Subject of this paper has a history of very long standing, from the days of Adelard of Bath down to our own time. New discoveries in oriental libraries have, however, added very considerably to the available evidence.

The study of Islamic philosophy and science deserves to be considered as an important item in the history of European civilisation, which is based on Hebraic and Greek elements alike. In the age of Dante people were fully aware of this particular importance of the Muhammadans for their own cultural life. Muhammadan religion is refuted by the medieval world: hence its leaders are condemned as heretics and are therefore confined in Dante’s poem to the ninth bolgia in the eighth circle of Hell, the dwelling place of the “seminator di scandalo e di scisma”, the propagators of discord. “See now how I rend myself”, Mohammed complains, “see how mutilated is Mahomet. In front of me Ali goes on his way lamenting, with his visage clef from the chin to the forelock, and all the rest whom thou beholdest here were in their lifetime sowers of dissension and schism and for this cause they are thus rent.”

The two Arab thinkers, on the other hand, who are mentioned by Dante: Avicenna and Averroes, are not in Hell, they reside in Limbo, among the distinguished heathens who committed no sin but cannot be admitted to Paradise because they did not receive baptism. Men of high excellence are in this negative state in Limbo. “After I had raised mine eyes somewhat higher, I saw the master of those who know, sitting in the midst

1 Paper read to the Oxford Medieval Society, 8th February, 1945.
3 Cf. L. Olschki, Dante e l’Oriente, Giornale Dantesco 39 [N.S. 9], 1938, pp. 65 ff.
4 Inferno, xxviii. 30.
of a philosophic company (i.e. Aristotle). All look towards him, all do him honour. There saw I Socrates and Plato, who stand nearest to him in front of the rest."  

Democritus is mentioned "who put the world to chance", Diogenes, Anaxagoras and Thales, Empedocles, Heraclitus and Zeno—they are all nothing but names and labels of certain doctrines in Dante's age. Dioscorides' work on medical plants was known, however, and so were the works of Euclid, the geometrician, and Ptolemy, Hippocrates, Avicenna and Galen; Averroes, also, who composed the grand commentary (i.e. on Aristotle): . . . e vidi . . .

Avicenna is evidently quoted here as doctor and author of the famous medical encyclopedia, the Canon, which was studied in a Latin translation made by the famous translator Gerard of Cremona during the twelfth century. Most of Averroes' commentaries on the different treatises of the Corpus Aristotelicum were known in Latin translations about 1250. I do not need to emphasise that scientific and philosophical works of ancient Greek authors mentioned by Dante were often made known to Latin readers through translations based on the Arabic text and not on the original Greek work. It might, however, not be out of the way to remember that the twelfth and thirteenth
centuries were not yet interested in the revival of Greek poetry as later centuries were, and that all that the Arabs had taken over from the Greek civilisation of the later Roman Empire was philosophy, medicine, science, and mathematics: neither Greek poetry nor artistic prose was ever translated into Classical Arabic. When the Western mind became interested in Greek poetry as well, it could only turn to the late representatives of the Byzantine Empire for help. But within these limits Arabic civilisation, and particularly philosophy and medicine and science, were of great importance for Western medieval civilisation. The trilingual inscription of 1142 in King Roger II's Palatine Chapel in Palermo, i.e. an inscription in Latin, Greek and Arabic (concerning a clock), is entirely characteristic of this state of affairs. A little later the Emperor Frederick II, who was buried in the cathedral of Palermo, is well known as an admirer of Arabic learning. Dante associates a Muslim philosopher and a Muslim physician with those great pagan Greek philosophers whom he knows. How did it then happen that the legacy of Greek philosophy and science—which had already once been partially naturalised in ancient Rome—came back to the Latin world of the Middle Ages in this round-about way, in Arabic disguise? And how did it happen that Muhammadans took so keenly to the philosophic and scientific legacy of ancient Greece, and preserved and developed this legacy, while it was declining in the Byzantine Empire, and not much cared for in the Western Latin World?

1.

We shall be equally surprised if we transfer ourselves from A.D. 1300 and Dante's age back to the beginning of the Middle Ages, when Italy was being overrun by barbarians from the north, and part of the Greek, eastern half of the Empire, namely Egypt, Palestine, Syria and part of Mesopotamia was being conquered by the advancing Arabs. Let us remember that the final conquest of Italy considerably preceded the rise of the Muhammadan Empire, whether we take the fall of Romulus Augustulus or the Lombard invasion as the decisive event, and with this in mind compare the attitude to the legacy of Greece-
of two men who both, though in different quarters, stand on the threshold of a new age. I mean Cassiodorus Senator, who after A.D. 540 set himself to compile for the monks of his foundation at Vivarium an Introduction to their studies, the second book of which contains a compendium of secular knowledge which he thought to be indispensable—and the great Nestorian Syriac translator of Greek texts into Arabic and Syriac, Hunain ibn Ishaq, who lived three hundred years later in the capital of the Abassid caliphs, Baghdad, and was the chief among a veritable school of translators. Cassiodorus recommends to those of his monks who do not know any Greek to study the pharmacological work of Dioscorides, mentioned also by Dante in the passage quoted above. He goes on: "Post haec legite Hippocratem atque Galienum Latina lingua conversos, id est Thaerapeutica Galieni ad philosophum Glauconem destinata, et anonymum quendam, qui ex diversis auctoribus probatur esse collectus". Hunain and his pupils certainly translated more than 100 medical and philosophical works of Galen into Arabic, and our list is probably not even complete. We get a similar result, if we compare Cassiodorus' list of philosophical books with those translated into Arabic in Hunain's age. Practically the whole Corpus Aristotelicum, with the exception of the Politics, some minor scientific essays, the Eudemian Ethics and


