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Cultural Trends

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Cultural Trends

A textbook in English on culture and thought (level 1) intended for learners of English, Dept. of Translation, whose level of English is between lower intermediate and upper intermediate.

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Dedication

For the minds of the great men of
Canaan & Assyria

For the immeasurable genius
of early **Arab Islamic Scholars**

For my late **Parents**,
without whom I could have remained illiterate.

Acknowledgment

It is traditional, but also moral, to admit the help offered by various people, without whom the work would not be easy for any author to accomplish. Therefore, I would, first of all, like to thank Damascus University represented, in particular, by its President, **Professor Hani Murtada**, and Vice-President, **Professor Nabeel al-Batal**, for authorizing different professors at the University to reconsider the various syllabi at the Open-learning Centre and design new ones. This has certainly provided me with an exceptional opportunity to read, choose, compile, and edit the various works mentioned in the bibliography of this book. This task has motivated me to spend long and tedious hours of work, hoping to present a reasonably good work on cultural trends that have marked and delineated most of the cultural history of humanity.

Thanks are also due to the previous Head of the Department of English, **Dr. Jack Toumajian**, for delegating this task to me, for his trust and confidence that it would be both useful to our students and interesting to other readers to review and reconsider their knowledge of the various periods

of culture and human thought.

Last but not least, I feel indebted to my sister-in-law, the would-be doctor, **Carolyn Calmes Shammas**, for providing me with over ten thousand pages of the latest writings in this field from the USA. She also did her best in her short visit to her second homeland, Syria, to edit and proofread my final version of this book and adjust my style of presentation. Thanks are also due to the three professors, Dr **Abdulkarim Yousef** (Tishreen University), Dr **Nayef Yaseen** and Dr **Waddah al-Khateeb** (Damascus University), for spending hours to review and revise my work in full. However, the shortcomings and slips that remain are all my sole responsibility.

Finally, I cannot forget the soft part of my heart, **Nizar**, **Nabeel**, and **Jumana**, who tolerated my being mentally away from them for the whole period of work. I would like to remind them that to work for Syria is to be with them and work for them.

Nafez A. Shammas

August 2002

Contents

Introduction

This book is on **cultural trends** that took place in different periods of human history. It consists of excerpts from three different historical periods: 1) the **Middle Ages** in Europe and the **Renaissance** that followed the Dark Ages; 2) early period of **Arab Islamic thought** that triggered and revived the present-day civilization; and 3) the **Ancient Civilization of Syria** that initiated and enlightened human thought for the first time in history, about 4000 years before Christ.

The excerpts have mostly been written by Western writers. This is so particularly in relation to how Prophet Muhammad (pbuh) and his message are viewed by Western writers and thinkers. All the sections related to the Dark Ages and the Renaissance period that followed have also been adapted from Western sources. The same is largely true in relation to the Early Arab Islamic scholars and their intellectual achievements in different fields of knowledge. But, only for reasons of space and selectivity, some of these excerpts were adapted to the requirements of the size and general orientation of the book. The essence, however, remains the same. In other words, I adopted the criterion of objectivity as much as I could in presenting the data and classifying all other related information.

This choice of the material and presenting it as it is from an historical and intellectual perspective is not aimless: to talk of culture is, first of all, to get familiar with its history and to get to know its original sources. Civilization, in its broad sense, is only a thesis of an antithesis. The antithesis is represented by cultural decline, or as historians and historiographers openly voice, the barbaric savagery of human outlook and conduct. In short, we cannot appreciate refined human culture without this antithesis or defeat of the human soul. Therefore, the contrast is necessary for reflecting discrepancy and motivating men and women to attempt to improve their situation.

Although it is frightful to read about the Middle Ages in Europe and the practices of those who held a dogma indescribable in its inhumane orientation, tyrannical practices, and absolute savagery, we cannot dispense with it for a simple reason. It is, first of all, part of the human history. Secondly, we have to learn a lesson from its barbaric savagery: only non-attentive and non-united nations can be the prey of its brutality.

Studying some of the general aspects of early Arab Islamic civilization is not for the purpose of boasting of a past that many people, unfortunately, seem to have forgotten; but for acknowledging the debt that some Western thinkers perhaps recognize and admit more forcibly than Arabs at times do.

Reminding our readers of what our forefathers did can be fruitful only when placed in time and context, i.e. when it ignites the spark that has to be born again, *inshallah*!

Quoting a past that all humanity has benefited from and boasted of is also a recognition of the great debt we all owe to the Syrian forefathers who constructed an unmatchable civilization about 4000 years before Christ. Many Western writers admit that without the contribution of ancient Syrian culture and thought, humanity would have remained in the dark.

The thread that binds these various eras together is *human thought*. Human cultures cannot be disunited or alienated from one another. It is the outcome of incessant human effort in different parts of the world and in the various eras of cultural development. It is my aspiration that we always try to enhance human recognition of the distinguished positions of civilization, culture, and thought. Thus, this book is a collection of studies, papers, and analyses that took their writers much time and effort to accomplish. It is, in short, the product of profound learning of scholars in different fields and disciplines: historians, archaeologists, and thinkers. The list of bibliographical references at the end of the book attests to my recognition of their virtues and values and to my borrowings from their sources

with some adaptation as I deemed necessary for learning purposes.

The tutor in class is advised to help his/her learners acquire the gist of each unit in the book. Moving down from the general to the specific is advisable. Difficult terms and idioms can be interpreted by the tutor or looked up in a specialized dictionary by the learner. Discussion of the ideas presented in the book can enrich the learner's knowledge. Comparing and contrasting various periods of cultural history in different parts of the world can be very fruitful. In case most of the learners were weak at English, resort to translation of some paragraphs is recommended. The main purpose of the book is to teach **culture** in English; however, improving the learner's foreign language is only a by-product: this is manageable in other courses, such as translation and grammar.

This *course of culture* may require about 15 sessions to cover. However, it is the learner's level of English and the tutor's hard work in class that determines the right number of meetings with the learners. Much of the information is perhaps already familiar to both the tutor and the learners. What is specifically new, however, is that such information is presented in a foreign language - English. Above all, the indirect relationship between the various periods of human thought is made even more

obvious. This is expected to make the course even more interesting and useful.

أزمة العصور الوسطى المتأخرة

PART I: The Crisis of The Late Middle Ages

بدأت العصور الوسطى في أوربا عام ٤٧٦ م. وفي ذلك العام تم سقوط روما. وانتهت عام ١٤٥٢ عند سقوط القسطنطينية على يد الأتراك العثمانيين

عدم استقرار النزاع

Chapter One: Conflict and Instability in Medieval Europe

I. 1 Introduction

Despite vast social and economic changes in the thirteenth century, the medieval mind remained essentially conservative. Piecemeal improvements in technique greatly increased the efficiency of age-old methods of cultivation and transportation, but labor-saving devices did not lead to a scientific revolution. Medieval society struggled to incorporate Aristotelian scientific principles into the traditional theological system and had little desire for basic change. The same was true in social relationships and concepts. The town and the bourgeoisie appeared, but the still-predominant view was that there were but three orders in the divine arrangement of society: warrior, priest, and peasant. Even the use of money did not force a change in the medieval belief that theoretical usury was a sin and that the only true wealth was in land and agriculture. It did not occur to medieval men to seek an alternative social,

economic, and political framework—the very attempt would have seemed both futile and blasphemous.

Conflict was incipient in twelfth- and thirteenth-century Europe. Mass heretical movements appeared for the first time. The unrest of the bourgeoisie, the financial problems of the nobility, the power struggle between the German emperor and the Pope—all were potentially explosive phenomena. But an expanding society can absorb and contain conflict; by and large, European society in the High Middle Ages provided outlets for the energies of its divergent elements.

In the fourteenth and fifteenth centuries, however, European society suddenly stopped expanding. Economic depression was accompanied by political chaos and social disorder, in which competing forces engaged in a struggle to the death. The medieval world order, which had become fully developed only in the thirteenth century, was fundamentally shaken. The struggles among dynasties, nations, and classes brought the medieval world to its knees.

The fourteenth and fifteenth centuries were a period of crisis and dissolution. Plagues and wars were more frequent and more severe, and an exhausted

and demoralized society did not easily recover from the repeated blows it received. Instability and decline are not merely tags that historians have attached to the late Middle Ages; the men and women living at the time were themselves aware that theirs was a troubled world. Violence and extremism in human affairs accompanied a wide variety of natural disasters and social dislocations.

From the close of the thirteenth century to the middle of the fifteenth, Europe suffered a general economic depression. Few, if any, towns increased in size, and many decreased considerably. The great banking houses in Italy were in eclipse; even the Medici banking house that flourished in the early fifteenth century declined in wealth. Although prices remained stationary, unemployment increased sharply in the industrial centers. The workers demanded that a minimum annual production of cloth be guaranteed. The gap between rich and poor widened everywhere as trade declined. Yet this depression in the late Middle Ages was not as severe as the depression at the beginning of the Medieval period. Although trade diminished, it was not destroyed, and by the end

of the fifteenth century a gradual recovery was under way.

Both trade and agriculture suffered a labor shortage after 1350, caused, in part, by the devastation of the plague in all parts of Europe. In the towns, rapidly rising wages were returned to their former low level by legislation. In agriculture, the drop in manpower meant that the total amount of land under cultivation decreased. Many of the lands that were brought under cultivation in the twelfth and thirteenth centuries were allowed to fall into disuse, and the profits of the landlords dropped accordingly.

In some cases, resources that had been discovered at the height of expansion merely dried up, leaving a gap that the medieval world, with its limited techniques, could not fill. The supply of new metal, especially silver—the basic metal of exchange in northern Europe—was drastically curtailed by the petering out of the rich silver mines in the north, some of the mines in Saxony being filled with water, and there were no technological means of overcoming this difficulty.

Questions & Exercises

1) What is the main theme of section I.1 in this chapter? Discuss with your colleagues and tutor.

2) What was the divine arrangement of society in the Middle Ages?

3) Compare and contrast what you have read in this section with the then-prevailing values and outlooks in the Arab World. What were the reasons lying behind the differences?

4) Summarize the last section in no more than ten lines. Read out your summary in class.

I. 2 Medieval Europe Climate

A worsening climate was another natural obstacle to prosperity in Europe. Europe entered its "little Ice Age." Various indicators, including the activities of glaciers in the late thirteenth and fourteenth centuries, show that winters all over Europe became colder and longer. This trend in climate probably shortened the growing season and reduced the abundance of the harvests. Records show that Venice was having trouble finding timber for its flourishing ship-building industry; this problem may have been related to the recession of the timber line in the Alps, which resulted from the general drop in temperature.

Questions & Exercises

1) what was the effect of the climate on social life in Medieval Europe?

2) Read section I. 2 above aloud and speak about it in your own words.

I. 3 Medieval Europe Black Death

A more dramatic and direct factor in the economic depression in Europe was the Black Death. During the High Middle Ages, an epidemic of the plague had decimated the population in many places, but within a generation or two the normally high birthrate had repaired the damage. The effects of the plague that struck in 1348 — 49 were not mitigated by a rising birthrate. Epidemic disease that in this rare instance affected humans as well as domestic animals, swept over Europe, killing at least a quarter and as much as 40 percent of the population in some areas. Many flourishing cities became virtual ghost towns for a time. The clergy was especially hard hit, losing perhaps a third of its most dedicated servants.

The plague was much more severe in the cities than in the countryside, but its psychological impact penetrated all areas of society. No one — peasant or aristocrat — was safe from the disease, and once it was contracted, a horrible and painful death was almost a

certainty. The dead and dying lay in the streets, abandoned by frightened friends and relatives. The effect of this devastating epidemic, in the middle of the fourteenth century, was reinforced by recurrences several times in the ensuing half century. The plague was caused by a bite from a parasite carried by rats, but European medicine in the Middle Ages did not know that.

Questions & Exercises

1) What is the "Black Death" mentioned in section I. 3 above?

2) What were the consequences of the Black Death in Europe in the Middle Ages?

3) What, do you think the reasons for such plague were?

4) How was the state of European medicine in the Middle Ages at the time of the plague?

I. 4 Trade In Medieval Europe

The incidence of the absolute decline in European economic life was heightened by shifts and dislocations in the balance of trade. In northern Europe, Flemish predominance faded as England began to use its wool to manufacture its own cloth, and Dutch ports were increasingly able to capture international traffic at the expense of the ports of Flanders. Though Flanders was still relatively rich, its days of preeminence in the northern European economy were over.

The League of northern German cities suffered a similar fate. At the height of their power in the 1360s, the merchants were able to establish a virtual monopoly on East-West trade in northern Europe and to defeat the king of Denmark to secure a trade route across the southern part of the Danish peninsula. By the fifteenth century, however, a number of factors combined to destroy their unity and power. The league lost the herring trade to Holland because the herring changed their spawning patterns, and it lost a major part of the East-West trade to the cities of southern Germany.

Even the apparently unchallengeable position of the Italian cities declined in the fourteenth and fifteenth centuries. The general problems that beset trade and banking were complicated by specific problems in the Orient, where Italy purchased the luxury goods that were the staples of its trade with Europe. The loss of Eastern sources was made almost complete by the conquest of the remnants of the Byzantine Empire in the mid-fifteenth century by the Ottoman Turks. Portugal and then Spain— not Italy—led the search for new routes to the East, which were to revolutionize European trade. Soon the Mediterranean would be relegated to a position second to the Atlantic Ocean as a European trade route. By the end of the fifteenth century, the approaching Italian eclipse was already apparent.

The era stretching from the later decades of the thirteenth century to about 1480 was marked by recurrent institutional collapse, inept political leadership, natural disasters, warfare, economic decline, and social upheaval. Yet this same period saw progress in the definition of political and legal concepts and great achievements in intellectual life and visual

arts. It was also marked by both the steady entrenchment of secular attitudes and the proliferation of forms of mysticism. Historians have come to regard the fourteenth and fifteenth centuries as an age of transition in which an old world was dying and a new world was struggling to be born.

In the fourteenth century the discontent of urban workers and the peasants led to serious rebellions. In general, the conditions of peasants were improving; by the end of the fifteenth century, few serfs were left in Western Europe. But the advantages of freedom were counterbalanced, at least in part, by the new responsibilities that it entailed. Freedom did not necessarily bring prosperity, and it did not greatly enhance the social status of the peasant. Urban workers suffered as the worsening of economic conditions struck directly at the manufacturing industries in Flanders and Italy. The lower classes were the first to feel the effects of depression in the form of fewer jobs and lower salaries.

Increased taxation, which was an inevitable result of frequent wars, was a tremendous burden to workers, and as the cost of war kept rising, discontent became

profound and widespread. Agrarian and urban revolts were many and violent. The most severe were the late fourteenth-century rising of the French peasantry; the Peasant's Revolt of 1381 in England; and the repeated rebellions of the Flemish and Florentine textile workers against the oligarchic guild masters. But the results of these working-class revolts were meager — at best, a few promises that were quickly broken once order had been restored; at worst, cruel suppression of the leaders and the massacre of their followers. In the fifteenth century the rebels were often heretics, and the church joined the monarchy and the nobility to subdue the rebellious.

Questions & Exercises

1) How was the state of trade in Medieval Europe? Describe it in your own language.

2) What, do you think, were the reasons behind so many rebellions in Medieval Europe?

3) How did the Europeans make some progress in their economic situation in the Middle Ages?

I. 5 Warfare in Medieval Europe

Recurrent wars meant that the noble warrior played an indispensable role in politics. In Germany, the fourteenth and fifteenth centuries were the heyday of princely power; effective national and imperial authority was negligible. In Italy also, no national power could break down the resistance of the cities or the pope, and in Spain the national monarchy was only slowly consolidating its territory. In England and France, however, the idea of national monarchy was well established by the end of the thirteenth century, and increasingly the authority of the crown became a prize to be sought, rather than an alien force to be abolished. In England and France, nobles attempted to exercise the powers of the crown as regents or through baronial councils and tried to use the legal and fiscal institutions of national government to their own advantage.

The increasing influence of the nobles as warriors and governors in a period of governmental chaos was paradoxically accompanied by a real weakening of the

economic and political position of the nobility. As serfs became free peasants who were responsible only for the payment of rent on their land, the services due on the lord's demesne were gradually abolished, and the lord was forced to hire labor. Because of the shortage of agricultural labor in the fourteenth and early fifteenth centuries, many lords found it profitable to let out a substantial part of their land to small peasant farmers, and the great estate increasingly gave way to a multitude of small farms from which the lord received a fixed rent. With a decreasing amount of land under cultivation, the dependence upon fixed rents in an inflationary period reduced the income of the nobility. Inevitably the noble tried to make up this loss by seizing the royal taxes collected on his estates. By meddling in national politics, the higher nobility intended to expropriate additional portions of crown income and authority for their personal advantage. The lesser nobles, who were unable to appropriate royal revenues, became more dependent on the crown.

Questions & Exercises

1) Were the Europeans good fighter for freedom in the Middle Ages? Discuss in class.

2) How did the Medieval Europeans improve their military and fighting strategies?

3) Why did they try to improve their military situation? What were their aims?

4) Did they then fight for a national cause? Describe their motifs in your own words.

5) Describe the social situation at that time according to section I.5 above.

I. 6 Classes in Medieval Europe

The division within the nobility became increasingly apparent during the fourteenth and fifteenth centuries, as the great magnates gained in wealth and influence while the lower nobility became much more readily the subjects of a national power. In England the title of nobility could pass only to the eldest son of a noble, so that the number of nobles was always closely restricted. The rest of landed society consisted of the gentry, who depended upon the income from their estates and satisfied themselves with monopolizing local politics. Occasionally, the gentry mingled with rich burgesses of the towns, who bought land or married into the aristocratic families of the countryside. In France and the rest of Europe, the title of nobility passed to all sons, and thus the nobility was a relatively large class, jealous of its separate status and loath to intermarry with the bourgeoisie unless economic contingencies dictated union with a rich bourgeois family.

Dislocations within the nobility and within

society as a whole were dramatically indicated by bands of mercenary soldiers, products of the incessant wars of the period, who roamed the countryside. In the fourteenth and fifteenth centuries, kings, princes, popes, and Italian cities resorted to purchasing the services of mercenary soldiers. Organized into bands under a leader, these mercenaries hired themselves out to the highest bidder; sometimes a higher price offered in the middle of a campaign induced them to change sides. The worst evil the mercenaries brought, however, was not their lack of loyalty, but their constant plundering of the countryside. The mercenary bands were permanent bodies organized for the profit of their members, and when unemployed, they lived off the countryside, taking whatever they could find. A besieged noble or monastery could usually buy them off with tribute and send them on to the next county, but the peasants had no defense. The disorder that followed from mercenary depredations was a strong argument in favor of the reestablishment of the order and security of the King's Peace in the countryside.

