
 A large part of Arabia co~s ... f desert. The nefud
 which at one time was within the boundaries of Hadramaut,
 three mam types 0 ... d 'I d I'n a center for trade with
 India and Africa.' The main valley
 . d tosse san pi e
 Naturallandscape. ... is an area a f wm - ... d
 11 . of Hadramaut is very fertile and water is accessible, The
 . The dahana is a har , grave Y
 dune and ridge formatlOn~'h ... d The surface is very dry
 plateau, averaging four or five thousand feet in elevation, is
 ,
 plain, In spots co
 vered WIt san .
 b bt ined by sinking we s.
 11 The dry. Farther east, extending to the Persian Gulf, is
 and barren but water may e a ga ted lava or scoriaceous
 Oman.
 f harp corru a ... '1 Generally
 speaking. it may be stated that Arabia is an
 harra is an area a s . ,: d extends about 140 mi es
 t northern neJu ... t1 arid. forbidding
 land. an isolated region having a maximum
 rock. Th e grea ... d bout 180 miles from east to wes .
 from north to south an a 'k ... ta" and smaller desert
 length of 1,500 miles, a breadth of 1,300 miles, and a total
 d 'ld tamaIIS, yer , ... ' area of over
 12,000,000' square mile~, a third of which is
 The soft san yle s ... S tl of the nefud in a convex
 flora during some seasons. ... au ~ to the west is the Hijaz
 stony desert. Much of the remainder has but scanty rain-
 .
 crescent '1
 IS t le Jebel, Sham
 ' mar
 Q'blihan of the IslamiC '1 d an d
 war fall and is unsuited to agriculture, supplying only thorny
 or "barrier," contalnIng the l d route running between
 plants appropriate in quality for indiscriminating camels
 the location of the ancient tra, e Aqaball A
 dahana and goats. Even these acrid herbs are so scarce as to
 . f am San a to ... prevent the
 animals from camping long in one place, There
 the mountaIn ranges r ... h p ian Gulf and another
 'd h coast of t e ers ... l • are
 hardly any rivers but mostly transitory awda. "rushing
 extends inSI e t e l ed south-central reglOn,

ti ely unexp or torrents in the brief rainy
 season, parching beds of hot
 occupies the campara v . 3" The slopes of
 'T "bode of emptIness. stones for the
 remainder of the year 2 ." d 'th harra. The
 the Ruba-I-Kha I or a d 'th harra. The
 . d t ins are covere WI The
 Hijaz contained fertile, irril!ated land which made
 the high 101an moun ah d dahana are very destrucrocks
 common to bot: :::~i:~ traveller reports that the
 settl~d urban life possible. The leading cities included
 tive of shoes but a
 Mecca, Yathrib (later Madina), and Taif. Taif, east of

1 O'Leary, op. cit., p. 6.

• Ibid. • p, 8,

1 Robert Young, Analytical Concordance to the Bible, p. 458.

a I bid.: p. 6.

2 W. S. Davis, A Short History of the Near East, p, 102.

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THE SETTING 19

Mecca in the mountains, was a resort popular, especially In " this
 unattractive picture1 :

summer, among the wealthy inhabitants of Mecca. It It
 happened on just such a day of rain that the
 remains today in relation to Mecca pretty much what godly
 Ibn Zubair. determined not to abandon his
 Darband is to Tihran. Mecca itself was hardly a favored daily
 tawaf (the seven processional rounds of the
 spot in which to dwell. AI Haiqatan, the Negro poet,
 Ka'ba), made them, they say. by swimming By a
 wrote 1 :
 distressing paradox, when the rains and torrents
 If Mecca could stir up longings you would see everywhere else
 in the peninsula brought blessings,
 Himyarite princes hurrying there at the head of covering the
 soil with greenery, washing the salty
 their warriors. Winter and summer are alike sheathes from
 the plants, freeing the land from want
 intolerable there. Nowhere in Mecca do the for months to
 come, at Mecca the water only
 springs gush forth as at Jowatha. Not a blade of caused
 devastations. It destroyed the houses,
 grass to rest the eye ... no hunting ...Instead, only killed the
 animals, carrying with it the unburied
 merchants, the most contemptible of all professions. carrion, and
 spreading temporary epidemics which

Mecca was especially intolerable in summer. The heat" added to the endemic ophthalmia Hygienic conof the flagstones surrounding the Ka 'ba was too intense for ditions were odious. even the thick-skinned Arabs who sprinkled them with The original Arabs were probably a darker people than water for the ritual procession. No tree of any size was those of today. It is believed that a The Arabs. there to cast some shade. It was sufficient punishment for proto-negroid belt ex.tended" from a criminal if he were stretched naked on the ground. Africa to Malaya, giving rise to the Hamitic people of Mecca also suffered from lack of water, the famous wells Africa, the Dravidians of India, and to the intermediate dark-skinned of Zamzam being irregular and often bitter.. Dermenghem inhabitants of the Arabian peninsula2 • It is quotes the descriptive phrases of the geographer. AI supposed that virile caucasoid invaders overcame the dark- Maqdisi: "Suffocating heat, deathly winds, clouds of skinned Arabs, absorbing most of them and driving others flies 2 .' It is not surprising that those who lived there to the Rub'al-Khali. probably during the late PleIstocene were anxious to escape td Taif in the Thaqifite Mountains, period when the land that now constitutes the American States was where grapes flourished and the only place in Arabia in have been covered with ice. At that time, Arabia may' which water froze in winter and where there were even enjoying a Pluvial Period; at any rate, experts frosty nights in summer 8 • "believe that Arabia was better adapted at that time for Winter in Mecca was also disagreeable. The furnace supporting human life than it has been within the historical period. Thomas was succeeded by the bog. The Ka'ba felt the impact of period. Thomas presents interesting evidence of former conditions 8 : the floods which swept from the hills down the ravines to deposit a sea of mud, rubbish, and filth at its door. The Considerable dried-up river systems I came upon in the people had to remove the debris in carts and climb up to southern borderlands, and the fauna I the door of the temple on a ladder. Dermenghem paints ! E~ile Dermenghem. The Life of Mahomet. pp. 23-24. • Bertram 1 Emile Oermenghem, The Life of Mahomet. p. 22. Thomas, The Arabs, p. 355.

, Ibid.

• Ibid .• p. 356.

, Ibid. • p. 22.

collected in the Qara Mountains-fauna that have many other places. At the fall of this African rather than Arabian affinities bear witness Samood rose in power. to a common climate with a wet tropical Africa at the rise of the Banu Qahtan, whose some remote time, and to a land-bridge, that made Yaman. In their day they too the Red Sea an inland lake, and which later sub-great power and ascendancy. The Aus merged to form the shallow straits of Bab al were the off-shoots of this tribe. All Mandab. As the ice of the Northern Hemisphere are known as the 'Ariba, or pure Arabs. receded, and the rain-belt moved north behind it, came Ishmael whose progeny goes by the Arabia was bereft of its rains, its climate changed, name of the Musta'riba, or naturalized Arabs. In it became drier with the passing of the ages until to Divine. behest he was left by his father, to-day it is one of the hottest and most rainless parts along with his mother Hajira (Note: the of the earth's surface. Hebrew is transliterated Hagar and the Greek The ancient Arab appears to have been a long-headed Agar), at the place where stands the Ka'ba. man and the Jew a roundhead. Three distinct Arab types are discernible today: the dark, Hamitic man of the South; was famed among the ancients as the land of the roundheaded Armenoid, whose evolutionary home is frankincense and myrrh. Even more Economic life. probably Asia Minor; the narrow-skulled Mediterranean important was its location along the type found in the North and perhaps the most common to India, in an era when the stretch of water was type among the ancient Arabs living in our era 1 through which the merchandise of the East com-Arab historians have distinguished primarily between monly passed 1 • Frankincense was used in Egypt on all the Qahtan, the Yamanites or South Arabs, and the 'Adnan sacred and solemn occasions (and their number was legion), in the or North Arabs 2 • The Arabic traditions bear out the idea Israelites mummification of princes, and funeral rites. The of diverse ethnic origins. After referring to the "people burned it before the Tabernacle of the Lord 2 •

Egypt, and

race the

Then came

homeland was

attained to

and Khazraj

these races

Last of all

obedience

Abraham,

Hebrew is

Arabia

sea-route

a medium

monly passed 1

sacred and

in the

Israelites

of Noah" and what befell them, the Qur'an mentions "Ad groves were probably in the southern mountain and Themoud, and the men of Rasa" (believed by the writers of Arabia. The main trade route probably, went to refer to those who lived along the Aras River). Aqaba by way of Mecca, Yathrib, and Taima, The most ancient Arab races which can be traced are great distributing center and the cross-roads of said to be the 'Ad, Samood (Themoud), Tasm, and Jadis, to Egypt, Babylonia, and Judea. Ships carried the group collectively known as the Baida. Muhammad the Red Sea, the volume being determined by 'Ali relates their story: political and security conditions along the land caravan The destruction of the tribe of Noah was followed by the rise of the 'Ad whose settlements spread far that Mecca was situated on an and wide beyond the limits of Arabia. Historical The dominant people of Mecca evidence bears out their domination over Arabia, tribe to which Muhammad belonged.

The main valleys of from Saba to this last a routes going goods up routes s. It has been noted important trade route. were the Quraysh, the

I Bertram Thomas, *The Arabs*, pp. 358, 359. op. cit., p. 59.

I O'Leary,

• O'Leary, op. cit., p. 15. op. cit., p. 18.

I Thomas,

I Muhammad 'Ali, *Muhammad the Prophet*, pp. 16, 17. Kennedy, *Arabian Society at the Time of Muhammad*, p. 24. 22. MUHAMMAD THE EDUCATOR

• Pringle

THE SETTING

23

Professor Hell claims that the pre-eminence of Mecca was a hostile and malignant environment. For this reason strong ties of secured not by its market-place, sanctuary, or fairs-other kinship were a necessary part of the struggle for existence towns had these, too. He denies that its geographical position was favorable, for it lay in a barren basin. It was objects of economic desire were vantage points for robbing caravans. rather, according to Hell, the intellectual superiority of Professor Hell concisely analyzes the situation! : the Quraysh which gave Mecca its exalted position as a religious and economic center. They were public-spirited These struggles destroyed the sense of national and prosperous. According to First Kings 10 : 15, Solomon unity, and developed an incurable particularism each tribe deeming itself self-sufficient, and regarding received gold from the kings of Arabia. There is some

reason for regarding them as the first, or among the earliest, the
 rest as its legitimate victims for murder, robbery and
 international traders. The Book of Ezekiel, 27: 21-2, and
 plunder. . . If the struggle for existence split
 the Bedouins up into fragments and made them
 mentions the dealings of the merchants of Arabia and Sheba
 hostile to each other, the common fight ag~inst
 (Saba) with Tyre. Thus the Arabs were long experienced
 stubborn and malignant Nature drew them closer
 in commercial dealings and the QuraysA were among the
 together; and the result was the one duty which the
 most craft of traders. The Romans paid dearly for the
 old Bedouins acknowledged and which they carried
 treasures of Arabia. The early seventh-century wars to a
 fault-hospitality,
 between the Greeks and the Per~ians aided the Meccan,
 trade l . An
 important classification of the Arabs is t.he one
 In addition. to incense, perfumes, and gums, the Arabs
 according to permanency of habita-
 Mores and G overnment.. .
 brought dates from Hijaz, taking in exchange grain, oil,
 tlOn. The nomadIC desert-dweller at
 raisins, and textiles. The Quray~ had two main c.aravans the end of the
 sixth century of the Christian era knew no
 7in the summer to Yaman and in the winter to Syria. law according
 to the Western concept of the word. Tribal
 The~e were large-scale operations by two or three hundred opinion, with
 its taboos, was of supreme importance as a
 meni. In the plutocratic republic of Mecca, tbe".specula- regulator of
 behavior. The worst punishment was expulsion
 tors gambled on the arrival and departure of i ~~ra~ans and from the tribe
 and the fear of becoming an outcast acted
 made money from arb~trage. Like some modern American potentially to
 restrain deviation from accepted standards. A
 business men they knew the secret of selling fictitious com- wandering
 outcast is seldom accepted by another tribe.
 modities and of making money without capital. The debtors Some of these
 pariahs went to Mecca where they lived in
 charged that Quraysh meant "shark." "Ah," jeered. the an "apache"
 quarter. Even the settled group, the residents
 Bedouin poet, Abu't-Tamahan, "If my camel could hear of the town,
 had no body of law and few written rules,
 the tricks of trade, what a lot she could gain in Mecca by although the
 merchants very likely had unwritten or "gentleexchanging green grass for dried
 grass 3 , " men's" agreements to preserve some sort of order
 and

Personal freedom was regarded as an inviolable right by security in business dealings 2 • The inhabitants of the the Bedouin but the individual was unable to withstand a desert were far more numerous than the town-dwellers.

1 Bermenghem, op. cit.

I Hell, op. cit., p. 10.

I Ibid., p. 26.

• Kennedy, op.

cit., p. 40.

• Ibid., p. 25. '

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The former stopped wherever they could find grass and or the tribe to the nation. Each was independent, owing water. Their favorite occupation was war or raiding, no allegiance to any central authority.

mainly of the surprisEe sortl .

Sir

William Muir, Christian biographer of Muhammad,

The city folk lived under more favorable conditions.. As 'agrees in substancel .

business men, they found a certain amount of honesty the

The first peculiarity, then, which attracts attention

best policy. Patriarchal rather than community law is

the subdivision of the Arabs into innumerable

flourished and there was virtually no co-operative activity.

bodies, governed by the same code of honour and

The man of the city had on the average a greater intellectual

morals, speaking for the most part the same

endowment than his country cousin. There was greater

language, but each independent of the others',

freedom of thought and activity in the town, but even there

restless and often at war amongst themselves; and

tribal excommunication was truly to be feared. even

where united by blood or by interest, ever

Eminent among the virtues of the Arab were daring, ready on

some insignificant cause to separate and

virility, hospitality, generosity, and love of freedom. Even

abandon themselves to an implacable hostility.

these virtues, however, were carried to excess and became , The prophecy

concerning Ishmael was equally applicable

manifest as barbarity, prodigality, brutality, and an anti- .to his

nomadic, pagan descendants: (Genesis 16 : 12) "And

social attitude inimical to unity. Side by side with hospi- he will be a

wild man; his hand will be against every man,

tality was the common practice of robbing wayfarers and and every

man's hand against him." Instances of collective

plundering weaker tribes. Trifling disputes brought on Jiving were

rare and without significance. Instances of blood-feuds and conflagrations which consumed the attention and wasted the resources of the participants. Peace and order, the sine qua non for the development of social qualities and the advancement of civilization, were unknown'. MuQ.ammad 'All underlines this point II • .the crime

predation and violence were prevalent and characteristic. One of the few tenets of the nomadic code of honor was the rejection and order, the sine qua non for the development of social the rejection of the principle of extradition. The right of asylum was sacred and was rigidly adhered to regardless of

of the refugee or the price put on his head II ,

For centuries, Arabia was left pretty much alone. The Then there was no central government to enforce rest of the world knew little about the country and regarded law and order. The whole country was rent into attempts at subjugation as of dubious profit. Muir gives a innumerable petty states, each clan forming a plausible explanation3 :

separate independent political unit. The few provincial governments that existed here and there were too weak to enforce justice. To wrench one's owing not so much to the difficulties of its parched and pathless wilds, as to the endless array of isolated right from another, one had to depend upon one's clans, and the absence of any head or chief power strength of arm. Each tribe had a chief of its own which might be made the object of subjugation. who would lead them in battle against a hostile The problem had yet to be solved, by what force tribe, to vindicate their rights. But there was no these tribes could be subdued, or drawn to one law whatsoever, binding the individual to the tribe

1 Muir, op. cit., p. vi.

1 Kennedy, op. cit., p. 21.

I Thomas, op.

cit., p. 15.

I Muhammad 'Ali, OPt cit., p. 25.

I Muir, op.

cit., p. vi.

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THE SETTING

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common centre Himyarites but the latter managed to form a Jewish Sabrean

The Romans had a bitter experience in 26 B.C. when kingdom. It in turn was conquered by Christian Abyssinia

they sent a force of 130 ships and over 11,000 troops with in 525, but in

575 the Persians were victorious and appointed Aelius Gallius, Eparch of Egypt, in command. They disembarked at Keuke Kome and for fifty days were led through kingdom embraced the South Arabian Jau£. treacherous desert, the men suffering from scurvy of the Its chief cities were Karnau, Ma'in, and Yathil. Inscriptions gums and legs. After six months, during which battles were in the Minrean language have been uncovered in al- 'Ula in won but no treasure gained, the Romans retreated. Thomas suggesting the possibility of colonies or at claims that "They never invaded Arabia again, and this establishing the existence of cultural intercourse.· expedition is the isolated example of a European invasion The Minreans either preceded or were contemporary with through the centuriesl ." This is not strictly accurate for the Sabreans. The Sabreans make no mention of the in 105 A.D., Trojan sent his general. Cornelius Palma, who Minreans but their inscriptions are not concerned with subdued the Nabathean kingdom of North Arabia 2• history.

Our knowledge of the history of the pagan Arabs is culture attained its highest development in based largely on legends, although numerous Sabrean Hira and Ghassan l • Toward the beginning inscriptions dating as far back as 800 B.C. survive. The century after Christ. ten residents of I;aman, Queen of Sheba (Saba) is said (First Kings, 10) to have Nejd migrated to the fertile country separating visited Solomon around 950 B.C .. but the inscriptions bear from the Arabian desert. They were no mention of this event. These legends have been trans- known as the Tanukh, many of whom enjoyed mitted as poems, proverbs, and orations. One of the most although the good quality of the soil provided valuable sources is the Kitabu'l-Aghani, the book of songs for settled agricultural endeavor. This by Abu'l-Faraj of Isfahan (967 A.D.). intrusion resulted in the creation of the Kingdom of Hira.

We know more about the Sabrean kingdom than we do included the Ibdd, Christian Arabs living in about the other realms of ancient Arabia. The Makarib town of Hira, and the ahlaf. fugitives, outcasts, period in Saba extended from the ninth to the sixth century emigrants. The Lakhmid Dynasty arose B.C. The rulers were priest-kings whose capital was of the third century, its first ruler being 'Amr

governors over
The Minrean
North Arabia,
least
the Sabreans. The
Pre-Islamic
the kingdoms of
of the third
Tihama, and
the Euphrates
collectively
a nomadic life
an inducement
Other groups
houses in the
and penurious
toward the end

located at Sirwah. The second period is that of the kings Nasr b. Rabi'a b. Lakhm. Numan I, whose reign of Saba who held sway from 550 B.C. until 115 B.C. Their capital was at Ma'rib and their rule appears to have coincided with the golden age of Yaman. These kings were the last Lakhmite king, Numan III, reigned from 580 to 602, succeeded in 115 B.C. by the Himyarites who embraced Judaism. The Himyarites were in constant strife first with Christian family and was probably the only member of Hadramaut and Katabanu and later with Christian Abyssinia. In the fourth century A.D., the Abyssinians overthrew the Chosroes II, Shah of Iran, appointed an Arab of the

b. 'Adib.
 Occurred in
 as the
 Hira 2 •
 580 to 602,
 up by a
 of the
 In 602,

1 Thomas, op. cit., p. 28.
 op. cit., p. 37.

I Nicholson,

2 Zwemer, op. cit. p. 160.
 40.

2 Ibid., p.

THE SETTING 29

28 MUI;IAMMAD THE EDUCATOR

Ordinarily the Saracens had seemed hopelessly divided into petty bands which the governors or tribe of Tai as governor of Hira. :1' divided into petty bands which the governors or Toward the start of the sixth century A.D., the Jafnids. of the frontier provinces had usually looked ruled over the tribe of Ghassan in the extreme northwest of upon as robbers rather than as possible invaders. Arabia. about where Transjordan now lies. Members of Many desert sheiks with their followers had indeed this tribe lived in Yathrib in Mul;Iammad's lifetime. The enlisted as mercenaries in the Roman service, and first prince of Jafnid was Harith ibn Jabala, known in fOblght valorously, but that all Arabia could suddenly Arabian chronicles as "Harith the Lamé." Harith was a fuse itself into a single military state. and in the Christian of the Monophysite Churchl . In 528, he sent a name ot an upstart fanaticism precipitate itself upon hundred men against the 100,000 men of the army of the lands of established civilization was about the Mundhir b. Ma'al-sama, ostensibly to make peace. They, last thing which the lords of Constantinople and surrounded Mundhir's tent and slew him and his companions. Ctesiphon dreaded. Heraclius and Chosrose II The hundred "champions" were clad in shrouds of white

satraps

continued the wars which were exhausting their
 linen and coats-of-mail by Halima, daughter of Harith2 •
 empires, while in the southern deserts there was
 Harith was succeeded by his son, Mundhir b. Harith, who'
 arising the cloud no bigger than a man's hand.
 defeated the new King of Hira on Ascension Day, 570 (the
 When the tempest suddenly broke-East Roman and
 year of Muhammad's birth). About 581, unable to pursue
 Persian could reproach them eh'es for many things,
 his advantage, he was captured and forced into exile in
 but not assuredly for failing to realize that the
 Sicily. This marked the virtual end of the dynasty and
 impossible had happened in Arabia.

anarchy prevailed until the Persian conquest of Palestine
 of the most controversial aspects of life during the
 in 614.