2 Hunain ibn Ishāq, Über die syrischen und arabischen Galen-Übersetzungen, Text and German translation by G. Bergsträsser (Leipzig, 1925). G. Bergsträsser, Neue Materialien zu Hunain ibn Ishāq's Galen-Bibliographie (Leipzig, 1932). M. Meyerhof, New Light on Hunain ibn Ishāq, Isis 8 (1926), pp. 685 ff., and e.g. The Legacy of Islam (Oxford, 1931), pp. 316 ff., 346 ff. The result of this comparison would not be very different in principle, if we compared a Syriac translator almost contemporary with Cassiodorus, the Monophysite Sergius (died A.D. 536), who like most of the Easterners of his age had no more contact with the Latin world, but was educated at the important Greek centre of Alexandria, cf. Sarton, op. cit., I (Baltimore, 1927), pp. 423 ff. But it is perhaps more appropriate to refer to Hunain ibn Ishaq, since he is nearer to the real beginning of Muhammadan philosophy and medicine. Besides, our information concerning Sergius is mainly dependent on Hunain’s auto-bibliographical essay, which he wrote in imitation of Galen's similar account of his own literary production (Περὶ τῶν ἡλίων βιβλίων). Cf. also F. Rosenthal, Die arabische Autobiographie, Studia Arabica I (Roma 1937) p. 5 ff.


4 Ibid., p. 79, 2 ff. Mynors.
the Magna Moralia, were known to the Muhammadan world not only through summaries but in their original text; the more important Greek commentators on Aristotle were known as well. Cassiodorus on the contrary mentions only a few logical writings, viz., Porphyry’s Isagoge, Aristotle’s Categories and De interpretatione and some other manuals of logic. Boethius had intended to render into Latin the whole of Aristotle and the whole of Plato, but the fate which overtook him prevented him from carrying out his great project. Aristotle remained thus practically unknown to the early Middle Ages. Part of Plato’s Timaeus, namely the fragment translated by Cicero, and the section commented upon by Chalcidius, was transmitted to the Western world. The Arabs on the other hand had access to complete translations not only of the Timaeus but of the Republic and the Laws as well, and moreover were acquainted with Platonic summaries by Galen and other authors which, though lost in their Greek original text, can still be recovered from Arabic manuscripts. It would be easy to accumulate


3 Cf. Boethius, Comm. peri ἐρμηνειας, 2, 3 (2 p. 79, 16 Meiser): ego omne Aristotelis opus quodcunque in manus venerit, in Romanum stilum vertens eorum omnin mutentur Latine, oratione perscribat, ut si quid ex logicae artis subtilitate, ex moralis gravitate peritia, ex naturalis acumen veritatis ab Aristotele conscriptum sit, id omne ordinatus transferam atque etiam quodam lumine commodatis in ilustrem omnesque Platonis dialogos vertendo vel etiam commentando in Latinam redigam formam.

4 Cf. R. Klubansky, The continuity of the Platonic tradition during the Middle Ages (London, 1939), p. 28.

5 Cf. e.g., A. Müller, Die griechischen Philosophen in der arabischen Überlieferung (Sonderdruck aus Festschrift Bernhardy, Halle, 1873); Steinschneider, op. cit.

6 Cf. e.g., Galen’s paraphrase of the Timaeus, Corpus Platonicum Medii Aevi, Plato Arabus I (London, 1945); al-Farabi’s Summary of the Laws and Averroes’ Summary of the Republic (to be published in the same series); the Plato quotations in Al-Biruni’s India (English translation by E. Sachau, London, 1888). F. Rosenthal, On the Knowledge of Plato’s philosophy in the Islamic world, Islamic Culture 14 (1940), pp. 387 ff.
further evidence and to show more completely the remarkable
difference between the Arabic and the Latin medieval world
in the knowledge of Greek philosophy and science. It is tempt-
ing to inquire into the reasons for this difference, and although
I do not claim to give any final answer whatsoever I venture to
propose it as one of the items of this paper. It is obvious that
any such answer can only be tentative.

Philosophy and scientific medicine, mathematics, natural
science, etc., are creations of the Greek genius. There is,
roughly speaking, since the fourth century B.C., an unbroken
continuity of philosophical and medical teaching in the Mediter-
ranean world, in Greece itself and in the hellenised cities of the
Near East, from Asia Minor to Syria and Egypt and beyond.
This continuity of Greek education was not interrupted by the
absorption of all the countries concerned into the Roman Empire.
On the contrary, Greek literature, philosophy and science in-
vasioned Rome itself, and Roman "humanitas" was the result of
this contact with Greek civilisation. Educated Romans eventu-
ally knew Greek as well as their native tongue, and men like
Cicero, Lucretius, Celsus, Seneca composed philosophical and
scientfic works in Latin. But this close contact with the Greek
world no longer existed in the age of Cassiodorus. Since the
second century A.D. the Latin speaking people within the Roman
Empire had gradually given up intercourse with the Greek world,
and Roman philosophy had abandoned the positions gained by
Cicero and Seneca, and more or less ceased to exist. The
Emperor Marcus Aurelius still wrote his philosophical work