The barbarity of the mercenary bands contrasted with the growing niceties of courtly life. The

highest level of culture and the greatest splendor were achieved in the elegant courts of the Italian nobility (although an Italian noble might, in fact, be a fat bourgeois merchant, rather than the stereotype of the Christian knight). Standards of dress became increasingly lavish, and courtly manners became exceedingly elaborate. Especially in Italy, the courtier was an educated man of refined tastes. Courtly society in northern Europe lagged behind its Italian counterpart, but it, too, became more and more elaborate, in spite of the decreased income of most of the nobility. Orders of knighthood abounded in the circles of great nobles, as well as of kings. Tournaments lost their rough-and-tumble character and became ceremonial; jousting became a gentlemanly sport. In fact, more and more knights were little acquainted with the art of wielding a lance. In time, knighthood became a purely hereditary status, and the noble began to distinguish himself from the commoner not by his accomplishments in battle, but by his coat of arms, his dress, and his behavior.

The attempts of the nobility to govern revealed the impracticality of the noble way of life. The

barons paid little attention to the necessary details of government, and their constant infighting for personal advantage made the failure of baronial government inevitable. If the baronial council did not adjourn to the hunt at a crucial juncture, its members ignored a crisis while bitterly engaged in factional strife. The nobility's normal lack of concern for governmental affairs and their almost exclusive devotion to the interests of their families ill fitted them to be leaders of the troubled society of fourteenth-and fifteenth-century Europe.

The wars of the fourteenth and fifteenth centuries were both a cause of the problems that beset national governments and the result of royal attempts to expand the authority of the crown. The Hundred Years' War between France and England was only the most severe and protracted of the conflicts of the period, but it aptly illustrates the fundamental character of later medieval wars: it was both dynastic and national in origin. In its early stages the war was fought over the feudal obligations of the English king in France, the claims of the English king to the French throne, and the ambitions of both monarchs to control the rich wine-growing regions of Gascony and the

prosperous industrial cities of Flanders. By the fifteenth century, however, national feeling in both countries had escalated to such an extent that public opinion was almost as opposed to ending the conflict without a decisive victory as it was to granting the taxes necessary to continue the war.

The new institutions developed by the late medieval monarchy to consolidate its power and authority proved too weak to remain effective in the face of long and bitter wars. While the king attempted to extend his power, he was forced to strain the resources of the crown to the maximum. Society could accept and even welcome the royal judges who represented order and stability, but the tax collector was obstinately and often successfully resisted by all elements of the population. The king was still expected to finance the government out of his personal income—he was supposed "to live of his own." High nobles were usually exempt from taxation (theoretically because of their military services). The bulk of taxation, therefore, fell upon the gentry, the peasantry, and the burgesses, and even their taxes might be appropriated by a local magnate. The use of national or provincial

assemblies to approve new taxation enabled the monarchy to close the gap between the crown and public opinion. More often than not, the king actually received only a fraction of the taxes owed in any given levy.

The vicissitudes of heredity also hampered the expansion of royal power in the fourteenth and fifteenth centuries. The problems that arose when the king left a minor heir or no heir at all were serious enough in a society where the power of the ruling house was never securely established, but these problems were aggravated by the accession of physically weak or even demented kings. When a king was sickly or feebleminded, or when the throne was in dispute, the chaos of baronial politics descended upon the institutions of the state. By the fourteenth century, the concept of the crown was so firmly established in France and England that kingship could not cease to exist, but the royal government was often reduced to a façade for the worst manifestations of baronial politics. It remained for future centuries to establish the institutions of national government so firmly that they could continue to operate in the absence of strong

royal leadership.

Questions & Exercises

1) How many classes was the Medieval European society divided into?

2) What were the criteria according to which such divisions were made?

3) Who was on top of the Medieval European class hierarchy?

4) Compare this situation in Medieval Europe with the rule of the 1st four Arab Moslem Caliphs. What was the main reason of disparity and mismatch between the two? Discuss aloud in class.

5) Summarize the whole last section in Chapter One above.

Chapter Two: Papacy and Clergy

II. 1 Introduction

Medieval Christian society, at least in theory, was universal in extent. On the political side, the Holy Roman Empire proclaimed its own universality, ignoring local and dynastic particularism. In reality, of course, the Holy Roman Empire was German, and at times Italian, in its makeup and policy, and other kingdoms in Europe were uneasy and defensive about its claims to universal authority. But while the tendency to divide into national states grew stronger with the rise of monarchy in France and England and other parts of Europe, the church remained universal: All men were at least potentially Christian and therefore fell somehow within the purview of the universal Christian church.

The papacy reached the height of its power in the thirteenth century. Administrative, legal, and fiscal refinements made the Roman curia[1] a vast, effective machine that increasingly implemented the authority of the pope in the farthest reaches of Christendom. After

[1] Tribal divisions of ancient Rome

that, the popes had nothing to fear from the Holy Roman emperor. Popes like Innocent III and Innocent IV voiced papal claims in extreme terms and behaved like most prominent sovereigns in Europe. At the same time, thirteenth-century popes knew how to compromise and shared the vast income from church lands with secular overlords. Pious kings listened to the pope with respect and dealt with him in a spirit of compromise; recalcitrant kings, such as Frederick II, were likely to find that the spiritual power of the pope was accompanied by earthly power asserted with force of arms.

The power of the pope was heavily based upon his personal ability and his alliances with powerful secular rulers. In the fourteenth and fifteenth centuries, the growth of national states dwarfed the power of the papacy, and the popes often became tools of royal policy instead of the reverse. The power of the papacy was one of the first casualties of the growth of national monarchies and the entrenchment of lay and secular interests that characterized the fourteenth and fifteenth centuries.

Questions & Exercises

1)How did the Pope and his clergy assume authority I Medieval Europe?

2) What was the role of the Pope in Medieval Europe?

3) What was his relationship with the King(s) like in Medieval Europe?

4) What were the main differences between the thirteen century and the following two centuries in Medieval Europe?

5) How did national monarchies rise in Medieval Europe?

II. 2 Failing Attempts of Reform

The greatest work of thirteenth-century French literature, the second part of *The Romance of the Rose*, written in the late 1270s by a university-educated French bourgeois, Jean de Muen, demonstrates on every page that the peace of Innocent III and the compromise of Thomas Aquinas did not satisfy the intellectuals of his generation. The romantic idealism of the twelfth century has turned cold and sour: "So degenerate is all the world that it has put up love for sale." On all sides de Muen saw greed, corruption, and rottenness. Scholars and lawyers, he said, "sell their skill for cash." Although he was a bourgeois, de Muen saw no redemptive qualities in his own class; "No merchant ever lives at ease; he has for life enlisted in the war of gain, and never will acquire enough." De Muen had only contempt for the leadership of medieval society. Kings and princes have "brought despotism to pinch and rob the folk," he said. On all sides he saw "bad divines who overrun the earth, preaching to gain favor, honor, wealth." The Franciscan ideal had also

failed miserably: "Poverty . . . is unloved and vilified by all." In de Muen's eyes all the efforts to achieve a Christian commonwealth that were made in the twelfth and thirteenth centuries had proved futile. His poem heralds the frustration, bitterness, anger, and dismay of the late thirteenth century, which was soon to be articulated in the monumental struggle between the French monarchy and the papacy and that contemporaries assumed marked an end of an era and the demise of medieval papacy.

French kings and nobles in the thirteenth century had provided the bulk of the manpower needed by the popes in crusades against the Muslims and within Europe, and France had more than once provided a haven to protect the Pope from the wrath of the German emperor. Yet at the end of the thirteenth century it was the French king Philip IV who struck a devastating blow to the power and prestige of the pope.

The enormous power that the French monarchy enjoyed at the accession of Philip IV the Fair (1285–1314) had a corrupting effect on the personnel of the royal bureaucracy, especially the chief ministers of the crown. These ministers were men of modest

background, of knightly or bourgeois provenance, who had made their way in the world because of their legal knowledge and administrative ability after a hard early struggle in life. The vast resources that they controlled in the king's name and their almost unlimited power to ruin men born to a much higher social status made them into arrogant and unprincipled scoundrels. Since the time of Philip Augustus, the French bureaucracy had been known for its harsh attitudes, and this was to some degree a political necessity if the country was ever to be really united under the crown. But the megalomania of Philip the Fair's ministers was something new. To severity were now added slander, blackmail, and extortion. The government of late thirteenth-century France discovered the technique of the "big lie": the more fantastic the accusation, the easier it would be to destroy helpless opponents. It learned how the processes of law could be easily perverted into an invincible agency of despotism. The royal administration always acted against its helpless victims with a parade of legal formalities; it discovered that if governments will only use a façade of juristic institutions, the most extreme and groundless

accusations will begin to take on the coloration of truth in the dim minds of the populace. It is not easy to discern what part the king played in all this—to what extent he actually directed this vicious policy or was merely the dupe of his ministers. The latter is the more probable. Personally devout and brave, Philip was also silent and stupid, the perfect façade behind which the bureaucracy could work its plans. His ministers were monsters of cynicism, but the king seems actually to have believed their big lies. They had no trouble convincing him of the legality of their attacks on anyone who stood in their way, including the vicar of Christ himself.

After the death of St. Louis the papacy found itself in greater and greater difficulties. Its legal and financial institutions were the object of Criticism all over Europe, and not least by churchmen who found themselves heavily taxed by Rome and frequently sued in the papal courts. The cardinals were well educated and good administrators, but they had gained a bad reputation for nepotism and venality.

Questions & Exercises

1) According to section II. 2, what reforms were attempted? And why?

2) How was the reputation of the clergy at that time? Why was it like that?

3) Describe the difficulties the papacy encountered after the death of St. Louis.

4) Summarize the first two paragraphs of this section in your own language.

Chapter III: Seeds of the Renaissance

III. 1 Introduction

The cultivation of the Italian Renaissance in the age of Machiavelli and Leonardo da Vinci, around 1500, has traditionally been regarded as the endpoint of the Middle Ages. There are several additional justifications for viewing 1500 as the termination of the medieval era. The "splitting of the faith," as the Germans call it, the outbreak of the Protestant Reformation, and the permanent division of the western Church, was also about to begin. By 1500, the transatlantic colonial penetration of the Americas by the Iberian peoples was under way. Following upon their successful circumnavigation of Africa and the opening up of India and the Far East to European trade, it meant a radical turning away from a cultural and mercantile focus on the Mediterranean and a drastic alteration in the pattern of the European economy. By 1500, the printing press with movable type, which had been introduced in Germany around 1470, was being widely employed. A revolution in communication was under

way.

These are all good reasons to regard the end of the fifteenth century as the end of the Middle Ages, just as the accession of a Christian Roman emperor in the early fourth century marks the beginning of medieval times. But just as the medieval beginning can also be claimed to lie with the barbarian invasions of the early fifth century, so can reasonable arguments be made for other dates to mark the end of the Middle Ages, all the way from the French monarchy's destruction of the papacy in the early fourteenth century to the political and industrial revolutions of the eighteenth century.

In determining the start and end of eras, there is room for diverse judgments. But all things considered, there are grounds for thinking of 1500 as the most conceptually persuasive medieval terminus. The increased secularism of Renaissance learning, coupled with the revived monarchial states and their ruthless exercise of the balance of power, the Protestant Reformation, the introduction of the printing press, the migrations, imperialism, and economic changes attendant upon overseas ventures to the Americas and East Asia, determined structural and cultural

changes of major proportions that deeply penetrated the institutional formation and the mentality of the European peoples. What Johan Huizinga said in 1919 of the end of the fifteenth century remains true:

"A high and strong culture is declining, but at the same time and in the same sphere new things are being born. The tide is turning, the tone of life is about to change."

Questions & Exercises

1) How did the Renaissance start in Europe?

2) What were the main factors that led to it?

3) How long did it take the Renaissance to shape itself in Europe?

4) Where did it start? And why?

5) What was the contribution of external factors to the European Renaissance?

III. 2 Research and Learning

There are, however, intrinsic intellectual reasons for this recent intensive work on the late Middle Ages. So little was known three decades ago about that era, and it seemed so important as a transition to the culture and society of the sixteenth century that was widely assumed to be the start of the modern world (an assumption no longer secure), that the sinking of deep research shafts in one, often relatively narrow aspect of the late Middle Ages, was amply justified.

The quality of detailed research on the late Middle Ages is high, but the overall result has been disappointing. No paradigm or overall interpretation of the period 1270—1500 has yet been offered that integrates the multiple facets of the culture and society of western Europe. Even in the richly explored Italian Renaissance, historians are still mulling over the paradigms propounded by Jacob Burckhardt in 1860 and Erwin Panofsky in the 1950s, rather than formulating new models. The two most interesting general views on the late Middle Ages (neither

translated into English) remain the books of Rudolf Stadelman (1928) and Augustin Renaudet (1939). Perhaps the comprehensive overview propounded in these older books was attainable precisely because their authors were not distracted by a flood of detailed monographs and could reflect on the general perspectives.

Questions & Exercises

1) What is the writer trying to say about Medieval Europe in this section?

2) Where did the Europeans get their books from?

3) What did they do research in? And what for?

III. 3 Paradoxes of the Middle Ages

Without a new paradigm that integrates diverse aspects of the late Middle Ages, there remain seven obvious paradoxes in the history of that era. The first paradox is in the political sphere. In the late Middle Ages there was plenty of discussion of what we call constitutional liberalism and a much greater visibility of a high bourgeoisie, who were the most persistent advocates and implementors of this progressive doctrine in later centuries. Yet the main trend in late medieval political life was the resurgence of aristocratic power and the high visibility of the great nobles in politics and government. In other words, neither the rebellions of peasants and artisans nor middle-class constitutionalism had a significant political outcome. Europe's political system remained hierarchic and oligarchic, and the hierarchies and oligarchs became more prominent on the political scene between 1270 and 1500. At the end of the period, European monarchs were still regularly enriching and yielding power to the high nobility. Even in Italy the great merchant families

modeled their political behavior on the northern grandees (and the ancient Roman aristocracy), and far from seeking to introduce constitutional liberalism and a modicum of representative democracy, they turned themselves into hereditary nobility.

The second paradox was in the social sphere. The Black Death, which carried off 25 - 40 percent of the population, created a labor shortage, ended the vestiges of serfdom in Western Europe, and increased the number of wealthy peasant families. The demographic collapse alleviated the slowly developing food shortage that the overpopulated Europe of the early fourteenth century had experienced. But aside from this consequence, the biomedical holocaust had no impact. It should have inspired a vast theological and moral literature probing the meaning of the disaster. There was almost none of that. Instead there was the *Decameron,* in which the Black Death served as the pretext for entertainment and soft-core pornography.

The third paradox of late medieval history concerns the church. There were enormous learning, intelligence, organizational skill, and speculative imagination of all kinds in the late medieval church.

Intrinsically the church was *not* in decline. In terms of brainpower, information, and literary and artistic capability, it was on the upswing, if anything. Yet, the church could not resolve its basic institutional problems, either at the papal level or at the local level, where a variety of parsons and friars competed intensely with one another and brought lay opprobrium on themselves.

The fourth paradox also involves the church. Never before and rarely since was there such intense evangelical feeling and popular enthusiasm about the Christian message among ordinary people. Instead of exulting in and channeling this piety and devotion, the top structure of European intellectuals in the late fifteenth century chose to condemn it as being infected with superstition and idolatry and formulated programs to eradicate much of it in the name of purifying reforms.

The fifth paradox again is related to the intellectuals and scholars. There was intense cultivation of every aspect of classical learning except the two that would have had the greatest social impact — mathematical literacy and republicanism. The

former would have ignited the scientific revolution, the latter a democratic upheaval.

The sixth paradox refers to the learned professions. The legal profession became thoroughly professionalized, and English common law assumed the organizational form and behavior patterns that still exist in the United States and Canada, as well as in Britain, for better or worse. Physicians and surgeons made no progress in their professional standing or in improving their contribution to society. Instead, they did a lot of damage. Panicked by the Black Death, whose cause mystified them, they convinced Europeans to close their windows and sheath them with heavy drapes to keep out the "bad air" that, they alleged, brought plague and to stop taking baths, which, they claimed, opened the pores to the dread disease. This quack medicine was not completely revised until the twentieth century.

The seventh paradox was ecological. Europeans had lived in the midst of vast forests throughout the earlier medieval centuries. After 1250, they became so skilled in deforestation that by 1500 they were running short of wood for heating and cooking. They were faced with a nutritional decline because of the

elimination of the generous supply of wild game that had inhabited the now-disappearing forests, which throughout medieval times had provided the staple of their carnivorous high-protein diet. By 1500, Europe was on the edge of a fuel and nutritional disaster for which it was saved in the sixteenth century only by the burning of soft coal (which, in turn, started air pollution) and the cultivation of potatoes and maize (Indian corn as fodder for cattle) that were imported from America.

These paradoxes make the late Middle Ages an intriguing but not an edifying sight. They can be viewed, indeed, as the start of "early modern Europe," which continued until the political, industrial, and liberal and scientific revolutions of the eighteenth century. This early Modern Europe continued to be marked by the paradoxes, confusions, and crises that distinguished the fourteenth and fifteenth centuries.

Because of the disorder of the period 1300—1500, those who admire the medieval heritage and seek some kind of revival of medievalism in our time look to the earlier centuries from St. Augustine and St. Benedict to St. Bernard of Clairvaux and St. Thomas

Aquinas for inspiration, contrasted with the materialism and decadence of the closing years of the twentieth century. They see in the medieval centuries a society in which people's lives were rarely programmed by the centralizing bureaucratic state and in which people therefore had to make their own decisions, communal and personal, without the dictates of political and legal power. They see a culture that arose out of chaos, violence, and cruelty by the application of learned intelligence to social behavior. They see a world that recognized the capacity of individuals to love God and human beings and turned this love into wonderful artistic and literary expressions. They see a world that used reason and tradition to integrate society with the environment and created prosperous and stable communities. They look to the medievalism of those times for a model of religious devotion and moral commitment that led also to the founding of great universities and the support of learning, art, and imaginative literature.

The medieval world we know was far from perfect. Life expectancy was short, and disease was mostly incontestable. It was a world burdened by

royal autocracy and social hierarchy inherited from ancient times. Its piety and devotion were affected by fanaticism and a potential for persecution. Its intellectuals were given to too abstract and not enough practical thinking.

In the 1990s there is a difference of opinion among scholars as to when this 'good and beautiful Middle Ages' ended. The Austrian liberal Catholic historian Frederick Heer proposed in the late 1950s that 1200 was the medieval dividing line between expansionary freedom and contracting repression. A younger generation of historians, including R. I. Moore and Jeffrey Richards in Britain and John Boswell in the United States, have confirmed this dividing line on the ground that around 1200 Medieval Europe became what Moore dramatically termed a persecuting society. It is asserted that at the beginning of the thirteenth century the repressive marginalization of what are today called minorities — heretics, women, lepers, witches, and homosexuals — was much intensified and draconically institutionalized.

