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Ibn Hazm's Philosophy and Thoughts on Science

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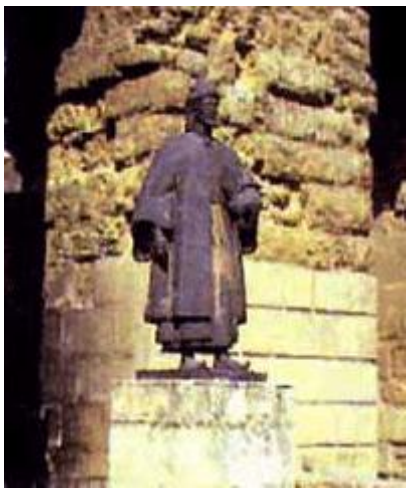
IBN HAZM'S PHILOSOPHY AND THOUGHTS ON SCIENCE

Abstract



"What fixes and preserves a nation's language, as well as its sciences and its history,' Ibn Hazm holds, `is simply the strength of its political power, accompanied by the happy welfare and leisure of its inhabitants."[1]

Abu Muhammad 'Ali Ibn Ahmad Ibn Sa'id Ibn HAZM, (November 994-August 1064) grew up in the period of final collapse of Ummayad rule in Spain as the nation disintegrated into often conflicting local states. That period of turbulence and his early education by women, in whose midst he grew, far from the company of other children,[2] were to have profound effects on Ibn Hazm's thoughts and character. As a scholar, Ibn Hazm had a great reputation, and was one of the most original theologians and literati of Muslim Spain. He was a master of many disciplines, including history, grammar, poetry, genealogy, and logic, and wrote works of enduring importance in Islamic theology and law.[3] He is the author of over 400 works, and was greatly reputed for his vast capacity to memorize both lines and random facts.[4] Carra de Veaux seems to bear little recognition for Ibn Hazm, though, stating amongst others that his production, although vast, was hardly devoid of errors.[5] Ibn Hazm, however, in his Book of Introduction, Kitab al-Taqrib, which is now extant, states that `science consist in knowing with certainty something according to what it really is, or by an evident proof which hence helps reach certitude'[6]. This theme frequently occurs in his works. This paper seeks to look into this aspect as well as his philosophy and thoughts on science, its merits and its relationship to morals.

Prelude

Nothing more appropriate to open this paper on Ibn Hazm's thoughts on science than some of his sayings. According to him,[7]

> "What fixes and preserves a nation's language, as well as its sciences and its history, is simply the strength of its political power, accompanied by the happy welfare and leisure of its inhabitants."

In Kitab al-Akhlaq wa'l Siyar,[8] he says: 'Compare yourself, for wealth, status and health to those lower to you. For faith, science, and virtue, compares yourself to those who are higher than you.'

And:

> "Sciences are like powerful drugs, which suit the strong and exhaust the weak. Likewise, complex sciences enrich a vigorous mind, and keep it off evil, but exhaust the mediocre mind."

Life Synopsis

IBN HAZM, ABU MUHAMMAD 'ALI IBN AHMAD IBN SA'ID was born in November 994, and died in August 1064. The Ibn Hazm family came from the city of Cordoba itself. Their earlier origins are much less clear, although evidence shows that they were of indigenous Iberian stock from Labla West of Seville a few miles from the Atlantic shores. One of the ancestors of Ibn Hazm was converted to Islam from Christianity.[9] Ibn Hazm's father, Abu 'Umar Ahmad ibn Sa'id ibn Hazm (d. 1012) held the function of vizier (Minister) at the court of al-Mansur. Al-Mansur's reign had been one of the greatest moments of Islamic Spanish history. Al-Mansur had enriched the kingdom economically and financially, and had led Muslim armies into victories of un-precedent scale against their Christian foes. At his death, though, ridden with intrigues, divisions, and conflict between numerous factions, the once most powerful state collapsed into chaos, and was never to recover. Aware of, and also part of such disintegration, Christian armies seized their chance to carve up the Islamic dominion. This, they would gradually achieve, only held up on two occasions during the Almoravid, first, and then the Almohad intrusions, which slowed the Christian advance by about two centuries. Early in the thirteenth, after the final defeat of the Almohads, Cordova, Valencia, Seville, and other Islamic strongholds all fell. Granada alone was to remain Muslim, until, it too, ridden with intrigues and divisions finally fell in 1492. The Muslims were to be eliminated completely from Spanish soil not long after.