1 Cf., e.g., the chapters in the Legacy of Islam on Philosophy and Religion
(by A. Guillaume), on Science and Medicine (by M. Meyerhof), and on Astronomy
and Mathematics (by Baron Carra de Vaux). Cf. recently P. Kraus, Jābir ibn
Hayyān, Contribution à l’histoire des idées scientifiques dans l’Islam, Vol. II: Jābir et la science grecque, Mémoires présentés à l’institut d’Égypte 45 (Le Caire,
2 I am not at all unaware of the fact that to a certain degree I simplify a
very complex historical process. Whereas we note in the West a slow penetra-
tion as a result of continuous contact with Byzantium and a gradual addition to
the knowledge of ancient thought, the contact of the Muhammadan world with
ancient tradition is limited to one particular period. It is also obvious that the
West eventually achieved a better understanding of the essential features of Greek
thought than the East ever did. But my concern in this paper is to show the
particular merits of the Muhammadan attitude to the legacy of Greece.
in Greek, and Rome was still full of eminent Greek authors during his reign. He died in 180; about two hundred years later, the most eminent philosopher and theologian of the age, Augustine, prefers to read Greek philosophy in Latin translation. On the other hand no continuous tradition of philosophical teaching grew up in the Latin world which might be compared to that in the Greek half of the Empire. Latin philosophy was always an individual achievement. It thus could happen that the premature death of one man, Boethius, prevented the following centuries from knowing Plato and Aristotle in Latin translation. There was no comparable scarcity of scholars in the Eastern provinces which were overrun by the Arabs. The Platonic Academy itself, it is true, had been closed forcibly by Justinian in 529, the professors still being pagans. But philosophical and medical teaching was still alive in Alexandria when it was conquered by the Arabs in 639; the same applies, in due proportion, to minor centres in Palestine, Syria and Western Mesopotamia.

The invading Teutonic tribes interrupted the continuity of Roman administration in Italy and elsewhere. We know now, on the other hand, how the Roman system of administration survived the Arab conquest of Egypt, e.g., for a considerable time and disappeared only gradually.¹ In a similar way the Greek language did not die out suddenly in the provinces now definitely under Muhammadan rule, but appears to have survived for a very considerable time, certainly until the middle of the ninth century. St. John of Damascus, e.g., the great orthodox Greek theologian, passed part of his life at the Umayyad court (he died about A.D. 750), and it is not improbable that he influenced Muhammadan theology in statu nascendi.²

² Cf., e.g., A. J. Wensinck, The Muslim Creed: Its Genesis and Historical Development (Cambridge, 1932), passim.
The translator Hunain ibn Ishaq had evidently no difficulty in obtaining his outstanding knowledge of Greek prose style in the first half of the ninth century, and in bringing together a quite remarkable collection of Greek MSS. from Egypt, Palestine, Syria and Mesopotamia. He seems also to have been in contact with Byzantine Greek civilisation; the greatest Greek scholar of the ninth century, the patriarch Photius, came to Baghdad as an ambassador. Hunain is well versed in the methods of philological criticism which Greek scholars of his age practised, and certainly deserves to be mentioned in a new edition of Sandys, History of Classical Scholarship. Greek influence in Baghdad was thus not confined in the ninth century to variety shows and dancing girls, as we might infer from Beckford's Vathek. But in the tenth century the Arabic translators no longer know any Greek at all, but translate exclusively from Syriac translations. None of the outstanding philosophers, however—Al-Kindi (died A.D. 873), al-Razi (died ca. A.D. 920), al-Farabi (died ca. A.D. 950), Avicenna (died A.D. 1037), Averroes (died A.D. 1198)—understood any Greek. They had thus to rely wholly on the achievements of the translators, and it is perhaps not superfluous to emphasise that, on the whole, these translations are excellent and betray a very high degree of knowledge and of philosophical and scientific understanding. In general, also, the translations of those Greek works which are not lost in their original text are important for the classical scholar, being often the earliest available evidence of their text.

The Arab tribes not only showed a remarkable tolerance towards the inhabitants of the conquered provinces of the Roman Empire but also an eager willingness to take what the

1 Cf., e.g., Über die syrischen und arabischen Galen-Übersetzungen (above, p. 163, n. 2), no. 115.
2 Cf., e.g., D. S. Margoliouth, The discussion between Abu Bishr Matta and Abu Sa‘id al Sirafi on the merits of Logic and Grammar, Journal Royal Asiatic Society, 1905, p. 114.
3 Our evidence is not absolutely sufficient in the case of al-Kindi but it is very probable that he also had no Greek.
other had to give, while the Germanic conquerors of Italy who lost their native language and accepted the religion of the conquered, interrupted or rather disrupted the continuity of ancient civilisation in the West. The Arab conquerors brought with them an already highly developed language, a new religion of their own and their own holy book. They could afford to learn from the conquered people without risking their religious and linguistic individuality, provided that those branches of Greek literature which interested them were translated into their own language. The tolerance of the Muhammadan rulers is very impressive indeed. Jews and Christians were allowed by the conquerors to retain their faith and to continue the practice of their religious observances—we might remember the fact that Moses and Jesus are recognised as prophets by Muhammad. “As late as the beginning of the tenth century, in the city of Baghdad, the capital of the Muslim Empire, there was a Christian population of between forty and fifty thousand persons, and monasteries were to be found in almost every quarter of the city.”

Yet these Christians, heretics as most of them were, belonging either to the Jacobite or to the Nestorian Church, did not speak Greek but mostly Syriac. This fact helps us to understand the survival of Greek philosophy and science in the Muslim world in yet a different way. Firstly, there are often intermediate Syriac versions, and a certain number of Arabic versions are made from the Syriac only, without renewed comparison with the Greek. This Syriac precedent certainly facilitated matters for the Arabic translators. Secondly we have to ask, how this great interest of the Syriac church in secular Greek literature can be explained. If we can find a satisfactory answer in the history of the Greek Church, on which the Syrians depend, the difference between Hunain and Cassiodorus will appear less and less surprising. The main facts are these: Origen’s and Eusebius’ philosophical interpretation of Christianity did not