People have also recognized this contracting aspect of thirteenth- century culture and

society. But they have also regarded the effort of Innocent III's papacy politically, Thomas Aquinas intellectually, and the Franciscans emotionally to fashion a new consensus down to around 1270 as still within the continuing parameters of a creative and expansive central era in medieval culture. It is possible that, had this consensus been realized and built upon in the late Middle Ages in time, open horizons would have prevailed and the persecuting tendencies would have been mitigated. But after 1270 things fell apart, and the medieval center no longer held. Thus, in spite of remarkable efforts at constitutional liberalism in the late Middle Ages and the progressive qualities of Renaissance humanism, what, from our perspective, was a confrontational and authoritarian intolerance toward minorities did indeed flow out of social anxiety and political rationalization soon after 1200 and was not reversed.

Therefore, arguments that are derived from different criteria can lead, with equal persuasiveness, to the conclusion that the Middle Ages ended either around 1200 or 1270. At some point in the thirteenth century, Europe entered a time of disintegration and

conflict that, by 1500, had brought about the waning of medieval civilization.

Questions & Exercises

1) How many paradoxes are discussed in III. 3 above?

2) What are they in brief?

3) Why does the writer believe that these paradoxes helped Europe get out of the dark?

4) When did the end of the Middle Ages in Europe begin to reveal itself? And how?

Chapter Four: Religion and the Spirit of the Renaissance

IV. 1 Introduction

In order to reach a definite conclusion with regard to the religious sense of the men of this period, we must adopt a different method. From their intellectual attitude in general, we can infer their relation both to the divine idea and to the existing religion of their age.

These 'modern' men, mainly the representatives of the culture of Italy, were born with the same religious instincts as other medieval Europeans. But their powerful individuality made them in religion, as in other matters, altogether subjective, and the intense charm which the discovery of the inner and outer universe exercised upon them rendered them markedly worldly. In the rest of Europe religion remained, till a much later period, something given from without, and in practical life egotism and sensuality alternated with devotion and repentance. The latter had no spiritual

competitors, as in Italy, or only to a far smaller extent.

Further, the close and frequent relations of Italy with Byzantium and the Moslem peoples had produced a dispassionate tolerance which weakened the ethnographical conception of a privileged Christendom. And when classical antiquity with its men and institutions became an ideal of life, as well as the greatest of historical memories, ancient speculation and skepticism obtained in many cases a complete mastery over the minds of Italians.

Since, again, the Italians were the first modern people of Europe who gave themselves boldly to speculations on freedom and necessity, and since they did so under violent and lawless political circumstances, in which evil seemed often to win a splendid and lasting victory, their belief in God began to waver, and their view of the government of the world became fatalistic. And when their passionate natures refused to rest in the sense of uncertainty, they made a shift to help themselves out with ancient, oriental or medieval superstition. They took to astrology and magic.

Questions & Exercises

1) Which European people initiated the idea of freedom in the Renaissance?

2) What was the relationship between such people and religion at that time?

3) What was the result of such a movement in Europe?

IV. 2 A New Outlook On Religion

Finally, these intellectual giants, these representatives of the Renaissance, show, in respect to religion, a quality which is common in youthful natures. Distinguishing keenly between good and evil, they yet are conscious of no sin. The need of salvation thus becomes felt more and more dimly, while the ambitions and the intellectual activity of the present either shut out altogether every thought of a world to come, or else caused it to assume a poetic instead of a dogmatic form.

When we look on all this as pervaded and often perverted by the powerful Italian imagination, we obtain a picture of that time which is certainly more in accordance with truth than are vague declamations against modern paganism. A closer investigation often reveals to us that underneath this outward shell much genuine religion could still survive.

The fuller discussion of these points must be limited to a few of the most essential explanations:- that religion should again become an affair of the

individual and of his own personal feeling was inevitable when the Church became corrupt in doctrine and tyrannous in practice, and is a proof that the European mind was still alive. It is true that this showed itself in many different ways. While the mystical and ascetic sects of the North lost no time in creating new outward forms for their new modes of thought and feeling, each individual in Italy went his own way, and thousands wandered on the sea of life without any religious guidance whatever. All the more must we refer to those who attained and held fast to a personal religion. They were not to blame for being unable to have any part or lot in the old Church, as she then was; nor would it be reasonable to expect that they should all of them go through that mighty spiritual labor which was appointed to the German reformers. The form and aim of this personal faith showed itself in the better minds.

The worldliness, through which the Renaissance seems to offer so striking a contrast to the Middle Ages, owed its first origin to the flood of new thoughts, purposes and views which transformed the medieval conception of *nature* and *man*. The spirit is not in

itself more hostile to religion than that 'culture' which now holds its place, but which can give us only a feeble notion of the universal ferment which the discovery of a new world of greatness then called forth. This worldliness was not frivolous, but earnest, and was ennobled by art and poetry. It is a lofty necessity of the modern spirit that this attitude, once gained, can never again be lost, that an irresistible impulse forces us to the investigation of men and things, and that we must hold this inquiry to be our proper end and work. How soon and by what paths this search will lead us back to God, and in what ways the religious temper of the individual will be affected by it, are questions which cannot be met by any general answer. The Middle Ages, which spared themselves the trouble of induction and free inquiry, can have no right to impose upon us their dogmatic verdict in a matter of such vast importance.

To the study of man, among many other causes, was due the tolerance and indifference with which the Islamic religion was regarded. The knowledge and admiration of the remarkable civilization which Islam, particularly before the Mongol inundation, had attained, was peculiar to Italy from the time of the Crusades.

This sympathy was fostered by the half-Muslim government of some Italian princes, by dislike and even contempt for the existing Church, and by constant commercial intercourse with the harbors of the eastern and southern Mediterranean. It can be shown that in the thirteenth century the Italians recognized a Moslem ideal of nobleness, dignity and pride, which they loved to connect with the person of a sultan. A Mameluke sultan is commonly meant; if any name is mentioned, it is the name of Saladin. Even the Osmanli (Ottoman) Turks, whose destructive tendencies were no secret, gave the Italians only half a fright, and a peaceable accord with them was looked upon as no impossibility. The truest and most characteristic expression of this religious indifference is the famous story of the Three Rings, which Lessing has put into the mouth of his Nathan, after it had been already told centuries earlier, though with some reserve, in *The Hundred Old Tales*, and more boldly in Boccaccio. In what language and in what corner of the Mediterranean it was first told, can never be known; most likely the original was much more plainspoken than the two Italian adaptations. The same idea is repeated, though, in a clumsy

caricature, in the famous proverb of the 'three who have deceived the world, that is, Moses, Christ and Muhammad'. If the Emperor Frederick II, in whom this saying is said to have originated, really thought so, he probably expressed himself with more wit. Ideas of the same kind were also current in Islam.

Questions & Exercises

1) Discuss the influence of Islam on the new ideas related to religious concepts in Europe.

2) What are the main ideas of Pulci? Discuss in class.

3) Summarize the fifth paragraph in this section in your own language.

IV. 3 The Role of Antiquity and Individualism

Antiquity exercised an influence of another kind than that of Islam, and this was not through its religion, which was but too much like the Catholicism of this period, but through its philosophy. Ancient literature, now worshipped as something incomparable, is full of the victory of philosophy over religious tradition. An endless number of systems and fragments of systems were suddenly presented to the Italian mind, not as curiosities or even as heresies, but almost with the authority of dogmas, which had now to be reconciled rather than discriminated. In nearly all these various opinions and doctrines a certain kind of belief in God was implied; but taken altogether they formed a marked contrast to the Christian faith in a divine government of the world. And there was one central question, which medieval theology had striven in vain to solve, and which now urgently demanded an answer from the wisdom of the ancients, namely, the relation of providence to the freedom or necessity of the human will.

will. To write the history of this question even superficially from the fourteenth century onwards would require a whole volume. A few hints must here suffice:

If we take Dante and his contemporaries as evidence, we shall find that ancient philosophy first came into contact with Italian life in the form which offered the most marked contrast to Christianity, that is to say, Epicureanism. The writings of Epicurus were no longer preserved, and even at the close of the classical age a more or less one-sided conception had been formed of his philosophy. Nevertheless, that phase of Epicureanism which can be studied in (Lucretius) and especially in (Cicero) is quite sufficient to make men familiar with a godless universe. To what extent his teaching was actually understood, and whether the name of the problematic Greek sage was not rather a catchword for the multitude, it is hard to say. It is probable that the Dominican Inquisition used it against men who could not be reached by a more definite accusation. In the case of skeptics born before the time was ripe, whom it was yet hard to convict of positive heretical utterances, a moderate degree of

luxurious living may have sufficed to provoke the charge. The word is used in this conventional sense by Giovanni Villani, when he explains the Florentine fires of 1115 and 1117 as a divine judgement on heresies, among others, 'on the luxurious and gluttonous sect of Epicureans'. The same writer says of Manfred, 'His life was Epicurean, since he believed neither in God, nor in the saints, but only in bodily pleasure.'

Dante speaks still more clearly in the ninth and tenth cantos of the *Inferno*. That terrible fiery field covered with half-opened tombs, from which issued cries of hopeless agony, was peopled by the two great classes of those whom the Church had vanquished or expelled in the thirteenth century. One side was represented by those who were heretics that opposed the Church by deliberately spreading false doctrine; the other by Epicureans, and their sin against the Church lay in their general disposition, which was summed up in the belief that the soul dies with the body. The Church was well aware that this one doctrine, if it gained ground, must be more ruinous to her authority than all the teachings of the others, since it took away all reason for her interference in the affairs

of men after death. That the means which she used in her struggles were precisely what had driven the most gifted natures to unbelief and despair was what she naturally would not herself admit.

Dante's loathing of Epicurus, or of what he took to be his doctrine, was certainly sincere. The poet of the life to come could not but detest the denier of immortality; and a world neither made nor ruled by God, no less than the vulgar objects of earthly life which the system appeared to countenance, could not but be intensely repugnant to a nature like his. But if we look closer, we find that certain doctrines of the ancients made even on him an impression which forced the biblical doctrine of the divine government into the background, unless, indeed, it was his own reflection, the influence of opinions then prevalent, or loathing for the injustice that seemed to rule this world, which made him give up the belief in a special providence. His God leaves all the details of the world's government to a deputy, Fortune, whose sole work is to change and change again all earthly things, and who can disregard the wailings of men in unalterable beatitude. Nevertheless, Dante does not for a moment loosen

his hold on the moral responsibility of man; he believes in free will.

The belief in the freedom of the will, in the popular sense of the term, has always prevailed in Western countries. At all times men have been held responsible for their actions, as though this freedom were a matter of course. The case is otherwise with the religious and philosophical doctrine which labors under the difficulty of harmonizing the nature of the will with the laws of the universe at large. We have here to do with a question of 'more or less', which every moral estimate must take into account. Dante is not wholly free from those astrological superstitions which illumined the horizon of his time with deceptive light, but they do not hinder him from rising to a worthy conception of human nature. 'The stars,' he makes his Marco Lombardo say:

'the stars give the first impulse to your actions; a light is given you to know good and evil, and Freewill, which, if it endure the strain in its first battlings with the heavens, at length gains the whole victory, if it be well nurtured.'

Others might seek the necessity which annulled

human freedom in another power than the stars, but the question was henceforth an open and inevitable one. So far as it was a question for the schools or the pursuit of isolated thinkers, its treatment belongs to the historian of philosophy. But inasmuch as it entered into the consciousness of a wider public, it is necessary for us to say a few words respecting it.

Questions & Exercises

1) What is meant by 'Antiquity'? Discuss in class with your tutor.
2) What was the influence of 'Antiquity' on culture and new thought in Europe?
3) What are the main ideas of Epicurus? Discuss.
4) How does Dante differ from Epicurean religious thought?
5) Whom do your favour more, Dante or Epicurus? Why?

Chapter Five: General Spirit of Doubt

V. 1 Introduction

With superstitions, as with ancient modes of thought generally, the decline in the belief of immortality stands in the closest connection. This question has the widest and deepest relations with the whole development of the modern spirit.

One great source of doubt in immortality was the inward wish to be under no obligations to the hated Church. We have seen that the Church branded those who thus felt as Epicureans. In the hour of death many doubtless people called for the sacraments, but multitudes during their whole lives, and especially during their most vigorous years, lived and acted on the negative supposition, i.e. that there is no hereafter. That unbelief on this particular point must often have led to a general skepticism is evident of itself, and is attested by abundant historical proof. These are the men of whom Ariosto says, 'Their faith goes no higher than the roof.'

In Italy, and especially in Florence, it was possible to live as an open and notorious unbeliever, if a man only refrained from direct acts of hostility against the Church. The confessor, for instance, who was sent to prepare a political offender for death, began by inquiring whether the prisoner was a believer, 'for there was a false report that he had no belief at all'.

The unhappy transgressor, Pierpaolo Boscoli, who in 1513 took part in an attempt against the newly restored family of the Medici, is a faithful mirror of the religious confusion then prevalent. He became afterwards possessed with an enthusiasm for the ancient ideals of liberty, and for paganism in general; but when he was in prison his early friends regained the control of his mind, and secured for him what they considered a pious ending. The tender witness and narrator of his last hours is one of the artistic family of the della Robbia, the learned philologist Luca.

'Ah,' sighs Boscoli, 'get Brutus out of my head for me, that I may go my way as a Christian.' 'If you will,' answers Luca, 'the thing is not difficult; for you know that these deeds of the Romans are not handed down to us as they were, but idealized.'

pierpaolo Bascoli is said that :

The penitent now forces his understanding to believe, and bewails his inability to believe voluntarily. If he could only live for a month with pious monks he would truly become spiritually minded. It comes out that these partisans knew their Bible very imperfectly; Boscoli can only, but earnestly, beg Luca to exhort his friends to study the sacred writings, for only what a man has learned in life does he possess in death. Luca then reads and explains to him the story of the Passion according to the Gospel of St John; the poor listener, strange to say, can perceive clearly the Godhead of Christ, but is perplexed at his manhood; he wishes to get as firm a hold of it 'as if Christ came to meet him out of a wood'. His friend thereupon exhorts him to be humble, since this was only a doubt sent him by the Devil. Soon after, it occurs to the penitent that he has not fulfilled a vow made in his youth to go on a pilgrimage to the sacred land; his friend promises to do it in his stead. Meantime, the confessor — a monk, as was desired,— arrives, and after giving him the explanation quoted above of the opinion of St Thomas Aquinas on tyrannicide, exhorts him to bear death manfully. Boscoli makes answer: 'Father, waste no

Boscoli answer that

time on this; the philosophers have taught it me already; help me to bear death out of love to Christ.' What follows — the communion, the leave-taking and the execution — is very touchingly described; one point deserves special mention. When Boscoli laid his head on the block, he begged the executioner to delay the stroke for a moment:

'During the whole time since the announcement of the sentence he had been striving after a close union with God, without attaining it as he wished, and now in this supreme moment he thought that by a strong effort he could give himself wholly to God.'

If we had more confessions of this character, the spiritual picture of the time would be the richer by many important features which no poem or treatise has preserved for us. We should see more clearly how strong the inborn religious instinct was, how subjective and how variable the relation of the individual to religion, and what powerful enemies and competitors religion had. That men whose inward condition is of this nature are not the men to found a new church is evident; but the history of the Western spirit would be imperfect without a view of that fermenting period

among the Italians, while other nations, who have had no share in the evolution of thought, may be passed over without loss. But we must return to the question of immortality.

Questions & Exercises

1) Summarize the main ideas in this section.

2) Comment on these ideas according to your understanding of culture in Europe at that time.

3) What is the moral implication of Boscoli's story?

V. 2 Immortality and Antiquity In The Renaissance

If unbelief in this respect made such progress among the more highly cultivated natures, the reason lay partly in the fact that the great earthly task of discovering the world and representing it in word and form absorbed most of the higher spiritual faculties. We have already spoken of the inevitable worldliness of the Renaissance. But this investigation and this art were necessarily accompanied by a general spirit of doubt and inquiry. If this spirit shows itself but little in literature, if we find, for example, only isolated instances of the beginnings of biblical criticism, we are not therefore to infer that it had no existence. The sound of it was only overpowered by the need of representation and creation in all departments — that is, by the artistic instinct; and it was further checked, whenever it tried to express itself theoretically, by the already existing despotism of the Church. This spirit of doubt must, for reasons too obvious to need discussion, have inevitably and chiefly busied itself with the

question of the state of man after death.

And here came in the influence of antiquity, working in a twofold fashion on the argument. In the first place men set themselves to master the psychology of the ancients, and tortured the letter of Aristotle for a decisive answer. In one of the Lucianic[2] dialogues of the time Charon tells Mercury how he questioned Aristotle on his belief in immortality; but the prudent sage, although dead in the body and nevertheless living on, declined to compromise himself by a definite answer — and centuries later how was it likely to fare with the interpretation of his writings? But the opposite opinion prevailed in the instructed world. At the beginning of the sixteenth century the stumbling-block which it put in the way of the Church was so serious that Leo X set forth a Constitution at the Lateran Council in 1513, in defense of the immortality and individuality of the soul, the latter against those who asserted that there was but one soul in all men. A few years later appeared the work of Pomponazzo, in which the impossibility of a philosophical proof of immortality is maintained; and the contest was now

waged incessantly with replies and apologies, till it was silenced by the Catholic reaction. The pre-existence of the soul in God, conceived more or less in accordance with Plato's theory of ideas, long remained a common belief, and proved of service even to the poets. The consequences which followed from it as to the mode of the soul's continued existence after death were not more closely considered.

There was a second way in which the influence of antiquity made itself felt, chiefly by means of that remarkable fragment of the sixth book of Cicero's *Republic* known by the name of 'Scipio's Dream'. It is the description of a transfigured hereafter for great men, pervaded by the harmony of the spheres. This pagan heaven, for which many other testimonies were gradually extracted from the writings of the ancients, came step by step to supplant the Christian heaven in proportion as the ideal of fame and historical greatness threw into the shade the ideal of the Christian life, without, nevertheless, the public feeling being thereby offended as it was by the doctrine of personal annihilation after death. Even Petrarch founds his hope

[2] For more on the Syrian Philosopher, Lucian of Samosata, see Canaan, G. (1996).

chiefly on this Dream of Scipio, on the declarations found in other Ciceronian works, and on Plato's *Phaedo,* without making any mention of the Bible. 'Why,' he asks elsewhere, 'should not I as a Catholic share a hope which was demonstrably cherished by the heathen?' Soon afterwards, Coluccio Salutati wrote his *Labors of Hercules* (still existing in manuscript), in which it is proved at the end that the valorous man, who has well endured the great labors of earthly life, is justly entitled to a dwelling among the stars. If Dante still firmly maintained that the great pagans, whom he would have gladly welcomed in paradise, nevertheless must not come beyond the limbo at the entrance to hell, the poetry of a later time accepted joyfully the new liberal ideas of a future life. Cosimo the Elder, according to Bernardo Pulci's poem on his death, was received in heaven by Cicero, who had also been called the 'father of his country', by Fabii, by Curius, Fabricius and many others; with them he would adorn the choir where only blameless spirits sing.