The life and thoughts of Ibn Hazm are both good illustration and product of the chaos and collapse of the Muslim state. Such collapse had direct impact on Ibn Hazm who was at the center stage of events. He held positions of power and prestige, followed by demise and disgrace following the political fortunes or misfortunes of his patrons. Hence, in 1016, for instance, Caliph Sulayman was overthrown, and Ibn Hazm, suspect for his Umayyad sympathies, was first imprisoned and then banished. Three years later, he returned to Cordoba, and four years after became the vizier of 'Abd al-Rahman V, whose rule, though, only lasted for seven weeks before he was assassinated, and Ibn Hazm was again put in prison.[10] Ibn Hazm, who had already been terribly affected by the demise of his own father before him, following earlier upheavals, now suffered even more and directly the effects of political chaos. That may account for his acerbic and harsh temperament, which made him both famous and feared for his sharp tongue, and it became well known that "The tongue of Ibn Hazm and the sword of al-Hajjaj ibn Yusuf [the severe Umayyad governor of Iraq] are brothers.' [11] The upheavals of his political career may also account for Ibn Hazm withdrawal from public life to devote himself to study, teaching, and writing. For Asin Palacios, however, much influence on Ibn Hazm's character and writing was the result of his education by women as he grew up in his father's harem, isolated from children of his age and from men, which shaped his personality considerably.[12]

His Thought and Accomplishments

Ibn Hazm's early learning, understandably, had a dramatic impact, too. He received an `exceptionally' wide-ranging education, which, more than likely in his future years impacted on his wide and diverse learning. His thinking extends to all stretches of Islamic sciences, grammar, lexicology, the science of the Quran, tradition and commentaries, canon law or fiqh, theology… Thus to study him, according to Arnaldez, `one has to be first well aware of matters which Muslim thinkers have addressed.'[13] He was also seen as:

> "One of the most original theologians and literati of Muslim Spain…. a master of many disciplines, including history, grammar, poetry, genealogy, and logic, and wrote works of enduring importance in Islamic theology and law."[14]

Ibn Hazm's intellectual force is also recognized by Castro,[15] who states, that whilst the Muslims felt a `lively curiosity about everything religious,' Ibn Hazm was the first religious historian ever. His `Critical History of Religions,' whose Arabic title (Al-Fassl Fil Millel Wel Ahwai wel Nihal) reads in English `The Decisive word on sects, heterodoxies and denominations (translated into Spanish by Asin Palacios as `Historia Critica de las Ideas Religiosas,') is regarded[16] as:

> "The first of its genre and it is surprising that it was written in the 11th century when nothing like it existed in Christian Europe. Ibn Hazm proceeds like a scholar and a theologian who is acquainted through his own study and experience with the religion s of his time and he analyses them in detail, quoting their texts."

According to Yaqut and Al-Qifti, two of the main Muslim biographers, Ibn Hazm has written nearly four hundred works, amounting to nearly 80,000 pages. Amongst his surviving works are:

-Kitab al-Ihkam fi usul al-Ahkam (of the perfect knowledge of the foundations of jurisprudence). The manuscript can be found in the National Library of Cairo, where it has been edited in two vols.

-Kitab jamharat al-Arab (on the Arab genealogy), known through the Cairo critical edition made by Levi Provincal in 1948.

-Risala fi fadl al-Andalus wa dikr rijaliha (a letter on the merits of al-Andalus and the memory of its men) which was kept by al-maqqari in his Nifh al-Tib (vol4).

-Kitab al-Akhlak wa'l siyar (The book of morals and behaviour): edited for the first time in 1908, although cited by Yaqut and al-Maqqari. The manuscript was discovered by Dr Ritter alongside other works.

Amongst the Arabic sources of Ibn Hazm are:

-Al-Dabbi: Bughyat al-Multamis. Madrid 1885.
-Hajji Khalifa: Kesf al-zounoun edt. Constantinople, 1941.
-Ibn Bashkuwal: Kitab as-Sila; Madrid, 1882-3.
-Ibn Khallikan: Wafayat al-a'yan. Cairo, 1275 H.
-Ibn Qasim B.Said: Tabaqqat al-Umam. Ed. L. Cheikho. Beyrouth; 1902.
-Al-Maqqari: Analectes. Leyde; 1855-61.
-A-Marrakushi: Histoire des Almohades. Trad. Fagnan; Algiers, 1893.
-Yaqut al-Hamawi:Mo'jam al-Oddaba; Edt Rifai Bey; Cairo; Vol Xii….