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prevail in the age dominated by Athanasius; hence secular teaching, i.e. the teaching of philosophy and medicine, remained in the hands of pagan teachers, and the final absorption of Greek tradition into the New Life of Christianity was delayed.\footnote{The best known Greek physician in the fourth century, Oribasius, composed his huge medical encyclopedia for the pagan emperor Julian, and there were, on the other hand, still Christian circles who preferred to base medicine on religion only, and were openly hostile to Greek scientific medicine as established in the fifth and fourth century A.D.}
The well-known "Oratio ad pueros" of St. Basil (330-379), the famous platonising theologian, is mainly concerned with the moral value of pagan literature; he does not ask for rigorous philosophical or scientific training of the Christians in Christian schools. He and his friend Gregory Nazianzen frequented pagan universities.\footnote{One of the main complaints of the Christians during Julian's reign was that they were prevented from attending philosophical and rhetorical instruction given by pagan teachers.}
This state of affairs continued more or less throughout the fifth century. A change is to be noticed during Cassiodorus' lifetime, although for reasons already mentioned, its results were not as quickly communicated to the Latin West as would have been the case even during the fourth century. It is a now generally discredited misrepresentation of the facts that the closing of the Platonic Academy in A.D. 529 and the emigration of the remaining professors, like Simplikios, the great commentator on Aristotle, to the Persian court, put an end to the continuous teaching of pre-Christian Greek philosophy. The truth is that just before and during Justinian's reign (527-565) philosophical and scientific teaching was more generally being taken over by Christians. The outstanding representative of this new development is the commentator on Aristotle, John Philoponus in Alexandria, himself a Christian heretic (485-555), whose work against Proclus' "De aeternitate mundi" appeared in the year that the Platonic academy was closed.\footnote{It was fully used by the great Muhammadan theologian al-Ghazali (1059-1111) in his fight against the doctrine of the eternity of the world upheld by the Aristotelian philosophers.} Other Christian scholars of the same sixth century are the commentators on Aristotle, Elias and David in Alexandria, Johannes Lydus in Constantinople and Stephanus of
Alexandria who was called from there to Constantinople at the beginning of the seventh century, shortly before the Arab conquest of Egypt, and lectured on Plato and Aristotle at both places. The same development took place in minor centres. The Syriac translator Sergius came to Alexandria at the beginning of the sixth century, and the Syriac Church, which had become a more and more independent national church, fully shared this now definite attitude of the Greek Christian world towards its own philosophical and scientific legacy; not only the Bible and works of the Christian Fathers but also philosophy, medicine, etc., were translated into Syriac.

It is a commonplace among scholars and yet so often not taken into due account that the preservation of Greek literature as a whole, and particularly the preservation and transmission of Greek philosophy and science, etc., to posterity, is almost exclusively due to the Christians of the later centuries of the Roman Empire. It is hence not surprising that the selection made by these Christian philosophers and scientists was limited and by no means comprehended all the material which was still available. They felt bound to preserve only those works which appealed to their own philosophical and theological thought, which in its turn largely, though not exclusively, depended on the different schools of Neoplatonism which existed independently or had been taken over by Christian teachers. The special interests of the later centuries guaranteed not only the continuous study of Plato’s dialogues and Aristotle’s lecture courses but also, e.g. of Alexander of Aphrodisias, of Plotinus and other Neoplatonic authors. The same applies to the very important achievements of Hellenistic scientific medicine. Galen, a man still in contact with the last remnants of Hellenistic research, and himself a good teacher, steeped in a rich tradition,

1 Cf. H. Usener, De Stephano Alexandrino (Bonn, 1880) and *Kleine Schriften*, III, pp. 247 ff.
2 Cf. above, p. 163, n. 2.
3 The continuity of European civilisation is largely due to the fact that the Christians took to Greek philosophy at a very early stage of their history and eventually made it part of a Christian syllabus of education, particularly in the eastern part of the Empire. Cf. recently, W. Jaeger, *Humanism and Theology* (The Aquinas Lecture, Milwaukee, 1943).
4 Hellenistic and pre-socratic philosophy were neglected and eventually lost.
gradually overshadowed all his predecessors and became the main author to be studied in the medical schools. Fortunately the works of Hippocrates, whom Galen appreciated as highly as philosophers of the Imperial Age appreciated Plato's authority, were handed down along with Galen and studied with the help of his commentaries. This is the background of the Arabic translations from the Greek: Philosophy, Medicine, Mathematics, Astronomy, etc., as studied in the sixth century in Alexandria and elsewhere, in Antioch or Constantinople. It is slightly different from the later Byzantine transmission of these branches of the Greek legacy, which was modified and still more narrowed down as a result of later developments of Byzantine civilisation after the Muslim conquest. We should not forget that the Arabs had neither an interest in a Greek work just because it was written in Greek, nor in Greek poetry or literary prose. But with this reservation in mind we are now in a better position to understand why the Arab achievements in philosophy, medicine, science, etc., could surpass those of the genuine heirs of Greek civilisation so considerably that Arab medicine was translated into Byzantine Greek during the eleventh century, no longer vice versa. And it will also be less surprising to find that a not inconsiderable quantity of otherwise lost Greek philosophical, scientific and medical works can be regained from rediscovered Arabic translations. We are still just beginning to cultivate this very promising new field of research. It is beyond the scope of this paper to give a summary, e.g. of the texts actually discovered in Arabic disguise within the last century. With the exception of the papyri, the Arabic versions are our only hope for a better knowledge of ancient Greek literature than we possess at present.