But in the old writers there was another and less pleasing picture of the world to come—the shadowy realms of Homer and of those poets who had not

sweetened and humanized the conception. This made an impression on certain temperaments. Gioviano Pontano somewhere attributes to Sannazaro the story of a vision, which he beheld one morning early while half awake. He seemed to see a departed friend, Ferrandus Januarius, with whom he had often discoursed on the immortality of the soul, and whom he now asked whether it was true that the pains of hell were really dreadful and eternal. The shadow gave an answer like that of Achilles when Odysseus questioned him. 'So much I tell and aver to thee, that we who are parted from earthly life have the strongest desire to return to it again.' He then saluted his friend and disappeared.

It cannot but be recognized that such views of the state of man after death partly presuppose and partly promote the dissolution of the most essential dogmas of Christianity. The notion of sin and of salvation must have almost entirely evaporated. We must not be misled by the effects of the great preachers of repentance or by the epidemic revivals which have been described above. For even granting that the individually developed classes had shared in them like the rest, the cause of their participation was rather the need of

emotional excitement, the rebound of passionate natures, the horror felt at great national calamities, the cry to heaven for help. The awakening of the conscience had by no means necessarily the sense of sin and the felt need of salvation as its consequence, and even a very severe outward penance did not perforce involve any repentance in the Christian meaning of the word. When the powerful natures of the Renaissance tell us that their principle is to repent of nothing, they may have in their minds only matters that are morally indifferent, faults of unreason or imprudence; but in the nature of the case this contempt for repentance must extend to the sphere of morals, because its origin, namely the consciousness of individual force, is common to both sides of human nature. The passive and contemplative form of Christianity, with its constant reference to a higher world beyond the grave, could no longer control these men. Machiavelli ventured still farther, and maintained that it could not be serviceable to the state and to the maintenance of public freedom.

The form assumed by the strong religious instinct which, notwithstanding all, survived in many natures,

was theism or deism, as we may please to call it. The latter name may be applied to that mode of thought which simply wiped away the Christian element out of religion, without either seeking or finding any other substitute for the feelings to rest upon. Theism may be considered that definite heightened devotion to the one Supreme Being which the Middle Ages were ~~not~~ acquainted with. This mode of faith does not exclude Christianity, and can either ally itself with the Christian doctrines of sin, redemption and immortality, or else exist and flourish without them.

Questions & Exercises

1) What is the difference between 'theism' and 'deism'?

2) What was the main orientation of the Europeans at this time on the religious plane?

3) In the light of what you have understood about the European Middle Ages and the Renaissance, discuss in class the main differences between their thinking and ours.

Does faith in the 'Only One God' and in His teachings prevent people from having reform and renaissance? Discuss.

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بسم الله الرحمن الرحيم

وما أوتيتم من العلم إلا قليلاً

Part II: Glimpses of Arab Islamic Civilization

Chapter Six: Prophet Muhammad In Western Writings

VI. 1 Introduction

The following are excerpts, views, and comments on Islam and Prophet Muhammad (pbuh), wholly presented by Western writers. Study these excerpts carefully. Discuss them in class with your colleagues and tutor. Try to be as objective as possible in your discussion. These views are meant to be both positive and objective. However, some of these opinions might reflect some degree of ignorance of the truth of Islam. Note, in particular, the various spellings of the name of the Prophet and the religion of Islam. This is certainly a cultural attitude that has to be reconsidered. Thus, for the sake of objectivity, the author has kept the original excerpts as have been presented by the original writers to speak for themselves. Nonetheless, other opinions are perhaps creative and invaluable in shedding light on a history that no one can conceal or distort.

Prophet Muhammad's life, his meditations, his heroic reveling against the superstitions of his country, and his boldness in defying the furies of idolatry, his firmness in enduring them for fifteen years in Mecca, his acceptance of the role of public scorn and almost of being a victim of his fellow countrymen: all these and finally, his flight, his incessant preaching, his wars against odds, his faith in his success and his superhuman security

in misfortune, his forbearance in victory, his ambition, which was entirely devoted to one idea and in no manner striving for an empire; his endless prayers, his death and his triumph after death; all these attest to a firm conviction which gave him the power to restore a dogma. This dogma was twofold: the unity of God and the immateriality of God: the former telling what God is, the latter telling what God is not; the one overthrowing false gods with the sword, the other starting an idea with words: Philosopher, Orator, Apostle, Legislator, Conqueror of Ideas, Restorer of Rational beliefs . . . . The founder of twenty terrestrial empires and of one spiritual empire: that is Muhammad. As regards all standards by which human greatness may be measured, we may well ask: "Is there any man greater than he?"

Questions & Exercises

1) How is Prophet Muhammad described as a leader of his nation by different Western writers? Quote some sentences from the text above.

2) Why is there no greater man than Muhammad in the human history? Discuss according to the ideas presented in the text.

3) How do you assess the attitude of the writers of the text(s) above?

VI. 2 What Non-Muslims Say About Prophet Muhammad

In the quotations below, Western writers have used the word Muhammadanism for *Islam*. The word Muhammadanism connotes worship of Muhammad, an absolutely unworthy statement for any learned man to use. Prophet Muhammad's mission was to propagate the worship of the One and Only God (in Arabic Allah), the Creator and Sustainer of the Universe. His mission was essentially the same as that of earlier Prophets of God. In the historical context, many such terminologies about Muhammad, Islam, and Muslims were borrowed from earlier European writings of the Eleventh to the Nineteenth century, a time when ignorance and prejudice prevailed. The quotations below attest to the facts.

Mahatma Gandhi's statement published in 'Young India,'1924: "I wanted to know the best of the life of one who holds today an undisputed sway over the hearts of millions of mankind . . . . I became more than ever convinced that it was not the sword that won a place for Islam in those days in the scheme of life. It was the rigid simplicity, the utter self-effacement of the Prophet, the scrupulous regard for pledges, his intense devotion to his friends and followers, his intrepidity, his fearlessness, his absolute trust in God and in his own mission; these and not the sword, carried everything before them and surmounted every

obstacle. When I closed the second volume (of the Prophet's biography), I was sorry there was not more for me to read of that great life.

Sir George Bernard Shaw in 'The Genuine Islam,' Vol. 1, No. 8, 1936: If any religion had the chance of ruling over England, or Europe, within the next hundred years, it could be Islam." "I have always held the religion of Muhammad in high estimation because of its wonderful vitality. It is the only religion which appears to me to possess that assimilating capacity to the changing phase of existence which can make itself appeal to every age. I have studied him - the wonderful man and in my opinion far from being an anti-Christ, he must be called the Savior of Humanity." "I believe that if a man like him were to assume the dictatorship of the modem world he would succeed in solving its problems in a way that would bring it the much needed peace and happiness: I have prophesied about the faith of Muhammad that it would be acceptable to the Europe of tomorrow as it is beginning to be acceptable to the Europe of today.

Michael Hart in 'The 100, A Ranking of the Most Influential Persons In History,' New York, 1978: My choice of Muhammad to lead the list of the world's most influential persons may surprise some readers and may be questioned by

others, but he was the only man in history who was supremely successful on both the secular and religious level . . . . It is probable that the relative influence of Muhammad on Islam has been larger than the combined influence of Jesus Christ and St. Paul on Christianity. . . . It is this unparalleled combination of secular and religious influence which I feel entitles Muhammad to be considered the most influential single figure in human history.

Dr. William Draper in 'History of Intellectual Development of Europe': Four years after the death of Justinian, A.D. 569, was born in Mecca, in Arabia, the man who, of all men, has exercised the greatest influence upon the human race . . . To be the religious head of many empires, to guide the daily life of one-third of the human race, may perhaps justify the title of a Messenger of God.

J.W.H. Stab in 'Islam and its Founder': Judged by the smallness of the means at his disposal, and the extent and permanence of the work that he accomplished, his name in world's history shines with a more specious luster than that of the Prophet of Makkah. To the impulse which he gave numberless dynasties have owed their existence, fair cities and stately palaces and temples have arisen, and wide provinces became obedient to the Faith. And beyond all this, his words have governed the

belief of generations, been accepted as their rule of life, and their certain guide to the world to come. At a thousand shrines the voices of the faithful invoke blessings on him, whom they esteem the very Prophet of God, the seal of the Apostles . . . . Judged by the standards to human renown, the glory of what mortal can compare with his?

Washington Irving in 'Life of Muhammad,' New York, 1920: His military triumphs awakened no pride nor vain glory as they would have done had they been effected by selfish purposes. In the time of his greatest power he maintained the same simplicity of manner and appearance as in the days of his adversity. So far from affecting regal state, he was displeased if, on entering a room, any unusual testimonial of respect was shown to him.

Arthur Glyn Leonard in 'Islam, Her Moral and Spiritual Values': It was the genius of Muhammad, the spirit that he breathed into the Arabs through the soul of Islam that exalted them. That raised them out of the lethargy and low level of tribal stagnation up to the high watermark of national unity and empire. It was in the sublimity of Muhammad's deism, the simplicity, the sobriety and purity it inculcated the fidelity of its founder to his own tenets, that acted on their moral and intellectual fiber with all the magnetism of true inspiration.

Charles Stuart Mills in 'History of Mohammadanism': Deeply read in the volume of nature, though extremely ignorant of letters, his mind could expand into controversy with the wisest of his enemies or contract itself to the apprehension of the meanest of his disciples. His simple eloquence was rendered impressive by a manner of mixed dignity and elegance, by the expression of a countenance where the awfulness of his majesty was so well tempered by an amiable sweetness, that it exerted emotions of veneration and love. He was gifted with that authoritative air or genius which alike influences the learned and commands the illiterate.

Philip K. Hitti in 'History of the Arabs': Within a brief span of mortal life, Muhammad called forth of unpromising material, a nation, never welded before; in a country that was hitherto but a geographical expression he established a religion which in vast areas suppressed Christianity and Judaism, and laid the basis of an empire that was soon to embrace within its far flung boundaries of the fairest provinces of the then civilized world.

Stanley Lane-Poole in 'Studies in a Mosque': He was one of those happy few who have attained the supreme joy of making one great truth their very life spring. He was the messenger of One God, and never to his life's end did he forget who he was or

the message which was the marrow of his being. He brought his tidings to his people with a grand dignity sprung from the consciousness of his high office, together with a most sweet humility.

Rodwell in the Preface to his translation of the Holy Qur'an: Mohammad's career is a wonderful instance of the force and life that resides in him who possesses an intense faith in God and in the unseen world. He will always be regarded as one of those who have had that influence over the faith, morals and whole earthly life of their fellow men, which none but a really great man ever did, or can exercise; and whose efforts to propagate a great verity will prosper.

W. Montgomery Watt in 'Muhammad at Mecca,' Oxford, 1953: His readiness to undergo persecution for his beliefs, the high moral character of the men who believed in him and looked up to him as a leader, and the greatness of his ultimate achievement - all argue his fundamental integrity. To suppose Muhammad an impostor raises more problems that it solves. Moreover, none of the great figures of history is so poorly appreciated in the West as Muhammad . . . . Thus, not merely must we credit Muhammad with essential honesty and integrity of purpose, if we are to understand him at all; if we are to correct the errors we have inherited from the past, we must not forget the

conclusive proof is a much stricter requirement than a show of plausibility, and in a matter such as this only to be attained with difficulty.

Questions & Exercises

1) What is your opinion in what you have read in the excerpts above?
2) Choose the best quotation you have read. Read it aloud in class and justify your choice. Discuss with your colleagues and tutor.

VI. 3 Prophet Muhammad's Letter to Monks of St. Catherine Monastery

In 628 A.D. Prophet Muhammad granted a Charter of Privileges to the monks of St. Catherine Monastery in Mt. Sinai. It consisted of several clauses covering all aspects of human rights including such topics as the protection of Christians, freedom of worship and movement, freedom to appoint their own judges and to own and maintain their property, exemption from military service, and the right to protection in war.

An English translation of that document is presented below: "This is a message from Muhammad Ibn Abdullah, as a covenant to those who adopt Christianity, near and far, we are with them. Verily I, the servant, the helper, and my followers defend them, because Christians are my citizens; and by Allah! I hold out against anything that displeases them. No compulsion is to be on them. Neither are their judges to be removed from their jobs nor their monks from their monasteries. No one is to destroy a house of their religion, to damage it, or to carry anything from it to the Muslims' houses. Should anyone take any of these, he would spoil God's covenant and disobey His Prophet. Verily, they are my allies and have my secure charter against all that they

hate. No one is to force them to travel or to oblige them to fight. The Muslims are to fight for them.

"If a female Christian is married to a Muslim, it is not to take place without her approval. She is not to be prevented from visiting her church to pray. Their churches are to be respected. They are neither to be prevented from repairing them nor the sacredness of their covenants. No one of the nation (Muslims) is to disobey the covenant till the Last Day."

Question & Exercise

1) What is the content of this charter? Explain it to your colleagues in your own words.
2) In the light of the charter above, how should people deal with one another?

Chapter VII: The Islamic World And The Western Renaissance

VII. 1 Introduction

While the "occidental-oriental" dichotomy of recent centuries identifies the World of Islam as separate and 'Eastern,' that world is inextricably linked with the West. In general, however, "Westerners – Europeans - have great difficulty in considering the possibility that they are in some way seriously indebted to the Arab world, or that the Arabs were central to the making of medieval Europe". Two notable contemporary exceptions are: Carl Sagan, the Nobel laureate astronomer (Princeton University) and John Esposito, Director, Center for Muslim-Christian Understanding, Georgetown University. Both have candidly talked of the West's Christian-and-Islamic heritage. Esposito talked of this heritage recently, and added, "Nobody ever told me that," and that he "was always taught the linkages between Judaism and Christianity". This thesis may be corroborated by merely presenting a few quotations from eminent past and present scholars

NB: **For furthering their knowledge about such a topic, interested readers may wish to consult the references at the end of this book.**

No student of the culture of Western Europe can ever reconstruct for himself the intellectual values of the later Middle Ages unless he possesses a vivid awareness of Islam looming in the background.

Because Europe was reacting against Islam it belittled the influence of Saracens (Muslim Arabs) and exaggerated its dependence on it. So today an important task for us is to correct this false emphasis and to acknowledge fully our debt to the Arab and Islamic world.

One of the hallmarks of civilized man is knowledge of the past - including the past of others with whom one's own culture has had repeated and fruitful contact; or the past of any group that has contributed to the ascent of man. The Arabs fit profoundly into both of the latter two categories. But in the West the Arabs are not well known. Victims of ignorance as well as misinformation, they and their culture have often been stigmatized from afar.

Too often science in Arabia has been seen as nothing more than a holding operation. The area has been viewed as a giant storehouse for previously discovered scientific results, keeping them until they could be passed on for use in the West. But this is, of course, a travesty of the truth. Certainly the Arabs did inherit Greek science - and some Indian and Chinese science too,

for that matter - and later passed it on to the West. But this is far from being all they did. An eminent mid-20th century scholar, George Sarton (Harvard Univ.), traces the "roots" of Western intellectual development to the Arab tradition, which was "the outstanding stream, and remained until 14th century one of the largest streams of medieval thought." Further, "The Arabs were standing on the shoulders of their Greek forerunners, just as the Americans are standing on the shoulders of their European ones. There is nothing wrong in that." Then Sarton criticizes those who "will glibly say 'The Arabs simply translated Greek writings, they were industrious imitators . . . .' This is not absolutely untrue, but is such a small part of the truth, that when it is allowed to stand alone, it is worse than a lie"

Questions and Exercises

1) What are the various opinions of the Western writers about Arab civilization and culture?

2) What did others believe as mentioned in the excerpt above.

3) What is your own opinion in this regard? Discuss.

VII. 2 Arab & European Scholars

The list of Western scholars influenced by Arab Moslem scholars is almost endless, but here are a few prominent names:
Adelard of Bath, Peter Abelard, Robert Grossetteste, Alexander of Hales, Albertus Magnus, St. Thomas Aquinas, etc.

It will suffice here to evoke a few glorious names of Arab scholars without contemporary equivalents in the West:
Jabir ibn Haiyan, al-Khwarizmi, al-Fargani, al-Razi, Thabit ibn Qurra, al-Battani, Hunain ibn Ishaq, al-Farabi, Ibrahim ibn Sinan, al-Masudi, al-Tabari, Abul Wafa, 'Abu ibn Abbas, Abul Qasim, Ibn al-Jazzar, al-Bairuni, Ibn Sina, Ibn Yunus, al-Kashi, Ibn al-Haitham, 'Au Ibn 'Isa al-Ghazali, al-zarqali, Omar Khayyam. A magnificent array of names which it would not be difficult to extend.

If anyone tells you that the Middle Ages were scientifically sterile, just quote these men to him, all of whom flourished within a short period, 750 to 1100 A.D.

John William Draper, in the "Intellectual Development of Europe" says: "I have to deplore the systematic manner in which the literature of Europe has continued to put out of sight our

obligations to the Moslems. Surely they cannot be much longer hidden. Injustice founded on religious rancor and national conceit cannot be perpetuated forever. The Arab has left his intellectual impress on Europe. He has indelibly written it on the heavens as any one may see who reads the names of the stars on a common celestial globe."

Another Western scholar says: "**It was under the influence of the Arab revival of culture and not in the 15th century, that a real renaissance took place.** Spain, not Italy, was the cradle of the rebirth of Europe. After steadily sinking lower and lower into barbarism, it had reached the darkest depths of ignorance and degradation when cities of the Saracenic world, Baghdad, Damascus, Cairo, Cordova, and Toledo, were growing centers of civilization and intellectual activity. **It was there that the new life arose which was to grow into new phase of human evolution.** From the time when the influence of their culture made itself felt, began the stirring of new life.

