G. This was the opinion of a philosopher named Heraclides / (138b) Ponticus, who maintained that the earth moves circularly and that the heavens remain at rest. Here Aristotle does not refute these theories, possibly because they seemed to him of slight probability and were, moreover, sufficiently criticized in philosophical and astrological writings.

However, subject, of course, to correction, it seems to me that it is possible to embrace the argument and consider with favor the conclusions set forth in the above opinion that the earth rather than the heavens has a diurnal or daily rotation. At the outset, I wish to state that it is impossible to demonstrate from any experience at all that the contrary is true; second, that no argument is conclusive; and third, I shall demonstrate why this is so. As to the first point, let us examine one experience: we can see with our eyes the rising and setting of the sun, the moon, and several stars, while other stars turn around the arctic pole. Such a thing is due only to the motion of the heavens, as was shown in Chapter Sixteen [see fol. 115c ff.], and, therefore, the heavens move with daily motion. Another experience is this one: if the earth is so moved, it makes its // (138c) complete course in a natural day with the result that we and the trees and the houses are moved very fast toward the east; thus, it should seem to us that the air and wind are always coming very strong from the east and that it should make a noise such as it makes against the arrow shot from a crossbow or an even louder one, but the contrary is evident from experience. The third argument is Ptolemy's—namely, that, if someone were in a boat moving rapidly toward the east and shot an arrow straight upward, it would not fall in the boat but far behind it toward the west. Likewise, if the earth moves so very fast turning from west to east and if someone threw a stone straight upward, it would not fall back to the place from which it was thrown, but far to the west; and the contrary appears to be the case. It seems to me that what I shall say below about these experiences could apply to all other theories which might be brought forward in this connection. Therefore, I state, in the first place, that the whole corporeal machine or the entire mass of all the bodies in the universe is divided into two parts: one // (138d) is the heavens with the sphere of fire and the higher region of the air; all this part, according to Aristotle in Book I of Meteors,
ir la moienne et la basse ; selon Aristote,\textsuperscript{16} toute
n, je suppose que mou-
fors en tant comme l'en
autre corps. Et pour ce,
meure tres souf, insen-
tre chose fors une autre
it comme .a. en quoy il
stre naif ne se meue. Et
.a. est meue; et se .a.
ue .a. repose et que .b.
ure et .b. fist meue, et
.a. fist meue et .b. re-
putation ou variation,
: et ce appert par expe-
thinuellement autre res-
pit et .b. repose comme
l'appert ou quart livre
mouvement fors telle-
ent\textsuperscript{20} ou resgart d'un
feux dites, celle desus
me me si est, et celle de
fust meue de mouve-
nous ne pourrions ap-
dit estre en une ma-
uit continuement que
toujours meue, aussi
que les arbres dehors
ciel, pose que il soit
tee aveques le ciel voii-
vaulz, feuvez, villes
de mouvement jour-
terre. Et semblable-
ciel non, il nous sem-
sut yimaginer legitre-
lemment la responsce
les estoilles apparent

\textsuperscript{16} Quo-
altier se habere nunc,
: od facilitas huius com-
ex comparatione rei
vibilibre quiescens non