These are some of the reasons which might be mentioned in an attempt to explain the contrast between the early Christian and Muhammadan period and between Latin and Arabic Middle

1 Cf. above, p. 162.
2 Cf., e.g., I. L. Heiberg, Geschichte der Mathematik und Naturwissenschaften im Altertum (München, 1925), p. 117.
Ages with regard to the legacy of Greek philosophy, medicine and science. Intermediaries such as the translator Hunain b. Ishaq and his like certainly deserve a high appreciation, having been instrumental in bringing about the continuity of this branch of European civilisation at a very critical stage of European history. But it would be scarcely justified to consider Arabic translations and Arabic original philosophical or medical works only as a kind of quarry for the Classical scholar and to rejoice in the many recent discoveries in this field. This would explain only the material preservation of Greek philosophy and science among Muhammadans, and not show how they assimilated this foreign legacy to their own needs and transmitted it to later generations of their own people, so that it eventually could be made available to the Western Latin world. We have therefore to look at some of the representatives of Muhammadan philosophy, if we desire to understand how Dante could dare to associate Avicenna and Averroes with the great philosophers and physicians of the pre-Christian age of Greek philosophy. I choose as such representatives two of the earliest Muhammadan philosophers, living in the ninth and tenth centuries, the Arab al-Kindī (died about A.D. 873) and the Turk al-Fārābī (died A.D. 950). Most of their works have only recently become known as a result of modern Western scholarship, some are known but still unpublished, and the greater part is still not thoroughly explained, as it certainly deserves to be. A feature common to many Muhammadan philosophers is already evident in outline in the preface of al-Kindī's Metaphysics, a work on the Principles of Reality and the One, written in Baghdad between A.D. 833 and 842. I quote from the unpublished text: ¹ "It is fitting then to acknowledge the utmost gratitude to all those who have contributed even a little to truth not to speak of all those who have contributed much. If they had not lived, it would have been impossible for us, despite all our zeal, during the whole of our lifetime, to assemble these principles of truth which form the basis of the final inferences of our research. The assembling of all these elements has been

¹ Edition and translation are being prepared by M. Guidi and the present writer.
TRANSMISSION OF GREEK THOUGHT

effected century by century, in past ages down to our own time. A single lifetime would not suffice to complete it, even at the cost of tireless research undertaken with the utmost perseverance by an extremely discerning mind. Aristotle, who was a leader of the Greeks in philosophy, has also said: ‘it is fitting to acknowledge with gratitude the contribution of those who have added anything to truth . . . they have prepared for us the road by which we can reach truth.’ How fine these words are. It is fitting then for us not to be ashamed to acknowledge truth and to assimilate it from whatever source it comes to us, even if it is brought to us by former generations and foreign peoples. For him who seeks the truth there is nothing of higher value than truth itself; it never cheapens nor abases him who searches for it, but ennobles and honours him.”

This unconditional tolerance and open-mindedness is characteristic of Muhammadan philosophy from al-Kindi down to Averroes, “le Boèce de la philosophie arabe”. As far as truth is concerned

1 Cf. e.g. [ARISTOTLE] Metaph. a1, 993a30 ff and the philosopher and physician al-Razi (died A.D. 920), Liber ad Almansorem IV, 32, “It is not possible for a man, though he lives to a great age, to attain to this part of knowledge so considerable in itself, unless he treads in the tracks of the ancients; the extent of this science far exceeding the bounds of human life: and the same thing is not in this alone, but in many other professions. The authors who have improved this art are not a few, but they are not to be comprehended within the compass of a few years; a thousand writers perhaps for a thousand years have been improving this art, and profession: and he that industriously studies those authors will, in the short period of life, find out as much, as if he had lived a thousand years himself, or employed those thousand years in the study of physic. But if the perusal of ancient authors comes once to be slighted, what can any single person find out, or what proportion can his personal abilities, though much superior to others, bear to the immense treasures of the ancients?” (quoted from W. A. GREENHILL, A Treatise on Small-Pox and Measles, by . . . al-Razi [London, 1847], pp. 79 f.). The great Renaissance physician, Vesalius (s. XVI), appreciated al-Razi as the last representative of true Greek medicine. In the preface of his anatomical work De fabrica corporis humani, he speaks of the destructive tendencies operating in the history of science: “In bygone times (i.e. in the West after the Gothic deluge and in the East after the reign of Mansur, al-Razi’s royal protector in Persia) medicine began to be sore distempered. The Arabs were able to stave off the downfall of medicine for so long a time, because at the age of Mansur they still lived as was right on terms of familiarity with the Greeks (sub quo Arabes nobis adhuc cum Graecis merito familiares vigebant)”. Cf. L. EDELSTEIN, Andreas Vesalius The Humanist, Bulletin of the History of Medicine, 14 (1943), pp. 547 ff.
there are no differences of creed, language or race to be considered. Aristotle is referred to as the paladin of Greek philosophers, in full agreement with Neoplatonic and Christian philosophical teaching during the fifth, sixth and seventh centuries. We have recently traced a brief introduction to Aristotle by al-Kindi;¹ this treatise and particularly the slightly unusual division of the Corpus Aristotelicum to be observed in it allows us even to determine al-Kindi’s immediate spiritual ancestors more closely. His ultimate Greek source must be an introduction to Aristotle of a more Platonic character. He is apparently nearer to some Christian variant of Proclus’ Athenian Neoplatonic school—that closed down by Justinian—than to the Neoplatonic Christian school of Alexandria, with which al-Farabi and through him Averroes are ultimately connected.² I mention this fact only in order to demonstrate that Islamic philosophy by no means exclusively depended on the preservation and continuity of one ancient tradition only, but that the individual philosophers, especially in the first stage of this new phase in the history of European thought, could rely on several distinct intermediaries. Al-Kindi’s Aristotelean syllabus is almost complete, with the few exceptions mentioned before. It differs, however, from the syllabus known from the Greek Aristotelean commentators from the age of Andronicus of Rhodes down to Elias and David in so far as it assigns the first place not to Logic but to the Quadrivium, i.e. mainly to Mathematics, whereas Aristotle, his commentators and the Arabic followers of this tradition place Mathematics between Natural Science and Metaphysics. This difference, e.g. connects al-Kindi with a non-Alexandrian tradition of Aristotle-reading.³