One

Jahiliyya. or "age of ignorance," the period preceding
 Around 490 A.D., a new power had arisen in Arabia,
 that relating to the position of woman. The
 the tribe of Kinda under the family of Aqil ul Murar, who
 writers stress her servitude while their Christian
 came from the South, probably with the blessings of the
 adversaries picture her as the embodiment of freedom.

Muhammad, is

Mu~lim

rulers of Yaman. The chiefs of Kinda accompanied Abraha'
 whose prejudice exceeds his scholarship, hystericat the time of his invasion of
 the Hijaz. The Kinda ruled ally charges that "Muhammad improved on
 the barbaric

Zwemer,

over Bahrayn as well as Yemama and possibly gained power
 (of infanticide) and discovered a way by which not
 over the Lakhmids of Hira. The moving ~pirit in the
 all females could be buried alive without being
 conquest, extending over the greater part of central and
 namely, the veiP." It is apparently true that the
 northern Arabia, was Hujr, an ancestor of the poet, Imru'uI
 unknown in Arabia before the coming of Islim but

method

some but

murdered,

veil was

Qays. this does
 not necessarily prove the theory that Mul;I ammad
 The history of Arabia before Islam is replete with murder
 it. It must not be taken for granted that
 and plunder. In general, sixth-century Arabia was in a
 taught that women should conceal their faces.

introduced

Muhammad

state of political chaos. Davis does not exaggerate in his
 Arabic word for veil, hijcib. is often used synonymdescription of the state of
 affairs B : ously for clothing and betokens
 modesty rather than slavery.

The

The loveliest delin~ation of woman to be found in the
 I Nicholson, op. cit., p. 51.

2 Ibid. • p. 50.

I

Zwemer, op. cit. • p. 161.

• Davis, op. cit., p. 106.

THE SETTING 31

30 MUI;IAMMAD THE EDUCATOR

the succour rendered everywhere to women in poetry of heathen Arabia, and the only instance in which adversity-all these were essentially Arabian ideas, woman's moral beauty is hailed in pagan Arabic verse, is as was the very name chivalry, the connection of the lamiyah. A portion of its description of Umayma honourable conduct with the horse-rider, the man follows 1 : of

noble blood, the cavalier.

She charmed me, veiling bashfully her face, When Fatima, daughter of Khurshub, was taken prisoner Keeping with quiet looks an even pace; and heard that her captor intended to have her herd camels, Some lost thing seems to seek her downcast eyes: she committed suicide by throwing herself headlong from Aside she bends not-softly she replies. her camel in preferenc~ to dishonoring her sons. 1 It was

Women wore veils long before Muhammad was born; .also regarded as a disgrace for a woman to marry below her many centuries earlier, it was a common practice among station. Said

Ibn Zuhayr to the Namir, "If you cannot the Assyrians 2• Marzieh Khanum Gail reports the common find an equal match, the best marriage for them is the Persian view that the patrician Iranians, in ancient times, grave 2•"

had their wives veiled. The Bible associates the use of Thomas depicts the darker side 3 :

the veil with a sense of shame or of unworthiness. Moses Men were of course polygamous, where they veiled his face from God (Exodus 34: 33). Genesis 8 could afford it there being no limit set to the number contributes these interesting verses:

of wives one man could have. He had dominion And she (Tamar) put her widow's garments off over these wives and could divorce them at will, from her and covered her with a veil, and wrapped and if a man died his brother inherited his widows herself, ;nd sat in an open place, which is by the as though they were chattels.. , Contraception way to Timnath; for she saw that Shelah was must have been as repugnat then as now, yet the grown, and she was nct given unto him to wife

Arab traditions insist that female infanticide was
 (Genesis 38 : 14). commonly
 practised-a sidelight on Arabia's habitual
 When Judah saw her, he thought her to be an
 hunger.
 harlot; because she had covered her face (38 : 15).
 Not economic reasons alone but also a perverted seme
 Some women attained great prominence in pagan times;
 of honor caused men to put away their daughters: they
 There was the noble Zenobia, widow of Odenathus and
 feared that their daughters might be made prisoners of war.
 self-styled "Queen of the East," who was finally led captive
 The Qur'an mentions this feeling of dread' :
 before Aurelian's chariot through the streets of Rome in
 And when any of them is told the news of the
 274 A.D. s Nicholson believes that women were not treated
 birth of a female, his face becometh black, and he is
 as slaves and chattels but were accorded some measure of
 deeply afflicted ; he hideth himself from the people,
 equality and he approvingly quotes the statement⁴ :
 because of the ill tidings which have been told him;
 Knight-errantry, the riding forth on horseback in considering
 within himself whether he shall keep it
 search of adventures, the rescue of captive maidens,

- I Nicholson, Opt cit., p. 90.
- 1 Nicholson. op. cit., p. 90.
- ~ Zwemer, op. cit, p. 162.
- o Cambridge Ancient History, Vol. III, p. 107.
- a Thomas, op. cit., pp. 16-17.
- I Nicholson, Opt cit., p. 34.
- George Sale, The Koran. p. 147.
- Ibid. p, 88.

r
 32 MU1;IAMMAD THE EDUCATOR

I.
 : '1

THE SETTING 33

with disgrace, or whether he shall bury it in the them
 as a profession. Captive women, kept as
 dust.

handmaids, were forced to make money for their
 A father, poor in worldly goods, desires death for his
 master in this mean manner. Married women were
 daughter rather than the hard mercies of relatives in these
 allowed by their husbands to conjugate with others
 pathos-filled verse~? :

permissi, on! Under the personal marriage contract called Polyandry which is characteristic of a very primitive mota a the woman remained at home and stage of human society was also in vogue among children. Under the nikah, the woman Was them. Besides, there was no limit to the number of eIther captured or purchased. Neither type of arrangewives a man could take ...Over and above plurality of ment would indicate a high position for woman. Zwemer's wives, he could have illicit intercourse with any flimsy evidence that captive women were not enslaved number of sweethearts. Prostitution was rife among consists of poetry from Hatim 3 : I Mu!;J.ammad 'Ali, op. cit. • p. 27.

I Nicholson, op. cit., pp. 91-92. s
 Zwemer, op. cit., p. 162.
 • Muhammad 'Ali, op. cit., p. 26. 8
 Ibid.

34 MUI;IAMMAD THE EDUCATOR
 THE SETTING 35

They did not give us Taites, their daughters in Pass
 among them wine that gushes from the jar's
 marriage; mouth
 bitter-sweet,
 But we wooed them against their will with our
 Emptying goblet after goblet but the source may no
 swords. man
 drain
 And with us captivity brought no abasement.
 Never cease they from carousing save to cry, "Fill
 They neither toiled making bread nor made the pot up
 again."
 boil; Strong drink
 added to the rashness of a temperament
 But we mingled them with our women, the noblest. that required
 no such stimulation.
 And they bare us fair sons, white of face. Gambling
 was a common pastime and those who refused
 Perhaps the captives were not abased at first, but what to
 indulge in it were looked upon as miserly. Men who
 of the other women who had to do all the housework?
 .complained that they could not afford daughters regarded
 The spirit of revenge and hatred of enemies was an games of
 chance and alcohol as necessities for self-respectimportant element in the
 mentality of the pagan Arab. ing Arabs l •
 The man who exhibited kindness towards his enemies was
 The intellectual development of the pre-Islamic Arabs

regarded as a good-far-nothing coward. This spirit is
is shown most favorably in their
Cultural activity.

expressed by these verses from the Hamasa 1 :

poetry. There was virtually no prose
Humble him who humbles thee, close tho' be your before the
days of Islam; the Qur'an is the oldest Arabic
kindredship: book2 • The

two principal dialects of Arabic in Arabia
are South Arabic, spoken in Yaman and including Sabrean
If thou canst not humble him, wait till he is in thy
Himyarite, Minrean, and the related dialects of Mahra and
grip.

Shihr; and Arabic proper, spoken throughout the rest of
Friend him while thou must; strike hard when thou
Arabia 5 • The oldest extant Arabic poems date from about
hast him. on the hip.

512 A.D. but it was nearly two centuries later before
Blood called for blood, and if vengeance could not be
writing came into' general use among the Arabs. It was
wreaked on the murderer. a member of his tribe might be
the rawi or "reciter", resembling the Greek Rhapsodist,
selected as the victim. In some cases blood-money was
who was really responsible for the perpetuation of the
paid in the form of, say, a hundred camels. It was believed
qasidas.

that until revenge was realized. the dead man's spirit would
The poet (sha'ir) was reputedly one endowed with
hover over his tomb in the shape of an owl crying " I squni"
. supernatural knowledge, a sort of soothsayer. He was
("Give me to drink").

regarded as indispensable in battles of first rank. "The
In the days before Islam wine flowed like rain in the menaces
which he hurled against the foe were believed to
streets of Yathrib. Many of the poets sang of wine. The be
inevitably fatal." The oldest form of poetry in Arabia
most celebrated of these poems was written by A'sha. a was a
sort of rhymed prose or rhyme without metre,

portion of it being expressed in translation as follows 2 :

Propped at ease I greet them gaily, them with 1

Nicholson, op. cit., p. 125.

myrtle-boughs I greet, s Mu~ammad

'Ali, op. cit., p. 29.

I Nicholson, op. cit.. p. xxii.

j • Ibid., p. xxi.

I

1 Nicholson, op. cit., p. 93.

I

Ibid., p. 73.

, Ibid., p. 94.

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known as the Saj, from which developed the Rajaz, an irregular iambic metre having four or six feet in the line, Mu1;tammad 'Ali observes that all the poetical composiall the lines rhyming with each other. Rajaz means "a tions of the Jah"iliyya have come down through oral traditremor in the hindquarters of the camel," which suggests tions with the exception of the M u' allaqat which were the theory that the Arabian metres derived from the hudi written down and suspended in the Ka'ba. He also quesor camel-driver's song, the metre varying with the shifting tions whether poetry must be considered a hallmark of gait of the cameJ.l enlightenmentl

:
The only finished type of poetry in existence during the As regards the fact that the Arabs had developed literary flowering of the pagan period, sixth century AD., the art of poetry, suffice it to say that mere poetry, as Was the qasida or ode, a poem with an artistic purpose as such, affords no sure criterion of a people's stage of (although not always a lofty one)2. The mass of the of civilization. Interest in poetry is observed in The Arabs spoke a Semitic dialect which had not previously almost every society, however crude and primitive ... The attained literary status. The most correct form of the people at this stage have very few objects of speech of northern and central Arabia, from which modern interest, which multiplp only with the growth of - Arabic is derived, was flourishing among the nomads only civilization, and hence their sole devotion to the Arab rather than in Yathrib or Mecca'. Neither scriptures Arab nor liturgy existed in Arabic. The Christian ecclesiastical poetry is devoid of the breadth of vision and language was a form of Aramaic, Syriac£. But from most It is loftiness of thought which come only with culture. humble origins (i.e., humble in the eyes of men), Arabic appears safe difficult to establish a negative conclusion' but it became one of the great languages of the world, a mar- to say that the ancient Arabs. during the many centuries preceding the appearance of Muhammad did not vellously designed medium of expression equally adaptable 80 far as we know, contribute anything ~£ significance t; for expressing the terminology of modern science or for the body of scientific knowledge or to scientific method.

ornamentations of the facades of the temples and castles.!

flash of lightning and would, by reason of similarity,

You see figures of all kinds sketched on them:

attract rainfall ... Those who believed in a life after wild and ravening animals ... eagles with flapping

death would tie a camel at a tomb and starve it to wings and vultures pouncing on hares ... herds of

death, thinking the deceased would mount on its gazelles hurrying to their death-trap, dogs with

back on the day of resurrection ... They believed in drooping ears, partly leashed and partly loose, and

soothsayers and fortune-tellers, and had implicit a man, with a whip, amidst horses.

faith in whatever they told them. In short, these and a hundred and one other superstitions were

But this artistic endeavor was alleged to exist in South-

ruled by the Arabs of the pre-Islamic days of ern Arabia. not in the Hijaz. The Ka'ba and town-hall of Ignorance.

Mecca did not show evidence of architectural skill

before leaving the subject of culture, it should be experienced with or judgment of materials. When

planned that. Many scholars believe that when Muhammad cleansed the Ka'ba of the three hundred and

used the term Jahlīyya he alluded to ignorance of the Faith sixty idols, he was probably not destroying highly perfected

of God as taught by His Messengers and did not mean to sculpture, for it is recorded that the image of the pigeon,

imply that his ancestors were ignorant of what the "world" for example, was made of palm rind, a material not suitable accounted knowledge.

for the expression of ideas in the realm of the free fine

The chief religions in Arabia, other than pagan idolatry

3•

... worship were the Jewish, Christian,

Religious concepts. In the Hijaz, however, that its commercial

Sabean, and Hanifite. The old gods importance after the fall of Himyarite rule in Southern

and goddesses were nominally worshipped by the majority Arabia made it a gathering place of persons interested in

of the Arabs but the influence of the deities had waned purveying wares, enjoyment, or ideas. The Quraysh may

and Judaism and Christianity had considerably leavened deserve the credit for making Mecca the center, but apart

the heathen lump.

from th,!t question the fact remains that the great annual

The Ka'ba in Mecca waS certainly a very ancient house market held in the neighbourhood of the Ka'ba was a

the Muslims dating it as far back as 2500 B. C. <: In tb; culminating point in Arab life, literary and intellectual as'

.early centuries of its existence, it may well have been well as cQmmerdal and religious 3 •.

dedicated to the worship of one God, but it is obvious that Supersti,~ion_ was rife among the Arabs and the literate

in the age when Mul;lammad appeared the one God received were few in number.; Mul;lammad 'Ali declares that there

scant attention in comparison with that given the hundreds

1 MuJ;lammad 'Ali, Op. cit., p.30.

1 Hell, op. cit., p. 8.

• Ibid., p. 14.

• Ibid., p. 15. The Ka'ba is associated with Abraham who lived

in

3 1 bid., p. 12.

the nineteenth and twentieth centuries B.C.

--.-... --.- "-

..~.-.-.-" "-,"~

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of minor deities. Muhammad 'Ali's characterization is Bahrayn,

and other islands of the Persian Gulf. To this

hardly overdrawn! : .

J, day, they are scattered followers of John the Baptist com-

No doubt the Arabs professed faith in the unity

Pflsing a secretive. ingrown community that refuses to

of God, but it was too shallow. TheIr practical

accept Jesus as the one foretold by John. In southern

life belied their lip-profession. They were given

Arabia there must have been some Sabceans, followers of

to idolatry, thinking that Almighty God had entrustan ancient creed whose

tenets are most elusive and a people

ed the discharge of the various functions of the

difficult to trace.

universe to different gods, goddesses and idols.

They would therefore turn to these, in~oking their Christians

and Jews fought among themselves not just

blessings in all sorts of undertaking ... They would verbally but

with the sword. Dhu Nuwas, a fanatical

fall down prostrate before any good-lookin~ piece adherent of
 Judaism. marched against the Chris tians of
 of stone they might come across. Should they Najran in 523
 A.D. and is said to have burned 2,000 of
 fail to find out a piece of stone, they would worship them in a cave1
 • In retaliation. the Negus of Abyssinia
 a sand-hill, after having milked their she-camel sent an army
 70,000 strong, under the command of Aryat,
 thereon ... Going out on a journey they would carry to invade Yaman
 and destroy the remains of the Himyarite
 . four stones with them, three to make a hearth, and Empire. Dhu
 Nuwas spurred his horse and plunged into
 the fourth to serve for an object of worship ... Over the waves of the
 sea2• The Negus ordered his representand above the three hundred and sixty
 idols set ative to kill a third of the male population, to
 abduct a
 up in the Ka'ba, every tribe had an idol of its own. third of the
 women and carry them as captives into Ethiopia,
 Nay, one was kept in each and every household. and to lay waste
 a third of Yaman. These deeds made
 Idol-worship had, in short, become.a second nature the Negus' chief
 very unpopular and he was slain by a
 with them which influenced their everyday life in lieutenant,
 Abtaha. The Negus thereupon swore that he
 all its details. would set foot
 upon the soil of Yamari and cut off Abraha's
 hair. Abraha made it easy for the Negus to keep his oath
 Zwemer asserts that the old national idolatry had
 degenerated, that the better classes at Yathrib and Mecca by
 cutting off his own hair and sending it to the king with
 had ceased to believe in anything at all, that gross fetishism a bag of
 Yamaniteearth3• Around 570 A.D., the year of
 was the creed of many, and that "the time of ignora~ce was
 Mul;lammad's birth, Abraha advanced on an elephant and
 a time of chaos 2." with a
 well-organized army against Mecca, but he met
 The center of pagan Arabia was naturally Mecca whose with
 misfortune; the army was pre-sumably decimated by
 Ka'ba was the national pantheon. The Zoroastrians, few smallpox.
 According to an Islamic tradition, mysterious
 in number, were concentrated in eastern Arabia near the birds
 swarmed over the invaders and hurled stones at them 4 •
 The idolators apparently made no serious attempt to turn
 country of their prophet, Persia. The Jews settled in
 back the invaders, leaving it to God to defend His house.
 Yaman, Khaybar, Yathrib, and Taima. Christians were
 active in the highlands of Yaman, Najran, Ghassan, Hira.

1 Dermenghem. OPt cit. • p. 20.

1 MuJ. Iammad 'Ali, OPt cit., pp. 22-23.

I Nicholson, op. cit. .. p. 27.

• Zwemer. op. cit., p. 168.

Dermenghem, OPt cit., p. 21.

, Ibid.

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Zwemer is doubtless right in concurring with Wellhausen ed, ritualized, mllterialized 1: ' Davis dismisses the Christhat "Neither the fear of Allah nor their reverence for the .1 tianity of pre-Islamic Arabia with these words 2 :

gods had much influence. The chief practical conseq4ence .As for the Christians they frequently belonged to of the great feasts was the observance of a truce in the holy sects which had delivered themselves over to outmonths; and this in time had become mainly an affair of landish mysticism or sheer superstition. Some qespure practical convenience1." Instead of inspirin~ self.,, tioned the deity of Christ; others practically denied sacrifice for the common good, religious convictions were His human aspect and considered the Crucifixion a demonstrated in the form. of tatoo marks or wasms on hands, kind of stage-play designed to impose upon the evil- ~P:ms, a,nd gum!!.

minded Jews.