"**It was under their successors at Oxford School (that is, successors to the Muslims of Spain) that Roger Bacon learned Arabic and Arabic Sciences.** Neither Roger Bacon nor later namesake has any title to be credited with having introduced the experimental method. Roger Bacon was no more than one of apostles of Muslim Science and Method to Christian Europe; and

he never wearied of declaring that **knowledge of Arabic and Arabic Sciences was for his contemporaries the only way to true knowledge.** Discussions as to who was the originator of the experimental method . . . are part of the colossal misinterpretation of the origins of European civilization. The experimental method of Arabs was by Bacon's time widespread and eagerly cultivated throughout Europe. **Science is the most momentous contribution of Arab civilization to the modern world;** but its fruits were slow in ripening. Not until long after Moorish culture had sunk back into darkness did the giant, which it had given birth to, rise in his might. It was not science only which brought Europe back to life."

Questions & Exercises

1) What was the Arab Islamic contribution to Western civilization and culture?
2) What was the role of the 'experimentation method' in developing sciences?
3) Who established this method?
4) How do know? How is similar to our situation now?

VII. 3 From Famous Historians of Science

Although there is not a single aspect of European growth in which the decisive influence of Islamic culture is not traceable, nowhere is it so clear and momentous as in the genesis of that power which constitutes the permanent distinctive force of the modem world, and the supreme source of its victory, natural science and the scientific spirit. The debt of our science to that of the Arabs does not consist in startling discoveries or revolutionary theories, **science owes a great deal more to Arab culture, it owes its existence.** The Astronomy and Mathematics of the Greeks were a foreign importation never thoroughly acclimatized in Greek culture. The Greeks systematized, generalized and theorized, but the patient ways of investigation, the accumulation of positive knowledge, the minute method of science, detailed and prolonged observation and experimental inquiry were altogether alien to the Greek temperament. Only in Hellenistic Alexandria was any approach to scientific work conducted in the ancient classical world. What we call science arose in Europe as a result of new spirit of enquiry, of new

methods of experiment, observation, measurement, of the development of mathematics, in a form unknown to the Greeks. That spirit and those methods were introduced into the European world by the Arabs.

It is highly probable that but for the Arabs, modern European civilization would never have arisen at all; it is absolutely certain that but for them, it would not have assumed that character which has enabled it to transcend all previous phases of evolution. Looking back we may say that Islamic medicine and science reflected the light of the Hellenic sun, when its day had fled, and that they shone like a moon, illuminating the darkest night of the European Middle Ages; that some bright stars lent their own light, and that moon and stars alike faded at the dawn of a new day - the Renaissance. Since they had their share in the direction and introduction of that great movement, it may reasonably be claimed that they are with us yet.

During the reign of Caliph Al-Ma'mun (813-33 A.D.), the new learning reached its climax. The monarch created in Baghdad a regular school for translation. It was equipped with a library, one of the translators there was Hunayn Ibn Ishaq (809-77), a particularly gifted philosopher and physician of wide erudition, the dominating figure of this century of translators. We

know from his own recently published Memoir that he translated practically the whole immense corpus of Galenic writings. Besides the translation of Greek works and their extracts, the translators made manuals of which one form, that of the 'pandects', is typical of the period of Arabic learning. These are recapitulations of the whole medicine, discussing the affections of the body, systematically beginning at the head and working down to the feet.

The Muslim ideal was, it goes without saying, not visual beauty but **God in His plentitude**; that is God with all his manifestations, the stars and the heavens, the earth and all nature. **The Muslim ideal is thus infinite**. But in dealing with the infinite as conceived by the Muslims, we cannot limit ourselves to the space alone, but must equally consider time.

The first mathematical step from the Greek conception of a static universe to the Islamic one of a dynamic universe was made by **A1-Khwarizmi (780-850), the founder of modern Algebra.** He enhanced the purely arithmetical character of numbers as finite magnitudes by demonstrating their possibilities as elements of infinite manipulations and investigations of properties and relations.

In Greek mathematics, numbers could expand only by the laborious process of addition and multiplication, for numbers

contain within themselves the potentialities of the infinite. So we might say that the advance from arithmetic to algebra implies a step from being to 'becoming', from the Greek universe to the living universe of Islam. The importance of Khwarizmi's algebra was recognized, in the twelfth century, by the West. Until the sixteenth century this version was used in European universities as the principal mathematical text book. But Khwarizmi's influence reached far beyond the universities. We find it reflected in the mathematical works of Leonardo of Pissa, Master Jacob of Florence, and even of Leonardo da Vinci.

Through their medical investigations, Arabs not merely widened the horizons of medicine, but enlarged humanistic concepts generally. And once again they brought this about because of their overriding spiritual convictions. Thus, it can hardly have been accidental that those researches should have led them that were inevitably beyond the reach of Greek masters. If it is regarded as symbolic that the most spectacular achievement of the mid-twentieth century is atomic fission and the nuclear bomb, likewise it would not seem fortuitous that the early Muslim's medical endeavor should have led to a discovery that was quite as revolutionary, though possibly more beneficent.

A philosophy of self-centredness, under whatever disguise, would be both incomprehensible and reprehensible to

the Muslim mind. That mind was incapable of viewing man, whether in health or sickness as isolated from God, from fellow men, and from the world around him. It was probably inevitable that the Muslims should have discovered that disease need not be born within the patient himself but may reach from outside; in other words, that they should have been the first to establish clearly the existence of contagion.

Questions & Exercises

1) What was the role of Arab scientists in developing sciences?
2) When did science reach its zenith in the Arab homeland?
3) What were the other nations like in those days?
4) Mention one or two Arab scientists in the fields of Medicine and Mathematics in those days.
5) What were their contributions? Discuss.

Chapter Eight: Arab Islamic Scholars

VIII. 1 Introduction

Arabs excelled in everything and every science when Europe, in the Middle Ages, was in the dark. The weight of venerable authority, for example, that of Ptolemy, seldom intimidated them. The Arabs were always eager to put a theory to test, and they were never tired of experimentation. Though motivated and permeated by the spirit of their religion, they would not allow dogma as interpreted by the orthodox to stand in the way of their scientific research.

The Greek material received by the Arabs was not simply passed on by them to others who came after. It has a very real life and development in its Arabic surroundings. In astronomy and mathematics, the work of the Greek and Indian scientists was coordinated and there, a very real advance was made. The Arabs not only extended what they had received from the Greeks but checked and corrected older records. Arithmetic and algebra also flourished alongside astronomy. This was the

period of the cerebrated al-Khwarizmi whose name, corrupted by the Latin writers of the West, gave us the term Algorism.

Anyhow, it is astonishing enough that the entire botanical literature of antiquity furnishes us only two parallels to the book (of al-Dinawari; died 895 A.D.). How was it that the Muslim people could, during so early a period of its literary life, attain the level of the people of such a genius as the Hellenic one, and even surpassed it in this respect. Al-Dinawari wrote 'Encyclopaedia Botanica' in six thick volumes. **It was written before any translation of Greek works into Arabic.**

Questions & Exercises

1) How far did the Greek sciences influence Arab scientists?

2) Is it true that, without the Greeks and the Indians, Arabs could not attain a high level of knowledge in the Middle Ages? Discuss with your colleagues and tutor.

VIII. 2 Ibn Sina

One of the most famous exponents of Muslim universalism and an eminent figure in Islamic learning was **Ibn Sina**, known in the West as Avicenna (981-1037). **For a thousand years he has retained his original renown as one of the greatest thinkers and medical scholars in history.** His most important medical works are the Qanun (Canon) and a treatise on Cardiac drugs. The 'Qanun fi-t Tibb' is an immense encyclopedia of medicine. It contains some of the most illuminating thoughts pertaining to distinction of mediastinitis from pleurisy; contagious nature of diseases; distribution of diseases by water and soil; careful description of skin troubles; of sexual diseases and perversions; of nervous ailments.

lbn Sina's Canon made its first appearance in Europe by the end of the 12th century, and its impact was dramatic. Copied and recopied, it quickly became the standard European medical reference work. In the last 30 years of the 15th century, just before the European invention of printing, it was issued in 16

editions; in the century that followed, more than 20 further editions were printed. From the 12th to the 17th century, its *materia medica* was the pharmacopoeia of Europe, and as late as 1537, *The Canon* was still a required textbook at the University of Vienna.

The Canon also included a description of some 760 medicinal plants and the drugs that could be derived from them. At the same time, Ibn Sina laid out the basic rules of clinical drug trials, principles that are still followed today. Not surprisingly, the *Canon* rapidly became the standard medical reference work of the Islamic world.

Ibn Sina condemned conjectures and presumptions in anatomy and called upon physicians and surgeons to base their knowledge on a close study of human body. He was the first to describe meningitis and made rich contributions to anatomy, gynecology and child health. He observed that Aorta at its origin contains three valves which open when the blood rushes into it from the heart during contraction and closes during relaxation of the heart so that the blood may not be poured back into the heart. He asserts that muscular movements are possible because of the nerves supplied to them, and the perception of pain in the muscles is also due to the nerves. Further, he observes that liver, spleen, and kidney do not contain any nerves, but the nerves are

embedded in the coverings (membranes) of these organs.

We have reason to believe that when, during the crusades, Europe at last began to establish hospitals, they were inspired by the Arabs of the Near East. . . . The first hospital in Paris, Les Quinze-vingt, was founded by Louis IX after his return from the crusade 1254-1260.

Questions & Exercises

1) Who was Ibn Sina?

2) What was his essential achievement? In what field?

3) Do his achievements still have a role to play in the sciences of today? How?

VIII. 3 Al-Khwarizmi

Alkhawarizmi's works in arithmetic and algebra were translated into Latin by the name of Algorithm (which should have been Algorism). His name is the origin of the word Logarithm. In the domain of trigonometry, the theory of Sine, Cosine and tangent, he is an heirloom of the Arabs. The brilliant epochs of Peurbach, of Regiomontanus, of Copernicus, cannot be recalled without reminding us of the fundamental and preparatory labor of the Arab Mathematician (Al-Battani, 858-929 A.D.).

The adoption of the sign of 'Zero' (Arabic Sifr or Cipher) was a step of the highest importance, leading up to the so called arithmetic of positions. With the help of the Arab system of numbers, elementary methods of calculations were perfected; the doctrines of the properties of, and relations between, the equal and the unequal and prime numbers, squares and cubes, were elaborated; Algebra was enriched by the solution of the third and fourth degrees, with the help of geometry, and so on. About the year 820 A.D., the mathematician Al-Khawarizmi, wrote a text book of Algebra in examples, and his elementary

treatise, translated into Latin, was used by Western scholars down to the sixteenth century.

It must be remembered that no science, either of chemistry or any other science, was discovered all of a sudden. The Arabs had established one thousand years ago their laboratories in which they used to make experiments and publish their discoveries without which Lavoisier (accredited by some as being the founder of chemistry) would not have been able to produce anything in this field. It can be said without the fear of contradiction that, owing to the researches and experimentation of Muslim scientists, modern chemistry came into being and that it produced great results in the form of great scientific inventions; that is, in steam, electricity, the telegraph, the telephone, the radio, photography, cinematography and so on.

Questions & Exercises

1) Who was Lavoisier?
2) Who was al-Khawarizmi?
3) Who was the FOUNDER of Chemistry?
4) What is the linguistic origin of the word 'chemistry'?
5) What other sciences did al-Khawarizmi excel in?

VIII. 4 JABIR IBN HAIYAN (Geber)

Jabir Ibn Haiyan, known by the name of the alchemist Geber of the Middle Ages, is generally known as the Father of Chemistry. His full name was Abu Musa Jabir Ibn Hayyan. He had established himself as one of the leading scientists while he practiced medicine and alchemy in Kufa (in present day Iraq) around 776 A.D. In his early days, he was under the patronage of the Barmaki Vizier during the Abbasid Caliphate of Haroon al-Rashid. Jabir died in Kufa in 803 A.D.

Jabir's major contribution was in the field of Chemistry. He is famous for writing more than one hundred monumental treatises, of which twenty-two deal with chemistry. He introduced experimental investigation into alchemy (derived from the Arabic word *al-Kimiya*), creating the momentum for the modern Chemistry. Jabir emphasized experimentation and development of methods to achieve reproducibility in his work. He devoted his effort to the development of basic chemical methods and the study of various mechanisms of chemical

reactions and thus helped evolve chemistry as a science from the legends of alchemy. Jabir emphasized that definite quantities of various substances are involved in a chemical reaction. Therefore, it can be said that he paved the way for the law of constant proportions.

His contribution of fundamental importance to chemistry includes perfection of scientific techniques such as crystallization, distillation, calcination, sublimation and evaporation and development of several instruments for conducting these experiments. Jabir's major practical achievement was the discovery of minerals and acids, which he prepared for the first time in his alembic. His invention of the alembic made the distillation process easy and systematic. Among his various breakthroughs is the preparation of nitric, hydrochloric, citric and tartaric acids. Jabir' s emphasis on systematic experimentation is outstanding. It is on the basis of such works that he is regarded as the father of modem Chemistry. In the words of Max Mayerhaff, the development of chemistry in Europe can be traced directly to Jabir Ibn Haiyan.

Jabir was a pioneer in the development of a number of applied chemical processes. His contributions include the development of steel, preparation of various metals, prevention of rusting, lettering in gold, use of manganese dioxide in glass-

making, dyeing of cloth and tanning of leather, varnishing of waterproof cloth, identification of paints and greases. In addition, he developed special *aqua* to dissolve gold.

Jabir's experimental ideas paved the way for what is now commonly known in the classification of substances as metals, non-metals and volatile substances. He discussed three distinct types of substances based on their properties: a) spirits, i.e., those which vaporize on heating, like camphor, arsenic and ammonium chloride, b) metals, e.g., gold, silver, lead, copper, iron, and c) compounds that can be converted into powders.

Jabir treatises on chemistry, including his Kitab al-Kimya, and Kitab al-Sab'een, were translated into Latin in the Middle Ages. The translation of Kitab al-Kimya was published by the Englishman Robert of Chester in 1144 A.D. under the title "The Book of the Composition of Alchemy." The second book was translated by the famous Gerard of Cremona (c. 1187). Berthelot translated some of his books known by the titles "Book of Kingdom", "Book of the Balances," "Book of Eastern Mercury," and it is obvious that he did not use correct titles for Jabir's books. The Englishman, Richard Russel, translated and published (1678) Jabir's another work under the title "Sum of Perfection." He described him as Geber, the most famous Arabian prince and philosopher. These translations were popular in Europe for

several centuries and have influenced the evolution of modern chemistry. Several technical terms introduced by Jabir, such as alkali, are found in various European languages and have become part of scientific vocabulary. Only a few of his books have been edited and published, while many others preserved in Arabic have yet to be translated. He also contributed to other sciences such as medicine and astronomy.

Questions & Exercises

1) Who was Jaber Ibn al-Hayyan?
2) What were his main achievements?
3) Who translated his works? Why?
4) What other sciences did Jaber have contributions to?
5) Are there any other books awaiting translating into other languages?

VIII. 5 ABU AL-QASIM AL-ZAHRAVI

Abul Qasim Al-Zahravi (Albucasis) (936 - 1013 A.D.), known in the West as Albucasis, was undoubtedly the greatest surgeon of the Middle Ages. He is best known for several original breakthroughs in surgery, as an inventor of several surgical instruments, and for his famous Medical Encyclopedia. **Al-Zahravi is considered as Father of Modern Surgery.**

His full name was Abul Qasim Khalaf ibn al-Abbas al-Zahrawi. He was born and brought up in Zahra, the royal suburb of Cordova (Arabic Qurṭuba), the capital of Muslim Spain. Al-Zahravi served in the capacity of the court physician to King Al-Hakam of Spain. After a long and distinguished medical career, he died in 1013 A.D.

Al-Zahravi was a prominent surgeon. Patients and students from all parts of Europe came to him for treatment and advice. According to Will Durant, Cordova was in this period the favorite resort of Europeans for surgical operations. Dr. Campbell in 'The Story of Arab Medicine', says that Al-Zahravi's principles of medical science surpassed those of Galen in the European medical curriculum.

Al-Zahravi is famous for his thirty-volume medical encyclopedia translated into 'An aid to him who lacks the capacity to read big books'. Three volumes of this vast encyclopedia deal with the surgical knowledge including his own inventions and procedures. The last volume contains many diagrams and illustrations of more than two hundred surgical instruments, most of which he developed. Al-Zahravi gave detailed description of many surgical operations and their treatment, including cauterization, removal of stone from the bladder, surgery of eye, ear and throat, midwifery, removal of the dead fetus, amputation, and dissection of animals. Al-Zahravi prescribed the use of diuretics, purgatives, the absorption of pure wine and hot baths. Al-Zahravi was the first to give detailed description of hemophilia and was the first to use silk thread for stitching wounds.

Al-Zahravi was also an expert in oral surgery and dentistry. *Al-Tasrif* contains sketches of complex instruments that he developed. He discussed the problem of non-aligned or deformed teeth and procedures to rectify these defects. In addition, he developed the procedure for preparing and setting artificial teeth made from animal bones. Gerard of Cremona (1114-1187) translated Al-Tasrif into Latin in the Middle Ages. It was then translated into Hebrew, French, English and into the

Latin dialect of the Provençal. Al-Zabravi's Al-Tasrif was an essential component of the medical curriculum in European countries for many centuries. The famous French surgeon Guy de Chauliac (1300-1368) appended its Latin edition to his own book on surgery. Several editions of this book (surgical chapters) were published including one at Venice (1497), at Basel (1541) and at Oxford (1778). This hook was taught for approximately five centuries as a standard textbook on surgery at universities of Salerno in Italy, Montpellier in France, and several European universities.

Questions & Exercises

1) Who is al-Zahrawi?

2) Who is the Father of Surgery?

3) Who translated the books of al-Zahrawi? Into which languages? Why?

4) How long had al-Zahrawi been taught at European universities?

VIII. 6 Al-Farabi

Al-Farabi made a significant contribution to sociology and political science. He also wrote books on metaphysics and psychology that included his original work. A1-Farahi states that an isolated individual cannot achieve all the perfections by himself, or without the aid of many other individuals. It is the innate disposition of every man to join another human being or other men in the labor he ought to perform . . . . Therefore, to achieve what he can of that perfection, every man needs to stay in the neighborhood of others and associate with them. At another place he writes, "Instruction in the theoretical science should be given either to the Imams and Princes, or else to those who should preserve the theoretical sciences . . . . They should be made to pursue a course of study and form the habits of character from their childhood until each of them reaches maturity."

He was an expert in music, contributed to musical notes and invented several musical instruments. Al-Farabi could play his instrument so well as to make people laugh or weep. His book on music, entitled 'Kitab al-Musiqa,' is well known.

Al-Farabi wrote a large number of books in several fields

that include his original contribution. One hundred seventeen books are known to have survived. Of theses forty-three books are on logic, seven each on political sciences and ethics, eleven on metaphysics, and twenty-eight books on medicine, sociology, music and commentaries. Al-Farabi's book 'Fusus aI-Hikam' was used as a text book of philosophy for several centuries in Europe. He had great influence on science and philosophy for several centuries.