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moves in a circle or revolves each day. The other part of the universe is all the rest—that is, the middle and lower regions of the air, the water, the earth, and the mixed bodies—and, according to Aristotle, all this part is immobile and has no daily motion. Now, I take as a fact that local motion can be perceived only if we can see that one body assumes a different position relative to another body. For example, if a man is in a boat, which is moving very smoothly either at rapid or slow speed, and if this man sees nothing except another boat, which moves precisely like boat a, the one in which he is standing, I maintain that to this man it will appear that neither boat is moving. If a rests while b moves, he will be aware that b is moving; if a moves and b rests, it will seem to the man in a that a is resting and b is moving, just as before. \textsuperscript{119} Thus, if a rested an hour and b moved, and during the next hour it happened conversely that a moved and b rested, this man would not be able to sense this change or variation; it would seem to him that all this time b was moving. This fact is evident from experience, and the reason is that the two bodies a and b have a continual relationship to each other so that, when a moves, b rests and, conversely, when b moves, a rests. It is stated in Book Four of \textit{The Perspective} by Witelo that we do not perceive motion unless we notice that one body is in the process of assuming a different position relative to another. I say, therefore, that, if the higher of the two parts of the world mentioned above were moved today in daily motion—as it is—and the lower part remained motionless and if to-
morrow the contrary were to happen so that the lower part moved in daily motion and the higher—that is, the heavens, etc.—remained at rest, we should not be able to sense or perceive this change, and everything would appear exactly the same / (139b) both today and tomorrow with respect to this mutation. We should keep right on assuming that the part where we are was at rest while the other part was moving continually, exactly as it seems to a man in a moving boat that the trees on shore move. In the same way, if a man in the heavens, moved and carried along by their daily motion, could see the earth distinctly and its mountains, valleys, rivers, cities, and castles, it would appear to him that the earth was moving in daily motion, just as to us on earth it seems as though the heavens are moving. Likewise, if the earth moved with daily motion and the heavens were motionless, it would seem to us that the earth was immobile and that the heavens appeared to move; and this can be easily imagined by anyone with clear understanding. This obviously an-
swers the first experience, for we could say that the sun and stars appear to rise and

\textsuperscript{119} DE omis nc.
\textsuperscript{120} DE soy a mouvoir autrement.
\textsuperscript{121} A distingement.
\textsuperscript{122} A seroit.
ment de la terre et des 19c) la réponse parce
si meue, mes aveques
et l’aer de cibas soient
est samblable comme
celui qui seroit en cel
mble plus forte, de la
que la seête trai en
nt aveques l’aer parmi
du monde de
pour ce, la seête re
sert possible par sam
rient tres isrelement
ain en descendant et
e la nef, il lui samble
; et ainsi, selon cest
est droit en bas ou en
peuent estre mouve
nantes, et semblent
n homme en celle nef
orient, il lui semble
ien;28 et samblab
es semblroien estre
sonse a la tierce expe
autre naturel lequel
le aer soit une por
ce il il monte
superfice concave du
sus mis, il convient
mment droit et de
fue par lesquelles a.
air, Et donques se
ut par la ligne ab;
, est entretant trans
script la ligne ac et
et de circulaire. Et
que par ce qu.
des a. passa.

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set as they do and that the heavens seem to revolve on account of the motion of the earth in which we live together with the elements. To the second experience, the reply seems // (139c) to be that, according to this opinion, not only the earth moves, but also with it the water and the air, as we stated above, although the water and air here below may be moved in addition by the winds or other forces. In a similar manner, if the air were closed in on a moving boat, it would seem to a person in that air that it was not moving. Concerning the third experience, which seems more complicated and which deals with the case of an arrow or stone thrown up into the air, etc., one might say that the arrow shot upward is moved toward the east very rapidly with the air through which it passes, along with all the lower portion of the world which we have already defined and which moves with daily motion; for this reason the arrow falls back to the place from which it was shot into the air. Such a thing could be possible in this way, for, if a man were in a ship moving rapidly eastward without his being aware of the movement and if he drew his hand in a straight line down along the ship’s mast, // (139d) it would seem to him

\[ \text{Diagram}
\]

That his hand were moving with a rectilinear motion; so, according to this theory it seems to us that the same thing happens with the arrow which is shot straight down or straight up. Inside the boat moved rapidly eastward, there can be all kinds of movements—horizontal, criss-cross, upward, downward, in all directions—and they seem to be exactly the same as those when the ship is at rest. Thus, if a man in this boat walked toward the west less rapidly than the boat was moving toward the east, it would seem to the man that he was approaching the west when actually he was going east; and similarly as in the preceding case, all the motions here below would seem to be the same as though the earth rested. Now, in order to explain the reply to the third experience in which this artificial illustration was used-I should like to present an example taken from nature, which, according to Aristotle, toto, is true. He supposes that there is a portion of pure fire called \( a \) in the higher region of the air; this fire, being very light, rises as high as possible // (140a) to a place called \( b \) near the concave surface of the heavens [see Fig. 33]. I maintain that, just as with the arrow above, the motion of \( a \) in this case also must be compounded of rectilinear and, in part, of circular motion, because the region of the air and the sphere of fire through which \( a \) passed have, in Aristotle’s opinion, circular motion [see fol. 116b ff.]. If they were not thus moved, \( a \) would go straight upward along the line \( ab \); but because \( b \) is meanwhile drawn toward \( c \) by circular and daily motion, it appears that \( a \) describes the line \( ac \) as it ascends and that, therefore, the
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movement of a is compounded of rectilinear and of circular motion, and the movement of the arrow would be of this kind of mixed or compound motion that we spoke of in Chapter Three of Book I [see fol. 8a ff.]. I conclude, then, that it is impossible to demonstrate by any experience that the heavens have daily motion and that the earth does not have the same. / 