Today, the literature on Ibn Hazm is rather scant amongst English sources. There is a good entry on Ibn Hazm in the Encyclopedia of Islam by Arnaldez. But Arnaldez, like many with interest in Ibn Hazm, writes in French. The main work of Ibn Hazm that has retained the attention of English speaking scholarship is Tawq al-Hamama translated by A.J. Arbery, London 1953. Otherwise, most information on Ibn Hazm is gleaned from French sources, and of course, Spanish sources. Asin Palacios, more than any other, has written considerably, most particularly his well known, and lengthy: Abenhazem de Cordoba.

Ibn Hazm's writing has been looked at from many perspectives, and from many directions. Arnaldez, already cited, one of the students of Levi Provencal, the authority on Spanish history, had devoted his doctoral thesis to Ibn Hazm. Arnaldez has also given an excellent overview on Ibn Hazm's theories on Jihad and scores of other contributions. On the influence Ibn Hazm had on post Islamic Spanish literature and thought, no better source than A. Castro's Structure of Spanish History. Ibn Hazm's writing and views on science have, however, been generally set aside. Possibly, as in the view of Barron Carra de Vaux, despite Ibn Hazm's prolific output, and his prodigious ability to memorize texts and facts, it is because his writing is not devoid of errors.[17] De Vaux also finds his work bearing an anti-intellectual trait, suppressing speculation, narrowing considerably the frontiers of jurisprudence, depriving jurists of freedom of conscience etc.[18] Arnaldez, however, observes that Ibn Hazm in the Book of Introduction, Kitab al-Taqrib, which is no longer extant, states that 'science consists in knowing with certainty something according to what it really is, or by an evident proof which hence helps reach certitude.'[19] Arnaldez further compares Ibn Hazm with Descartes, with whom he shares a love for certainty; and like him seeks it in proof; and like him suspecting that all that edges away from proof becomes close to error.[20] Maybe De Vaux's criticism stems from the fact that Ibn Hazm does not accept the notion of knowledge for its own sake; that satisfaction with independent knowledge just out of curiosity; traits that have distinguished the Greeks and their science. In Islam, science and knowledge have practical aims, and are according to Ibn Hazm shaped, or affected, by revelation. The object of science, for him, is to understand Divine orders.[21] Ibn Hazm further adds: 'Our faculties of discerning and comprehending are helped by Divine grace, but on condition to use them as God wishes us to, and where he wants us to.'[22] And regarding the role of experiment and observation, crucial to scientific advance, Ibn Hazm has this to say:

> "We know with certainty that never could man have acquired the sciences and arts by himself guided only by his natural abilities and without the benefit of instruction. (this applies, e.g., to) medicine, the knowledge of the physiological temperaments, the diseases and their causes, in all their numerous varieties, and the invention of adequate treatment and cure of each of them by drugs or preparations, which could never have been actually tried out. For how could anyone test every prescription on every disease since this would take tens of thousands of years and necessitate the examination of every sick person in the world?"[23]

Arnaldez, above, compared Ibn Hazm and the French philosopher-rationalist, Descartes. Perhaps more appropriately, comparisons should have been drawn between Ibn Hazm and the other French philosopher-scientist: Pascal (1623-62). Indeed, like Ibn Hazm, Pascal is both scientist, and also highly imbued with faith, at all steps seeking to reconcile them, the moral aspect of each issue always imposing itself in the end. Moreover, Pascal, in his work, Les Pensees (Thoughts) (de Pascal) also seeks to order his thoughts, a sort of listing found in Ibn Hazm, whereby each thought carries a function, and conveys a specific injuction, or idea. All thoughts are related, coherently assembled in batches, and all aiming at one and single end: the cohabitation, or the working together of science and high, God inspired morality.

Virtues of Science

Ibn Hazm's most extensive philosophy and thoughts on science are to be garnered from his Kitab al-Akhlaq wa'l siyar which was translated into French under UNESCO sponsorship by N. Tomiche, and which is used here as a source of reference. The English texts are the present authors own translation from the French. Science in Ibn Hazm's thought is by no means a single entity devoid of any moral dimension, nor the most

important moral outlet in life. He constantly asserts the real meaning of life, how all worldly things are of lesser value in comparison to the spiritual and moral. Thus (p.17), he says:

> "I have come across most people- with the exception of those that God most High has protected- they rush into misery, worry, the exhaustion of this world, and amassing terrible sins, that will earn them hell-fire, gaining nothing in pursuing their evil deeds… And they know that their evil intentions will neither fulfill their wishes, nor bring any gains; and that with purer intentions they will obtain great rest for their souls."