We should not overlook, however, that, except for such small differences, the philosophy of Aristotle as referred to by all the Arabic philosophers is very different from our actual knowledge of Aristotle’s philosophical personality. Aristotle is a creative thinker, who likes to correct his opinions continuously and is

¹ Cf. above, p. 164, n. 1.
never satisfied with the results of his untiring research. His analytical mind is never at rest; for al-Kindi Aristotelean philosophy is a static system of conceptions, of truth once obtained in the past and to be kept and passed on as such. But it would be quite unfair to charge al-Kindi and the other Arabic Aristoteleans with this wrong notion of Aristotle's philosophy as a merely conceptual scholasticism. It is due to the otherwise remarkable achievement of the Greek commentators on Aristotle, whose works, i.e. the lectures delivered by them in the philosophical schools, were handed down to the Islamic world; Islamic exegesis of Aristotle follows the Greek commentaries without a gap.¹

It would be a mistake, however, to assume that al-Kindi—and the same applies mutatis mutandis to the other Islamic philosophers—followed the authority of ancient Greek thought without reserve and without any claim to an individual achievement of his own. On the contrary he is fully conscious of his own position, as we learn from the next section of the preface of his Metaphysics (from which I quoted above): "It is fitting then to remain faithful to the principle which we have followed in all our works, which is first to record in complete quotations all that the Ancients have said on the subject, secondly to complete what the Ancients have not fully expressed, and this according to the usage of our Arabic language, the customs of our age and our own ability."² An example of what he might have meant by these words might be quoted from the same Introduction to Aristotle. After having dealt with the mathematical sciences, the different parts of the Corpus Aristotelicum and another purely logical item, he proceeds, to the modern reader's surprise, to state the limitations of pure thought and to attribute the highest intellectual superiority to the intuition of the prophetic mind. "There exists", he says, "a knowledge

² Also al-Razi did not at all abide by authority. In his "Comprehensive Book"—the "Continens" of the Western world—he first cites for each disease all the Greek, Syrian, Arabic, Persian and Indian authors, and at the end gives his own opinion and experience.
which is a miraculous prerogative of the prophets and distin-
guishes them from other people, because for people who
are not prophets there is no possibility of arriving at any know-
ledge whatsoever without research, logic, preparatory sciences,
and a long period of instruction. The prophets on the contrary
arrived at knowledge without needing those aids, but simply
by the will of the Lord who sends them. But common people
are by nature incapable of arriving at similar knowledge because
all such things are beyond their nature and their efforts, and
they can do nothing but submit themselves with obedience and
docility, and profess faith in the things which the prophets
reveal to us." This kind of "divine knowledge" cannot
be traced in Aristotle's courses of lectures but there is a marked
resemblance to the Athenian Neoplatonists' attitude towards
certain philosophical and pseudoreligious writers of late Greek
philosophy, whose authority was unconditionally accepted as
a kind of divine revelation. The introduction of divine
revelation into an otherwise mainly Aristotelean system of
thought constitutes a further link between al-Kindi and the
Athenian neoplatonist school. But the special question which
al-Kindi discusses as an instance of the divine knowledge "not
to be stated in the languages in which human speech is expressed"
had never been considered by any pagan Greek philosopher; it
concerns the resurrection of the body, one of the great religious
paradoxes, common to Islam, Christianity, and Judaism, and
often discussed by Greek Christian theologians of the Imperial
Age, but never by pagan philosophers. Pagan Greek thought in
facing the problem of death provided arguments for the im-
mortality of the soul, and of the soul alone. Al-Kindi's theo-
logical chapter, based as it is on some verses taken from the new
Muhammadan revealed book, i.e. the Qur'an, is nevertheless
again utterly Greek in its method. A well-known argument of
Plato's Phaedo is converted into an argument for the \( \alpha\nu\alpha\omega\tau\alpha\rho\sigma\omega\varsigma \) \( \sigma\alpha\rho\kappa\iota\varsigma \), and most of the dialectical inferences used are to be found
in Aristotle's Topics. There are, moreover, parallels to al-Kindi's

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1 *Op. cit.* (p. 164, n. 1), cap. VI.
3 Sura, 36, 78-82.
theological statement to be found in Christian theologians like St. John of Damascus. It is thus a very probable guess that al-Kindi took over his syllabus of secular knowledge and his conception of the inspired teachings of the prophets from a Christian school which had developed in consequence of the general changes described above and which put divine revelation above reason and was not convinced that natural theology could answer every question. This school was, however, rather a Christianised variation of a Neoplatonist (and hence polytheistic) school of the Athenian type than a Christian college based on a religious philosophy like the one taught by Origen and Eusebius. Al-Kindi’s immediate spiritual ancestor was most probably Syriac. His own achievement was then, if my view is correct, the substitution of some Qur’ān verses for similar verses of the New Testament and the first presentation of this type of philosophy to the Islamic world. The heretical critics of revealed truth which he attacks, in full agreement with Muhammad but with Greco-Christian arguments, may have been just ordinary sceptics or pagan philosophers. The layman al-Kindi, writes for the “enlightened intellects” of speculative theologians like the Mu’tazilites and other believers who seek rational proof of their beliefs and who need arms in their fight against heresies and rival religions. He has to build up his own position in opposition to orthodox intolerance, as we gather from his biography and from another section of the preface of his Metaphysics. Against narrow-minded orthodox theologians he uses the Aristotelean argument, meant originally for sceptical or rhetorical opponents of philosophy: “They are bound to say that the attainment of this knowledge is either necessary or unnecessary. If they say it is necessary, they must agree to go in search of it; if they say it is not necessary they

1 E.g. De fide orthodoxa, IV, 27.
2 I do not here inquire into the hellenistic and even older sources of the Islamic theory of prophecy. Antioch might have been one of the links between the Athenian school of Syrianus and Proclus and the Syriac Nestorian tradition.
3 Cf. H. S. Nyberg, s.v. Mu’tazila in The Encyclopaedia of Islam, III (1936), pp. 787-793. According to the biographical tradition al-Kindi was a Mu’tazilite himself.
4 Cf. Aristotle’s Protrepticus (fr. 51 Rose = p. 22 Walzer).
must give their reasons and the arguments to prove it. But to give reasons and arguments is part of the attainment of philosophical knowledge in its essential truth. Hence the attainment of philosophical knowledge is necessary and obligatory for them.”