(140b) With regard to the second point, if it could be demonstrated by rational arguments, in my opinion they would be the following, to which I shall reply in a manner that could be employed to refute all other pertinent argument. First, every simple body has a single simple motion, and the earth is a simple element which has, according to its various parts, natural rectilinear movement downward. So, it can have no other motion, a fact fully explained in Chapter Four of Book I [see fol. 9d]. Circular motion is not natural to the earth for it has another motion, as already noted; if circular motion is violent to it, the earth could not be perpetual, as appears in several passages of Book I [see fols. 39e ff.]. All local motion is relative to some body at rest, as Averroes states in Chapter Eight, from which he concludes that the earth must be at rest in the center of the heavens. Now, all motion is produced by some motive power or force, as shown in Books Seven and Eight of the Physics, and the earth cannot // (140c) move circularly because of its weight; if it is so moved by an external force, this movement would be violent and not perpetual.

If, in reality, the heavens did not have diurnal motion, all astronomy would be false as well as a large part of natural philosophy throughout which such motion is taken for granted. It would, moreover, contradict Holy Scripture which states: The sun riseth and goeth down and returneth to his place; and there rising again, maketh his round by the south and turneth again to the north; the spirit goeth forward surveying all places round about and returneth to his circuits. And it is also written of the earth that God made it motionless: Etenim firmavit orbem terrae, qui non commovebitur. The Scripture states that the sun stopped its course in Joshua’s time and returned in King Hezekiah’s; if, as is posited in this theory, it is the earth that moves and the heavens that remain motionless, then this stopping would have been a turning backward, which would have been more than a stoppage. And this is contrary to the statement in the Scriptures. As for the first argument where it is stated that every simple body has a single simple / (140d) motion, I say that the earth, which as a whole is a simple body, has no movement, according to Aristotle in Chapter Twenty-two [see fols. 133d ff.]. Against the interpretation of anyone who maintained that Aristotle means that this body has a single simple motion not proper to itself as a whole, but applying only to its parts when they are out of their proper place, we can cite the case of air which moves downward when it is in