He adds (p.18):

> "Whoever harms his kinship and his neighbors is worse than them. Whomsoever returns ill that he receives from them is like them. Whomsoever does not return ill done to him is the master, the best and most virtuous amongst all."

And (p.116):

> "Whomsoever rises above things of this world, in front of which you kneel is much stronger than you."

And also (p.22):

> "Blame from a man with a corrupt soul in opposing him, and refraining from evil deeds is better for you than his esteem if you did evil."

Having, thus, declared his moral stands, he finds the adequate room for science, and looks at it in different contexts and situations. First, he gives it its real due, stating (p. 19):

> "Should the merit of science being fear of the ignorant, and love and honour for the scholars, that alone should encourage striving for it. What then about its other virtues in this world and the other."

And:

> "If science, and devoting oneself to it, had no other use than avoiding exhausting temptations, rushes of hope that give worry, and thoughts that sadden the soul, that alone should give us reasons to seek it… Kinglets have sought distraction in chess, wine, music, hunting and much else that only bring harm in this world and the other."

Territoriality of Science

Science, in the mind of Ibn Hazm has some territoriality, which itself has a number of dimensions.
Hence, on one hand, Ibn Hazm, has a word of warning against those who intrude in the realm of science whilst not being worthy of it, saying (p.22):

> "There is no worse calamity for science and for scholarship than those intruders who are foreign to them. They are ignorant and yet think they know; they ruin everything whilst convinced they are fixing all."

In the same vein, Ibn Hazm warns those who stretch themselves beyond what they are capable of, stating (p.21):

> "Whomsoever has a natural leaning towards a science, even if it was less noble than another, should not abandon it for the other because if he did he would be like someone who would be growing coconuts in al-Andalus and olive trees in India, crops that would never fructify."

Fundamental Duties of the Scholar

Ibn Hazm is not satisfied with scholars who are only contented with their own self-fulfillment. The duty of the scholar is to enlighten others; hence he observes (p.21):

> "Whomsoever is miserly with the gift of his knowledge deserves more blame than whomsoever is miserly with his money, because the man miserly with his money fears exhausting what he has, but the one miserly with his science is with an object which does not become exhausted with use, and that he would lose nothing in sharing it."

And humility amongst men of science is what he praises most (83-4):

> "If you pride yourself with your science, then you must realize that you have no merit; science is a gift that God has granted you. Thus do not acknowledge it in a way that angers the Highest, because he could erase it from your head through an illness of some sort."

Ibn Hazm reinforces this statement with the following:

> "Also be aware that many men eager for science, read, study, and research with application, but derive no fruit. The man of science must realize that if application alone was enough, many other men would be superior to him. Science, thus, is certainly a gift from the Highest. What place is left for pride, thus? We can only accept in humility, and give thanks to God, asking him to increase his bounty, and beg him not to deprive us of it."

The Perfect Sciences

Crucial for Ibn Hazm is that not all knowledge and science are acceptable. He states that clearly (p.21):

> "The most noble sciences, are those which bring us closer to the Creator; those which help us be pleasing to Him."

And in (p.23)

> "Whomsoever wishes for happiness in the other life, wisdom in this world, equity in their deeds, having all moral qualities, the practice of all virtues, ought to follow in his deeds the example of Mohammed (PBUH) the Messenger of God."

Ibn Hazm takes great care to make parallels between knowledge and science on one hand, and the practice of good and evil:

> "The use of science in the practice of virtue,' he says (p.24), `is considerable: the man who knows the beauty of virtue will follow it, however possible. Knowing the evil of wrong, he will avoid it, however possible. He listens to worthy praise, and keeps his distance from unworthy praise. From this is derived that science has a part in every virtue, and that ignorance has one in every vice. Man who is illiterate and who still practices virtue must be extremely pure, a virtuous being. This is the state of Prophets (PBUH) because God had conveyed goodness to them without they acquiring it from men."

And he points out (p.24):

> "I have seen men who had studied the sciences, who knew the messages of the Prophets, the recommendations of the wise, and yet who surpassed the most evil men in their worse deeds, and their depravation. This is very frequent, and so I have understood that these two moral attitudes were favours granted or denied by the Most High."