Judaism with its numerous purifications, minutire of "Outlandish mysticism" ~omprehended also the practices dtual, and regulation of food and drink strongly appealed to of the stylites and other ascetics.

a segment Qf. the Semitic Ara,bs. Jewish law was in effect Mu1)ammad 'Ali elaborates on the shortcomings of the in Yllthrib during the lifetime of MuI; Iammad, although its Christians of those days 3 ;

POWER was declinjing 2 ,

The Doctrine of Trinity had given rise to Christianity was associated with the selling a~ld consUmP" numerous complications. Diverse schisms and sects tion of wine. Christian doctrines were carried to the heart vied with one another in the exercise of their brains of the Arabian Peninsula by Ibiidi wine merchants 3 • The in the disentanglement of the riddle hoyt man most llumerous Christians were of the Essene type with a became God or how three make one or vice versa . . . sprinkling of Nestorians and Monophysites. Although

The general evils of Christianity; drinking, gambling, Christians elsewhere were killing each other because of differences of opinion and adultery, were in full swing even in those days. Dozy quotes the Caliph 'Ali as speaking of the Arabs probably did not have many violent disputes as to Taghlib, a Christian tribe, in the following significant words: "All they have borrowed from that Church is the practice of winebibbing." In short, Christianity which was the last of the revealed religions of African aid for the Christians in that land. Kennedy of the world was practically defunct. It had lost all speaks of the marked change in the Christian attitude driving force to bring about moral reformation toward the world and they that dwell therein (Muir's delineation of its sad state is hardly brighter; all). In the early days, the Christians preferred Thus the star of Christianity was not in the death to the worship of Caesar, but the attainment of temporal power brought subservience to the emperor. "No ascendant: in some respects it was declining. "The prospects of Arabia before the rise of Mahomet longer was it the pure creed which had been taught some three centuries before. It had become largely despiritualized were as unfavorable to religious reform as to political union

I Kennedy, op. cit., p. 10.

I Zwemer, op. cit. p. 167.

• Davis, op. cit., p. 105.

• Thomas, op. cit., p. 36.

• Mu'ammad 'Ali, op. cit., p. 20.

• Nicholson, op. cit., p. 138.

, Kennedy, op. cit., p. 12.

• Muir.

op. cit., p. viii.

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44 MU'AMMAD THE EDUCATOR

Islam were perhaps the Hanifites, believers in one God but or national regeneration. "Muir presents this vigorous reportedly aligned with no particular sect. Mu'ammad 'Ali summary: , discusses the strength and weakness of the Hamfite POSITION. Causes are sometimes conjured up to account for tion. • results produced by an agent apparently inadequate A vast majority of them found no satisfaction in

to effect them. Mahomet arose, and forthwith the
nor in Judaism. Of these the note-
Arabs were aroused to a new and spiritual faith.
Zaid bin 'Amru.,bin-Nufail, 'Umar's
Hence the conclusion has been drawn that Arabia
mayya, a renowned poet and the chief
was fermenting for the change, and prepared to
people had little zeal for promulgatadopt it. To us, calmly reviewing the past,
pre- ing their newly conceived idolatry, and openly
Islamite history belies the assumption. After five avowed
Unitarianism as their faith, which they pro centuries of Christian
evangelizations we can point fessed to be the religion taught by
Abraham. Feeble
to but a sprinkling here and there of Christian con- though the
movement was, it was undoubtedly
verts; the Bani Harith of Najran ; the Bani Hanifa there. It took
no note of the social evils of Arabia.
of Yemama; some of the Bani Tay at Tayma ; and Mere worship
of the unity of God in place of idol hardly any more. Judaism, vastly more
powerful, worship was its end-all and be-all. But like its
had exhibited a spasmodic effort of proselytism; but predecessors,
this internal movement also failed to
as an active and converting agent, the Jewish faith penetrate
beyond the surface, leaving th", Arab
was no longer operative. In fine, viewed thus in a society as
unaffected as ever.
religious aspect, the surface of Arabia had been now This failure to he
concerned with social problems may
and then gently rippled by the feeble efforts of
have saved the Hanifites from persecution.
Christianity; the sterner influences of Judaism had
been occasionally visible in a deeper and more
troubled current; but the tide of indigenous loyalty
and of Ishmaelite superstition, setting strongly from
every quarter towards the Kaaba, gave ample
evidence that the faith and worship of Mecca held
the Arab mind in a thralldom rigorous and undisputed.
It is impossible to reconcile the various opinions as to
the hold of
idols on the Arab mind, but there is fairly
general agreement that the outlook for enlightened religion
was very dark.
The religionists whose ideas were closest to those of

1 Muir, op. cit., p. vii.

i Ibid. • pp, viii-ill:.

r MutJammad

'Ali, op. cit., pp. 33-34.

traduction of Arabic texts into the studies of the West," says Renan, "divides the history of science Chapter 3 and philosophy in the Middle Ages into two perfectly distinct periods.. In the first the human mind CONTRIBUTIONS OF ISLAMIC CIVILIZATION has, to satisfy its curiosity, only the meagre fragments of the Roman schools heaped together in the contributions compilations of Martianus Cappella, Bede, Isidore, T. . HE and spiritual progress of Islamic peoples to the intellectual of humanity have been so vast and certain technical treatises whose wide circulation saved them from oblivion. In the second Prelude. and have been manifested in such diverse fields that no one can pretend period ancient science Comes back once more to the to do more than indicate certain representative items in our West, but this time more fully, in the Arabic common heritage. Civilization as we know it today is not solely elements or the original works of Greek science for the product of Christian influence but rather an imperfect which the Romans had substituted compends"- blending and synthesis of Greek, Hebrew, Christian and Hippocrates and Galen, the entire body of Aristotle's Muslim bestowals. writings, the mathematics and astronomy of the The common belief that the Christian monks of the Arabs. The full recovery of this ancient learning, Middle Ages were the preservers and transmitters of supplemented by what the Arabs had gained from Hellenic culture, that the monasteries alone kept the lamp the Orient and from their own observation, continuous learning burning, is based on incomplete and faulty substitutes the scientific renaissance of the Middle evidence. At the outset, it should be remembered that the Ages. Christian society of the period was inferior in level of No living person can know the extent of the cultural knowledge to the Islamic world. Barnes rightly points out: progress of the Muslims for the reason that the bulk of the "In many ways the most advanced civilization of the evidences of their educational attainments has been destroyed Middle Ages was not a Christian culture at all, but rather destroyed by Mongols, Christians and anti-intellectual Muslims.

the civilization of the peoples of the faith of Islam 1 ." Gibb
 People in the West commonly believe the old canard that
 adds his support, declaring that the Muslim civilization in the
 Muslims destroyed the famous library at Alexandria. A
 Spain represented the highest culture in Europe from the
 certain amount of destruction had been done in streettenth to the thirteenth
 centuries 9 • Haskins, in quoting fighting but the systematic
 ruination of this celebrated

Renan and adding his own comment, summarizes a position
 library of Serapis occurred in the year 389 A.D, (nearly two
 common among investigators3 :

centuries before the birth of M uQammad) on the order of
 The recovery of ancient science and philosophy in Archbishop
 Theophilus of Alexandria. Many of the
 the twelfth and thirteenth centuries marks an epoch wonderful
 buildings and beautiful sculptures of the ancient
 in the history of European intelligence, "The in- Greeks
 sustained a similar fate at the hands of the Christians 1 • The Crusaders
 "destroyed the splendid library of

1 H. E. Barnes, A History of Historical Writing, p. 93. Tripoli
 without compunction; they reduced to ashes many

- H. A. R. Gibb, Arabic Literature, p. 81.
- C. H. Haskins, Studies in the History of Medireval Science, p. 3. 1
- Gustav Diercks. "Europe's Debt to Islam," Islamic Review, 16: 138

(May 1928).

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48 MUI;IAMMAD THE EDUCATOR 49
 CONTRIBUTIONS OF ISLAMIC CIVILIZATION

of the glorious centers of Saracenic culture and artsl ." found in seventh-century Arabia. As prophesied in the Diercks makes the extreme charge that tbe "Christian Christian scriptures, he did not speak of himself but he religion, wherever it went, checked mental progress and uttered that which he heard.

development and suppressed the already existing culture2."

The Qur'an contains this beautiful short prayer fOL He goes on to assert that the guiding principle kept in intellectual advancemer.t: "And say, 0 Lord! Increase mind by Gregory was: "Ignorance is the mother of piety." me in knowledge" (Sura xx, v. 113). It alSo declares that he Acting on this precept Gre~ory "not only committed. to the who has been gifted with wisdom and philosophy of an flames all the mathematical stories (stores) of Rome, but ennobling kind has received very great good. The statement in also burned the precious Palatine Library which was founded

the Qur'an concerning the incomplete state of knowledge by the Emperor Augustus. He destroyed the greater part -"You have received only a minute quantity of knowledge" of the writings of Livy ; he forbade the study of the classics; (Sura xvii. v. 87)-could well have been pondered by the he maimed and mutilated the remains of the ancient days8," cocksure materialistic scientists of the nineteenth century. Ferdinand and Isabella destroyed all the Muslim works they could find in Spain. One of Anatole France's characters remarks: "The most tragic event in history is that of and it is almost impossible to establish their authenticity. It the battle of Poitiers, when the science, the art and the should be borne in mind, however, that these aphorisms civilization of Arabia fell before the barbarism of the have been widely accepted as authentic and it cannot be Franks4 ."

Muhammad at-Tusi (d. 1067 A.D.) composed a bibliography of Shi'ite works, many of which have perished. the influence. The words attributed to Muhammad must greater part no doubt suppressed by the Sunnis. Even more assuredly have stimulated and encouraged the great thinkers illuminating is the great Fihrist which appeared around 987 of the golden age of Islamic civilization. ,A.D., nearly three centuries before the destruction of The most celebrated collection of hadiths is probably Baghdad. Scarcely one in a thousand of the books mentioned in the Fihrist is known to be in existence today. that freely translated from the French. Muhammad is reported The initial command given the Prophet in his very, ,first to have said: "The learned are the heirs of the prophets revelation was "Read." Muhammad who have transmitted to them knowledge as a legacy. He Muhammad's attitude protested that he did not know,How to who has chosen learning has taken a great portion and for toward learning. . read. His teaching for the individual him who engages himself in the way of acquiring knowledge and for the society were not the result of reading; no one God will pave a path to the very gates of Paradise 1. to "It has submitted a jot or tittle of evidence to show that a is necessary for him who enjoys the good pleasure of God single Sura of the Qur'an was based on any writings to be to acquire knowledge of religion; knowledge is obtained

only through study 2." The Prophet gives this interesting
I Ameer 'Ali, The Spirit of Islam, p. 351,
bit of advice in the field of educational psychology:

• Diercks, op. cit., 16 : 218 (June 1928).

"Render the way easy and not difficult. Announce agree-

• Ibid., 16 : 144 (May 1928).

& Anatole France, La Vie en Fleur, cited in Islamic Review, 22: 146.

1 El-Bokhari, Les Traditions Islami qu'es, p. 39.

(May 1934).

• Ibid .• p. 40.

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1

able things and do not startle your auditor . " "There are

Prophet, according to the Misbah ush-Shariyet. Syed

only two persons that one is permitted to envy: the one

Ameer 'Ali cites the following hadiths from the J amaa-ul.

to whom God has given riches and who has the courage to

Akhbar and other comparatively trustworthy sources:

spend his means for the cause of truth; the one to whom

He who leaves his home in search of knowledge,

God has given wisdom and who applies it for the benefit of

walks in the path of God. He who travels in

mankind and shares it with his fellows 2." "Among those

search of knowledge, to him God shows the way to

doubly-rewarded by God is the man who, possessing a female

Paradise. One hour's meditation on the work of

slave, raises her and gives her a good education."

the Creator is better than seventy years of prayer.

Of great importance was this injunction of Muhammad:

To listen to the instructions of science and learning

"Let the poor and the rich be equal before you in the

for one hour is more meritorious than attending the
acquisition of knowledge.'" It was this statement that

funerals of a thousand martyrs, more meritorious

led to the establishment of many scholarships at Cairo,

than standing up in prayer for a thousand nights ...

Damascus, and elsewhere.

To the student who goes forth in quest of knowl-

The Bihdru'l-Anwdr and other commonly accepted collec-

tion of traditions attributed the following passage to

bliss; every step he takes is blessed, and every

Muhammad 5 :

lesson he receives has its reward ... The seeker of

. Acquire knowledge, because he who acquires it in

knowledge will be greeted in Heaven with a welthe way of the Lord

performs an act of piety; who come from the
angels ... To listen to the words of
speaks of it, praises the Lord; who seeks it, adores
the learned, and to instil into the heart the lessons
God; who dispenses instruction in it, bestows alms;
of science, is better than religious exercises .. better
and who imparts it to its fitting objects, performs
than emancipating a hundred slaves ... Him who
an act of devotion to God. Knowledge enables its
favours learning and the learned, God will favour in
possessor to distinguish what is forbidden from what
the next world.. He who honours the learned
is not; it lights the way to Heaven; it is our friend
honours me.

in the desert, our society in solitude, our companion
Professor Stephen quotes these words from Mul;Iammad1:
when bereft of friends; it serves as an armour
He dieth not who takes to learning.
against our enemies. With knowledge, the servant
The worst of men is a bad learned man, and a good
of God rises to the heights of goodness and to a
learned man is the best.

noble position, associates with sovereigns in this
The Islamic Review (5; 48, January 1917) also furnishes
WGrld, and attains to the perfection of happiness in
these quotations from MUQammad:
the next.

The desire of knowledge is a divine commandment
"Seek ye learning even unto China," enjoined the
for every Muslim; and to instruct in knowledge
those who are unworthy of it is like putting pearls,
I EI-Bokhari, Les Traditions Islamiques, p. 40.
jewels, and gold on the necks of swine.

! Ibid., p. 44.

• Ibid.. p. 51.

~ Khalil, Totah, The Contribution of the Arabs to Li:ducation, p. 44.

I N. Stephen, "Muhammad and Learning," Islamic Review, 5: 44-7

Li Ameer 'Ali, op. cit., p. 331.

,i? (January 1917).

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53

Seek ye knowledge from the cradle to the grave. ransom 0 4.000 dirhams
each. MuI;tammad 'Ali con-

Exces~ive know ledge is better than ~xcessive cludes!: "To forego a big
sum of 4,000 Dirhams ransom

praying ... It is better to teach knowledge one hour money per head and

accept the teaching of reading and writing instead, in the night than to pray the whole night. furnishes an ample testimony to the value of knowledge in order to revive the knowledge of Islam delight in pointing out that a religion, will be only one degree inferior to the term Islamic learning was the product of Jewish, Christian. and Zoroastrian minds. It can be prophet. Captious critics persuasively argued. however. that it is to the credit of One learned man is harder on the devil than a Muslim that it provided an atmosphere conducive to productousand ignorant worshippers.

Their efforts by such scholars; the facts indicate that absence of, discrimination in Islam encouraged free inquiry by students of other edge, God will direct him into the path of Paradise; faiths. students of other and verily the superiority of a learned man over an Westerners associate force with the spread of Islam. Their conception of ignorant worshipper is like that of a full moon over Jihad or "holy war" is distorted beyond all the stars. recognition. They picture the Saracen with a Qur'an in one hand and the sword in the other, This is a clear case of mistaken, identity. is like a treasure from which no charity is bestowed of mistaken, identity. The Christians, not the Muslims, were the offenders in this respect. Those who practise what they know. the Inquisition, two million Muslims were threatened with death unless they accepted a particular brand of Christianity. These statements must not be construed as idle and useless words. Their results have been very substantial. Multitudinarily were purely defensive in nature. Had they not been The strength of Islamic science was its devotion to practical matters rather than to the vague notions of the Byzantine :-that dire results for the future of civilization one can only Imagine. Diercks renders this verdict 2 : precepts by studying and participating in discussions when That wars against non-Muslims were religious and they were advanced in age. After the followers of

for the sake of religion. and were undertaken by Muhammad brilliantly defeated their persecutors at Badr, Muslims for the oppression of other religions, is not a number of captives were taken. They were well-treated only, generally speaking, out of the question, but and given the best food; the poor went free without pay also even in special cases it would be very difficult payment of ransom, but the rest were assessed "what the traffic could bear." The remarkable feature of the settlement, and one probably unparalleled in the annals of military history, was that those who could read and write were evidence indicates that some of the later wars required to teach ten children each in lieu of paying a I Muhammad 'Ali, op.cit., p, 216.

• Diercks. op. cit. 17: 91 (May 1929).

I El-Bokhari, op. cit., Vol. III, p. 41.

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were economic and political in their motivation but that mage, as well as to those who visit these places the the early ones, during the lifetime of the Prophet, were Georgians, Abyssinians, Jacobites, Nestorians, and all entirely a struggle for the right to live. those who acknowledge the Prophet Jesus. All The Eastern Christians and Jews preferred Muslim to deserve consideration because they had here-Roman rule. Wismar, who inclines to be parsimonious in tofore been honoured with a document of the his concessions to Islam, writes! : Prophet Muh,ammad, at the end whereof he affixed When the Muslim army reached the valley of the in which he has emphatically ordered Jordan and Abu 'Ubaidah pitched his tent at Fihl, beneficent and to grant them security... On the Christians of the country informed the Arabs into the church of the Holy Sepulchre that they preferred them to the Byzantines, although their entire pilgrimage no kind of tax shall the latter were Christians. The people of Hims from them. closed the gates of their city against the army of uncommon for outstanding Christian scholars Heraclius, declaring that they preferred Muslim their pupils from among the Muslims than

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not

The best

55

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his seal, and

us to be

their entry

and on

be exacted

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to count more of

justice and government to Byzantine oppression. from their
co-religionists 1 . Bartold, a distinguished scholar
The Jews of this city swore by the Torah to sacrifice with no "axe to
grind," asserts that "the Mussulmans never indulged in the
their lives in the attempt to keep the Emperor from religion as the
persecution of those who believed in another
gaining possession of it. Other cities acted similarly religion as the
Christians did in Spain2." At the time of
and eloquently declared their abhorrence of Byzan- the Crusades, if we
are to believe the testimony of a Russian historian of
time misrule and their approval of Muslim supremacy. Russian historian of
the Church, "the clergy and the masses desired the return of
On the defeat of the imperial forces at Yarmuk the the continuation of
the Muhammadan yoke rather than
cities opened their gates and received their victors the continuation of
the power of the Latins 3 ".
with wild demonstrations of joy. Nor were they How were the
Christian men of learning in Spain treated by the Muslims? Ameer
disappointed in their expectations of greater security by the Muslims? Ameer
'Ali has this to say on the subunder Muslim rule. In the early days of Islam
Jews ject" :
and such Christians as did not accept the imperial The
government of each academy was entrusted to a
theology were better off under the Muslim caliph
rector, who was chosen from among the most
than under the Christian Emperor.
distinguished scholars. In the middle of the thir- tenth
Particularly instructive are the provisions of 'Umar's
century of the Christian era this high office
treaty with Jerusalem 2 : in
the University of Granada was held by Siraj-
This treaty comprehends all Christian subjects, ud-Din Abu
Jaafar Gmar al-Hakami. No religious distinction
priests, monks, and nuns. This treaty grants them learned
was made in these appointments, and
security and protection wherever they may be .••
Jews and Christians were often appointed
A similar external protection shall be granted to to the post of
rector. Real learning, in the estimation of their churches, houses, and 'to their
places of pilgrim-

I V. V. Bartold, Mussulman Culture, p. 17.

• Ibid., p. 18.

I A. L. Wismar. A Study in Tolerance. pp. 104-5.

• Ibid., p. 22.

I Diercks, op. cit., 17 : 375 (October 1929),
Short History of the Saracens, p.570!