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44 B omits et le retournement.  
43 BCDEF forte.  
42 DE omit il entent que.
mplès mouvements. Et que chacun corps simple ou en un cercle est, aussi en une partie de cel e le plus droit que elle est, se elle estoit nule selon soy tout ait movemment selon ses par-octrier selon Aristote, mouvement est naturel et est mouvement chose semblable lon ses parties quant disporte, tout c'est ele-ment journal perpetuellement violent. Et selon terre. Au tiers, ou est: je di que non fors et encore souffroit il uict pas autre corps ne il fi déclaré en le mouvement journal et naturel, ou que, par pas le mouvement s'illigence qui le meut dispensé. D'autre cors reposant, il ne seu, car ou melieu de repos est seul lieu du mouvement pourrait dire que le cors pour ce que eulz soient persi meust en circuite forme et est ce mésarre dextre nature com-Aristote quelle ver- en ne peut pas dire the region of fire and upward when it is in the region of water, both being simple movements. Therefore, we can say with an ever greater show of reason that each simple body, or element of the universe, with the possible exception of the sovereign heaven, moves in its proper place with circular motion. If any part of such a body is out of its place or outside the main body, it returns to it as directly as it can, once the hindrance is removed; this would surely happen if some part of the heavens were to get outside. It is not necessary that a simple body have its own simple motion in its proper place // (141a) and another motion in its parts when they return to their proper place, and, according to Aristotle, we shall have to grant this assumption, as I shall do a little later. To the second argument, I say the motion is natural to the earth as a whole and in its place; however, its parts have a different natural motion, rectilinear upward and downward, when they are out of their natural place [cf. Bk. I, chs. 16-18, fols. 26a ff.]. According to Aristotle, we must admit the same with respect to fire, parts of which move naturally upward when out of their proper place, and besides, also according to him, the entire element of fire in its sphere and in its place moves perpetually with diurnal motion, which could not be a true statement if its movement were violent. Now, in the theory we are discussing, it is not the element of fire, but the earth that moves in this manner. I say no to the third argument which states that all motion requires some body to be at rest, unless the motion must be perceptible to the senses; to make such motion apparent, it would suffice that the first body be moved in a different manner. But it is not required that there be a second body // (141b) in order that this motion should exist, as was explained in Chapter Eight [see fol. 90b]. Assuming that the heavens have diurnal movement and that the earth is moving in the opposite direction or imagining even that the earth were annihilated, we would note that the heavens had not stopped moving on this account; nor would they move faster or more slowly because neither the intelligence which moves the heavens nor the moving body of the heavens as a whole would be disposed to do otherwise. Besides, if it is assumed that circular motion did require another body at rest, such a body would not be situated in the middle of the one moving; in the middle of a millstone of a flour mill or of any similar moving body, nothing is at rest save a single mathematical point which is not a body, and the same is true at the center of the movement of the polar star. Thus, it could be said that the sovereign heaven rests or moves differently from the motion of the other bodies because its movement requires the existence of the other motions or requires that they be perceptible to the senses. To the fourth argument, we can say that the force causing this lower region // (141c) of the world to move in a circle is its nature or form; and this same force(similar in nature to that which draws iron to the magnet) moves the earth to its proper place when it gets outside. Besides, I ask Aristotle what force it is that moves fire in the diurnal movement of its sphere, for we cannot say that the heavens
pour ce que cel mouvement du ciel est tres polie, elle passe sus le feu tres dit ou .xviii. e chapitre, circulairement de sa nature par influence du ciel. Et elle est meue de mouvement le ciel ne faisoit un cercle di que non, car touts / (141d) ons, figures et eut en tout, si comme il est ce qui est ensuite autre effet de l’un a l’autre ciel, nos .xvi. e chapitre des sintillers ou ouilleurs, ce voient est meuc, ce se voient est peut est scripture qui dist que le me die in cette partie a fait en plusieurs lieus, si que il se courrousa et // du tout comme la lettre en que Dieu queeure le cies, selon verite le ciel meur selon apparence de est au contraire. Et de la verite ne en son lieu presque semblablement ou temps de Ezechias il est, la terre se arresta ou ou temps de Ezechias et il est. Et ceste voie semble a apres.

[431]

Book II, Chapter 25, fol. 141d-142b

pull it thus or seize it violently not only because this motion is perpetual, but also because the concave surface of the heavens is so highly polished, as noted in Chapter Eleven [see fol. 102b], that it passes over the sphere of fire without rubbing, pulling, or pushing, as stated in Chapter Eighteen [see fol. 125b]. So, we must say that fire is moved circularly by its own nature and form or by some intelligence or celestial influence. Exactly the same could be said by one who maintains that the earth has diurnal rotation and that the sphere of fire remains at rest. I say to the fifth argument, where it is held that, if the heavens did not make a rotation from day to day, the whole of astronomy would be false, that such a statement is not true, because all heavenly aspects, conjunctions, oppositions, constellations, / (141d) figures, and influences would be exactly as they are in every respect, as is apparent from what was stated in reply to the first experience [see fol. 135b]; and the astronomical tables of the heavenly motions and all other books would remain as true as they are at present, save that, with respect to diurnal motion, one would say that it is apparently in the heavens, but actually in the earth; no other effect would follow or result from one theory more than from the other. Aristotle’s statement in Chapter Sixteen [see fol. 116d] is pertinent in this connection, namely, that the sun seems to us to turn and twist and the stars to flicker and twinkle and that whether the thing we see moves or whether our vision moves makes no difference; and in the present case one could say that our vision is affected by diurnal movement. One could answer the sixth argument, which concerns the reference in Holy Scripture about the sun’s turning, etc., by saying that this passage conforms to the customary usage of popular speech just as it does in many other places, for instance, in those where it is written that God repented, and He became angry and // (142a) became pacified, and other such expressions which are not to be taken literally. And more pertinent to our present subject, we read that God covers the heavens with clouds: Qui operit celum nubibus, while the fact is that the heavens cover the clouds. Thus, we could say that the heavens, rather than the earth, appear to move with diurnal motion, while the truth is the exact opposite. And we could say that, in reality, the earth does not move from its place, nor apparently within its place, but it does actually move within its place. To the seventh argument, we could reply in much the same manner that in the time of Joshua the sun stood and that in the time of Hezekiah it returned, but only apparently so; for, in fact, it was the earth which stopped moving in Joshua’s time and which later in Hezekiah’s time advanced or speeded up its movement; whichever occurrence we prefer to believe, the effect would be the same. The latter opinion seems more reasonable than the former, as we shall make clear later.