Conduct of Men of Science in Disputations

Then, as now, discussions and disputations, used to take place between scholars. Ibn Hazm, in the last chapter of his book, Kitab al-Akhlaq wa'l Siyar, delves on this matter, and `On the manner to attend study sessions.' He begins by saying (p.114):

> "If you attend a study session, only behave like a man wishing to expand his knowledge and seeking a higher reward from God. Do not act like a man contend with what he holds, who is waiting for a weakness (from someone) to criticize (it or him), or an oddity to raise. This will be acting like vile people who have never mastered science.'
> 'If you attend with good intentions you will obtain the best results. Otherwise just stay at home, awarding yourself rest, a good morality, and a salutary outcome in front of God."

And (in pp 114-5):

> "If you attended (a study session) strictly adopt three attitudes; there is no fourth.
> First : You can lock yourself in the silence of ignorance.
> Second: If you do not behave as such, ask for the questions a man seeking to learn asks…. This man will ask only about what he does not know, not about what he knows. Asking about matters one knows is making proof of ineptitude; this is only ranting, waste of time for everyone….
> If the person you are questioning does not give satisfactory answers, stop questioning…
> Third: You can answer like a scientist, refuting clearly the other's arguments. If you are not capable of that, do not insist…."

Ibn Hazm also warns (p.116) against those who:

> "Ask questions stubbornly, very proud men who seeing themselves right without knowing anything about the matter. This shows lack of piety, a tendency to ranting, a weak mind, and excessive vanity.'… And `If you hear, or read writing (you object to), do not react with violence until you have proof that what is expressed is wrong. Do not accept that with the enthusiasm of the credulous man either until being wholly convinced of that. In both situations you blind yourself and drift away from truth… Act like a person who has no preconceived views, one ready to know and accept what is right and reject what is wrong."

Classification of Science

Ibn Hazm's thoughts and philosophy on science have also another dimension. It is common with Islamic scholars, such as Al-Ghazali, to classify sciences, to provide some sort of division that helps in their understanding, study and promotion. This division, gradually has led to our modern learning system in departments, faculties, and courses (Prior to the Muslim classifications, sciences were a bulk of knowledge, somehow like the precious stone mingled with rough metals, and earth. Indeed, there were no such a boundaries and it was thus easy to find the chemist dabbling with the magician, and the philosopher. It was extremely hard to stop one side, the non scientific taking over the scientific, and the science often stagnated, or diverted into inappropriate directions because of that). Ibn Hazm did not make the classification of sciences as such. Instead, he provided the boundaries, and the rules within science as a whole. He brings in all dimensions looked at above. He does, moreover, which is quite important, provide the seeker of science indications of how to go on about it, integrating the highly complex, abstract, moral and also the most down to earth, such as the prudent conduct in scientific gatherings.

On Natural Sciences

In addition to his vast contribution to Philosophy, Religious dialogue, Jurisprudence, Literature, Theory of Knowledge and Social Sciences, Ibn Hazm had commented on Natural Sciences. His views are scattered throughout his books and it would require a special task to collect them in a cohesive manner. However, much of his comments on Natural Science can be found in his (I) al-Taqreeb,(ii) al-fassl fil milal, and (iii) Response to Al-Razi (objecting to his views on the origin of the universe) . Below we give excerpts on various sciences.

Sciences of Numbers and Geometry

Like Pythagoreans, Ibn Hazm has especial and significance to the numeral 1. He maintains that

> "1 is not a number, because there is no other number like it. If you split it, it becomes a fraction (hence looses its Oneness)…and therefore, it becomes necessary that the True One is Allah, the starter of all creation and He (Allah) is not several but all creations are"[24]

On geometry, again like Pythagoreans, he defines the line, 'as the ultimate edge of any surface ad defined a point as the crossing between two lines.' Al-Taqreeb p.47. He also commented on the concept of infinity or limitless and the limited. In Al-Taqreeb p. 128, he refers to the universe as limited and bounded, because it was created and because the universe is made of limited parts, it will follow that, it will also be limited. He also refers to the present objects and living creatures and plants, as limited, yet the ones which have not yet been created (such as humans who are not yet born) are unlimited.