4 Ameer 'Ali, A

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tion of the Arabs, "was of greater value than the)
poetess and jurisconsult; Mariam of Seville, accomplished
religious opinion of the literate." r in poetry,
literature, and rhetoric; Ammat ul-' Aziz, a
descendant of the Prophet. also enjoyed an excellent reputa-
Were women confined to the harem, or could they par- tion
for her eruditionl •

ticipate in educatio~al activities? Investigation discloses

Few students would deny that the influence of the
that women were lecturers as well as students. Women of

Arabs in bringing about the Renaislearning were t~ be
found even in Mecca where Karima General Influence of
sance in Europe was considerable.

Islamic Civilization.

lectured to many pupils on hadith; Shaheda was another

Much translation will have to be done
celebrated teacher of traditional theological doctrine.
during the decades ahead before the pedagogues of the
Some of the most famed Spanish surgeons were women l •
West will be willing to accord to the Muhammadan Revo-
Spanish women were. also noted for their ability along
lution as prominent a place in the history textbooks as that
literary lines "and the names of Nashun, Zainab. Hemada.

now granted, for example, to the French Revolution. In
Hafsah, al-Kalayyeh, SaGa, Maria shed an ineffaceable
the light of the vast amount of research remaining to be
lustre on the land of their birth 2 " . When the Spanish
done in order to uncover the intellectual treasures be-
Muslim women sallied forth from their apartments, it was
queathed by the Muslims, it behoves present-day writers to
not in sombre garb but in costly dresses bedecked with
avoid negative conclusions as to the volume at original conprecious stones and
redolent with perfume. The splendor tributions made by
the Arabs to contemporary civilization.

of their appearance in the mosques has been likened to "the

The other extreme, of engaging in flights of fancy on the
flowers of spring in a beautiful meadow 3." According to
achievements of the past, is also fraught with danger. One
'Abu'l-Karim, Mul;Iammad gave women the right to own
of our mortal failings is the practice of boasting about a
property thirteen centuries ago, a privilege that En.gla~d
civilization only when it is in its infancy or its senility.

did not confer until 1875 and which still does not eXist III

One should be wary about accepting and publicizing unrestricted form in France'. Al-Maqqari quotes a proud strange and unverified claims, such as that of 'Abu'l-Karim Spaniard: "Has your country produced such women. as who solemnly vouched for the story that the Arabs and our Walladah al-Marwaniyyah, who discusses poetry With Moors of Spain traded with the American Continent 477 the vazier, Ibn Zaidun? And have you the match of years before Columbusll • Siyyid Ehsan el-Bakry contri-Zainab, the daughter of Ziad 6 ?" Girls attended school butes this item: "Even aviation was attempted by the with boys and even slave-girls are reported to have been early Muslims; and Abu'l Kasim, the inventor of gla~s, did well trained6• Other Muslim women scholars included actually succeed in flying, but unfortunately fell and was al-Aaruzzieh, grammarian and rhetorician; Urn-ul-Hina. killed 8."

Some of the general reforms instituted by Mu1).ammad I S. H. Leeder. "The Debt of Civilization to the i\rabs," Islamic were the abolition of drunkenness, gambling, and infan- Review 4 : 115 (March 1916).

ticide. In Persia before Islam, religion sanctioned marriage

• i\meer •Ali, A Short History of the Saracens, p. 569.

• Ibid .. p. 571.

, 'Abu'I-Karim, "Hazrat Muhammad, the Greatest Social Refor- I

i\meer 'Ali. A Short History of the Saracens, p. 570.

mer," Islamic Review, 22; 146 (May 1934).

• i\bu'l-Karim, lac. cit.

S Ehsan el-Bakry, "How the Qur'an Gave a New Impetus to Educa-

• Totah, op. cit., p. 82.

5 Ibid., pp. 80-1.

tion and Scientific Learning," Islamic Review 5 : 416 (October 1917).

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CONTRIBUTIONS OF ISLAMIC CIVILIZATION 59

58 MU1;iAMMAD THE EDUCATOR

Conditions under the Fatimids in Egypt were most between father and daughter, son and mother, brother and favourable for students l :

sister, but such practices have long ceased l •

Al-Maqrissi states that a student received five Schools played an important role in the spread and loaves of good bread a day, a sum of money, and advancement of culture in Islamic countries. The Latin

light and heavy clothing. Adults were not left out of origin of the word bachelor has not been finally and indis-

the educational picture. Ibn Batutah is authority for putably established. The word was used in the Chanson de Roland and it has been suggested that it could have

the assertion that at Damascus was a school called Madrasah Ibn 'Umar, founded for old and middlebeen derived from bihaqq-al-riwava. "The right to teach aged men who wished to study the Qur'an ; food on the authority of another 2 ."

'Ali, son-in-law of the Prophet, and Ibn 'Abbas, cousin and clothing were furnished to students and of Mutlammad, gave public lectures on poetry, grammar, teachers. Girls attended school with boys and history, and mathematics. Presumably these adult education activities in the mosques carried greater prestige than subjects.

appearances before children. Ameer 'Ali writes that The Dar ul- Hikmat, free scientific institute at Cairo, Spain had a well-developed educational system 3 :

"anticipated Bacon's ideal with a fact z." Access to libraries No town, however small, was without colleges was available without cost. Ameer' Ali provides interesting and schools, whilst each principal city possessed a information about the interest of Egyptian leaders in separate university. Those of Cordova, Seville education 3

: (Ishbilia), Malaga, Saragossa, Lisbon (Alishbuna), The caliphs frequently held learned disputations, Jaen, Salamanca, among others, 'occupied the most at which professors of these academies appeared, distinguished position.

divided according to their different faculties : Ameer 'Ali continues his account of the Muslim universities in Spain' :

dressed in their Khalaa, or doctoral mantles. It was customary in the Spanish Arabian uni- The gowns of the English universities retain the original form of the Arab Khalaa. com1Demorations and Here is periodical meetings, to which the public were

a note on school finance in Egypt : invited. On these occasions poems were recited Two hundred and fifty-seven thousand ducats, and orations delivered by the most eminent persons raised by a carefully regulated taxation, constituted the annual revenue of the colleges, and was eming lines inscribed over its gates:

"The world is employed for paying the salaries of the professors and supported by four things only: the learning of officials, and providing the requisites for teaching, the wise, and the justice of the great, the prayers and other objects of public scientific instruction. of the good, and the valour of the brave."

1 Totah. op. vit., p. 83.

1 Bartold, op. cit., p. 71. a

Ameer 'Ali, The Spirit of Islam, p. 342.

2 Sir Thomas W. Arnold, The Legacy of Islam, p.245. •

Ameer 'Ali. A Short History of the Saracens, p. 614.

3 Ameer 'Ali, A Short History of the Saracens, p. 577.

, Ibid., p. 615.

& Ibid., p. 570.

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60 . MUI:AMMAD THE EDUCATOR
cnTRIBUTIONS OF ISLAMIC CIVILIZATION

61

Tracing the use of Islamic symbols in free", masonry account of the phenomena for the purpose of rising would be an intriguing task but the element of secrecy from the effect to the cause, accepting only what had precludes open research. We do know that there was been demonstrated by experience; such were the attached to the Central Dar ul-Hikmat a Grand Lodge principles taught by the (Muslim) masters. whose Grand Prior convened weekly meetings. Ameer "In Siluki's lecture-hall at Nisapur there were 500 ink-'Ali comments 1 :

pots always ready for use 1 ." A thousand years ago, the Makrizi's account of the different degrees of Al-Azhar University was founded in Cairo. It is still the initiation adopted in this lodge forms an invaluable chief Islamic institution of higher learning. The library of record of free-maliOnry. In fact, the Lodge at al-'Aziz at Cairo contained at least 120,000 volumes while Cairo became the model of all the Lodges created that of al-Hakam at Cordova was even larger. In Ba@dad, afterwards in Christendom.

princes and viziers vied with each other in establishing At. Granada as well as at Cordova a great cultural libraries and madrisahs (colleges), A minor college foundupsurge took place 2 : ed in Baghdad in 990 A.D, contained 10,400 books. No

The sovereigns of Granada rivalled the Caliphs
one was permitted to use a book at a public lecture without
of Cordova in their patronage of learning and arts,
the author's written comment; perhaps this regulation was
and in the construction of sumptuous public works;
the prototype of modern copyright legislation~.

and under their liberal and enlightened government,
Khuda Buksh relates the tragicomic tale about the
Granada became the home 'and birth-place of

Muslim addiction to books s :
eminent scholars, distinguished poets, accomplished
Even in the first century of the Hegira we find
scholars, "men fit in every respect to serve as
learned men scolded by their wives for possessing
models."

great numbers of books and one was actually killed
by the fall of a pile of folios which he had heaped
Ameer 'Ali cites the tribute of Abu'l Farai to the
around him while sitting on the floor. It was
Caliph al-Maml10 8: .

deemed a matter of pride to possess a large collec-
He was not ignorant .that they are the elect of
tion of books, and not merely savants but even
God, His best and most useful servants, whose
statesmen gloried in their collection. A Buwayiid
lives . are devoted to the improvement of their
Wazir never travelled without carrying with him
rational faculties ... , that the teachers of wisdom
,thirty camel-loads of books.

are the true luminaries and legislators at the world.
Ameer 'Ali describes the Islamic devotion to scientific

The baths of Cordoba street lights, and various other
method 4

:

comforts and conveniences installed by the Muslims, surely
Marching from the known to the unknown the
provided excellent demonstration lessons for the ameliora-
School of Ba@dad rendered to itself an e'xact

1 S. Khuda Buksh. Contributions to the History of Islamic Civilization,
I Ameer 'Ali, A Short History of the Saracens, p. 569.

V 01. II, p. 282.

I Ameer 'Ali, The Spirit of Islam, p.943.

a Khuda Buksb, "The Educational System of the Muslims in the

• Ibid.

Middle Ages", Islamic Culture, 3 : 455 (July 1927).

3 Ibid., 3 : 453 (July 1927).

• Ibid.

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ingia as the central point of dissemination of the new
tion of European conditions!. Cordoba merits further
learning in Latin Europe! :

elaboration 2 :

I am convinced that the schools of Lorraine in

Cordova in the tenth century was the most the last
half of the tenth century were the seedcivilized city in Europe, the wonder and
admiration plot in which the seeds of Arabic science
first

of the world, a Vienna among the Balkan states.

germinated in Latin Europe, from which the knowl-

Travellers from the north heard with something edge

radiated to other parts of Germany-witness

like fear of the city which contained 70 libraries

Hermann Contractus in Reichenau-to France, and

and 900 public baths; yet whenever the rulers of

especially, owing to the preference of Knut the

Leon, Navarre or Barcelona needed such things Great

for Lotharingian church-men, into England.

as a surgeon, an architect, a dress-maker, or a

singing master, it was to Cordova that they applied. The fact

that Peter the Venerable sponsored a Latin

translation of the Qur'an, around 1150 A.D., is further

Rosenthal reinforces this opinions: evidence of

Cluny's interest in Arabic learning. Today.

In Muslim days Cordova was the center of the name of the

French province is primarily associated

European civilization and one of the greatest seats with Cluny

lace. "The most brilliant author of the time

of learning in the world. After the expulsion of was al-Idrisi

who was entrusted by the Christian Norman

the Moors from Spain, however, Cordova sank to King Roger of

Sicily with the composition of a description

the level of a provincial town. . Yet her wonderful of the known

world, indicating the acknowledged superimosque is a superb legacy of the days

when Cordova ority of Muhammadan learning 2 ."

was the capital of the Arab empire in Spain. Adelard of

Bath, pioneer student of Arab science and

In 1238 A.D., the mosque was converted into a cathe- philosophy

in the twelfth century under Henry I and

dral. Great numbers of pillars were ~emoved and other

traveller to distant lands. has been called "the greatest

resthetic crimes were committed. To, undo some of the name.

in English science before Robert Grossetete and

damage, the civil authorities in Spain are undertaking Roger

Bacons." Others active in diffusing Arabic culture partial restoration; for example, the bases of the pillars in Europe were Plato of Tivoli, Robert of Cliester. are being uncovered.

Hermann of Carinthia, Rudolf of Bruges, and the great Gerard of Cremona. Michael Scot, who served at the court How the transmission of Islamic culture to Europe was of Frederick II, translated the works of Ibn Sina, al-Bitruji, brought about has not been precisely ~scertained, but we and other Muslim thinkers.

do have certain clues. Haskins affirms that "the broad An intriguing figure in the history of Europe and one fact remains that the Arabs of Spain were the principal . significant for his role in the dramatic spread of Muslim source of the new learning for Western Europe'."

influence was Frederick the Great. He discoursed on Thompson advances plausible reasons for'regarding Lotharphilosophical subjects with Fakhru'd-Din, exchanged

I Totalah, op. cit.. p. 103. 1 J. W.

Thompson, "The Introduction of Arabic Science into the 2 Arnold, op. cit., p. 9.

Lorraine in the Tenth Century," Isis. 12: 191 (May 1929).

• E. Rosenthal, "Traces of Arabic Influence in Spain," Islamic s Arnold, op, cit., p. 89.

CIlltum, 11 : 336 (July 1937).

B Haskins, op, cit., p. 20.

• Haskins, op. cit. • p. 50

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"I know nothing," writes Von Kremer, "which brings geometric and algebraic questions and problems with Muslim contribution in home to us a picture of the Muslim al-Kamil, and associated with the most renowned Arab geography. zeal for truth more clearly and

astronomers. Muslim architecture interested him. notably emphatically than an account of the

the octagonal Mosque of 'Umar in Jerusalem, with its gree.n travels of the last great Arab geographer-Yaqut-i-Hamwi.

and gold cupola and artistic pulpit. He also collected The Mon~ol menace, which was to destroy the throne of

information on hunting: "When we were In the Oripnt the Abbaslds and the old Bagdad, begins its steady forward

we observed that the Arabs themselves use a hood ID course,.but does not in the slightest degree interfere with

hawking, for the Arab kings sent us their most skilful fal- t~e qUIet work of our author in the libraries of M erv. In

I

coners with falcons of every kind ." hiS fl1!lht
 he saves the greatest portion of his gathered
 The following report shows his distaste for the claims matenals, and
 though hardly at leisure or in peace, he sets
 of the Roman Church : ~o work to
 complete his task before he embarks on his last
 He was discussing the Khalifate with Fakhru'd]~urney-never to
 return." 1 Yaqllt (circa 1179-1229) b
 Din. The Amir explained to the Emperor how birth an ~natolian
 Greek. was enslaved in youth. Educ'ate~
 the Khalifat of the Abbasids could be traced back as a ~ushm, he b~came
 one of the most successful of the
 in unbroken line to al Abbas, the uncle of the Ara~lc scholars ID
 the compilation, collection, and classI-
 Prophet, and thus still remained in the family of ficatIOon of data. His
 Geographical Dictionary or Gazetteer is the greatest w:or~ of
 the Founder. "That is excellent," said Frederick, the greatest w:or~ of
 it.s kind in Arabic; no mere assortment
 "far superior to the arrangement of those fools, of dry facts, It IS
 enrIched with anecdotes, descriptions of natu~al .scenic
 the Christians. They choose as their spiritual head natu~al .scenic
 beauties. and so on. Of ma.ior importance
 any fellow they will, without the smallest relation- also IS hIS Dictionary
 of Men of Letters.
 ship to the Messiah, and they make him the . Another
 fascinating figure in Islamic geographical
 Messiah's representative. That Pope there has no SCIENCE is al-Biruni
 from whom we learn that by the
 claim to such a position, whereas your Khali£ is ~leventh ~entury
 Muslim merchants had founded colonies
 the descendant of Muhammad's uncle." 10 t.he Indlan Ocean
 near the Java Islands and had married
 Frederick graduallY transferred 'some 16,000 Muslims natIve . women.
 It is possible that the Arabs knew
 from various parts of his em pire to Lucera. which was trans- Australlia and
 that Ibn Rushd's reference to a place in the
 formed into a military fortress. Frederick apparently land of the
 Zenjis where "the day lasts only six holUs"
 wanted them to remain Muslims so that he could tax them re~ates to
 South Australia. Al-Biruni also possessed informon the basis of their faith.
 They seemed to appreciate his atIOon about South Africa and Mozambique.
 The Chinese
 rule and even called him "sultan." "Thus there grew up official map
 for the year 1331 A.D. was composed
 in the heart of the oldest Christian country near the frontier either by or
 in dependence upon Muslim geogl~aphers."~
 of the papal patrimonium a genuine Muhammadan town Muhammadan

geographers assigned greater value to civic
 with all its characteristic mOliques and minarets visible afar
 across the levels of Apulia ." 1 Khuda
 Buksh, Contributions to the History of Islamlc Civilization,
 Vol. II, p. 47.

2 Ahmet Zeki Validi, "Islam and the Science of Geography" Islamic
 1 Robert Kantorowicz, Frederick the Second. p. 192.
 Culture, 8 : 514 (October 1934).

• Ibid., pp. 192-3.

3 Ibid., p. 130.

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 CONTRIBUTIONS OF ISLAMIC CIVILIZATION

67

and cultural life, description of manners, language and be-
 which only God's own Art can bring to pass ...

lief than did most Greek authors and their determination of
 To obtain information concerning places of the
 longitude and latitude is characterized by greater exactness.

Earth has now become incomparably easier and safer
 The following illuminating disquisition on the more

(than it was before), Now we find a crowd of
 favored research conditions made possible by Islam is taken
 places, which in the (Ptolemaic) "Geography" are

from a manuscript of al-Biruni which was written on the
 indicated as lying to the east of other places, actually
 completion of certain geographical investigations, September
 situated to the west of the others named, and vice

1

versa.

21,1025 :

Most of the data of the Geography (of Ptolemy)	This
quotation, by itself, disproves the belief common in	
concerning the longitude and latitude of points on	the West
that the Arabs accepted uncritically whatever	
the Earth have really been adopted only on the	came down
from the Greeks and were mere imitators.	
ground of rumours which had come from far-off	Banold
acknowledges that "it is only because of the	
districts. . . An: v how , the ground on which these data	Arab
geographers that modern scholars possess material by	
rest is mere report; indeed thme lands were very	which they
can judge how little the climatic and physico-difficult of access in the past	
owing to the national geographical conditions of Higher and	
Central Asia have	
divisions (at-tubayan al-milli), for national division	changed
during the last thousand years."l	
is the greatest obstacle to travel in countries. We	It is

claimed that Ibn Majid piloted Vasco da Gama see, for example, some people who think-as do the from Africa to the Indian coast.

Jews-to come nearer to God through treacherous Among the best known in the West of the Arab geograattacks on folk of other nationalities. Or they take phers is Ibn BatUra (Abu 'Abdullah Mu1).ammad, b. 1304

foreigners as slaves, as do the Romans, and that is A.D., d. 1378 A.D.), whose descriptions of his travels in Central Asia the lesser evil, Or travellers, because they are are justly famed.

foreigners, are turned back, held in every kind of AI-Mas'ildi (d. 956 A.D.) studied science and philosophy suspicion and they are thus brought to a very and travelled throughout the East by land and sea. Unfordangerous and unpleasant plight. tunately, only a single volume remains of the

thirty that But now the circumstances are quite different. comprised his encyclopedia of the history, geography, philosophy, Islam has already penetrated from the eastern coun- neighbors, and religious conceptions of the Muslims, their tries of the Earth to the western; it spreads west- arid precursors. Some regard The Golden Meadows, an ward to Spain (Andalus), eastward to the borderland abridgement ot what remains at his exhaustive work, as among of China and to the middle of India, southward to language. the most delightful books in the Arabic Al-Maqdisi Abyssinia and the countries' of Zanj (i.e., South Africa, the Malay Archipelago and Java), northward deserves some was an excellent literary craftsman and the cultUi:'al to the countries of the Turks ,and Slavs. Thus the brought together in mutual understandlllg (ulfat)" mores, customs, beliefs, likes, dislikes, interests, and state of culture.