Trying to explain the interesting difference between al-Kindi and the school of al-Farabi and Averroes, it will be convenient to start with al-Farabi’s quite different treatment of the crucial issue of the resurrection of the body. Al-Farabi has been blamed for his inconsistency in this important question by a later Muhammadan philosopher, ibn Tufail, Averroes’ older philosopher-friend. He mentions in the preface of his philosophical romance that al-Farabi holds in his main work “On the best state” that immortality is granted only to the souls of good and wise men, whereas those of the bad are doomed to complete destruction. There can be no question either of Hell or of resurrection of the body or of a transmigration and second incarnation of the soul. But in his otherwise lost treatise “On the best religion” he deals fully with punishment and reward in a future world, and treats Hell and Paradise as a reality, in agreement with the Qur’anic tradition. There is, however, plenty of evidence to show that al-Farabi has not been inconsistent and that ibn Tufail misunderstood his attitude. For al-Farabi philosophy is by no means subordinated to religion; philosophy and religion are rather co-ordinated. Both have the same aim but reach it in different ways, according to the different capacity of man. Only a few are able to philosophise and to understand logical demonstrations and use them in their

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1. Cf. R. Walzer, New Light on al-Kindi, in Medieval and Renaissance Studies. . . . Al-Kindi has also the merit to have introduced Plotinus in Aristotelian disguise to Arabic civilisation, having asked a Christian Syriac translator to prepare for him an Arabic translation of the wrongly so-called Theology of Aristotle.

2. Ibn Tufail’s work was one of the earliest Arabic philosophical works to be published in this country. It was edited, together with a Latin translation, by Edward Pocock, junior, at Oxford in 1671, under the title “Philosophus Autodidactus”. A new translation, this time into English, was published in 1708 by Simon Ockley, and reprinted in 1929 (The History of Hayy ibn Yaqzan, etc., edited by A. S. Fulton).

search for truth. The rest cannot be educated by philosophical arguments and rational proof but only by convincing "rhetorical" arguments based on truth and hence producing true opinion. This is the true realm of religion, of myth and of symbols, and, e.g. of the creed in its impressive rhetorical form. Religion thus definitely represents a minor degree of certainty. Where you enter its sphere, you are, according to Farabi, allowed to introduce even resurrection and rewards and punishments in a future life, although you are fully conscious of the fact that your statement disagrees with what you know to be true for philosophical reasons. We find the doctrine that only the good souls do not perish together with the body as early as the age of Chrysippus. It was evidently, as happened to so many Stoic tenets, accepted by some branch of Middle Platonic philosophy which was still alive in one of the Neoplatonist schools of Alexandria; for we know independently that al-Farabi was convinced he had his immediate spiritual ancestors in Alexandria, and an analysis of his scheme of the Corpus Aristotelicum (from an unpublished source), yields the same result. Moreover the argument that the tale of reward and punishment in a future life has a mere symbolical value, is of long standing and at least to be traced back to Hellenistic thought. The theory behind it is even older, it comes down to al-Farabi in direct line from Plato's education of the Guardians, from Stoic sources, and from hellenistic interpreters of the closing myth of the Republic. Aristotle, too, held that myths are mainly important for the persuasion of the unphilosophical crowd. Al-Farabi thus is evidently nearer to classical Greek philosophy


4 A critical edition of al-Farabi's hitherto unpublished treatise De Aristotelis philosophia (= De Beatitudine assequenda, lib. III) is being prepared by F. Rosenthal, Cincinnati, and the present writer.

5 Cf. Metaph. A8, 1074, a38 ff.; a3, 995, a3.
which was somehow still alive in Alexandria, than al-Kindi, the late descendant of the Athenian school. Philosophy is not the handmaid of theology in his philosophical system. But al-Farabi’s teachers were Christians, though they were not Nestorians like al-Kindi’s, but Jacobites, and we have again to look for a connecting link between pagan Greek thought and Islamic philosophy concerning this particular brand of Neoplatonism. There is no direct connection with Origen’s Alexandrian Christian school of the third century. But we may refer to a Neoplatonist of Alexandria at the beginning of the fifth century who became a Christian and a bishop: Synesius of Cyrene. He might help us to understand how a Christian educated in the Aristotelean and Platonic syllabus of the pagan school could be a sincere Christian and still not abandon his belief in the ultimate superiority of philosophy. After his conversion, Synesius writes to his brother, explicitly denying Resurrection and the end of the world: “The resurrection (ανάστασις) which is an object of common belief, is nothing to me but a sacred and mysterious allegory and I am free from sharing the views of the vulgar crowd therein. The philosophical mind albeit the discerner of truth, admits the employment of fiction: for light is to the eye what truth is to the mind. Just as the eye would be injured by excess of light, and just as darkness is more helpful to those of weak eyesight, even so do I consider that fiction may be beneficial to the populace, and the truth injurious to those not strong enough to gaze steadfastly on the radiance of real being. If considerations of this kind and the rules of my priesthood grant me this, I might be a priest, being fond of wisdom at home and being fond of myths outdoors.”