On Dynamics

A very interesting notion on the nature of motion of bodies is found in Al-Fassl Fil Millel, vol 5, pp 55. He explains, 'there are mobile objects and stationary objects, but there is no motion nor staticness.'

On Astronomy

Ibn Hazm refutes astrologers who believed that stars and planets had souls and minds and influence people. He maintains, Al-Fassl Fil Milleh, vol 5, pp 35-39,

> "that the stars are celestial bodies with no mind or soul. They neither know the future nor affect people. There effect on people however can be through their physical characteristics, such as the effect of the sun's heat and rays on the planets and the effect of the moon on the tides of seas."

He explains that Saturn's orbit takes 33 years (Al-Fasl Fil Milleh, vol 5, pp. 34). He actually meant the orbit around the Earth, which is wrong. Today's astronomy recognises Saturn's orbit around the Sun (not the Earth) taking 29 years. In vol 2 pp 101, he argues against those who believe that the Sun sets in one of the seas on Earth. He questions how is it the larger Sun, sets in the smaller Earth? He says vol 2 pp 98,

> "the Earth is spherical despite what is popularly believed … the proof is that the Sun is always vertical to a particular spot on Earth."

Ibn Hazm considers shooting stars to be hot fires that conglomerate into stars and that they eventually lose their light by burning. Obviously Ibn Hazm was not aware of present theory of supernovas and formation of stars and Black Holes. We do not believe that he knew about the relationship between matter and energy and the conversion between one to the other. In his Al-Taqreeb pp 141 and in Al-Fassl Fil Milleh, vol 2 pp 105 – 106. He challenges all theories on the age of the Earth. He says, 'we Muslims do not have definite knowledge yet of the age of the Earth. It could be many multiples of the ages suggested by others.'

On Physics

Ibn Hazm did not seem to know about the discoveries of Al-Hasan Ibn Al-Haytham, (b. 965-1039). Ibn Hazm was nearly 40 years when Ibn Al-Haytham died, yet he still believed in the old Greek understanding of vision in that, the eye produces rays which illuminate the object which make it visible. Communications of learning at the time being slower, most particularly in times of turbulence as in Spain . Ibn Al-Haytham, of course was the first to prove that light is reflected from the object and passes through the eyes which is a spherical hollow ball that has a sensitive inner service, that detects the light (image). He proved that the

angle of incidence equals the angle of reflection. He constructed a dark box with one pin hole on its side (called it camara-camera) to prove his theory.

Ibn Hazm's views on sound is that it travels at specific speeds. He gave examples to prove this. Such examples include reference to the interval between lightening and the thunder that follows it. In this, he implicitly believes that lightening causes thunder.

On Life Sciences

Ibn Hazm expresses views on the development of life and species. He classified them into categories according to the process of their inception and development. He goes into details of various insects (such as lice and flies) and animals (such as frogs).

Conclusions

Much of Ibn Hazm's work(400 nearly 80,000 pages) is still in Arabic. Although there are numerous Spanish and French translations of some of his books, there are very few in English. This paper attempted to review, in all three languages, his philosophy and thought on science, its virtues, territoriality, methods of its instruction and acquisition. The paper alludes to some of his ideas on natural and physical sciences.

Analdez, likened Ibn Hazm to the French philosopher-rationalist, Descartes. Perhaps more appropriately, comparisons should have been drawn between Ibn Hazm and the other French philosopher-scientist: Pascal (1623-62): the cohabitation, or the working together of science and high, God inspired morality.

Ibn Hazm's thoughts and philosophy on science have also another dimension. It is common with later Islamic scholars, such as Al-Ghazali, in classifying sciences, to assists in their understanding and promotion. He drew the boundaries, and the rules within science as a whole. He moreover, which is quite important, provided the learner indications of how to go on about it, integrating the highly complex, abstract, moral and also the most down to earth, such as the perfect behaviour at a scientific gathering. This classification, gradually perfected has led to our modern learning system.

Any scholar, imbued with science, often at odds with themselves, and the hows, and above all the whys of their science, have to return to Ibn Hazm. He has cleared massive ground needless, and very much impossible for someone to do now; just read and somehow, follow.

And, Ibn Hazm, en par with most Muslim scholars of the time, knowledgeable and pious, usually ends his work with the following:

> "May God make us amongst those he allows to do good, and to practice it, and those who see the right path as none of us is without weakness; whomsoever sees his weakness will forget those of others. May God make us die in the faith of Muhammad. Amen, Oh Master of the Universes."

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