Questions & Exercises

1) What field of knowledge was al-Frabi most distinguished in?
2) What was his book "Fusus al-Hikam"?
3) Did al-Farabi know any music? Provide evidence.
4) What other fields of knowledge was he familiar with?

VIII. 7 SCIENCE IN AL-ANDALUS

Islamic culture was preeminently a culture of the book. In the ninth century, the library of the monastery of St. Gall was the largest. It consisted of 36 volumes. At the same time, that of Cordoba contained 5,000 books. **It has been estimated that today there are 250,000 Arabic manuscripts in Western and Eastern libraries, including private collections.** But in the 10th century, private libraries used to contain as many as 500,000 books. Literally, millions of books must have perished, and with them the achievements of a great many scholars.

As far as the West was concerned, the Arab invasion did unlock an enchanted palace. Following the collapse of the Roman Empire, Vandals, Huns and Visigoths had pillaged and burned their way through the Iberian Peninsula, establishing ephemeral kingdoms which lasted only as long as loot poured in, and were then destroyed in their turn.

Spain first prospered under the rule of the Umayyads, who established a dynasty there after they had lost the caliphate in the east to the Abbasids. At first, the culture of the Umayyad court at Cordoba was wholly derivative. Fashions, both in literature and

dress, were imitative of those current in the Abbasids' newly founded capital of Baghdad. Scholars from the more sophisticated lands to the east were always assured of a warm reception at the court of Cordoba, where their colleagues would listen avidly for news of what was being discussed in the capital, what people were wearing, what songs were being sung, and - above all - what books were being read.

Books became more available than they had been even in Rome, and incomparably cheaper than they were in the Latin West, where they continued to be written on expensive parchment. In the 12th century, a man sold 120 acres of land in order to buy a single Book of Hours. **Islam, with its tolerance and encouragement of both secular and religious learning, created the necessary climate for the exchange of ideas.** The court of Cordoba, like that of Baghdad. was open to Muslims, Jews, and Christians alike, and one prominent bishop complained that young Christian men were devoting themselves to the study of Arabic, rather than to Latin - a reflection of the fact that Arabic, in a surprisingly short time, had become the international language of science, as English has today.

Islamic culture In Spain began to flourish in earnest during the reign of Abd al-Rahman II of Cordoba - as Arabic spread increasingly among his non-Muslim subjects especially in the

cities and led to a great flowering of intellectual activity of all kinds.

In a courtly society the tastes and predilections of the ruler set the tone for society at large, and 'Abd al-Rahman II, passionately interested in both the religious and the secular sciences, was determined to show the world that his court was in no way inferior to the court of the Caliphs at Baghdad. To this end, therefore, he actively recruited scholars by offering handsome inducements to overcome their initial reluctance to live in what many from the lands in the East considered the provinces. As a result, many scholars, poets, philosophers, historians, and musicians migrated to al-Andalus and established the basis of the intellectual tradition and educational system which made Spain so outstanding for the next 400 years.

Another result was that an infrastructure of libraries - both public and private - mosques, hospitals and research institutions rapidly grew up and famous scholars in the East, hearing of these amenities, flocked to the West. They in turn attracted students of their own; in the Islamic world it was not at all unusual for a student to travel thousands of miles to study at the feet of a famous professor.

One of the fields most assiduously cultivated in Spain was natural science. Although Andalusian scholars did not make

contributions as fundamental as those made by their colleagues in the East, those that they did make had more effect on the later development of science and technology, for it was through Spain and the scholars of al-Andalus that these ideas reached the West.

No school of translators comparable to the House of Wisdom of al-Ma'mun existed in Spain, and Andalusian scholars seem not to have interested themselves in the natural sciences until the translations of the House of Wisdom reached them.

Interest in mathematics, astronomy and medicine was always lively because of their obvious utility - mathematics for commercial purposes. Computation of the rather complicated Islamic laws of inheritance, and as a basis for measuring distances. Astronomy was useful for determining the times of prayer and adjusting the calendar and the study of medicine needed no apology. The introduction of the new Aristotelian ideas, however, even in Arab dress, aroused a certain amount of suspicion in the conservative West. Part of the suspicion with which certain ideas emanating from the scholars of the Abbasid court were viewed was due to an inadequate distinction between sciences and pseudo-sciences. This was a distinction which the Muslims made at a much earlier date than Western scholars who, even during the Renaissance, tended to confound astronomy with astrology, chemistry with alchemy. Ibn Hazm, a leading

Andalusian scholar of the 11th century and staunchly conservative, was very outspoken on this point. People who advocated the efficacy of talismans, magic, alchemy, and astrology he calls *shameless liars*. This rational approach did much to make Islam preeminent in the natural sciences.

Al-Zarqali, known to the Latin West as Arzachel, was another leading mathematician and astronomer who flourished in Cordoba in the 11th century. He combined theoretical knowledge with technical skill, and excelled at the construction of precision instruments for astronomical use. He built a water-clock capable of determining the hours of the day and night and indicating the days of the lunar month. He contributed to the compilation of the famous *Toledan Tables*, a highly accurate compilation of astronomical data. His **Book of Tables,** written in the form of an *almanac* (almanac is an Arabic word meaning 'climate', originally indicating the stations of the moon) contains tables which allow one to find on what day the Coptic, Roman, lunar and Persian months begin; others give the position of the various planets at any given time; and still others allow prediction of solar and lunar eclipses. He also compiled valuable tables of latitude and longitude; many of his works were translated, both into Spanish and into Latin.

But the Muslim science *par excellence* was the study of

medicine. Interest in medicine goes back to the very earliest times. **Prophet Muhammad (pbuh) himself stated that there was a remedy for every illness, and was aware that some diseases were contagious.**

The great contribution of the Arabs was to put the study of medicine on a scientific footing, and eliminate superstition and harmful folk-practices. Medicine was considered a highly technical profession, and one which required long study and training. Elaborate codes were formulated to regulate the professional conduct of doctors. It was not enough to have a mastery of one's subject in order to practice medicine. Certain **moral qualities** were mandatory. Ibn Hazm said that a doctor should be kind, understanding, friendly, good, able to endure insults and adverse criticism; he must keep his hair short, and his finger nails as well; he must wear clean, white clothes and behave with dignity.

Before doctors could practice, they had to pass an examination, and if they passed, they had to take the Hippocratic oath which, if neglected, could lead to dismissal. Hospitals were similarly organized. The large one built in Cordoba was provided with running water and baths, had different sections for the treatment of various diseases, each section of which was headed by a specialist. Hospitals were required to be open 24 hours a day

to handle emergency cases and could not turn any patient away.

Arab Muslim physicians made many important contributions to the body of medical knowledge. Ibn al-Nafis, for example, discovered the lesser circulation of the blood hundreds of years before Harvey, and ideas of quarantine sprang from an empirical notion of contagion.

Questions & Exercises

1) What contributions did Arab scientists make to the various sciences known to us today?

2) Mention as many Arab Andalusian scientists as you can. Describe their achievements in different fields of knowledge.

3) Who was most famous in Medicine?

4) What was their contribution to philosophy?

5) Compare and contrast the Arab Andalusian scientists with their cousins on the main land.

VIII. 8 Other Contributions of Arab Andalusian Scholars

An outgrowth of the interest in medicine was the study of botany. The most famous Andalusian botanist was Ibn Baitar, who wrote a famous book called *Collection of Simple Drugs and Food.* It is an alphabetically arranged compendium of medicinal plants of all sorts, most of which were native to Spain and North Africa, which he spent a lifetime gathering. Where possible, he gives the Berber, Arabic, and sometimes Romance names of the plant, so that for linguists his work is of special interest. In each article, he gives information about the preparation of the drug and its administration, purpose and dosage.

The last of the great Andalusian physicians was Ibn al-Khatib, who was also a noted historian, poet, and statesman. Among his other works, he wrote an important work on the theory of contagion: "The fact of infection becomes clear to the investigator who notices how he who establishes contact with the afflicted gets the disease, whereas he who is not in contact remains safe, and how transmitting is effected through garments, vessels, and earrings."

Another field that interested the scholars of al-Andalus was the study of geography and many of the finest Muslim works in this field were produced there. Economic and political considerations played some part in the development of the study of geography, but it was above all their all consuming curiosity about the world and its inhabitants that motivated the scholars who devoted themselves to the description of the earth and its inhabitants. The first steps had been taken in the Arab east, when *"Books of Routes,"* as they were called, were compiled for the use of the postmasters of the early Abbasid Caliphs. Soon, reports on faraway lands, their commercial products and major physical features were compiled for the information of the Caliph and his ministers. Advances in astronomy and mathematics made the plotting of this information on maps feasible, and soon cartography had become an important discipline in its own right.

The most famous of all the Andalusian travelers was Ibn Battuta - the greatest tourist of his age - and perhaps of any. He went to North Africa, Syria, Makkah, Medina, and Iraq. He went to Yemen, sailed down the Nile, the Red Sea, Asia Minor, and the Black Sea. He went to the Crimea and to Constantinople. He went to Afghanistan, India and China. He died in Granada at the age of 73.

It is impossible to do justice to all the scholars of al-

Andalus who devoted themselves to the study of history and linguistic sciences. Both were the prime "social sciences" cultivated by the Arabs and both were brought to a high level of art in al-Andalus. For example, Ibn al-Khatib was the author of the finest history of Granada that has come down to us.

Another great area of Andalusian intellectual activity was philosophy but it is impossible to do more than glance at this difficult and specialized study. From the ninth century, Andalusian scholars, like those in Baghdad, had to deal with the theological problems posed by the introduction of Greek philosophy into a context of Islam. How could reason be reconciled with Revelation? This was the central question.

Islamic technological innovations also played their part in the legacy of al-Andalus to medieval Europe. Paper has been mentioned, but there were others of great importance - the windmill, new techniques of working metal, making ceramics, building, weaving and agriculture. The people of al-Andalus had a passion for gardens, combining their love of beauty with their interest in medicinal plants. Two important treatises on agriculture - one of which was partially translated into Romance in the Middle Ages - were written in al-Andalus. Ibn al'Awwam, the author of one of these treatises, lists 584 species of plants and gives precise instructions regarding their cultivation and use. He

writes, for example, of how to graft trees, make hybrids, stop blights, insects, and pests, and how to make floral essences and perfumes.

This area of technological achievement has not yet been examined in detail, but it had as profound an influence on medieval European material culture as the Muslim commentators on Aristotle had on medieval European intellectuals. For these were the arts of civilization, the arts that make life a pleasure rather than a burden, and without which philosophical speculation is an arid exercise.

Questions &Exercises

1) What other contributions did the Andalusian Arab scholars make, and in what fields of knowledge?
2) Who was Ibn al-Khatib?
3) What were his contributions?
4) What was the influence of each of the technical and the intellectual contributions of the Andalusian Arab scholars?

VIII. 9 A Point Of Comparison

After the collapse of the Western Roman empire in the fifth century, Europe lost touch with much of its intellectual heritage. Of Greek science, all that remained were Pliny's *Encyclopedia* and Boethius's treatises on logic and mathematics; the Latin library was so limited that European theologians found it nearly impossible to expand their knowledge of their own scriptures.

The center of Europe's new world view became the church, which exerted profound new influences in medicine. Because Christianity emphasized compassion and care for the sick, monastic orders ran fine hospitals - but they did not function as hospitals do today. They were simply places to take in seriously ill people, where they were expected to either recover or die as God willed. There were no learned physicians to attend them, only kindly monks who dispensed comfort and the sacraments, but not medicines.

Because the Christian church viewed care of the soul as far more important than care of the body, medical treatment and

even physical cleanliness were little valued, and mortification of the flesh was seen as a sign of saintliness. In time, nearly all Europeans came to look upon illness as a condition caused by supernatural forces, which might take the form of diabolical possession. Hence, cures could only be effected by religious means. Every malady had a patron saint to whom prayers were directed by the patient, family, friends and the community. Upper respiratory infections were warded off by a blessing of the throat with crossed candles on the feast of Saint Blaise. Saint Roch became the patron of plague victims. Saint Nicaise was the source of protection against smallpox. Kings, regarded as divinely appointed, were believed to be able to cure scrofula and skin diseases, among other maladies, with the 'royal touch.'

With the study of disease and of patients neglected, licensed medicine as an independent craft virtually vanished. Those physicians who endured were mostly connected with monasteries and abbeys. But even for them, the generally accepted goal was less to discover causes, or even to heal, than to study the writings of other physicians and comment on their work. In the middle of the seventh century, the church banned surgery by monks, because it constituted a danger to their souls. Since nearly all of the surgeons of that era were clerics, the decree effectively ended the practice of surgery in Europe.

At roughly the same time, another civilization was rising in the east. The coming of Islam, also in the seventh century, led to a hundred years of continuous geographical expansion and an unprecedented era of ferment in all branches of learning. The Arabs rapidly welded the various cultures of the Islamic domain, and Arabic - the language of the Qur'an - became the universal language. By the 10th century a single language linked peoples from the Rann of Kutch [India] to the south of France, and Arabic became to the East what Latin and Greek had been to the West - the language of literature, the arts and sciences, and the common tongue of the educated.

for the next 200 years, the greatest centers of medical teaching were in the Islamic world. There, Islamic physicians first familiarized themselves with the works of Hippocrates, Galen, and other Greek physicians. At the same time, they were also exposed to the medical knowledge of Byzantium, Persia, India, and China.

Recognizing the importance of translating Greek works into Arabic to make them more widely available, the Abbasid caliph Harun aI-Rashid (786-809) and his son, al-Ma'mun (813-833) established a translation bureau in Baghdad, the Bayt al-Hikmah, or House of Wisdom, and sent embassies to collect Greek scientific works in the Byzantine Empire. This was in the

first era of Islamic medicine, whose effects we feel today: the period of translation and compilation. Arab physicians viewed themselves as practitioners of the dual art of healing and the maintenance of health.

Even before the period of translation closed, advances were made in other health-related fields. Harun al-Rashid established the first hospital, in the modern sense of the term, in Baghdad about 805. Within a decade or two, 34 more hospitals had sprung up throughout the Islamic world, and the number grew each year.

These hospitals, or Bimaristans, bore little resemblance to their European counterparts. The sick saw the bimaristan as a place where they could he treated and perhaps cured by physicians, and the physicians saw the bimaristan as an institution devoted to the promotion of health, the cure of disease and the expansion and dissemination of medical knowledge. Medical schools and libraries were attached to the larger hospitals, and senior physicians taught students, who were in turn expected to apply in the men's and women's wards what they had learned in the lecture hall. Hospitals set examinations for their students, and issued diplomas. By the 11th century, there were even traveling clinics, staffed by the hospitals, that brought medical care to those too distant or too sick to come to the

hospitals themselves. The bimaristan was, in short, the cradle of Arab medicine and the prototype upon which the modern hospital is based.

like the hospital, the institution of the pharmacy, too, was an Islamic development. Islam teaches that "**God has provided a remedy for every illness**," and that Muslims should search for those remedies and use them with skill and compassion.

By the time of al-Ma'mun's caliphate, pharmacy was a profession practiced by highly skilled specialists. Pharmacists were required to pass examinations and be licensed, and were then monitored by the state. At the start of the ninth century, the first private apothecary shops opened in Baghdad. Pharmaceutical preparations were manufactured and distributed commercially, then dispensed by physicians and pharmacists in a variety of forms - ointments, pills, elixirs, confections, tinctures, suppositories, and inhalants.

Questions & Exercises

1) What happened to Europe after the collapse of the Roman Empire?
2) How did the Europeans, at that time, look upon illness?
3) What was meant by the 'royal touch'?

4) What happened to Medicine, in particular, at that time?

5) what was the role of the Arabic language at that time?

6) Where were the greatest centers of medical teaching?

7) Who established the first hospital in the modern sense of the term?

8) Where was the translation bureau at that time?

9) Explain what is meant by: "God hath provided a remedy for every illness." What is the difference between this wisdom and the so-called 'royal touch'?

10) Where are we now from that time of both "faith & practice? Discuss with your colleagues.

VIII. 10 Abu Bakr Al-Razi

Al-Razi (841-926) regarded as Islamic medicine's greatest clinician and its most original thinker. A prolific writer, he turned out some 237 books, about half of which dealt with medicine. His treatise The Diseases of Children has led some historians to regard him as the father of pediatrics. He was the first to identify hay fever and its cause. His work on kidney stones is still considered a classic. In addition, he was instrumental in the introduction of mercurial ointments to treat scabies. Al-Razi advocated reliance on observation rather than on received authority; he was a strong proponent of experimental medicine and the beneficial use of previously tested medicinal plants and other drugs.

Thus the Islamic world not only provided a slender hope for, but ultimately successful line of, transmission of the medical knowledge of ancient Greece and the Hellenic world; it also corrected and enormously expanded that knowledge before passing it on to a Europe that had abandoned observation, experimentation and the very concept of earthly progress

centuries before. Physicians of different languages and religions had cooperated in building a sturdy structure whose outlines are still visible in the medical practices of our own time.

Questions & Exercises

1) Summarize the main points about Abu Bakr al-Razi.

2) What was he most famous in?

VIII. 11 The Edifice of Modern Civilization

One of the bases on which the edifice of our civilization has been raised, is that herein both physical and spiritual needs have been safeguarded. The Islamic civilization paid due attention to the development and care of the physique so that along with a resplendent soul man may attain the highest position in evolution. In this connection the words of the founder of the Islamic civilization, Prophet Muhammad (pbuh), are worthy of attention:

"Assuredly the body too has a claim over thee."

(Bukhari and Muslim)

The Arabs Studied Medicine Since the Days of Jahiliyah. The Muslims established their first ever hospital during the period of Waleed bin Abd-al Malik, which was meant exclusively for the leprosy patients. The physicians, appointed to this hospital, were granted large properties and salaries. And those undergoing treatment at this hospital had orders to stay permanently at the hospital (as in-door patients), and were granted stipends, just as they had been granted to the blind. Then, after this hospital followed a whole series of them called

"Bimaristans" (the asylum of the sick).

Questions & Exercises

1) What is mean by "Assuredly, the body, too, has a claim over thee."?

2) Explain what is meant by "the edifice of modern civilization", according to the text above.

VIII. 12 Hospitals of Various Kinds

The nature of these hospitals too had changed. Some of them were reserved for the army men, and had their own special doctors. These doctors were in addition to the special doctors attending to the caliphs, the military commanders, and the nobles. There were separate hospitals for the prisoners. The doctor examined the prisoners every day and they were provided the necessary facilities of treatment. Wazir 'Isa bin Jarah bin Thabit writes to the chief medical officer, Baghdad:

"I am very much worried about the prisoners. Their large numbers and the condition of prisons makes it certain that there must be many ailing persons among them. Therefore, I am of the opinion that they must have their own doctors who should examine them every day and give them, where necessary, medicines and protection. Such doctors should visit all prisons and treat the sick prisoners regularly."