It is this old Platonic conviction, which can equally be applied to Greek myth and law and to Christian and Muslim religion, which was taken over by al-Farabi. Averroes, who is the last great representative of the Arabic philosophical tradition founded by al-Farabi, shared his view of the primacy of reason. He maintained like al-Farabi “that philosophical truth was absolute truth, the Koran and its theological interpretations being nothing

more to him than popular approaches to pure philosophy".1 But he, like al-Farabi and like his Greek predecessors—including incidentally Galen's startling statement on the Christians 2—entertained a sincere respect for the moralizing power of religion.

But the Muhammadan philosophical tradition represented by al-Farabi and Averroes achieved still more for the continuity of European thought. During the Imperial Age Aristotle, who had not been very popular in Hellenistic philosophy, had become one of the main authors to be studied in the philosophical schools. After the lecture courses, which seem during the Hellenistic Age to have been known only to specialists, had been almost rediscovered and edited in the age of Cicero, a veritable school of very remarkable commentators of Aristotle developed. Alexander of Aphrodisias, an older contemporary of Plotinus, is one of the best known of them; others are Themistius, friend of the Emperor Julian, and John Philoponus of Alexandria, the first Christian commentator of Aristotle of whom we know. The achievements of these commentators were so well known to, and understood by, the Arabs that we can, e.g., prove the spuriousness of the Greek text of Alexander's commentary on the theological book of Aristotle's Metaphysics from a fragment of the genuine text preserved only by Averroes;3 two of Themistius' paraphrases are only preserved in a Hebrew translation, made from the Arabic version of the Greek text.4 The commentaries of Averroes, who preserved and developed the tradition of the Greek commentators, are still considered as outstanding in our own age. For more than three centuries the Western world studied Aristotle mainly with the help of Averroes' commentaries. A new edition and partially new translation was published as late as about the middle of the sixteenth century,5 and Zabarella, a man especially cherished

1 Cf. E. Gilson, op. cit., p. 53.
3 J. Freudenthal, Die durch Averroes erhaltenen Fragmente Alexanders, Abhandlungen der Berliner Akademie, 1885.
5 Cf., e.g. E. Renan, Averroes et l'Averroisme (Paris, 1861), pp. 377 ff.
by Aristotelean scholars of to-day, is still steeped deeply in Averroes.

Averroes did not comment on Aristotle's Politics in discussing the last part of his Aristotelean syllabus but selected Plato's Republic instead. This was neither his own invention nor just due to the fact that no Arabic translation of Aristotle's Politics could be traced. There is at its base an educational syllabus and a philosophical doctrine which is not known to us from any Greek source. It appears first in al-Farabi, and scholars have not sufficiently realised that the main trend of Averroes' thought is already fully evident in al-Farabi's nowadays well known philosophical system. The study of the whole text of Aristotle and of the commentators appears to be firmly established in the tenth century. Students are no longer satisfied to rely on summaries. Al-Farabi's newly found introduction to Aristotle, larger than that by al-Kindi discussed above, puts it beyond doubt that his understanding and knowledge of Aristotle continues the best philosophical tradition still alive at the time of the Arabic conquest: the school of Alexandria. Also his exegesis of Plato and his general conception of Plato's thought show an interpretation of Plato quite different from the one in vogue at Proclus' Athenian Neoplatonist school and communicated to fifteenth-century Florence through Byzantine channels. Plato is not only a Metaphysician and a Theologian for al-Farabi and his Greek source. Timaeus and Parmenides are not the only works which really count, but Republic and Laws, not at all appreciated in the Athenian school, have the place which they rightly deserve in every consideration of Plato's thought. Plato's political thought was not overlooked in this Platonic school, which co-existed with the almost exclusively religious Platonism of the Athenian school and its decided detachment from everyday life. It is due to this tradition that the Islamic world got to know in translation not a mere fragment of the Timaeus like the Latin Occident but the

complete text of Timaeus, Republic and Laws. Al-Farabi—and Averroes after him—followed Aristotle in Logic, Physics, Psychology, Metaphysics, and Ethics, although slightly changing Peripatetic Metaphysics by adding Neoplatonic elements. But in Politics—possibly following some Greek predecessor in Alexandria—he deliberately chose Plato as his guide and showed how easily Plato's ideal state could be adapted to Muhammadan conditions without any substantial loss with regard to its main elements. It would be under the guidance of the philosopher-caliph-king, and the multitude in it would not be educated by Greek myth but by Muhammadan religion and law. We still possess the summary of Plato's Republic composed by Averroes, in a fourteenth-century Hebrew and in a sixteenth-century Latin translation. He used the same ancient summary of the work as al-Farabi 200 years before. If it had been translated into Latin in the thirteenth century, together with his commentaries on Aristotle, Western Platonism might well have developed on different lines, and Plato's true philosophy might not have been overshadowed for so long a time by the powerful figure of Plotinus.

Such are the Arabic philosophers whom Dante associates with the great pagan Greek and Latin Philosophers of the past, "with people" he says, "who had pensive and serious eyes, and great dignity in their countenances, who spake but little, and with soft voices":

Genti v'eran con occhi tardi e gravi
di grande autorità ne' lor sembianti
Parlavan rado, con voci suavi.

1 The Hebrew text, with English translation and notes, will be published in the PLATO ARABUS series in the near future.
2 Cf., e.g. R. KLIBANSKY, Plato's Parmenides in the Middle Ages and the Renaissance, Medieval and Renaissance Studies, I, 2 (London, 1943), pp. 281 ff.
3 Inferno, IV. 112-114.