Regarding the third point of this discussion, I want to present several opinions or reasons / (142b) favorable to the theory that the earth moves as we have stated. In the first place, everything that requires another thing for its natural existence
must aim at receiving the good it derives from the other through the motion or action natural to it. In this way we can see that each element moves to its natural place where it is conserved and that it goes to its place rather than its place coming to it. Thus the earth and the elements here below which require the heat and influence of the heavens round about them must needs be disposed by their movements to receive these benefits in due degree, just as, to speak familiarly, the meat being roasted before the fire receives around it the heat of the fire by being turned and not by the turning of the fire around the meat. If neither experience nor reason indicates the contrary, it is much more reasonable, as stated above, that all the principal movements of the simple bodies in the world should go or proceed in one direction or manner. Now, according to the philosophers // (142c) and astronomers, it cannot be that all bodies move from east to west; but, if the earth moves as we have indicated, then all proceed alike from west to east—that is, the earth by rotating once around the poles from west to east in one natural day and the heavenly bodies around the zodiacal poles: the moon in one month, the sun in one year, Mars in approximately two years, and so on with the other bodies. It is unnecessary to posit in the heavens other primary poles or two kinds of motion, one from the east to the west and the other on different poles in the opposite direction, but such an assumption is definitely necessary if the heavens move with diurnal motion. Only in this way could the arctic pole be the upper side of the world, no matter where this pole might be located; and the west would be on the right-hand side if we accept the imaginary system Aristotle presents in Chapter Five [see fol. 79b]. Thus, the part of the earth which is habitable and, precisely, the part where we are would be the upper portion and right-hand side of the earth, either with relation to the heavens or to the earth itself, because // (142d) all such bodily motion would proceed from the west, as we have said. And it is indeed reasonable that human habituation should be located in the noblest place on earth; and, if the heavens move with diurnal motion, then the exact contrary is true, as appears on Aristotle’s authority from Chapter Seven [see fol. 87a]. Although Averroes says in Chapter Twenty-two that motion is nobler than rest, the contrary seems true, because, again on Aristotle’s authority in Chapter Twenty-two [see fol. 132c], the noblest thing possible achieves its perfection without movement, and this is God Himself. Rest is the end purpose of motion, and so Aristotle holds that the bodies here below move to their natural places in order to rest there. Further sign that rest is best is that we pray for the dead that God may give them rest: Requiem eternam, etc. Therefore, to rest or to be moved less is a better and nobler condition than to be moved or to be moved farther and farther from rest. From this, it seems that the position we
have taken above is very reasonable, for it // (143b) could be said that the earth, the
vilest element, along with the other elements here below make their rotation very
fast, that the sovereign air and fire move less fast—as can be observed in the case
of the comets—and that the moon and lunar sphere move still more slowly, for it
moves in a month only the distance the earth travels in a natural day. Proceeding
in this manner, the higher heavens make their revolution more slowly yet, al-
though there is some variation, and this process continues up to the heaven of the
fixed stars, which is motionless or makes its revolution very slowly, according to
some in thirty-six thousand years or one degree in one hundred years. In this way
and no other can we solve the question proposed by Aristotle in Chapter Twenty-
one [see fol. 131a ff., with only slight additions. It is not necessary to assume so
many degrees of things nor such obscure difficulties as Aristotle introduces in his
reply in Chapter Twenty-two [see fols. 132d ff.]. It is indeed very reasonable that
the bodies that are / (141b) larger or farther from the center should make their
revolution in longer time than those nearer the center, because, if they
made their circuit in the same or equal time, their movements would have to be
excessively fast. So we could say that nature compensates by ordaining that the rota-
tions of the bodies farther from the center shall be accomplished in much longer
time. Accordingly, because of its great size, the sovereign or primary heaven takes a
very long time to make its circuit or rotation although it moves very fast. But the
earth, which has a very small circuit, can cover the distance in one diurnal
movement, while the other bodies intermediate between the highest and lowest heavens
achieve their circuits in time periods midway between the extremes, although
these periods are not proportionate. In this way, a constellation near the north, i.e.,
the Great Bear which we call the Chariot, does not move backward, the chariot in
front of the oxen, as it would if moved with diurnal motion; but it actually goes
forward in the right direction. // (143c) All philosophers say that an action accom-
plished by several or by large-scale operations which can be accomplished by fewer
or smaller operations is done for naught. And Aristotle says in Chapter Eight of
Book I [see fol. 16b] that God and nature do nothing without some purpose. Now,
if it is true that the heavens move with diurnal motion, it becomes necessary to
posit in the major bodies of the universe and in the heavens two contrary kinds of
movement: one from east to west and the other from the opposite direction, as we
have often stated. And with regard to diurnal motion, we must assume an exces-
sively great speed; for, if we consider thoughtfully the height or distance of the
heavens, their magnitude, and the immensity of their circuit, mindful that this cir-
cuit is traveled in but one day's time, no man could imagine or conceive how mar-
velously swift and excessively great, how far beyond belief and estimation their
speed must be. Since, then, all the effects we see could be produced and all appear-
ances saved by substituting / (143d) for the diurnal movement of the heavens a
u (143d) de ce une petite 
: la terre qui est tres petite 
ons si diverses et si outra 
e les avoirent pour rien 
it est. Item, posé que tout 
es ce, le viii, espere 
astrologiens, il convient 
ulement de mouvement 
est, le viii, ciel est meu 
l ne convient pas songier 
 et sans estoilles, car Dieu 
nt par autre voie toutes 
quant // (144a) Dieu fait 
Il sanz muer le commun 
it donques se l'en peust 
 par arrester le mouve-
laquelle est si tres petite 
etre que tout le monde 
a commun cours 70 et de 
ont les corps du ciel, ce 
ivé, si comme il appert 
ceste opinion. Et sans 
s de Ezechias. Or apl 
cunque experience que 
ct que soit, posé que il 
(144b) ciel non, se un 
ille sembleroit meue, et 
: le voizement n'est pas 
ment est. Mais se il est 
de dedens, si comme il 
telz cas, si comme il fu 
monstre comment par 
. Tiercement, ont esté 
u, et nientmoins touz 
: Deus enim firmavit 
 raisons au contraire, 
ment. Mais considéré 
 terre est ainsi meue