There were also centers to provide *first medical aid*, which were usually located at busy public places like the big congregations, mosques, hospitals, and Medical Schools in the Dark and Middle Ages. Some hospitals were of a general nature open to all at all hours of the day and the night. They had two categories:

1. All-male hospitals, and
2. Secluded female hospitals

They were far removed from one another. Either category had several departments dealing with different diseases. For example:

1. Department of systemic diseases;
2. Ophthalmic department;
3. Surgical department;
4. Orthopedic department;
5. Department of mental diseases.

The department of Systemic diseases was further divided into sub-sections:

1. Section dealing with fevers, and
2. Section dealing with digestive troubles.

Every department had an officer-in-charge and a presiding officer. And each one of them had a specialist of its own. And there was a superintendent, supervising the working and management of the entire institution. He was known as Sa'ur.

There were fixed working hours for the physicians during which they attended to the patients coming to their departments. Every hospital had its own junior staff of compounders and nurses. There were others to assist them. Their salaries were definitely fixed and reasonably lucrative also. Every hospital had a pharmacy known as the store of beverages. They comprised

many kinds of fluid medicines, fine and high-quality medicinally preserved fruit. Moreover, there were some very refined preparations and juices, essences and distilled beverages, available only at the hospitals and nowhere else. They also had in these hospitals fine surgical instruments, glass containers, and other vessels, which formerly were to be had in the kings palaces only.

Questions & Exercises

1) Read the text above and summarize in your own English.
2) Compare the situation described by al-Wazir, 'Isa bin Thabit, concerning care for the sick prisoners, with what the USA government does to the Afghani prisoners of 'war'.
3) Describe the various sections of hospitals at that time.
4) How did Islam look upon the worker concerning labour division and the number of working hours?

VIII. 13 Hospitals At Medical Colleges

These hospitals served also as institutions for the training of medical students. Every hospital had a big lecture theatre for the teaching of the students. The chief medical officer, other medical men and medical students, gathered there. And all sorts of medical books and surgical instruments were available there. After the patients had been attended to, the students used to sit before the teachers to discuss medical problems. These discussions were of practical importance and very useful. So, often, the teachers took the students with them to the hospital wards and they participated in the practical work, just as students are given a chance to see patients and other hospital work in our own day hospitals attached to the medical colleges. **Ibn Abi 'Usaiba, who had received his medical education at the Noorie Hospital of Damascus**, writes:

"When Hakeem (Doctor) Muhazabuddin and Hakeem Imran became free from examination and treatment of patients in the hospitals, I would be with them and sat with Sheikh Raziuddin Rahabi and marked the way of their arguments in arriving at the diagnosis of

diseases. Whatever statements they made about the patients and whatever they prescribed for them, I discussed with them most of those diseases and their prescriptions."

Certified Physicians

Not everybody could be allowed to practice on his own. Any one who wished to establish a practice had to appear before the chief medical officer appointed by the government to prove his worth. He had to write a treatise on the subject in which he wanted to obtain a certificate of proficiency. This treatise was either his own writing or somebody else's in which case he had to write his notes and comments. The chief medical officer interviewed him at length and questioned him on all the relevant problems of his subject. If he succeeded in giving satisfactory answers to all his questions, only then he would permit the candidate to practice.

Questions & Exercises

1) Describe the hospitals available at medical colleges in those days.
2) Describe the situation of the physicians working at these hospitals.

VIII. 14 Free-of-Charge Treatment

The portals of these hospitals were open to everybody and no fees of any kind were charged. No distinction was made between the poor and the rich, related and alien, local and foreign, and a common man and a distinguished person. In the out-door department, the patient was carefully examined and in case of those in need of casual attention, they were given the prescribed medicines to be taken at home. But those that were serious cases requiring regular attention and supervision were registered as indoor patients. They were sent to the bath room and were provided a clean change of hospital uniform while their own clothes were kept in the hospital store. The patient was usually taken to the hospital ward where a bed was ready for him with clean sheets. The course of treatment prescribed by the doctor was started forthwith. He was given nourishing diet and help for his recovery and improving his health. The quality of diet was also *fixed.* The patients received the following items of invalid diet: mutton, beef, meat of poultry and other birds. The criterion of sound health (on recovery from illness) was that he

would take the amount of bread, normally taken by a perfectly healthy person, with the roasted meat of a whole bird at a time. And if he could easily digest it, he was considered perfectly recovered and healthy. The patient that was cured of his malady but was weak, was transferred to the ward for treatment until his return to robust health. Before discharge, he was given a new dress and along with that enough monetary aid to establish a means of his livelihood. The hospital rooms and wards were neat and tidy with regular supply of water in abundance. These rooms were furnished with clean carpets. Every hospital had sanitary inspector and accountants and other executive staff. The caliph in office would visit these hospitals, meet the patients, and take interest in their problems.

That was the excellent system at work in all the hospitals of the Islamic world, be they of the East or the West. **This was the uniform system in vogue in all the hospitals of Baghdad, Damascus, Cairo, Bait al-Maqdis (Jerusalem), Makkah, Madinah, and Andalusia**

Questions & Exercises

1) how did doctors deal with the patients in the Arab Islamic World over a thousand years ago?
2) What was the patients' food like?

VIII. 15 Ibn Rushd

Ibn Rushd was appointed a judge in Seville at the age of forty-four. That year, he translated and abridged Aristotle's book 'de Anima'. This book was translated into Latin by Mitchell the Scott. Two years later, he was transferred to Cordova, his birthplace, where he spent ten years as judge in that town. During those ten years, Ibn Rushd wrote commentaries on the works of Aristotle including the Metaphysics. He was later called back to Marrakesh to work as a physician for the Caliph there, before his return to Cordova as Chief Judge.

Ibn Rushd was well versed in the matters of the faith and law, which qualified him for the post of Qaadi (judge), but he was also keenly interested in philosophy and logic. So he tried to reconcile philosophy and religion in many of his works. He was deeply interested in medicine as well, as was his predecessor Ibn Sina. According to the French philosopher, Renan, Ibn Rushd wrote seventy-eight books on various subjects.

A careful examination of his works reveals that Averros was a deeply religious man. As an example, we find in his writing, "Anyone who studies anatomy will increase his faith in the omnipotence and oneness of God, the Almighty." In his

medical and philosophical works, we see the depth of his faith and knowledge of the Qur'an and Prophetic traditions, which he often quotes in support of his views in different matters. Ibn Rushd said that true happiness for man can surely be achieved through mental and psychological health, and people cannot enjoy psychological health unless they follow ways that lead to happiness in the hereafter, and unless they believe in God and His oneness.

Ibn Rushd commented that **Islam aims at true knowledge, which is knowledge of God and of His creation.** This true knowledge also includes knowing the various means that lead to worldly satisfaction and avoidance of misery in the Hereafter. This type of practical knowledge covers two branches:

1) Jurisprudence which deals with the material or tangible aspects of human life; and

2) The spiritual sciences which deal with matters like patience gratitude to God, and morals.

He compared spiritual laws to medicine in their effect on human beings physically on the one hand, and morally and spiritually, on the other. He pointed out that spiritual health is termed 'Taqwa' (righteousness and God-fearing). Ibn Rushd made remarkable contributions in philosophy, logic, medicine, music and jurisprudence. Ibn Rushd's writings spread more than

20,000 pages. The most famous of which deal with philosophy, medicine, and jurisprudence. He wrote 20 books on medicine.

Questions & Exercises

1) Summarize the main points related to the Ibn Rushd and his achievements.
2) How do you discern his view of the relationship between moral (*taqua*: piety) and physical health? Discuss.

VIII. 16 IBN AL-NAFIS DAMISHQUI

Ibn A1-Nafis (1213- 1288 A.D.) was a reputed physician and a renowned expert on Shafi'i School of Jurisprudence. He is famous for the discovery of the blood's circulatory system, and was the first to describe the constitution of lungs and the bronchi. Ibn A1-Nafis's Al-Shamil fi al-Tibb was an encyclopedia comprising 300 volumes, but it could not be completed as planned due to his death. This manuscript is preserved as special collections in Damascus of medical science, both in the Islamic world and Europe. His work integrated the medical knowledge with great clarity and emphasized precision. Initially, only one of his books was translated into Latin. Consequently, much of his work remained unknown to Europe for several centuries.

Questions & Exercises

1) what was the main contribution of Ibn al-Nafis?
2) Summarize the text above in your own English.

VIII. 17 Ibn Khaldun

Abd al-Rahman Ibn Mohammad, generally known as Ibn Khaldun after a remote ancestor, was born in Tunis in 732 A.H. (1332 A.D.) to an upper class family that had migrated from Seville in Muslim Spain. His ancestors were Yemenite Arabs who settled in Spain in the very beginning of Muslim rule in the eighth century. He is universally recognized as the founder and father of Sociology and Sciences of History. He is best known for his famous 'Muqaddimah,'. During his formative years, Ibn Khaldun experienced his family's active participation in the intellectual life of the city, and to a lesser degree, its political life. He was used to frequent visits to his family by the political and intellectual leaders of western Islamic states (i.e., North Africa and Spain), many of whom took refuge there.

Ibn Khaldun was educated at Tunis and Fez, and studied the Qur'an, Prophet Muhammad's Traditions, and other branches of Islamic studies such as Dialectical theology, shari'a (Islamic Law of Jurisprudence, according to the Maliki School). He also studied Arabic literature, philosophy, mathematics and astronomy. While still in his teens, he entered the service of the Egyptian ruler Sultan Barquq.

Many of the profoundly disturbing questions raised by Ibn

Khaldun have still not received the attention they should from all thinking men. He gives a sophisticated analysis of how human society evolved from nomadism to urban centers and how and why these urban centers decay and finally succumb to less developed invaders. Certainly anyone interested in the problems of the rise and fall of civilizations, the decay of cities, the complex relationship between technologically advanced societies and traditional ones, should read Ibn Khaldun's *Introduction to History*.

Questions & Exercises

1) Who was Ibn Khaldun?

2) What were his major achievements?

3) What was the role of his *muqaddima* in the field of Sociology?

Part III: Aspects of The Ancient Syrian Culture

Chapter Nine: Ancient Babylonians

IX. 1 Introduction: The Babylonians

The Babylonians lived in Mesopotamia, a fertile plain between the Tigris and Euphrates rivers. Here is the region where civilization flourished. The region had been the center of the Sumerian civilization which flourished before 3500 BC. This was an advanced civilization building cities and supporting the people with irrigation systems, a legal system, administration, and even a postal service. Writing developed and counting was based on a sexagesimal system, that is to say *base 60*. Around 2300 BC, the Akkadians invaded the area and for some time the more backward culture of the Akkadians mixed with the more advanced culture of the Sumerians. The Akkadians invented the abacus as a tool for counting and they developed somewhat clumsy methods of arithmetic with addition, subtraction, multiplication and division, all playing a part. The Sumerians, however, revolted against Akkadian rule and by 2100 BC they were back in control.

However the Babylonian civilization replaced that of the Sumerians from around 2000 BC. The Babylonians were a Semitic people who invaded Mesopotamia defeating the

Sumerians and by about 1900 BC establishing their capital at Babylon.

Questions & Exercises

1) What is meant by the 'abacus'?
2) What was the major contribution of the Babylonians?
3) What is meant by 'Semitic'? Who belongs the Semitic race?

IX. 2. Babylonian Mathematics

The Sumerians had developed an abstract form of writing based on cuneiform (i.e. wedge-shaped) symbols. Their symbols were written on wet clay tablets which were baked in the hot sun. Many thousands of these tablets have survived to this day. It was the use of a stylus on a clay medium that led to the use of cuneiform symbols since curved lines could not be drawn. The later Babylonians adopted the same style of cuneiform writing on clay tablets. Many of the tablets concern topics which, although not containing deep mathematics, nevertheless are fascinating. For example, we mentioned above the irrigation systems of the early civilizations in Mesopotamia. It was the task of the rulers of Mesopotamia to dig canals and to maintain them, because canals were not only necessary for irrigation but also useful for the transport of goods and armies. The rulers or high government officials must have ordered Babylonian mathematicians to calculate the number of workers and days necessary for the building of a canal, and to calculate the total expenses of wages of the workers. There are several Old Babylonian mathematical texts, in which various quantities concerning the digging of a canal are calculated. Babylonian mathematics are written in

Sumerian, and some are written in Akkadian. From the mathematical point of view, these problems are comparatively simple.

The Babylonians had an advanced number system, in some ways more advanced than our present systems. It was a positional system with a base of 60 rather than the system with base 10 in widespread use today. The Babylonians divided the day into 24 hours, each hour into 60 minutes, each minute into 60 seconds. This form of counting has survived for 4000 years.

Perhaps the most amazing aspect of the Babylonians calculating skills was their construction of tables to aid calculation. Two tablets found at Senherab on the Euphrates in 1854 date back to 2000 BC. They give squares of the numbers up to 59 and cubes of the numbers up to 32.

This shows that a table of squares is all that is necessary to multiply numbers, simply taking the difference of the two squares that were looked up in the table, then taking a quarter of the answer.

Division is a harder process. The Babylonians did not have an algorithm for long division. Instead, they based their method on the fact that all that was necessary was a table of reciprocals. We still have their reciprocal tables going up to the reciprocals of numbers up to several billions. Of course, these tables are written

in their numerals. In fact, there are fascinating glimpses of the Babylonians coming to terms with the fact that division by 7 would lead to an infinite sexagesimal fraction.

Babylonian mathematics went far beyond arithmetical calculations. We noted above that the Babylonians were famed as constructors of tables. Now these could be used to solve equations. For example, with the aid of these tables, certain cubic equations could be solved. We stress again that all this was done without algebraic notation and showed a remarkable depth of understanding.

The Babylonian civilization in Mesopotamia replaced the Sumerian civilization and the Akkadian civilization. Often when told that the Babylonian number system was base 60, people's first reaction is: what a lot of special number symbols they must have had to learn. Now, of course, this comment is based on knowledge of our own decimal system which is a positional system with nine special symbols and a zero symbol to denote an empty place. However, rather than have to learn 10 symbols, as we do to use our decimal numbers, the Babylonians only had to learn two symbols to produce their base 60 positional system.

Finally, we should look at the question of why the Babylonians had a number system with a base of 60. The easy answer is that they inherited the base of 60 from the Sumerians,

but that is no answer at all. It only leads us to ask why the Sumerians used base 60. The first comment would be that we don't have to go back further, for we can be fairly certain that the sexagesimal system originated with the Sumerians. The second point to make is that modern mathematicians were not the first to ask such questions. The practical answer was that 60 was the smallest number divisible by 1, 2, 3, 4, and 5, so the number of divisors was maximized. Although this is true, it appears too scholarly a reason. A base of 12 would seem a more likely candidate if this were the reason, yet no major civilization seems to have come up with that base. On the other hand, many measures do involve 12; for example, it occurs frequently in weights, money and length subdivisions. For example, in old British measures there were twelve inches in a foot, twelve pennies in a shilling, etc.

Several theories have been based on astronomical events. The suggestion that 60 is the product of the number of months in the year (moons per year) again seems far fetched as a reason for base 60. That the year was thought to have 360 days was suggested as a reason for the number base of 60 by the historian of mathematics, Moritz Cantor. Again, the idea is not that convincing since the Sumerians certainly knew that the year was longer than 360 days. Another hypothesis concerns the fact that

the sun moves through its diameter 720 times during a day and, with 12 Sumerian hours in a day, one can come up with 60.

Perhaps the most widely accepted theory proposes that the Sumerian civilization must have come about through the joining of two peoples, one of whom had base 12 for their counting and the other having base 5. Although 5 is nothing as common as 10 as a number base among ancient peoples, it is not uncommon and is clearly used by people who counted on the fingers of one hand and then started again. This theory then supposes that as the two peoples mixed and the two systems of counting were used by different members of the society trading with each other, then base 60 would arise naturally as the system everyone understood.

Questions & Exercises

1) What is your opinion in the Babylonians' number system?
2) Summarize the main ideas of the text above.

Just for Reading

From *The Near East in History* by Philip Hitti:

"The duration of the historic period of mankind, 5000 years, is but a small fraction of the prehistoric period. If we could compress man's age on earth into one single day of 12 hours, this literary period would begin at about 11:53 PM, the Crusades would have been fought about 1 minute 44 seconds ago, and America discovered about 55 seconds ago. But man's existence is in turn out of all proportion to the history of the earth itself. If the earth's age could be compressed into one single year, the first eight months would be completely devoid of life; mammals would not make their appearance until the second week of December; man would make his debut on December 31 at 11:45 PM, writing would have been invented less than a minute ago, Christ would have been born 22 seconds ago, and America discovered six seconds ago."

Questions & Exercise

Just one question: Why, do you think, the historian, Mr. Hitti, has written this commentary? Discuss with your colleagues.

IX. 3 The Arameans

Among other things, the Arameans played a major role in the spread of the alphabet eastward from where it originated in Canaan - the present-day coast of Syria, Lebanon, and Palestine. Yet, few people seem to be aware of this significant contribution. Even In Syria, where the Arameans eventually settled, most people are simply unaware of their Aramean ancestry and heritage.

The first Semitic migration from the north of the Arabian Peninsula to the Fertile Crescent is believed to have occurred in 3500 BC. The people in this first wave were known as the Amorites. Around 1500 BC, these tribes had already settled on the banks of the middle Euphrates - the northeastern part of present-day Syria and Iraq. There, they developed a culture and language, and a sense of national identity.

The Aramean migration which occurred between 1500 and 1200 BC, formed the third wave of migration from the Arabian Peninsula to the Fertile Crescent. By the end of the 13th century BC, the Arameans were settled in their new homes on the banks of the Euphrates. One Aramean state was Harran in

Mesopotamia. Situated on a great trade route, Harran, whose name means "route," developed into one of the great centers of Aramean culture.

Damascus, seat of the future Aramean state, was already peopled by Arameans in 1200 BC. The annals of the Egyptian King Ramses III (1198 - 1167 BC) give the Aramaic spelling of the name. The Arameans assimilated smoothly with the Canaanites and Amorites among whom they settled (after all, as peoples they were branches from the Arameans' same origins), but quite significantly, they retained their own 'language'. Established in the late eleventh century BC, Damascus developed into a major state with its frontier extending on one side to the Euphrates in the north, and on the other to the Yarmuk River in the south.