I Ahmet Zeki Validi, "Islam and the Science of Geography," Islamic Culture, 8: 417-18 (October 1934).

I Bartold, op. cit., p. 59.

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CONTRIBUTIONS OF

69

Indubitably, the Pilgrimage to Mecca'stimulated geogra- Cloth known as fustian took its name from its place of phical research. It is true, of course, that pilgrimages were manufactory,

Fustat, the first Muslim capital of Egypt.

made to the Ka'ba before the advent of Muhammad but in the English equivalent of the Persian taftah. The those times the pilgrims came only from nearby regions, not of 'Attab in Baghdad were renowned for a fabric which was imitated in twelfth-century Spain a consecrated spot to many nations and peoples. known as attabi silk, France and Italy adopted. The geographical studies of al-Battani and his colleagues Tabby cats naturally possess a brown and kept alive the idea of the sphericity of the earth, a concept attabi pattern. The Muslims took the cotton plant nearly forgotten in the "Dark Ages" and one without which The word damask is derived from Damascus, the discovery of America would have been impossible. Ibn Gaza, and muslin from Mosul. Cotton manufacture was first introduced into Europe by the Arabs, found in the Imago Mundi of Cardinal Peter of Ailly. 'Abdu'r-Rahman III having been responsible for the start Columbus was familiar with the Imago Mundi and it may industry in Spain in 130 A.D. According to Draper, have been from it that he reached the conclusion that the were also the authors of the printing of calicoes earth was round; in any case, it probably encouraged him to blocks, a great improvement on the old Indian pursue the theory; after all, he could hardly be persecuted operation of painting by hand. "I as a heretic for advocating a doctrine sanctioned by Cardinal The carpet, now a universal necessity, came into Europe Peter. "Thus Islamic geographical theory may claim a as a luxury reserved for connoisseurs who at first regarded it more as a share in the discovery of the New World."I tenth century The coming of Islam stimulated the spirit of adventure Persian craftsmen carried carpet-weaving to and enterprise. About the middle of heights never attained before or since, producing with Commerce of Islamic peoples. the tenth century Muhammadan silks 1. "miraculous skill designs unparalleled in beauty,"2 had reached the Chinese town of The Muslims took the sugarcane to Granada; from there it Khanfu (now Canton) and there is reason to believe that went first to Madeira and thence to the West Indies, the they knew of the existence of Japan and Korea. Trade with

present world sugar bowl. Paper, so indispensable to India and Ceylon was active and of considerable volume. contemprrary literate civilization, carne to Europe Muslim vessels reached Sufala, noted for its gold and situation from the Arabs. Also from the Muslim east came sesame and carob, ed opposite Madagascar on the east coast of Africa. When Vasco da Gama, after his circumnavigation of Africa in shallots (onions from Ascalon). Baldachins originated in Baghdad; sa 1498 had reached Malindi on the east coast of Africa, it was an Arab pilot, A~mad ibn Majid, who showed him the Byzantium. Central Asia and the Near East exported rugs, carpets, and way to India. According to Portuguese sources, this pilot tapestries. The regular channels of commerce possessed a very good sea-map and other maritime aids and cial intercourse brought additional contributions from the instruments. Some of the Abbasid caliphs had the idee of Muslim world: lacqUers; new colors, e.g., carmine, and piercing the Isthmus of Suez. 2

1 John W. Draper, History of the Intellectual Development of Europe,

V 01. II, p. 386.

1 Arnold, op. cit., p. 94.

2 Arnold, op. cit., pp. 137.38.

J Ibid., p, 96.

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OF ISLAMIC CIVILIZATION 71

,his own jugular vein. Muslim law rests on good faith and equality before God. Muttammad said, "The white man is not above the black nor the black aove the yellow; all men are equal before their Maker." Good faith is elevated above personal fealty and becomes a universal ethical conception. 1

Islam substituted the community of faith for the blood tie, which was the political and social foundation of the Arab tribe. "He who adopted Islam had to forget all connexions, even his own kith and kin, unless they were his companions in the faith." Equality before the law is ,fundamental to the system. De Santillana quotes this delightful hadith: "The Muslims are a single hand, like a compact wall whose bricks support each other."s The Qur'an, fountain and source of all the good things that later developed in Islam, created a new type of social order and founded a new basis for political organization in that it revealed a new material law that superseded the

laws and ordinances of the past.' Patriotism, a rational love for one's country, transcended the narrower loyalty and became identified with the worship of God.

Muttammad is credited with being the first judge to distinguish between intentional, premeditated murder and accidental homicide: "The intention of the accused was the determining factor for him in all cases." The Muslim jurist was required to decide a case only upon the record before the court, after hearing both parties: When Ali was appointed judge in al-Yarnan, he was instructed by the Prophet on the eve of his

1 Arnold, *Opt cit.*, p. 305.

2 *Ibid.* p. 285.

3 *Ibid.* p. 287.

C Bashir-ud-Din. "The Political Theory of Islam," *Islamic Culture*. 8 : 588 (October 1934).

• Muhammad Hamidullah, "Administration of Justice in Early Islam," *Islamic Culture*, 11 : 107 (April 1937).

• E. G. Brown, *Arabian Medicine*. pp. 107-08. • *Ibid.*, 11 : 167-68.

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departure : "When the two parties sit before thee, in clear cases, since a revocation is always better do not decide in favor of one of them unless and than persistence in injustice. (g) In the absence of until thou hast heard from the one as thou hast Jaw and precedent (Qur'an and Sunnah) on some from the other. This will more likely suggest thee question, deduction should be made with analogy to right decision."

similar cases, and after due consideration of every- Muhammad Hamidullah gives further credit to the thing such judgment be pronounced as be nearer to Prophet as a legal reformer:

right and dearer to God. (h) A claimant must be . The Prophet laid down an important rule of law given time to procure evidence. If he is thereafter and court procedure : the burden of- proof lies on unable to prove his case, his claim may be dismissed. the claimant, and the defendant who declines to

The evidence of every Muslim is admissible admit the claim must deny simply on oath. except of one who has received corporeal punish-

:(i)

An important change of practice instituted by the Qadi
 .ment for immorality (Majlud fihadd) or is notorious
 Shurayh, an appointee of the Caliph 'Umar, was the decree
 for false evidence. Again, one "cannot give evidence
 that witnesses should appear separately; formerly, all the
 for one's own kin and relatives. (j) The judge
 witnesses remained in the court-room and heard one
 must not behave in a haughty manner or evince
 another's testimony. Shurayh performed" judicial duties
 displeasure over the utterance of truth. God is
 over a period of seventy-five years.

.' All-Knowing and All-Hearing and with Him one
 . The letter of instructions sent by the Caliph, 'Umar to
 must have clear accounts.

Abu Musa al-Ash'ari upon the latter's appointment as judge
 Islamic doctrine does not regard any man as being free
 in Basrah has been summarized as follows 3 :

error or incapable of making a mistake. As an
 (a) Administration of justice is a (Divine) ordi- example for his
 followers, Muhammad even entertained civil suits
 nance and a practice (of the Prophet) which ought
 against himself and in the cases known to us always
 to be followed. (b) If a suit is filed before you, de-
 decided in favor of the claimant.1
 cide it after careful consideration and execute it, The
 Caliph 'Uthman constructed a special building for
 for even the most rightful judgment without execu- the court of
 justice (Dar al-Qada). 'Ubayd Allah b. al-Tayyib is useless. (c) Both parties
 should be treated Hassan al-'Aubari and 'Umar b. 'Amir were
 appointed
 equally 50 that the poor might not despair of your jointly .as
 judges in Basrah: "They sat together as a Bench
 justice and the tyrant might not long for your and combined
 in hearing and deciding "2 During his
 partiality. (d) The burden of proof lies upon the farewell
 pilgrimage a decade after the Hijrah, Muhammad
 claimant, and the defendant can deny the claim on decreed that
 life, property, and honor, the three elementary
 oath. (e) The parties may compromise out of the rights of every
 man, must be respected. s
 court, but the conditions of their compromise De

Santilana appraises our debt to Islamic Law 4 :

should not violate religious commands' or prohibitions. (f) Review of judgment
 is not disallowed 1 Hamidullah, op. cit. • 11 : 169.

1 Muhammad Hamidullah, "Administration of Justice in Early •
 Ibid., 11 : 170.

Ibid., 11: 171.

Islam." *Islamic Culture*, 11 : 168 (April 1937).

• Arnold, op. cit. • p. 310.

• Ibid.

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Among our positive acquisitions from Arab law. accounts of the Muslim conquests into a detailed consecutere are legal institutions such as limited partner- tive narrative entitled *History of the Conquests of- the Counship (qirad)*, and certain technicalities of commercial tries. His chief predecessor in this field was al~Waqidi law.. But even omitting these, there is no doubt (747-823 A.D.), the earliest chronicler of Saracenic conthat the high ethical standard of certain parts of flicts; his chief book was a *History of the Wars of the Arab law acted favorably on the development of Prophet. AI-Dinawari (d. 895 A.D.) composed a standard History of our modern concepts; and herein lies its enduring of Arabia and Persia. At approximately the same time, al- merit. Ya'qubi wrote a chronological summary of Islam did not follow the European pattern of imposing universal history from the Shi'ite stand-point and the serfdom. In Persia and Turkistan it brought in its train earliest historical geography in Arabic literature. The best the development of city life and the disintegration of the work on the Caliphate of Baghdad, in the estimation of some caste system and a more equitable apportionment of the some scholars, was the *History of Bagfl,ddd and its Caliphs* huge landed estates.1 by Ibn Abi Tahir (d. 902 A.D.). Some of the ablest medieval historians were Muslims At-Tabari (839-923 A.D.) had an unequalled store of and the greatest of them, Ibn Khaldun, theological, philological, and historical learning. He was Historiclll writing. completely outdistanced all historians a traveller and a man of vast erudition who wrote, among of the Middle Ages in his fundamental grasp of the princi- other things, *The Annals of the Apostles and Kings*. in ples of human cultural development. Barnes expresses which he gives events year by year up to 915 A.D. as the view that, as a group compared ~ith their Christian*

related by different authorities. Called the "Livy of the contemporaries, the Muslims were characterized by independent judgment, relative impartiality, and a better grasp of chronological methods. On the whole, they dated their portion of his work survives.

materials and events far more precisely than did the Christian writers.^a Incentives for Muslim historical writing were the desire to establish the authenticity of Arabs', for he possessed the same avid curiosity and zeal for hadiths, to determine who were the descendants of information as did 'the father of history'." 1 His MuQammad. and to celebrate Muslim conquests and remembrance of Gold and other works were unusual in containing the heroes of Islam. ing a wealth of ethnographic

material and a good deal of

The earliest of these historical efforts were biographies and social history. cultural

of the Prophet, the first of which we have knowledge being The Khatib al-Baghdadi (d. 1012 A.D.) showed a subtlety that of Ibn Ishaq (d. 768 A.D.) a sincere attempt to critical technique in the judging of traditions and an exhaustive collection of facts about MUQammad and Islam which has tive biographical knowledge. "Most admired in the Khatib been partially preserved for our time in a recension by Ibn his keenness in detecting genuineness or otherwise of Hisham. Al-Balaqhuri (d. 892 A.D.) brought the early document by the anachronism of the subscription. "2 I Barnes, op. cit., p. 95.

J Bartold. op. cit. p. 59.

I Barnes. op. cit., p. 94.

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• Khuda Buksh. Contributions to the History of Islamic Civilization • vol. II, p. 193.

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Ibn al-Athir (1160-1234 A.D.), Arab by birth, ranks among the greatest Arab historians, his principal work being the but secured a post in the secretariat of the Sultan Abu Inan soon fell into disfavor with the result that he was

Perfection of History, a twelve-volume universal history of I
I imprisoned; he was confined until the Sultan's death in
IEUim. He was one of the first Arabic-writing historians I 1358
A.D. An independent thinker and candid writer,
to have a philosophical grasp on cause and effect in the he
frequently had to leave town because of official disunfolding of
civilization. pleasure. Such
situations tend to occur \l; hen scholars
Miska waih, who died toward the end of the tenth centi~ become
subservient to politicians. On one occasion, he
tury, displayed intelligence of a high order and exhibited a felt
constrained to remark that a despotic government
first-hand knowledge of political and military affairs. His
finds it necessary to enfeeble the people by a system of
Experie?tces of the Nations is noteworthy for its objectivity,
education that instils servitude and dependence.
impartiality, and outspoken judgments. In more than one
Ibn Kballdun stressed the influence of climate and the
quarter of the twentieth century world, despite proud
important bearing of the natural landscape in molding
claims of intellectual progress and vaunted adherence to
civilization and in determining physical, mental, and moral
scientific method, such a candid analysis of contemporary
characteristics. He pointed out that persons living near
affairs :would be suppressed and the author jailed or put at: the
equator are dark-skinned because of the intensity of
forced labor or exiled or killed. the
sun's rays. He accounted for the cheerful, carefree,
The most celebrated of the biographical dictiQnaries is
exuberant character of the Negroes on the basis of the
The Obituaries of Eminent Men by Ibn KhalHkan (1211- high
temperature of the country. He found the inhabitants
1282 A.D.). The writings of Mu\lammad Ibn Batuta-have of
the temperate zones conspicuous for intellectual and
already been mentioned ; his travels were more extensive
physical endowments; the prophets and thinkers arose in
than those of other writers in his day and his accounts
these middle zones where d well the Arabs, Persians,
are invaluu:ible for the light they shed on those times.
Romans, Greeks, Israelites, Indians. and Chinese.
AI-Maqrisi (1360-1424 A.D.) holds high place as a He
declared that "no rule or dynasty can be founded
compiler of historical works ; a learned and sagacious
without the support of the tribe and the communal spirit. I
chronicler, he gave an excellent account of old Cairo and He
. believed that empires, like individuals, have their own
a topographical description and history o.f Muslim Egypt. life

cycle in which they grow, mature, and then decay, few
 We know of 561 works from the mind and hand of Jalalu'd-
 possessing the flexibility to adapt to ~hanging environments.
 Din as-Suyuti (1445-1505 A.D.) including the Itqan ~nd In
 expounding this last idea, he was apparently a forethe History of the Caliphs.
 Prominent historians of Muslim. runner of Oswald Spengler. He
 regarded urban life as the
 Spain were Ibn Hayyan, Ibn u'l-'Abbas, Abu 'Ubaydu'llah
 highest stage of civilization but also a,s the prelude to decay
 al-Bakri, Ibn Bushkuwal, Ibn us-Said, Ash-Shakandi, and and
 disintegration. With characteristic intelligence, he
 Ibn u'l-Khatib.
 stated that the foundation of empire "is naught but a
 Ibn Khaldun 0332-1406 A.D.), native of Tunis, was complete
 identification of the interests of the people with
 the chief historian of his age and the inventor of a new
 those of the sovereign. "2
 science of history; apparently for the first time in histori-
 1 Khuda Buksh, 'Ibn Khaldun and his History of Islamic Civilizacal literature,
 he introduced a philosophic conception of
 the stream 6f history. Early in his career, Ibn Khaldun
 / ... tion," Islamic Culture, 4 : 578 (October 1927).
 I I Ibid., p. 589.

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 Of history, Ibn Khaldun decided! : .~
 of the interaction between the physical environ..;
 It is a science by itself, for it sets a very d~finite
 ment and the group life of man... Anticipating Vico
 object before it; namely, civilization. and human
 and Turgot, he comprehended the unity and consociety. It deals with.
 the different que~tions that tinuity of
 historical development... In marked conserve to interpret and explain facts
 intimately trast with the static or
 eschatological conceptions
 connected with the essence of civilization. The
 of contemporary Christian historiography was his
 sec~ions, in which I 'treat these subjects contain ~
 dynamic thesis that the process of historic growth
 branch of science remarkable alike for its original-
 is subject to constant change, comparable to the
 ity and utility. They are the fruits of protracted
 . life of the individual organism. He made clear
 reflection 'and unwearying research.
 the cooperation of psychic and environmental
 Concerning the appropriate function of historical study,
 factors in the' evolution of ,civilization. There was

he adds 2 :

a pre-Marxian flash in his observation that the History should aim at shedding light on the social usages and institutions of peoples depend upon the groupings of men; that, is to say, on society and way in which they provide for their subsistence. the various stages through which it passes in the Flint adds this estimate 1 : .

natural course of events. It should shed light on

The first writer to treat history as the proper object of a special science was Mohammad Ibn

refinement of manners and customs; on the realization of the common interests of family and tribe;

regarded as the founder of the science of history on the various ways in which one nation gains

is a question as to which there may well be predominance over others, leading on to the establishment of opinion; but a candid reader of his

Prolegomena can fail to admit that his claim to the all changes, which in the course of natural events

honor is more valid than that of any other author affect the character of society.

previous to Vico.

Barnes evaluates Ibn Khaldun's rank as a historians:

Al-Biruni, whose contributions to the physical sciences His importance lies in the unique feat, for the are noted elsewhere in this study, is mentioned by Barnes time, of having been able to rationalize the subject as a chronologist :

The eminent Muslim encyclopedist, mathematician of history and to reflect upon its methods and and astronomer, al-Biruni (973-1048), did the best purposes. He was the Roger Bacon of medieval work on Muslim historical chronology, trying to historiography. He believed that history should

clear it up and to systematize it through placing it be a science and that it should treat of social

on an astronomical basis. Not until the time of development, which he held to be an outgrowth Scaliger (1540-1609) was there as able a chronol-

1 Khuda Buksh, "Ibn Khaldun and His History of Islamic Civilization in Christendom.

tion," *Islamic Culture*, 4 : 671 (October 1927).

One of the civil servants of the Muslim empire deserves

• Khuda Buksh~ Contributions to the History of Islamic Civilization,'
Vol. II, pp. 205-6.

Robert Flint. The Philosophy of History in France, pp. 158 H.

• Barnes, op. cit., p. 96.

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I Barnes, op. cit., p. 97.' .. ' .

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singling out for special commendation. Referen~e is made to
lers were sent away.

Ibn Khurdadhbih, postmaster at Samarra who, m 844 A.D. Ibn

Iubair's description to this day strikes a responsive

mpiled a list of post-roads, post-stations, and revenues due. chord in the

hearts of world travellers who find existing

co Export duties were commonly levied i~ the el~venth customs

formalities equally irksome.

d twelfth centuries. Import duties sometImes varied ,on One reason

for the Muslim pre-eminence in the artf: and

~e basis of the country of origin of the merch~ndlse. 'l h

d h

Ph10SOP yan t eology.

sciences during the period immedid' .

Searches by customs officers in Oman were consIdered

ately prece mg the European RenaIS-

, b' t' able by travellers In the twelfth century, sance was

the •comparative freedom of inquiry prevailing

very 0 Jec Ion ', ' h

Ibn Jubair registe~s the, followmg, ~omplamt about t e under Islamic

rule. The poet Sa'ib was not obliged to

conduct of customs met at Alexandna : confront

inquisitors after writing these sentiments l : .

, Scarcely had we arrived when the Government : Free

thought 'and faith-the upshot's one: they

ffici~ls boarded the boat to take charge of every~ wrangle

o'er a name;

~hing that was there. Every Muslim was produc~d

Interpretations differ, but the dream is still the

one after another: his name, his per~onal descrIp- same.

tion, the place he came from-all was noted down. While the bloody.