smaller operation, namely, the diurnal motion of the earth, a very small body as compared with the heavens, and by so doing avoid the multiplication of operations so diverse and so outrageously great, then it follows that God and nature must have created and arranged them for naught; and this is an inadmissible conclusion, as we have often said. Assuming the entire heavens to move with daily motion and, in addition, assuming the eighth sphere to have a different motion, as the astronomers believe, then we must necessarily posit a ninth sphere moving only with diurnal motion. However, if we assume that the earth moves as stated above, then the eighth heaven moves with a single slow motion and it is consequently unnecessary to imagine a ninth natural sphere invisible and starless; for God and nature would have made this ninth sphere for naught since by another method, i.e., assuming the earth to move, everything can remain exactly as it is. Also, when // (144a) God performs a miracle, we must assume and maintain that He does so without altering the common course of nature, in so far as possible. Therefore, if we can save appearances by taking for granted that God lengthened the day in Joshua’s time by stopping the movement of the earth or merely that of the region here below—which is so very small and like a mere dot compared to the heavens—and by maintaining that nothing in the whole universe—and especially the huge heavenly bodies—except this little point was put off its ordinary course and regular schedule, then this would be a much more reasonable assumption. And appearances can be saved in this way, as is evident from the reply to the seventh argument, presented against this opinion [see fol. 142d]. As much could be said with regard to the return of the sun in Hezekiah’s time. Thus, it is apparent that one cannot demonstrate by any experience whatever that the heavens move with diurnal motion; whatever the fact may be, assuming that the heavens move and the earth does not or that the earth moves and // (144b) the heavens do not, to an eye in the heav-
ens which could see the earth clearly, it would appear to move; if the eye were on the earth, the heavens would appear to move. Nor would the vision of this eye be deceived, for it can sense or see nothing but the process of the movement itself. But if the motion is relative to some particular body or object, this judgment is made by the senses from within that particular body, as Witelo explains in The Perspective; and the senses are often deceived in such cases, as was related above in the example of the man on the moving ship. Afterward, it was demonstrated how it cannot be proved conclusively by argument that the heavens move. In the third place, we offered arguments opposing their diurnal motion. However, everyone maintains, and I think myself, that the heavens do move and not the earth: For God hath established the world which shall not be moved, in spite of contrary reasons because they are clearly not conclusive persuasions. However, after con-
sidering all that has been said, one could then believe that the earth moves and not