In 734 BC, the areas around Damascus were overrun by the Assyrians and the city was laid to siege before it was taken in 732 BC. Despite this military defeat, peaceful dissemination of Aramean commerce and culture proved more important to the spread of the Aramean language than did political and military means. The Aramean culture attained its height in the ninth and eighth centuries BC. Aramean merchants were most responsible for spreading their language and culture. Once restricted to being the mercantile language of a people living in present-day Syria,

by about 500 BC, Aramaic had become the universal language of commerce, culture, and government throughout the entire **Fertile Crescent**.

It became the **language of Jesus** and his people. By the sixth century AD, the Aramaic language was still of such influence that it gave birth in northern Mesopotamia to Syriac, which has survived to become the liturgical language of several Eastern churches. In fact, Aramaic dialects are still spoken in some parts of the Near East, in particular among the Christian communities in northern Iraq, and in small mountain villages just outside of Damascus.

The dissemination of Aramaic was not confined to the Semitic areas. Under the Persian Emperor, Darius the Great (521 - 486 BC), it was made the official, inter-provincial language of the Persian government.

As the Aramaic language developed, it incorporated the Phoenician alphabet; and with the spread of Aramaic, the Phoenician alphabet, which the Arameans were the first to adopt, also spread and was passed on to other languages in Asia. **The Hebrews got their alphabet from the Arameans** between the sixth and fourth centuries. The **North Arabians received their alphabet from the Aramaic via the Nabataeans who lived in southern Syria**. Likewise, as the distinguished scholar Philip K.

Hitti stresses in his book *History of Syria,* the **Pahlavi and Sanskrit characters are of Aramean origin.**

Aramean history is not aggression-free, however. At the height of Damascus's regional dominance, King Ben-Hadad II (about 879 - 842 BC) created a great coalition of small regional kingdoms. Some joined by force, but most joined by diplomatic persuasion. The coalition was intended to fight the threat coming from neighboring superpower, Assyria, to the East. Even with the alliances, the initial encounter between Ben-Hadad and the Assyrians, at Qarqar, on the Orontes river (853 BC), proved indecisive.

That was only the prelude to almost a century of Assyrian attacks on the Aramean confederacy. Finally, in 732 BC, the Assyrians ended Aramean rule of the region and divided it into six provinces centered around Damascus, and pro-Assyrian rulers were established. However, Aramaic, as a language, survived until the advent of Islam in the seventh century.

Indeed, the Arameans had little political influence compared with the major powers of the Assyrians and the Egyptians, but they have done humanity a great service by transmitting the alphabet eastward from Syria. Furthermore, few languages in the world have had such a long and continuous tradition. Clearly, while the Arameans seemed simply to be nomads, they have

contributed a great deal to history by transmitting the alphabet eastward, and by introducing a language that influenced many others and that outlasted most languages of the Ancient World.

Documents discovered at Ugarit mention a wide spectrum of trading goods. Amongst those are such foodstuffs as wheat, olives, barley, dates, honey, wine and wheat; metals such as copper, tin, bronze, lead, and iron (then considered rare and valuable) were traded in the form of weapons, vessels, or tools. Livestock traders dealt in horses, donkeys, sheep, cattle, geese and other birds. The Levant's forests made timber an important Ugaritic export: the customer could specify the desired measurements and variety of the needed timber, and the king of Ugarit would send the timber logs of appropriate size. For example, an order from the king of nearby Carshemish goes as follows:

Greetings to you! Now the dimensions-length and breadth - I have sent to you. Send two junipers according to those dimensions. Let them be as long as the (specified) length and as wide as the (specified) breadth.

Other objects of commerce included hippo teeth, elephant tusks, baskets, scales, cosmetics and glass. And, as to be expected from a wealthy city, slaves constituted a trade commodity as well. Carpenters produced beds, chests, and other

wooden furniture. Other artisans worked on bows and metal shaping. There was a marine industry which produced ships not only for the Ugaritic traders, but also for such maritime cities as Byblos and Tyre.

The trade objects came from great distances, from as far away east as Afghanistan, and from the west as far away as central Africa. Ugarit's merchants received promotions in the form of grants of land in return for their undertaking trading activities on the behalf of the king, though their trading was far from limited to making deals for the monarchy. We are told, for example, of a group of four merchants jointly investing a total of 1000 shekels for a trading expedition to Egypt.

Of course, being a trader abroad was not risk-free. Ugaritic records mention compensations to foreign merchants killed either there or in other cities. The importance of trade to the king of Ugarit was such that townsmen were made responsible for the safety of foreign merchants doing business in their town. If a merchant were robbed and murdered and the guilty party were not caught, the citizens had to pay compensation.

As to be expected, Ugarit was a very cosmopolitan city. Foreign nationals resided there, as well as some diplomatic personnel Including Hittites, Assyrians, Cretans and Cypriots. The existence of so many foreigners led to a flourishing real

estate industry and to the intervention of the state to regulate the industry.

Around 1200 BC, the area experienced a reduced peasant population and thus a reduction in agricultural resources. The crisis had serious consequences. The city-state's economy was weak, the internal politics was becoming unstable. The city was unable to defend itself. The torch of civilization was passed to the maritime cities south of Ugarit such as Tyre, Byblos and Sidon. Ugarit's fate was sealed around 1200 BC with the invasion of "The Sea People" and the destruction that followed. The city disappeared from history thereafter. **The destruction of Ugarit marked the end of a brilliant phase in the history of Arab Eastern civilizations.**

Questions & Exercises

1) Just in notes (1, 2, etc.), rewrite the main points about the Aramaic language, culture, its influence, relationship to present-day Arab culture, language, etc.
2) Who were the "Sea People"?
3) Who are the descendents of these "Sea People" today?
4) What does our knowledge about those forefathers teach us? What lessons can/should we draw from this knowledge?

IX. 4 Excerpts From Hamurabi's Code Of Laws

Note: This is just for Reading, as taken from its source:

If any one ensnare another, putting a ban upon him, but he can not prove it, then he that ensured him shall be put to death.

If any one bring an accusation of any crime before the elders, and does not prove what he has charged, he shall, if it be a capital offense charged, be put to death.

If he satisfy the elders to impose a fine of grain or money, he shall receive the fine that the action produces.

If a judge try a case, reach a decision, and present his judgment in writing; if later error shall appear in his decision, and it be through his own fault, then he shall pay twelve times the fine set by him in the case, and he shall be publicly removed from the judge's bench, and never again shall he sit there to render judgment.

If any one steal the property of a temple or of the court, he shall be put to death, and also the one who receives the stolen thing from him shall be put to death.

If any one buy from the son or the slave of another man, without witnesses or a contract, silver or gold, a male or female

slave, an ox or a sheep, an ass or anything, or if he take it in charge, he is considered a thief and shall be put to death.

If any one steal cattle or sheep, or an ass, or a pig or a goat, if it belong to a god or to the court, the thief shall pay thirty fold therefore; if they belonged to a freed man of the king he shall pay tenfold; if the thief has nothing with which to pay he shall be put to death.

If any one lose an article, and find it in the possession of another: if the person in whose possession the thing is found say "A merchant sold it to me, I paid for it before witnesses," and if the owner of the thing say, "I will bring witnesses who know my property," then shall the purchaser bring the merchant who sold it to him, and the witnesses before whom he bought it, and the owner shall bring witnesses who can identify his property. The judge shall examine their testimony - both of the witnesses before whom the price was paid, and of the witnesses who identify the lost article on oath. The merchant is then proved to be a thief and shall be put to death. The owner of the lost article receives his property, and he who bought it receives the money he paid from the estate of the merchant.

If the purchaser does not bring the merchant and the witnesses before whom he bought the article, but its owner bring witnesses who identify it, then the buyer is the thief and shall be

put to death, and the owner receives the lost article.

If the owner do not bring witnesses to identify the lost article, he is an evil-doer, he has traduced, and shall be put to death.

If the witnesses be not at hand, then shall the judge set a limit, at the expiration of six months. If his witnesses have not appeared within the six months, he is an evil-doer, and shall bear the fine of the pending case.

If any one take a male or female slave of the court, or a male or female slave of a freed man, outside the city gates, he shall be put to death.

If any one receive into his house a runaway male or female slave of the court, or of a freedman, and does not bring it out at the public proclamation of the major court, the master of the house shall be put to death.

If any one find runaway male or female slaves in the open country and bring them to their masters, the master of the slaves shall pay him two shekels of silver.

If the slave will not give the name of the master, the finder shall bring him to the palace; a further investigation must follow, and the slave shall be returned to his master.

if he hold the slaves in his house, and they are caught there, he shall be put to death

Appendices I & II:

Selected Readings

Appendix I: More on Prophet Muhammad

D. G. Hogarth in 'Arabia':

Serious or trivial, his daily behavior has instituted a canon which millions observe this day with conscious memory. No one regarded by any section of the human race as Perfect Man has ever been imitated so minutely. The conduct of the founder of Christianity has not governed the ordinary life of his followers. Moreover, no founder of a religion has left on so solitary an eminence as the Muslim apostle.

Washington Irving 'Mahomet and His Successors':

He was sober and abstemious in his diet and a rigorous observer of fasts. He indulged in no magnificence of apparel, the ostentation of a petty mind; neither was his simplicity in dress affected but a result of real disregard for distinction from so trivial a source.

In his private dealings he was just. He treated friends and strangers, the rich and poor, the powerful and weak, with equity, and was beloved by the common people for the affability with which he received them, and listened to their complaints.

"At Muhammad's own death an attempt was made to

deify him, but the man who was to become his administrative successor killed the hysteria with one of the noblest speeches in religious history: **'If there are any among you who worshiped Muhammad, he is dead. But if it is God you Worshiped, He lives for ever'**.

Lawrence E. Browne in 'The Prospects of Islam,' 1944:

Incidentally, these well-established facts dispose of the idea so widely fostered in Christian writings that the Muslims, wherever they went, forced people to accept Islam at the point of the sword.

K. S. Ramakrishna Rao in 'Mohammed: The Prophet of Islam,' 1989:

My problem to write this monograph is easier, because we are not generally fed now on that (distorted) kind of history and much time need not be spent on pointing out our misrepresentations of Islam. The theory of Islam and sword, for instance, is not heard now in any quarter worth the name. The principle of Islam that "there is no compulsion in religion" is well known.

Thomas Carlyle in 'Heroes and Hero Worship and the Heroic in History,' 1840:

"The lies (Western slander) which well-meaning zeal has heaped round this man (Muhammad) are disgraceful to

ourselves only."

"A silent great soul, one of that who cannot but be earnest. He was to kindle the world, the world's Maker had ordered so."

A. S. Tritton in 'Islam,' 1951

The picture of the Muslim soldier advancing with a sword in one hand and the Qur'an in the other is quite false.

De Lacy O'Leary in 'Islam at the Crossroads,' London, 1923.

History makes it clear, however, that the legend of fanatical Muslims sweeping through the world and forcing Islam at the point of sword upon conquered races is one of the most fantastically absurd myths that historians have ever repeated.

Gibbon in 'The Decline and Fall of the Roman Empire' 1823:

The good sense of Muhammad despised the pomp of royalty. The Apostle of God submitted to the menial offices of the family; he kindled the fire; swept the floor; milked the ewes; and mended with his own hands his shoes and garments. Disdaining the penance and merit of a hermit, he observed without effort of vanity the abstemious diet of an Arab.

Edward Gibbon and Simon Oakley in 'History of the Saracen Empire,' London, 1870, says:

"The greatest success of Mohammad's life was effected by sheer moral force."

"It is not the propagation but the permanency of his religion that deserves our wonder, the same pure and perfect impression which he engraved at Mecca and Medina is preserved after the revolutions of twelve centuries by the Indian, the African and the Turkish proselytes of the Koran....The Mohammadans have uniformly withstood the temptation of reducing the object of their faith and devotion to a level with the senses and imagination of man. 'I believe in One God and Mahammad the Apostle of God' is the simple and invariable profession of Islam. The intellectual image of the Deity has never been degraded by any visible idol; the honors of the prophet have never transgressed the measure of human virtue, and his living precepts have restrained the gratitude of his disciples within the bounds of reason and religion."

Lane-Poole in 'Speeches and Table Talk of the Prophet Muhammad':

He was the most faithful protector of those he protected, the sweetest and most agreeable in conversation. Those who saw him were suddenly filled with reverence; those who came near him loved him; they who described him would say, "I have never seen his like either before or after." He was of great taciturnity, but when he spoke it was with emphasis and deliberation, and no one could forget what he said . . . .

Annie Besant in 'The Life and Teachings of Mohammad,' Madras, 1932:

It is impossible for anyone who studies the life and character of the great Prophet of Arabia, who knew how he taught and how he lived, to feel anything but reverence for that mighty Prophet, one of the great messengers of the Supreme. And although in what I put to you I shall say many things which may be familiar to many, yet I myself feel, whenever I reread them, a new way of admiration, a new sense of reverence for that mighty Arabian teacher.

W.C. Taylor in 'The History of Muhammadanism and its Sects':

So great was his liberality to the poor that he often left his household unprovided, nor did he content himself with relieving their wants, he entered into conversation with them, and expressed a warm sympathy for their sufferings. He was a firm friend and a faithful ally.

Reverend Bosworth Smith in 'Muhammad and Muhammad-anism,' London, 1874:

"Head of the State as well as the Church, he was Caesar and Pope in one; but he was Pope without the Pope's pretensions, and Caesar without the legions of Caesar, without a standing army, without a bodyguard, without a police force, without a fixed revenue. If ever a man ruled by a right divine, it was

Muhammad, for he had all the powers without their supports. He cared not for the dressings of power. The simplicity of his private life was in keeping with his public life."

"In Mohammadanism, every thing is different here. Instead of the shadowy and the mysterious, we have history . . . . We know of the external history of Muhammad . . . . while for his internal history after his mission had been proclaimed, we have a book absolutely unique in its origin, in its preservation....on the Substantial authority of which no one has ever been able to cast a serious doubt."

Edward Montet, 'La Propagande Chretienne et ses Adversaries Musulmans,' Paris 1890. (Also in T.W. Arnold in 'The Preaching Islam,' London 1913):

"Islam is a religion that is essentially rationalistic in the widest sense of this term considered etymologically and historically . . . the teachings of the Prophet, the Qur'an has invariably kept its place as the fundamental starting point, and the dogma of unity of God has always been proclaimed therein with a grandeur, a majesty, an invariable purity and with a note of sure conviction, which it is hard to find surpassed outside the pale of Islam . . . . A creed so precise, so stripped of all theological complexities and consequently so accessible to the ordinary understanding might it be expected to possess and does

indeed possess a marvelous power of winning its way into the consciences of men."

Appendix II: More On Hamurabi's Code of Laws

If any one break a hole into a house (break in to steal), he shall be put to death before that hole and be buried.

If any one is committing a robbery and is caught, then he shall be put to death. If the robber is not caught, then shall he who was robbed claim under oath the amount of his loss; then shall the community and . . . on whose ground and territory and in whose domain it was, compensate him for the goods stolen.

If persons are stolen, then shall the community and . . . pay one mina of silver to their relatives.

If fire break out in a house, and some one who comes to put it out cast his eye upon the property of the owner of the house, and take the property of the master of the house, he shall be thrown into that self-same fire.

If a chieftain or a man (common soldier), who has been ordered to go upon the king's highway for war does not go, but hires a mercenary, if he withholds the compensation, then shall this officer or man be put to death, and he who represented him shall take possession of his house.

If a chieftain or man be caught in the misfortune of the

king (captured in battle), and if his fields and garden be given to another and he take possession, if he return and reaches his place, his field and garden shall be returned to him, he shall take it over again.

If a chieftain or a man be caught in the misfortune of a king, if his son is able to enter into possession, then the field and garden shall he given to him, he shall take over the fee of his father.

If his son is still young, and can not take possession, a third of the field and garden shall be given to his mother, and she shall bring him up.

If a chieftain or a man leave his house, garden, and field and hires it out, and some one else takes possession of his house, garden, and field and uses it for three years: if the first owner return and claims his house, garden, and field, it shall not he given to him, but he who has taken possession of it and used it shall continue to use it.

If he hire it out for one year and then return, the house, garden, and field shall be given back to him, and he shall take it over again.

If a chieftain or a man is captured on the "Way of the King" (in war), and a merchant buy him free, and bring him back to his place, if he have the means in his house to buy his freedom,

he shall buy himself free: if he have nothing in his house with which to buy himself free, he shall be bought free by the temple of his community; if there be nothing in the temple with which to buy him free, the court shall buy his freedom. His field, garden, and house shall not be given for the purchase of his freedom.

If any one buy the field, garden, and house of a chieftain, man, or one subject to quit-rent, his contract tablet of sale shall be broken (declared invalid) and he loses his money. The field, garden, and house return to their owners.

A chieftain, man, or one subject to quit-rent can not assign his tenure of field, house, and garden to his wife or daughter, nor can he assign it for a debt.

He may, however, assign a field, garden, or house which he has bought, and holds as property, to his wife or daughter or give it for debt.

If any one fence in the field, garden, and house of a chieftain, man, or one subject to quit-rent, furnishing the palings therefore; if the chieftain, man, or one subject to quit-rent return to field, garden, and house, the palings which were given to him become his property.

If any one take over a field to till it, and obtain no harvest there from, it must be proved that he did no work on the field, and he must deliver grain, just as his neighbor raised, to the

owner of the field.

If he do not till the field, but let it lie fallow, he shall give grain like his neighbor's to the owner of the field, and the field which lie let lie fallow he must plow and sow and return to its owner.

If any one take over a waste-lying field to make it arable, but is lazy, and does not make it arable, he shall plow the fallow field in the fourth year, harrow it and till it, and give it back to its owner, and for each ten gan (a measure of area) ten gur of grain shall be paid.

If a man rent his field for tillage for a fixed rental, and receive the rent of his field, but bad weather come and destroy the harvest, the injury falls upon the tiller of the soil.

If he do not receive a fixed rental for his field, but lets it on half or third shares of the harvest, the grain on the field shall he divided proportionately between the tiller and the owner.

If a man take a wife, and she bear him no children, and he intend to take another wife: if he take this second wife, and bring her into the house, this second wife shall not be allowed equality with his wife.

If a man take a wife and she give this man a maid-servant as wife and she bear him children, and then this maid assume equality with the wife: because she has borne him

children her master shall not sell her for money, but he may keep her as a slave, reckoning her among the maid-servants.

If she have not borne him children, then her mistress may sell her for money.

If a man take a wife, and she be seized by disease, if he then desire to take a second wife he shall not put away his wife, who has been attacked by disease, but he shall keep her in the house which he has built and support her so long as she lives.

Finally, a new legislation says: "If a student does not work hard and s/he is proven to neglect his/her duty, s/he shall be deprived of his/her seat at University!"

&&&&& End of Book &&&&&&

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