Albigensian war raged in Europe

Everyone' was questioned as to the goods and the (1012-22),

free-thinking Ma'arri wrote such lines as these

cash that he had with him...Ahmad Ibn Hasan waS brought ashore for information regarding the endures, everything is doomed to perish, Maghrib and the goods on the boat. f.le was taken itself. Moses taught and passed away. to the authorities, then to the QadhI, then to th,e succeeded him. Then came Mohammed customs officers, then to a band of the Sult~n s five daily prayers. A new faith will servants, and was interrogated about everythm~. supplanting, outshining this. Human- They commanded the faithful to unpack theIr hounded to death between yesterday and luggage, their provisions. Guards were quartered on the bank to see that everything was actually biblical doctrine~, Ma'arri also asserted brought into the customs office. They then ques- earth, Its end is not unlike its begintioned the passengers one after another, Every- ning. To laws of birth and death everything is subject. "3 one's luggage was brought in until the customs conceive of the course of events as obscene office became choked full. This was followed .by believe in the cliché, often spoken but searches of things-big and small-and everythmg history repeats itself, The following was thrown pell-mell. They felt the pockets of realistic attitude which surpasses in objecttravellers to see if there was any thing ,there. ivity the religious traditionalism of his time, and, one may

When this was done they made them swear If they had any thing else besides. In thi,s process and Contributions to the History of Islamic Civilization, owing to a pressing crowd, many thmgs were lost. I Khuda Buksh, "Ibn Khaldun and his History of Islamic Civiliza- After a degrading and humiliating scene the traveltion," Islamic Culture, 01 : 596.

I Ibid., p, 597.

1 Adam Mez, The Retlaissatlce of Islam, p. 119.

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believe, the cynical materialism of the nineteenth century· :

We owe a debt of gratitude to the Muslims for preserv- On and on flows the stream of time ever bringing ing, translating and transmitting to Europe the works of the something new ..· Greek philosophers. As previously pointed out, the charge

The past never returns ; the course of events, old in Muslims destroyed the library at Alexandria is an its texture, is ever new in its colouring and fashion. that the absurd fiction.

What happened is explained by Meyerhof:

In the Holy Qur'an, God underlined the importance certain that the last remnants of the philosophical of good and just deeds and discounted' the worth of theolo- school of Alexandria were not destroyed by the Arabs, but gical disputations. "Why wrangle over that which you know transferred, eighty years after the Arab conquest, to not?" . says the holy Book. "Strive to ex~el in good Antioch."l

deeds; when you return to God, He will inform you about Guillaume, a reputable and cautious scholar, testifies to that in which you have disagreed." The text of Qur'an Arab influence.-

explicitly renounces coercion in re ligiori : La ikrdha fl' d- Din.

It can hardly be doubted that Europeans took up In the hadith literature, the Prophet is reported to have the study of Aristotle because their zeal for phil. affirmed that "There are as many ways to God as there osophy had been quickened by contact with Arabian are people on the earth." Not many orthodox Christians thought. Indeed, if the first effective influence was would be liberal enough to subscribe to such a statem~nt.

not Arabian, how are we to explain the fact that MUI;lammad gave the perfect answer to those destructive for generations Aristotle was confounded with the critics who are ever ready to tear down the social order teaching ascribed to Averroes? (Ibn Rushd)

before having anything concrete and substantial to put in In 1292 A.D., Roger Bacon wrote 8 :

its place: "Repel evil with that which is better" (Qur'an,

The greater part of Aristotle's philosophy failed Surah XXII!). The Christian Bible does not say that God to have any effect (in the West) either because helps those who help themselves but Quran indicates manuscripts were hid.den away and extremely rare, that leading individuals will not automatically form a golden or because the subject matter was difficult and society when it says, "Allah changeth not the condition of distasteful, or beca use of the wars in the East, until a folk until they (first) change that which is in their hearts" after the time of Mahomet when Avicenna and

(Surah XIII). There is no modern mechanical gadget that,

Averroes and the rest brought back Aristotle's by pressing a button, will change the heart of man.

philosophy into the light of comprehensive Expmi-
The Qur'an mak,?s it abundantly clear that there is no
tion.

substitute for the good life :

Al-Farabi (d. 950 A.D.) was a commentator on Aristotle

And each one hath a goal toward which he and Plato. His

treatises on The Soul and The Faculties of

turneth; so vie with one another in good works... the Soul were

well known to the Latins. He passed on to

Allah loseth not the wages of the kindly (Surah XII). his

successors the problem of the intellectus agens or active

Hast thou observed him who belieth religion? That intellect and

taught that the world had no beginning; he'

is he who repelleth the orphan and urgeth not the

1 M. Meyerhof, "On the Transmission of Greek and Indian Science

feeding of the needy (Surah CVII).

to the Arabs." Islamic Culture. 11 : 21 (January 1937).

1 Khuda Buksh. to Ibn Khaldun and his History of Islamic Civiliza- •

Arnold. op. cit., pp. 246-47.

tion," Islamic Culture, 4 : 597.

I Cited in ibid., pp. 259-60.

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defined time as the movement holding things together. in Muslim

countries. Az-Zamakhshari held to the Mu'ta-

Christians who lived during the Islamic rebirth of culture zilite heresy.

One of the most creditable metaphysical

often recognized Arabic intellectual superiority, while the works in

Arabic literature in The Book of Religions and

Arabs displayed a legitimate and pardonable pride in these

Philosophical Sects of Ash-Shahristani (1086-1153 AD.), Fakhr

attainments, as shown in this summing up by Ibn Tumlus

u'd-Din ar-Rlizi (1149-1209 A.D.) was a philosopher

of Alcira (d. 1223 A.D.)l : and

encyclopedist and one of the outstanding humanists of

In the sciences of Geometry, Arithmetic, Astro- his time.

nomy, and Music the scholars of Islam have The eschatology

of Dante's Divine Comedy was probably

surpassed their ancient predecessors. Still, although drawn from Muslim

sources. Asin Palacios points out that

it can'be said with great probability that men nowa- "The infernal

regions, the astronomical heavens, the circles

days have access to fuller knowledge than the of the mystic rose,

the choirs of angels around the focus of

, . ancients, it is only fair to remember that it is likely divine light, the

three circles symbolizing the Trinity-all

that a good many of the works of the ancients have are described by Dante exactly as Ibn u'I-Arabi described them 1."

The foremost Jewish scholar of the Middle Ages was AHThazzali (1059-1111 AD.) was the Socrates of the Muslims. He Moses Maimonides (1135-1204 A.D.) whose searching Muslims. He knew the language of the mystics but did not succumb criticism of the Arabian Mutakallimun was freely used by to their delusions of divinity. The chief work of St. Thomas Aquinas. Another Jewish leader of thought this great Persian was The ReviVification of the Religious was Avicbron (Ibn Gabirol, mid-eleventh century)' of Sciences. Apparently materialistic doubts nearly caused him Malaga, whose influence on Spanish metaphysical studies is to lose his reason but he found sanity, retreat, claimed to have even exceeded that of Al-GhazzaH. A and sanctuary in prayer and meditation; he bade farewell to his Nestorian Christian meriting honorable mention was previous studies and issued a condemnation of hereti- Hunayn Ibn Ishaq al-Ibadi (809-873 A.D.) who translated cal doctrines under the title Disintegration of the Philos- ophers, Greek medical and mathematical treatises into Arabic; Rescuer from Error! The books of AHThazz:iIi on logic, philosophical works which he translated in whole or in part physics, and metaphysics became known to Europeans through the included the Categories, Physics, and Magna Moralia of Latin translations made in the twelfth century in Toledo. Aristotle, and the Republic Laws. and Timaeus of Plato. AI-{ThazzIili's treatise on the place of reason as applied to Ibn Hazm of Cordoba (994-1064 AD.) was the chief revelation and theological theories may have inspired literary figure of his century in Spain. We remember him of Thomas some of the reasoning of the Summa contra Gentiles as the founder of a logical, systematic treatment of the Aquinas. Both agree on the value of human reason in subject of comparative religion. His original and valuable explaining or demonstrating the truth about divine things ; ,work in this field is entitled The Book of Religions and the ideas of contingency and necessity as demon- strating the Philosophical Sects. Az-Zamakhshad (1075-1143 A.D.) existence of God ; the unity of God implied in His belonged to the philological school of theology and his perfection; the possibility of the beatific vision; the Unveiler is still the most popular commentary on the 'Qur'an divine knowledge and the divine simplicity; God's speech a

1 Arnold, op. cit., p. 21.

1 Arnold,

op. cit. • p. 227.

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verbum mentis; the names of God ; miracles a testimony to his deeper vision enabled him to reconcile the truth of the Prophet's utterances; the dogma of the'

ments which seemed irreconcilable to others, The resurrection of the dead 1 • Unlike many of the Sufis, Al-

more narrow and evil interpretation of the theory Gbazzah did not desert the house of Islam or' claim exemplified twofold truth was expressly refuted by ,him

tion from its laws. He'clearly distinguished as three separate (Miguel Asin, 1904),

and distinct stations the positions of God, the Prophet, and As ,Guillaume has shown, Ibn Rushd and Thomas man.

Aquinas stand side by side as defenders of the harmony of Most renowned of Muslim translators in Europe was faith and reason and the " Angelic Doctor" uses many of the Averroes or Abu'l-Wahid Muhammad Ibn Ahmad Ibn arguments which the "Muslim, Doctor" had previously Muhammad, Ibn Rushd, born in Cordoba in 1126 A.D. The employed. Guillaume contributes this comparison 1 : doctrines of Averroes and Averroism are quite different as

The resemblances between Averroes and St. may be inferred from the fact that the University of Paris Thomas are so numerous that they must be traceable which condemned Averroistic studies required its alumni to something firmer than mere coincidence. A a century later to take solemn oath to teach only those ,common desire to reconcile philosophy and theology things which were consistent with Aristotle as expounded by

is not of great significance, but when the plan is Averroes 2• His Tahafut al-tahafut was a reply to worked out on parallel lines it is only natural to Al-Ghazzali's attack on rationalistic philosophy. Sartre conclude that Averroes has bequeathed something interprets this chief philosophical work of Ibn Rushd as more than a commentary on Aristotle to Christian "essentially a reaction against the mysticism and pragmatism of al-Ghazzali, a return to what one might call Aristotelian philosophical proofs of dogma quotations from the telian positivism, as much as this could be reconciled with Qur'an or Bible; both begin by setting out doubtful Muslim theology," The idea of twofold truth; that the or apparently contradictory testimonies. We find

simple devout souls must be taught different things in less the same proof of God's existence from movement, complicated terminology than would appeal to sophisticated and the providential guidance of the world; the philosophers, has been attributed to Ibn Rushd in a pejorative argument for God's unity from the unity of the same way. Actually, he probably did not mean to imply world. In advancing the proposition that in order that the revealed teachings should be changed in substance to acquire knowledge of God one must use the but merely that their exposition could be adapted to the method of *via remotionis*, both temper it with the comprehension of the auditor. Sarton defends him 4 :
via analogiae.

Ibn Rushd was not by any means less honest and Thus we see that the first study in Europe of the Old sincere, nor was he necessarily less pious, than the and New Testaments in a critical and systematic way was the other schoolmen; but he was more intelligent. and the work of a Muslim, Ibn Hazm of Cordoba, and that St. Thomas Aquinas was strongly influenced by both AI-Gbazzali and Ibn Rushd.

1 Arnold, *OPt cit.*, p. 274.

The Muslim schools of theology and law may very

• *Ibid.*, p. 276.

possibly have produced an effect on the Christian divinity

• George Sarton, *Introduction to the History of Science*, Vol. II, p. 357.

• *Ibid.*, p. 358.

,I Arnold, *op. cit.*, p. 280.

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schools established centuries later. Apart from the question It has already been mentioned that the true and most of the validity of such a hypothesis, it is instructive to great miracle of Muhammad, the

Literature.

take: note of some facts pertaining to the Mustansiriyah at unlettered educator, was his gift of

Baghdad. This institution had four separate law schools, the Qur'an, the first prose book of the Arabs. This work perpetuated one for each Sunni sect, each accommodating 75 students the Meccan dialect as the literary language of the Arabs under the guidance of a professor who received a monthly and ultimately. by reason of the universal character salary. The 300 students each received one gold dinar a

of Islam as a mercy for all mankind. the common
month and daily rations of bread and meat. There
the world of culture. Gibb concluded! : tongue of
was a library where rare manuscripts could be consulted
The influence of the Koran on the development of
and pens and paper were furnished the scholars who wished
Arabic literature has been incalculable. Though for
to copy the manuscripts. Lamps and olive oil were supplied
several decades at least there was no other prose
for lighting the college. Food, drink, and medicines were
work written in Arabic and it exercised little
appropriately kept in readiness. A clock in the hall marked
immediate influence on the poets, it was to the
the hours of the day and the times of prayer. The Mustan-
studies connected with the Koran that the majority
siriya also had a bath house and a hospital with a resident of
branches of Arabic literature owed their
physician who prescribed for the sick.
origin.

It is impossible to pass final judgment on metaphysics, It was the
Islamic literature of Spain that exercised the
let alone the Muslim contribution to the subject. One most
profound influence on European literary development can with discretion go along
with Guillaume who ventured experiments. Spanish genius played an important
role in the

the following cautiously prophetic utterance! : development
of strophic measures, but in return there was
When all the rich material in Europe's libraries the interaction of the
refinements of technique imposed by
has been brought to light it may yet be seen that Arabic laws of form
and metre upon the strophe in its
the abiding influence of the Arabs on medieval literary form (the
muwashshah). reproduced in the popular
civilization is much greater than has hitherto been bilingual ballad
(the zajal) and thence creeping into purely
recognized. romantic poetry.

Gibb terms Ibn Zaydun of Cordoba
Guillaume voices the feelings of many impartial investi- (1003-1071
A.D.) the greatest of the Spanish poets of the
gators when he concludes : age, both,
in his early love-songs and in his later poetic
To do justice to the many ramifications of Muslim epistles. His
contemporary and fellow-townsmen, Ibn
influence a history of medieval culture would have Hazm (994-1064 A.D.)
wrote a book about love expressing
to be written, and far-reaching controversies would the spirit of
romanticism and unfolding an anatomy of love

be stirred. The streams of national culture flow whose sentiments were inadequately and imperfectly echoed into the vast ocean of human thought; once they a century later by the troubadours. The Muslim contrireach the sea it is difficult, if not impossible, to bution to the form, the .subject-matter, and spirit of separate the fresh from the salt. European poetry was so considerable that it led Professor

1 Arnold, op. cit., p. 282.
cit., p. 26.

I Gibb, op.

'Ibid., p. 281.
cit., p. 189.

, Arnold, op.

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are of Persian origin: "check," for instance, is derived from Mackail to exclaim: "As Europe owes its religion to shahmat.

Judrea, so it owes its romance to Arabia.") The Arabian ,
Arabic words carried over into Spanish include funduq
Nights infused into literature the spirit of adventure, supply- '1' (fonda,
hotel) ; tahuna, mill (tahona, bakery) : ta'rif, notice.

. ing the clue that led to the writing of Robinson Crusoe,
definition (tarifa, tariff); ar-ruz (arroz, rice); as-saqiya
which had an earlier. Arabic counterpart, and even to
Gulliver's Travels. a

I (acequia. canal or dyke) ; ' as-sutaiha (azotea, flat roof);
al.qubba, dome; (alcoba, bedroom) ; tarima (tarima, stand,
I

The elements of Muslim cosmogony and the legends of footstool)
; al-mukhadda (almohada, ' pillow); quba', outer
the ascent of. Muhammad have entered into the Divina garment
(gaban, overcoat); ' al-banna' (albanil, builder);

Comedia and· Arabic philosophical ideas and the imagery
ad-da'a'im, pillars, supports (andamio, , scaffolding); aland. eroticism of
Muslim mystics are clearly reflected in malmzan (almacen,
warehouse) ; af-qatran (alquitran, tar) ;

Dante's works and are also discernible in the chief concep-
al-kira' (alquiler, hire); 'awar (averia damage) ; al-diwan
tions of the other poets of the dolce stil.nuovo. 8

(aduana, customhouse, cf. French douane) ; taqa (taquilla,
Ib~Qutayba (d. 885 A.D.) wrote, in ten volumes, a ticket
office); al-qadi, judge (alcalde; mayor); al-wasi

literary thesaurus entitled The Fountains of Story. In the
(albacea, executor) ; hatta (hasta, until) ; faniqa, a large sack
Book of Subjects of Knowledge and in his Book of Poetry and
(fanega, H bushels); as-sukkar, Persian, shakar (azucar,
Poets, he challenges the presumed superiority and matchless- sugar)

; sharab, drink (jarabe, syrup) ; Guadalajara is derived from
 ness of the ancient Arabic poetry of the jahiliyya: "I have
 the Arabic wadi-l-hijara, the river of stones;
 not preferred the ancient poet for his antiquity nor scorned
 Guadlquivir from wadi-l-kabir, the great river; Guadarrama,
 the modern poet for his recency, but have. scanned both
 wadi-l-ramla, the sandy river; Guadalupe, wadi-l-lubb, woIt
 with an equitable eye and given each one his due.' river.
 , Cervantes declared that the original of Don Quixote was As
 Farmer aptly and poetically puts it~ music accomthe work of a Moor named "Sidi
 Hamete ben Engeli" and
 panied the Arab from the lullaby to
 that the novel had originally been written in Arabic. This The
 Muslim Musical
 Influence. ' the elegy, from the cradle to the grave.
 ascription is quite possibly fictional but it attests the

Interest in music is further demonprestige of the Arabs.
 strated by the fact that the Muslims

carried the manufac-
 Volumes have been written on the influence of Arabic ture of
 musical instruments to a fine art. The flowering of
 on the languages of Spain and Portugal and even of the the art
 of music did not occur until after the advent of
 Anglo-Saxon countries. Dozy and others have compiled
 MuQ.ammad.

lengthy glossaries; the words given here are merely repre-
 , Al-Buzjani (d. 998 A.D.), one of the greatest of the
 sentative of multitudes to be found elsewhere. The con-
 Arab mathematicians, composed an important Compendium
 tributions of Persian to other languages would doubtless
 on the science of Rhythm. Al-Firabi (Latinized, Alfarabius),
 merit extensive research. Some of the terms used in the
 a Turkish Muslim (died in the middle of the tenth century
 game of chess, borrowed by Europe from the Muslim world,
 A.D.) wrote the most significant oriental work on musical
 1 Arnold, op. cit., p:191. theory, On

Music. Farmer avers, "The introduction to al-
 • Ibid. • p.201.
 Farabi's Grand Book on Music is certainly, equal, if not
 • Ibid. • p. 198.
 superior, to anything that has come down to us from Greek
 • Gibb, op. cit., p. 55.

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sources, "I Instruments of the lute, pandore, harp, and Cordoba
 and Cairo, the Alhambra, and the Taj Mahal come

woodwind families were described by al-Kindi (died around 874 A.D.), al-Farabi, al-Khwarizmi (tenth century A.D.), and the Ikhwan al-Safa' (tenth century A.D.), hundreds of years before European musicologists wrote about them. It was the Faith of Islam which was the transmuting factor in European architecture was overwhelming, Instead of merely accepting Greek tuning, the Muslims factor in welding together the diverse architectural styles and modes experimented with the neutral third of Zalzal (22/27) and of building into one style exemplifying the spirit of unity the Persian third (68/81). The Systematist School of Safi al-Din (d. 1294 A.D.) produced what Sir Hubert Parry Muslims were mosques and palaces ; the important structure acclaimed as the "most perfect scale ever devised." In the structures of the following centuries-mosques, governmental opinion of Helmholtz, "their use of the major 7th of the buildings, observatories, and schools-bore a close relationship to Islam. The buildings continued to show individual scale as a leading note to the tonic marks a new concept differences and varying characteristics but, whether in the tion, which admitted of being used for the further development of the tonal degrees of the scale, even within the apparent than the differences. domain of purely homophonic music," The major seventh .The most original contribution of the Mosque at Cordoba as the leading tone to the tonic has since been employed to architectural advance was the system of vaulting based by aU leading composers of the West. on intersecting arches and visible intersecting ribs, a system Morris dancers, i.e., Moorish dancers, are reminiscent of which attacks the main problem of architecture-that of Arab minstrels. As late as 1589, they painted their faces covering space with a roof-in much the same way as the to resemble the Moors. The word "troubadour" may quite Gothic vaulting which developed two centuries later. I possibly have been derived from the Arabic tarab, minstrel. The Great Mosque at Samarra has in the south wall of The origin of the words "lute," "rebec," "guitar," and the sanctuary a row of small window-openings of cusped or "naker" from the Arabic al-'ud, rabab, qitara, and naqqara, and multifoil heads; if this feature did not originate in India, respectively, is well established. 8 Prior to the Islamic and such an origin has not been proven, it must be credited

contact, European minstrels had only the cithara and harp to the
 Muslims. Even more important in this mosque is the among stringed instruments. and the ear was the sale guide method
 used to support arcades-brick Piers, octagonal on
 in tuning, The Arabs brought to Europe their lutes, a square
 base and each having four circular or octagonal
 pandores, and guitars, with the places of the notes fixed on marble
 shafts joined with metals dowels and having bellthe fingerboard by means of
 frets (cf. Arabic farida, fard.) shaped capitals. The impressive
 external walls of the

At the mention of Islamic architecture, such structures, Mosque of
 Ibn Tulun in Cairo (started in 876 A.D.) are
 Architecture.

as the exquisite mosques of I-fahan crowned with ornamental
 battlements which may be regardwith their intricate tile patterns, the
 ed as the prototype of Gothic pierced and crested
 massive mosque of Seville, the Giralda, the mosques of parapets
 1 • Cairo used light and dark stone alter-

1 Arnold, 01" Cit., p. 367.

I Arnold. op. cit., p. 12.