70 BCDF omit et nientmoins ... ainsi meue. 
rae, qui non commovebitur.

77 Cf. Ps. 92:1—Etenim firmavit orbem ter-
toutevois, ce semble //
naturelle comme sont les
xe que je ay dit par esbate-
r78 et reprendre ceulz qui

ion de la figure
<f>ont1 du

terre, car il samble a au-
es semble que elle est lee
un tymbre,
me seroit la maoule d'un
z il met leurs raisons.
recous et quant il lieu,
droite et non pas selon
se la terre fust de figure
:
 demi-couchié et appert
estre regart, fust courve
igne est droite. Apres il
est tres loing de la terre
res grant ou regart de
 du soleil, nientmoins il
ous semble droite; mais
ne soit ronde.

que la terre ait ceste fi-
ant les manieres que l'en

ar ce, par aventure, que
(145a) Apres il met la

response.

the heavens, for the opposite is not clearly evident. Nevertheless, at first sight, //
(144c) this seems as much against natural reason as, or more against natural reason
than, all or many of the articles of our faith. What I have said by way of diversion
or intellectual exercise can in this manner serve as a valuable means of refuting and
checking those who would like to impugn our faith by argument.

26. In Chapter Twenty-six he refutes an opinion relative to the
shape of the earth and presents the question that many have
raised regarding the proper place and repose of the earth.

T. There is likewise disagreement regarding the shape of the earth; to some it
seems to be spherical or round, while to others it appears to be flat and shaped like a
bell or drum.

G. They thought it was the shape of the mold of a large drum [see Fig. 34] with
the face upward. Next, he states their reasons.

T. They argued thus because the sun when rising and setting is hidden from us
by the earth one part after another along a straight line, and not as part of a circular
line as it should be if the earth was spherical.

Fig. 34

G. /(144d) It seemed to them that, when the sun is half set and looks like one-
half of itself, the line of the horizon which divides the two halves as we look at it
should be curved like an arc if the earth was round. And this line is straight. His
reply follows.

T. However, they did not consider how far the sun is from the earth and how
vast the earth's sphere and circumference are relative to ourselves. So, although
the terrestrial sphere is small in comparison with the sun, it is so large compared to
us that the portion we see seems straight; but we must not believe the earth is not
round merely because of this deceptive phenomenon.

G. Now he presents another argument.

T. Still they are opposed and say that the earth must have this flat and horizon-
tally straight shape for the reason that it is at rest. These, then, are the various
theories that have been proposed about the motion or rest of the earth.

G. Aristotle makes no reply to the last argument, perhaps, because it is so im-
probable and also because it will be refuted later [see fol. 146a]. // (145a) Next, he
turns to a discussion of the question raised by the earlier philosophers about the
reason that the earth rests.