• Ibid., p. 368.

~ Ibid., p. 166.

• Ibid., p. 374, i~

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nately in horizontal courses. DJ;. John S. Badeau, President inkling of
 a further debt to the medieval Muslims. Muslim
 of the American University at Cairo, once remarked to the artisans,
 known as Mudejare!;;, built the Alcazar in Seville
 writer that the Mosque of Ibn Tullin, with its dignity and and
 excelled in woodwork, pottery and textiles, and were
 simplicity, was the kind of place in which he could pray and the
 creators of the Spanish national style, perhaps the most
 worship and sense a nearness to God. Pisa, Genoa, Siena,
 characteristically Spanish contribution to the art of Europe;
 Firenze, and other Italian cities may have borrowed the!r their work
 is to be seen all over Spain. The glazing of wallsimilar architectural
 practices such as using dark and light tiles, an ancient art in Egypt,
 persisted in obscurity until
 stone alternatingly, from Cairo, a city with which they had the Arab
 invasion when, under Muslim influence, potters
 close trading relations during the Middle Ages. It is known. again
 commenced experimenting with new technical processthat the Crusaders, termed
 marauders by the Muslims, ses and ornamental schemes. In
 Venice, Muslim metal work
 acquired ideas about fortification from the Saracens. inspired

native craftsmen so profoundly that a distinct
 Authorities on the history of architecture ascribe the
 Venetian-Oriental school came into being; Muslim technique
 invention of the pointed arch to the Muslim architects of and
 designs were adapted to Italian Renaissance taste!
 Syria and Egypt. The arch almost certainly and the The
 gold tooling and lettering now universal upon fine
 "Tudor" arch possibly have a similar origin. . Probably the leather
 bindings find expression by means that were pertracery-patterning of surfaces
 and conceivably even' the fected by Muslim artisans. Toward the
 end of the sixbar-tracery in windows are Islamic in derivation. The
 teerith century. some books bound in the Occident featured
 mashrabi""ah or lattice of woodwork used to conceal the Oriental
 end papers. The following passage epitomizes
 women's apartments of a house or as the screen in a mosque, Europe's
 debt to Islam in the minor arts :
 were copied in English metal grilles. ! Thompson states
 Ever since the beginnings of Islam,. Western piety,
 that "The cathedrals of the Midi were situated upon routes
 learning, commerce, and curiosity have found each
 followed by thousands of pilgrims and borrowed alchitec~ .
 something to its taste in the products of Muslim
 tural motifs from the mosques of the Peninsula."·
 skill; but in knowledge of their technical excellence
 Reproduction of the human form was regarded as for:' and
 their beauty master craftsmen such as Odericus
 bidden to Muslims generally (the of Rome, who in 1286
 wrought Islamic patterns upon
 Minor arts.
 Persians did not always subscribe to the inlaid marble
 pavement of the Presbytery of
 this doctrine), and this attitude held back progress in paint-
 Westminster Abbey, and William Morris, who wove
 ing and sculpture. The Islamic world has not contributed
 another into his velvet in 1884, together with a host
 significantly to portrait-painting but the miniatures of Iran
 of others before, since, and between them, have time
 reveal mastery of form and color. It is in the minor arts
 and again refreshed Western art from a fund which
 that the Arab world made greater contributions.
 has been to us rather an annuity than a legacy.
 The name "arabesque" given to conventional bas-relief
 patterns in England from Elizabethan days onwards gives an

I Arnold, OPT cit. p. 178.
 OPT cit.. 12: 193.

I Arnold,

I Thompson, op. cit., 12 : 193.

It •

Ibid., pp. 150-51.

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The Arabic language lends itself very well to scientific his province; he composed 265 treatises on music. astronomy by reason of its flexibility and nomy, and medicine and, at least to his own satisfaction, har- Mathematics and Astronomy. precision. It preserved and transmitted monized the philosophies of Plato and Aristotle Al-Farabi the scientific theories of the Greeks wrote a compendium of astronomy which was translated into and during the early Middle Ages was the international Latin by the indefatigable Gerard of Cremona and by Johannes language of research. Baron Carra de Vaux wrote : Hispalensis. At the time of the Renaissance. Regiomontanus When at the Renaissance the spirit of man was studied the Compendium, and Melanchthon published an once again filled with the zeal for knowledge and edition based on that study in 1537 at Nuremberg. stimulated by the spark of genius, if it was able to. The early leader in mathematic was al-Khwarizmi (the set promptly. to work, to produce and to invent, it word "algorism" or "algorithm," signifying the Arabic was because the Arabs had preserved and perfected numerals one to nine and zero was derived from his name) various branches of knowledge, kept the spirit of re- and it was from Latin translations of his works on arithmetic ; search alive and eager and maintained it pliant and algebra, and astronomy that Europe received decimal nota- ready for future discoveries. tion. With him emerged the idea of the double sign: $ax + bx$ Mash'allah (d. 815 A.D.) wrote on astrology, on the = bx ; he said that in this case addition and subtraction astrolabe, and on meteorology, and his book on prices, de could be equally well employed. The theory of equations mercibus, is the oldest scientific work that we possess in of the second degree remained as al-Khwarizmi left It until Arabic. The astrolabe, invented by the Greeks and improved the sixteenth century. In the eighteenth century, Leonardo by Ptolemy the Alexandrian, was perfected by the Muslims Fibonacci of Pisa, a well-known algebraist. avowedly owed and transmitted by them to Europe in the tenth century. a great deal to the Arabs whose methods he regarded as Questa b. Luca of Barlbeke (flourished 835 A.D.) made superior to that of Pythagoras. The zero was known to the

of the ecliptic, to the length of tropic and sidereal year, to

$$\sin \alpha : \tan \alpha = \cos \alpha : 1 \quad \dots$$

lunar anomalies, to eclipses, and to parallaxes show greater

The formulæ $v(1 + \tan \alpha) = y\sqrt{12 + \tan 2\alpha}$ are explained. In divergence from Indian methods and are more refined,

al-Battani "This brings us very far beyond the point reached complicated, and accurate than those of al-Khwarizmi. He

by the Greeks and really opens the era of modern science." substituted the sine for the chord in trigonometry, used

In the works of Abu'l-Wafa' is also to be found the secant, tangent and cotangent, and was acquainted with two or

the introduction of which is often erroneously attributed to three fundamental relations in trigonometry. Bartold

Copernicus. Thus during the tenth and eleventh centuries; claimed that the first knowledge of trigonometrical functions

Islamic thinkers gave final form to these discoveries which in Europe was derived from al-Battani,

are at the very foundation of twentieth-century civilization.

The introduction of tangents as a trigonometrical line in

Al-Kindi (d. 873 AD.), first of the great scholastics, the formulas was accomplished by Abu'l-Wafa'. Regiomontanus

wrote on meteorology and optics. He also endeavoured to discover the laws governing a falling body. Al-Farabi's

writings of al-Battani, Jabir ibn Aflah, or others. The great work on music contains the germ of the idea of

Hindu arithmetic was greatly developed by the Arabs. They discovered logarithms, the musical theory of the Arabs finding expressions in it

all the rules for the determination of unknown quantities in fractions. Carra de Vaux elucidates the

quantities, for instance, the rule of double false position, and the proportions and geometrical problems giving

numerical values to lines, planes and solids. Abu'l-Wafa' It contains logarithms in posse because the addition

of the intervals, fourths, tones, semitones, quartertones, et cetera, corresponds to the multiplication

translated the algebra of Diophantus and with him of the lengths of chords which define them and

trigonometry becomes more explicit and acquires the the subtraction of the intervals corresponds to

formula for the addition of the angles: the division of these terms: the notes on a

stringed instrument are connected by a logarithmic law. $\sin a \cos b = \sin b \cos a + \sin a \sin b$

sm $(a+b) = R \sin a \cos b + R \sin b \cos a$. Copernicus was apparently unaware of this formula of Abu'l-Wafa'. Abu'l-Wafa' also

unaware of this formula of Abu'l-Wafa'. Abu'l-Wafa' also

Omar Khayyam (c. 1048 - 1123 A.D.) wrote his poems and mathematical treatises in the late eleventh and early twelfth centuries A.D. (died 1123 A.D.). His works are characterized by power of logic and penetrating insight. Carra de Vaux acclaimed his Algebra in these

1 Arnold, op. cit., p. 388.
 1 Arnold. op. cit., p. 389.
 • Bartold, op. cit., p. 50.
 • Ibid•• p. 391.

1 Arnold, op. cit., p. 388.

1 Arnold. op. cit., p. 389.

• Bartold, op. cit., p. 50.

• Ibid•• p. 391.

"

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words: "His Algebra is a book of the first rank and one of plane and spherical trigonometry which, properly speaking, represents a much more advanced state of this science than that we see among the Greeks."1 The 'greater part

'Ali pointed out that Muhammad contradicted the Ptolemaic

of the book is devoted to cubic equations. His fourth category of equations contains the three classes: $x+bx$ fixed in

and Grecian conceptions of stars as gems crystalline domes; the Prophet referred to these

$=cx+d$; $x+cx=bx+d$; $x+d=bx+cx$. Sarton: hailed celestial

bodies as swimming in their orbits. The Bihdru'l-

Omar's calendar 2 : Anwar quotes

Imam la'far-as Sadiq's statement to a heretic:

The eleventh century approached its end with an "God has' so arranged'

about the stars, that they swim in

astounding achievement: the Tarikh Jalali of Omar' their orbits."

Muhammad also referred to the sun moving

Khayyam (1079) which was probably more accurate in a fixed place and to

the eleven planets, but the ecclesiastical authorities interpreted away those remarks that did not

"When Alfonso of Castille wanted to construct an conform to the

Ptolemaic astronomy. It took the scientists

armillary sphere, which would be the finest and best that a thousand

years to learn the truth of that which the

had, yet been made, it was to the Arabs that he turned for Prophet had

revealed.

information. "8

Muhammad Ibn Shakir (died 873 A.D.) ascertained the

Nasir al-Din edited the works of Greek and Muslim predecessors and wrote a treatise on the quadrilateral, a lunar altitudes, determined the procession of first-rate book on spherical trigonometry. He dispensed and observed the movements of the solar with the use of Ptolemy's theorem of the quadrilateral (which were unknown to the Greeks). According to Ameer 'Ali, "Abu' Hassan invented the telescope, of which he speaks that sines of angles are proportional to those of the sides, as 'a tube to the extremities of which were attached diopters'," 1 Ameer' Ali quoted SediIlot on . A . B C. To thIS rule he add sa method of the Abu'!-Wafa'2 : $\sin a \sin b \sin c$. attached $\tan c = \frac{\sin a \sin b}{\cos c}$. Struck by the imperfection of the lunar theory of tangent base d on t h ere latlon sm rlgonometry, Ptolemy, he verified the ancient obsprvations, and tan plane and spherical, is now well established and finds in discovered, independently of the equation of the this book its first methodically developed and deliberate centre and the eviction, a third inequality, which is

- expresSION. 4 no other than the variation determined six centuries later by The Arabs taught the use of ciphers and thus founded Tycho Brahe. Highly the arithmetic of everyday life. They made algebra an important in the development of mathematical geography was exact science, developing it considerably, and laid the the Jami' al-mabadi' wal-ghayat (1229 A.D.) of aI-Hasan foundations of analytical geometry. They were the creators of al-Marrakushi. Superior to any similar work of its time and a genuine contribution to both astronomy and geography, it includes the co-ordinates of 135 places, 34 of 1 Arnold, op. cit" 392.

• Sarton, op. cit" Vol. II. p. 28.

1 Ameer 'Ali, The Spirit of Islam, p. 345.

I Arnold, op. cit., p. 396.

Ibid., pp. 346-47.

• ibid.. p. 397.

them determined by personal observation. Sarton testified the Madrisih at Bukhara on which was inscribed that "No medieval writer has taken equal pains to describe: STRIVING FOR KNOWLEDGE IS THE DUTY

explain scientific methods and instruments." 1 ' OF EVERY MALE AND FEMALE MUSSULMAN', He built an In the last half of the thirteenth century, 'Ali ibn 'Umar observatory for scientists from Persia and their al-Katibi and Qutab ai-Din ai-Shirazi, Persian astronomers, pupils. Truly a scholar on the throne it was in his name discussed the possibility of the rotation of the earth but that the astronomical tables and catalogue of stars rejected the idea on the mechanical ground the heliocentric, according to Bartold, the last word in the astronomical; cannot be circular. Qutb ai-Din formulated the theory of the Middle Ages and the highest point which astrofirst satisfactory theory of the rainbow. a Al-Biruni nomical science had reached before the perfecting of the (died 1048 A.D.) summarized in twelve books the 'astronomy': telescope, were compiled and published"

nomical science of the Arabs under the title, The Canon 1 It has been asserted that the glory of Muslim science J

Dedicated to Mas'ud. Evidence that he was a precise and Physical and chemical is in the field of optics. Meyerhof exacting scholar is revealed in his study of comparative chronology, The Surviving Monuments of Past Generations. In India, he treated an alien civilization objectively.' He II science. concluded that "Here the mathematical ability of an Alhazen and a Kamal

al-Din outshone that of Euclid and Ptolemy:' Outstand- II translated the Patanjali, Yoga Sutra, and many other Indian I, I ing among the scientists who developed the knowledge of books into Arabic. When he compiled the Canon, it is II optics was Abu 'Ali al-Hasan ibn al-Haytham (965-1038

~ said that the Sultan Mas'ud rewarded him with an elephant- A.D.) of Basra. His main work, On Optics, survives only load of silver but he returned it to the treasury, pleading in Latin translation. He discussed the propagation of his ability to do without. I light and colors, optical illusions, the law of reflection, In astronomy, the Muslims made valuable observations .j spherical and parabolic mirrors, and refraction, and he

! related the details of experiments for testing the angles of and they preserved in translation a number of Greek works, the originals of which have been lost, including: the three books of the Conics of Apollonius, the Spherics of Menelaus, incidence and reflection. He was perhaps the first physicist to note the magnifying power of lenses. He examined the Mechanics of Hero of Alexandria, the Pneumatics of the refraction of light-rays through transparent media (air, Philo of Byzantium, a short book on the balance attributed water.). "In detailing his experiments, with spherical to Euclid, and a work on the clepsydra ascribed to segments (glass vessels filled with water), he comes very Archimedes. s near to the theoretical discovery of magnifying lenses. "3 From the eleventh to the seventeenth century, Persian Roger Bacon and all other medieval European writers on influence dominated Chinese astronomical studies. In four-optics, notably Witelo, base their optical works largely on teenth-century Byzantium, Persian studies were translated Opticre Thesaurus, a work which influenced Leonardo da into Greek. Ulugbek, grandson of Timur (Tamerlane), Vinci and Johann Kepler. Ameer 'Ali says of aI-Hasan· ; ruled wisely the Mongolian Empire from 1409 to 1449 A.D.

He corrected the Greek misconception as to the

1 Bartold. op. cit., p.127.

1 Sarton, op. cit., p. 42.

Arnold, op. cit., p. 345.

I Ibid., p. 22.

p. 334.

I Arnold, op. cit., p. 376.

Ameer •Ali, The Spirit of Islam, p. 347.

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nature of vision, and demonstrated for the first At-Farabi wrote an important work on the classification

time that the rays of light come from external of the sciences.

Similar in nature was Muhammad aIobjets to the eye, and do not issue forth from the Khwarizmi's Keys to the Sciences (976 AD.): The most

eye, and impinge on external things. He determined renowned of the works in this category was, of course,

the retina as the seat of vision, and proved that the the Fihrist al-'Uium (Index of the SC2ences) which appeared

impressions made upon it were conveyed along the' around 987-988 AD. from the pen of Ibn an-Nadim ; this

optic nerves to the brain. He explained the phe- constitutes one of the main sources of our knowledge of

phenomena of a single vision by the formation of visual images on symmetrical portions of the two retinas. The efforts of early Islamic and Greek philosophers and scientists. The History of Philosophers by Ibn al-Qifti Ameer •Ali mentioned the contents of the Balance of Wisdom (died in Damascus, 1248 AD.) contains no less than 414 biographies of Greek, Syrian, and Islamic physicians, He describes minutely the connection between astronomers and philosophers, indicating the extent of the weight of the atmosphere and its density, and Greek literature possessed by the Arabs and giving much information about Greek how material objects vary in weight in a rare and antiquity which has not survived in classical sources. 1 in a dense atmosphere. He discusses the submergence of floating bodies, and the force with which As Gibbon and others have shown for many decades, they rise to the surface when immersed in light or the science of chemistry owes a great debt to the industry of the Muslims who heavy media; he fully understands the principle of invented and named the alembic (used for distillation), gravitation, and recognizes gravity as a force, He analyzed vegetable, animal, and mineral substances, tested the affinities of alkalis and acids, and converted poisonous spaces, and times of falling bodies, and has very minerals. into life-giving medicines. distinct ideas of capillary attraction. While these constructive experiments were going forward, Muslims were responsible for the main improvements in many great Muslim thinkers such as Ibn Khaldun, intellectual art of warfare in the eleventh and twelfth centuries, actual giant of the fourteenth century. opposed violently the two treatises in Arabic on military science having been ~"black magic" type of alchemy. written by the Syrian, al-Hasan ar-Rammah. Jabir, perhaps to be identified with Geber, was recognized as the father Kamal al-Din (died around 1320 A.D.) improved on nized as the father of alchemy, but there were two Jabirs al-Hasan's experiments with the camera obscura. He also living in periods a couple of centuries apart. Jabir at-Tusi observed the path of the rays in the interior of a glass died in 815 A.D. It appears that Jabir stated more lucidly and explicitly sphere in order to examine the refraction of sunlight in and explicitly the importance of experimental research than raindrops, which led him to an explanation of primary and any other early chemist. No less an authority than Meyer secondary rainbows. According to

Sarton, "Some empirical
ho£ states that "His influence can be trllced throughout
knowledge of surface tension is revealed in the writings of
the whole historic course of European alchemy and
Bhaskara and al-Khazini,"I
chemistry,III He described, possibly introduced, improved

I Ameer 'Ali. The Spirit of Islam, p. 348, I Arnold, OPt
cit. • p. 343.

• SaIton, OPt cit. • p. 28. . I Ibid., p.
327,

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methods of evaporation, filtration, sublimation, melting,
it. I heated the apparatus day and night for 4 days,
distillation, and crystallization. He described the prepara-
after which I opened it. I found that the mercury
(the original weight of which was t lb.) had been
tion of such chemical substances as cinnabar (sulphide of
completely converted into a red powder, soft to the
mercury) and arsenious oxide. Meyerhof elaborates on.
touch, the weight remaining as it was originaJly.

Jabir's knowledge 1 :

This is an early and accurate observation of the oxida-
He knew how to prepare nearly pure vitriols,
tion of mercury-an experiment which, in the hands of
alums, alkalis, sal-ammoniac, and saltpetre, how
Lavoisier, led to epoch-making developments' in the
to produce so-called "liver" and "milk" of sulphur
eighteenth century.

by heating sulphur with alkali, and so on. He prepared fairly pure mercury
oxide and sublimate, as Berthelot was among the earliest
investigators in the

well as acetates of lead and other metals, sometimes field of

Arabic chemistry and this perhaps accounts for
crystallized. He understood the preparation of . the high

standing often accorded his inquiries. Holmyard has
crude sulphuric and nitric acids as well as a mixture shown,

however, that Berthelot is not a safe guide became
of them, aqua regia, and the solubility of gold and he touches

only the fringes of the subject and his choice
silver in this acid. of material is

inadequate. Berthelot knew chemistry well

From the writings of Jabir through Latin into modern but he
did not know Arabic; his translator, Monsieur

Houdas, knew Arabic but was uninformed in the science of

_.~-----

I E. J. Holmyard, "A Critical Examination of Berthelot's Work
1 Amold. op. cit., p. 328.

• E. J. Holmyard, "Muslim al-Majriti- and the Rutbau'l Hakim," upon
Arabic Chemistry," Isis. 6 : 479.

~ Draper, OPt cit., Vol. II, pp. 121-22.

Isis, 6: 302.

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Mohammedanism had aU along been the patron of Greek medical knowledge,
adding thereto the Arabic co?-

physical science; paganizing Christianity not tribution in his

monumental Canon of M~dicine (al-Qanun fi't-Tibb), the

only repudiated it, but exhibited towards it "culmination and masterpiece of Arab

sentiments of contemptuous disdain and hatred. systematization." This

book was translated into Latin by

Hence physicians were viewed by the Church with Gerard of Cremona in

the twelfth century and it was issued

dislike, and regarded as atheists by the people, who fifteen times in Latin

and once in Hebrew during the last

held firmly to the lessons they had been taught that thirty years of the

fifteenth century. From the time of its

cures must be wrought by relics of martyrs and translation by Gerard

until the seventeenth century, it

bones of saints, by prayers and intercessions and was the guide of

medical study in European universities,

that each region of the body was under some continuing in use at

MontpeUier and Louvain until 1650.

spiritual charge-the first joint ,of the right thumb Ibn Sina

recognized the importance of the emotions in

being in the Care of God the Father, the second healing. When a person

had a mental or other di~ease

. under that of the Blessed Virgin, and so on of, other, caused by separation

from a loved one, he would discover

parts. For each disease there was a saint. tile name and address

of the loved one in this manner! :

It remained for the Muslims to teach the Christians The

device whereby this may be effected is that

cleanliness.

many names should be mentioned and repeated

Ar-Razi (Rhazes, died around 930 A.D.) was the greatest while

the finger is retained on the pulse, and when

of the medlreval doctors, and served for a time as physician- it

becomes, very irregular and almost ceases, one

in-chief at the great hospital at Baghdad. He introduced
,should then repeat the process.

the use of minoratwes and is said to have invented the seton
Similarly streets, houses, and families are mentioned.
and discovered the nerve of the larynx.! His scientific

"Then,"

concluded Ibn Sina, "if you can discover no cure
output amounted to more than 200 works, half of which
unite the two in such wise as is sanctioned by
were medical. His treatise, On Smallpox and Measles
and law, you will do this.";

except to

religion

Among

presented the first clear account of these diseases extant.
the works of Ibn Sina is an important treatise on
This work was translated into Latin, English, and various
formation of mountains, stones, and minerals, a scientific
other languages and printed forty-odd times between 1498
bearing significantly on the development of
and 1866 A.D. a knowledge

the

document

of geology and notable particularly for its discus-

Hunayn ibn Ishaq (809-877 A.D.) translated into Arabic

sion of the

infltienceof earthquake, wind, water, temperanearly the whole of Galen's
Missive. He was responsible ture, sedimentation, desiccation, and
other causes of solidifor Galen's supreme position in the Orient during the
fication.

Middle Ages and, indirectly, also in the Occident.

Abu

Rayh1 in Mu1 }.ammad al-Biruni (973-1048 A.D.)

, One of the greatest scholars of the Islamic world was Abu
determined almost exactly the specific weight of eighteen'
'Ali al-Husayn ibn Sina (980-1037 A.D.) known to the West
) as Avicenna. He con~entrated and restated the leg'acy of
precious stones and metals, described many minerals from
the natural, commercial, and medical point of view, and

1 Ameer 'Ali, The Spirit of Islam, p. 355.
Browne, Arabian ~\1edicine, p. 86.

1 Edward G.

I Arnold, Opt cit., p. 323.

• Ibid.

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110 MU1;iAMMAD THE ED~CATOR
CONTRIBUTIONS OF ISLAMIC CIVILIZATION

111

composed a pharmacology (saydala). Most of his mathema-
inspection. Travelling hospitals were known in the
tical works remain unpublished. AI·Mas'udi (died in Cairo

to .

eleventh

century.

around 957 AD.) in his delightful Meadows of Gold The
great hospital of al-Mansur, founded at Damascus around
described an earthquake, the waters of the Dead Sea, the around
1284 A.D. by Qala'un al-Malik al-Mansur, had an endowment"
first windmills (possibly invented by Islamic peoples), and
amounting to a million dirhams annually; it was opened
he also set forth what has been termed the rudiments of a
to all sick persons, rich or poor, male or female. and had
theory of evolution. The treatises of the Christian oculist,
separate wards for men and women. One ward
•Ali ibn ~'Isa of Baghdad, and of the Muslim' A mmar of Mosul was set
apart for fevers, another for ophthalmic cases, one for
were the best textbooks on the eye-diseases until the first"
surgical cases, and one for dysentery and kindred for
half. of the eighteenth century when the renaissance of intestinal
ailments. There were in addition kitchens.
ophthalmology occurred in France.' The Moorish physician.
lecture-rooms. a dispensary, and so on. 1
Ibn Kbatima (died 1349 AD.), wrote a book about the
Rashidu~d-D~n (b. 1247 AD.) described the achievements of Tabriz
plague that ravaged Almeria in Spain, 1348-49 A.D.; a
with its 24 caravanserais, 1500 workshops, and 30,000
study far surpassing all the spate of plague tracts edited in
beautiful houses. There was a Scholars' Street on which
Europe from the fourteenth to the sixteenth century.:
resided 400 divines, jurisconsults, and traditionists
'Abd al-Latif (1160-1231 A.D.) contributed the Descrip- with suitable
salaries and in the 'students' quarters were a thousand
tion of Egypt, an original scientific work" on" flora, fauna,
scholars whose studies were subsidized and directed
and ancient monuments of Egypt. He also gave an account
according to their aptitudes (guidancE.> in actual praCtice
of famines and earthquakes" in that land from 1200 to 1202
somewhat comparable to the tutorial methods
A.D. and reported his osteological research in a cemetery introduced
centuries later at Oxford and Cambridge
northwest of Cairo. Abandoning the arm-chair technique
Uni\~ersities in England). Back of the hospital was the Street of
cherished and practised by the Greeks, he established by
the Healers. Fifty physicians from various countries
observation that Galen was wrong in his description of the were each
assigned ten students with definite hospital duties
lower jaw and the sa~rum. (an early
application of the interneship and work-study
Draper, Baas, and many others have emphasized in no ideas); the
hospital" had surgeons, oculists, and boneuncertain terms that while the

Christians were kneeling setters-in addition to the
 physicians-and each was placed
 before images and ragged relics in the hope of being cured, in charge
 of five students. 2
 the Muslims had licensed physicians and pharmacists :md
 Meyerhof expressed the thought that the Crusades may
 accredited hospitals. The practice of medicine was regulated have been
 instrumental in transmitting to Christian Europe
 in the Muslim world from the tenth century onwards. At some of
 the Muslim doctrines ragarding the care of the
 one time, Sinan Ibn-Thabit was Chairman of the Board of sicks:
 Examiners in Baghdad. Pharmacists were also regulated
 We may suppose that the foundation of hospitals
 and ~he Arabs produced the first pharmacopeia and estab-
 throughout Europe during the thirteenth century,
 lished the first drug stores. Barber shops were also subject
 hospitals which were no longer under clerical

I Browne, op. cit. • p. 102,
 I Arnold, op. cit. • p. 332. I Ibid..
 p. 109.
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 I Ibid.. pp. 340-41. a Arnold.
 op. cit. • p. 349.

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 II

CONTRIBUTIONS OF ISLAMIC CIVILIZATION 113

MU~AMMADTHEEDUCATOR Ibn an-Naffs (d.
 1288 A.DJ was the first in time and
 rank of the precursors of William Harvey. Three centuries
 supervision alone, was partly due to the Crusades. before
 Michael Servetus, he propounded this theory of
 They may well have been imitations of such splen- pulmonary
 circulation! :
 didly installed Bimaristans as that of the contem-
 The blood, after having been refined must rise in
 porary Seljuq ruler Nur· aI-Din in Damascus, a~d ~he
 arterious vein to the lung in order'to expand in
 that of the Mamluk sultan aI-Mansur Qalawun 10 Its
 volume and to he mixed with air so that its
 Cairo.
 finest part may be clarified and may reach the
 Valuable Information on the Classes of Physicians by,
 venous artery in which it is transmitted to the left
 Ibn Abi Usaybi'a a physician and oculist of Cairo (died
 cavity of the heart. .
 1270 A.DI), is a kind of medical "who's who" dealing with.

Meyerhof credited at face value the statement of Ibn
more than 600 physicians, taking information' partly from
a~Nafis that his conclusions were based solely on theoreworks now lost, partly
from an intimate knowledge of ma~y tlc~l considerations. With
due respect to Meyerhof, the
thousands of medical studies. The main surgical 'treatIse
w.!lter feels that this is not evident and he inclines to the
of the Arabs was the Kitdbu'l-tasrif of Abu'l-Qasim al- vlew
that Ibn an-Nafis may have engaged in dissection
Zahrawi, translated into Latin by Gerard of ,Cremona, and
Without ~anting the public t~ know about it. Dissection
into Hebrew about a century later by Shem-tob ben Isaac. was
forbIdden by, the ecclesiastical authorities and it is
The Kitdbu'l-Maltki of al-Majusi (d. 982 A.D.) contains doubtful
that an obscure physician would be so indiscreet
this passage1 : . ' a~d
foolhardy as to confess in his writings that he had
And you must know that during the diastole such VIolated the law.
Ibn an-Naffs reached conclusions that
of the pulsating vessels (i.e. the arteries) as are near cou~d .hardly
have been based on a priori reasoning.
the heart draw in air and sublimated blood from the He 10slst~d that
there is no passage between the right and
heart by compulsion of vacuum, because during the left ventrIcles
of the heart, visible or invisible. He dared
systole they are emptied of blood and air, but to. refute
during the diastole the blood and air return aU 6..11 'd that .
claim of Avicenna (Ibn SI'nJ:) i:l.,
th e unquestlone med~c~l authority of the time, that the heart has
them. Such of them as are near the skin draw aIr three
venttlc_es. No other leaders of contemporary medical
from the outer atmosphere; while such as are thought, so far
as we know, advanced such views. It is
intermediate in position between the heart and the more than
possible that such conceptions were arrived at
skin have the property of drawing from the non- not by fo:tuitous
guess-work but by dissection. Perhaps
pulsating vessels (i.e. the veins) the finest and most a, lesser hgh:,
for such Ibn an-Nafis was among the practi-
,subtle of the blood. This is because in the non- tIONers of hIS
day, would be more inclined to depart from
pulsating vessels (i.e. the veins) are pores communi- the way~ of the.
past and have temerity to engage in a type'
eating with the pulsating vessels (i.e. the arteries). o~
experImentatIOn frowned upon by the divines than would
The proof of this is that when an artery is cut, all hIS co~leagues
~ith their larger and more lucrative practices

the blood which is in the veins also is evacuated. and With less time
 for research. Of course, this is a matter
 Browne concluded: "Here, as it seems to me, we clearly s
 have a rudimentary conception of the capillary system. •
 YIaxMeyerhof. "Ibn an-Nafis and h'IS Th eory of the Lesser
 C irculation," ISIS. 23 : 116 (June 1935).

- Browne Op" cit., p. 124.
- Ibid.

114 MU1;IAMMAD THE EDUCATOR
 CONTRIBUTIONS OF ISLAMIC CIVILIZATION 115

of conjecture,
 The Treasure Book, sometimes attributed to Thlibitlbn botany of
 that age, Collection of Simple Drugs, collected plants
 Qurra. concludes with a contraceptive measure said to
 and drugs on the Mediterranean littoral from Spain to
 have been advised by al-Harith b; Kalada, contemporary
 Syria, described more than 1,400 medicinal drugs. and
 of Muhammad 1 •
 compared them with the records of over 150 authors
 The 'Pilgrimage to Mecca played a prominent part in preceding
 him.
 fostering the progress of biological sciencel : "By
 far the most important herbalistic tradition in
 . The Pilgrimage to Mecca and Medina. the duty of almost
 every respect was the Arabic or Muslim one. "1
 . every Muslim, favoured the spread of science, since
 AI-{Thafiqi of Cordoba traveled widely in Spain and Africa
 it compelled students from India and Spain, from to collect
 samples "and he described them with greater
 Asia Minor and Africa, to pass through many lands precision than
 had ever been done before. "II The great
 where they could visit mosques and acadeniies and geographer,
 al-Idrisi, described 360 samples preceded by an
 have intercourse with prominent scholars. ', elaborate
 botanical introduction. Ibn al-Sud botanized in
 It is reported, for instance,' that a physician at Cadiz the country
 around Damascus, carefully a bserving plants
 installed in the parks of the governdr a garden where he at
 different stages of growth.
 cultivated rare medicinal plants brought back from his The
 most important agricultural w.ork of the time was
 travels. Sarton praised the accounts and narratives of the written
 in Arabic by the Moor, Ibn al-'Awwam of Seville.
 Muslim pilgrims s : toward
 the end of the twelfth century, It dealt with 585
 The Arabic narratives of Muslim pilgrims are plants-explained

methods of cultivating many different varieties of fruit far superior to the Christian ones and their scientific value is greater. For example, the Latin observations trees, and included numerous valuable including the rudiments of phytopathology. observations relations are truly childish as compared with the Sarton declared that "horticultural improvements constione wherein Ibn Jubair of Valencia described his tuted the finest legacies of Islam, and the gardens of first journey to the Near East, 1183-1185. We have Spain proclaim to this day one of the noblest virtues of her Muslim also for the same period an elaborate guide book by her Muslim conquerors,"⁸ Among other important addithe Persian 'Ali al-Harawi; then about a century tions to alimentary products, they introduced such plants CJf later, the itineraries of another Valencian, medicinal or pharmaceutical value as rhubarb, tamarinds, Muhammad al-'Abdari and of the Moroccan, cassia, senna, and camphor. Among the plants and drugs Muhammad Ibn Rushaid. These Muslim travelers unknown to the Greeks were these that came through the Persians : amber, were many-sided men who took pains to obtain sugar-cane, gaJange root. and musk. information of various kinds and to meet famous Scholars who should know better sometimes make the scholars. unfounded assertion that the medical school at Salerno was Ibn al-Baytar, author of the greatest Arabic book on wholly uninfluenced by the Muslims. The fact is that the man whose genius was in large measure responsible for the 1 Max Meyerhof, "The Book of Treasures. an Early Arabic Treatise establishment of the new European centre of learning at on Medicine." *Isis*, 14 :73 (May 1930).

II Arnold, op. cit., p. 337.

I Sarton, op. cit. p. 35.

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Sarton, op. cit. p. 51.

• Ibid.

• Ibid., p. 56.

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116 MUI;IAMMAD THE EDUCATOR
CONTRIBUTIONS OF ISLAMIC CIVILIZATION

117

Salerno was the monk Constantine who spent 39 years of

I striking of all, in literature featuring such giants among men
his life on a scientific pilgrimage in the East, returning from
Ba@dad to Salerno. 1 The inhumane treatment of the f
of all time as Hafiz {the tongue of the invisible}, Sa'di. and
JaIal u'd-Din Rumi, took place after she had benefited from
insane in Europe requires no comment other than that the
the noble teachings of His Holiness Mul;tammad, one of the
Middle Ages were a dark age for mental cases but few
few thorough educators of the human race.
students realize that the Muslims founded a lunatic asylum
Meyerhof advanced this beautiful analogical description
in Cairo in 1304 A.D., at least a century earlier than any~
of the general role of Islamic medicine and science1 :
similar European institution on record.!

Looking back we may say that Islamic medicine
, Islamic thinkers devoted attention to various theori~s of
and science reflected the light of the Hellenic sun,
evolution. An-Nazzam (first half of the ninth century
when its day had fled, and that they shone like a
A.D.) explained the theory of an unfoldment of hidden
moon, illuminating the darkest night of the European
creation; The essential point of this doctrine is that crea-
Middle Ages; that some bright stars lent their own
tion was' complete at the outset although only part of it.
light, and that moon and stars alike faded at the
appears at a time. According to Sarton, "This is ,truly a
dawn of a new day-the Renaissance. Since they
theory of evolution. and tht: word evolution was first
had their share in the direction and introduction of
used by Charles Bonnet about 1762 'with that very
that great movement, it may reasonably be claimed
acceptation:" A Persian work, twelfth century, entitled,
that they are with us yet.

Four Discourses, tells of attempts to identify "missing links" ;
It is the duty of every man of learning to follow after
it describes coral as intermediate between mineral and
truth wherever it may lead, to investigate with a mind
vegetable kingdoms; the vine which, seeks to avoid and'
from which all prejudice is banished. Clinging to the best
escape from the fatal embrace of a kind of bindweed called
that the past has bequeathed to us, we must continue the
'ashaqa as intermediate between the vegetable and animal
march of intellectual progress toward ever-unfolding horikingdoms;
and the nasnds, a kind of ape or wild man, as
zons. Above all, our outlook must be world-embracing
intermediate between the animal and human kingdoms.'
and we are duty-bound to apply our knowledge for the

A strong case can be made for the belief that wherever
benefit of humanity.

Islam penetrated it left in its wake a more advanced, an

Muhammad was indeed an educator, the tree of life enriched
civilization. There are Persians who maintain

that Islam ruined their country. History does not support
this chauvinistic, prejudiced statement. Iran attained the
summit in the arts and sciences when the light of Islam
shone at its fullest intensity. Her greatest achievements
encased in glass—the glass, as it were, a glistening
in astronomy, architecture, weaving and painting, and, most
star. From a blessed tree is it lighted, the olive
neither of the East nor of the West, whose oil
I S. H. Leeder, "The Debt of Civilization to the Arabs," *Islamic
Review*, 4 : 69 (February 1916).

God is the LIGHT of the heavens and of the earth.
His light is like a niche in which is a lamp—the lamp
shone at its fullest intensity. Her greatest achievements
encased in glass—the glass, as it were, a glistening
in astronomy, architecture, weaving and painting, and, most
star. From a blessed tree is it lighted, the olive
neither of the East nor of the West, whose oil
I S. H. Leeder, "The Debt of Civilization to the Arabs," *Islamic
Review*, 4 : 69 (February 1916).

it not! It is light upon light!

• Ibid., 4 : 70.

I Sarton, op. cit., p. 61.

I Arnold, op. cit., p. 354.

& Browne, op. cit., pp. 118-19.

N.B.- This study was slightly revised by the author in 1949.

— Muhammad the Educator (Used by permission of the curator)