soldiers! And we well remembered the words and warnings given us by the people of Huexotzingo and Tlaxcala and Tlamanalco, and the many other warnings that had been given that we should beware of entering Mexico, where they would kill us, as soon as they had us inside.

* * *

Now let us leave the great market place, and not look at it again, and arrive at the great courts and walls where the great Cue stands. Before reaching the great Cue there is a great enclosure of courts, it seems to me larger than the plaza of Salamanca, with two walls of masonry surrounding it and the court itself all paved with very smooth great white flagstones. And where there were not these stones it was cemented and burnished and all very clean, so that one could not find any dust or a straw in the whole place. . .

When we arrived there Moctezuma came out of an oratory where his cursed idols were, at the summit of the great Cue, and two priests came with him, and after paying great reverence to Cortés and to all of us he said: "You must be tired, Señor Malinche, from ascending this our great Cue," and Cortés replied through our interpreters who were with us that he and his companions were never tired by anything. Then Moctezuma took him by the hand and told him to look at his great city and all the other cities that were standing in the water, and the many other towns on the land round the lake, and that if he had not seen the great market place well, that from where they were they could see it better.

So we stood looking about us, for that huge and cursed temple stood so high that from it one could see over everything very well, and we saw the three causeways which led into Mexico, that is the causeway of Iztapalapa by which we had entered four days before, and that of Tacuba, along which later on we fled on the night of our great defeat, when Cuitlahuac the new prince drove us out of the city, as I shall tell later on, and that of Tepeaquilla, and we saw the fresh water that comes from Chapultepec which supplies the city, and we saw the bridges on the three causeways which were built at certain distances apart through which the water of the lake flowed in and out from one side to the other, and we beheld on that

great lake a great multitude of canoes, some coming with supplies of food and others returning loaded with cargoes of merchandise; and we saw that from every house of that great city and of all the other cities that were built in the water it was impossible to pass from house to house, except by drawbridges which were made of wood or in canoes; and we saw in those cities Cues and oratories like towers and fortresses and all gleaming white, and it was a wonderful thing to behold; then the houses with flat roofs, and on the causeways other small towers and oratories which were like fortresses.

After having examined and considered all that we had seen we turned to look at the great market place and the crowds of people that were in it, some buying and others selling, so that the murmur and hum of their voices and words that they used could be heard more than a league off. Some of the soldiers among us who had been in many parts of the world, in Constantinople, and all over Italy, and in Rome, said that so large a market place and so full of people, and so well regulated and arranged, they had never beheld before.

Questions

1. What are some signs of Díaz's respect and wonder at Mexican civilization?
2. What are some signs of disgust and prejudice in this passage?
3. How does Díaz portray Moctezuma?

Galileo Galilei, Letter to Madame Cristina di Lorena, Grand Duchess of Tuscany (1615)

Galileo Galilei (1564–1642) was born to a relatively poor noble family. Sent to the University of Pisa to study medicine, he instead became interested in physics and mathematics. He became a professor of mathematics at Padua in 1592. He made important discoveries about falling objects that called Aristotelian physics into question, about the motion of the pendulum, and in several other areas. He also developed an improved water pump and other practical implements. He is best known, however,

for inventing a telescope. The observations he made with it in 1610 confirmed the arguments of Copernicus (1473–1543) that the sun is the center of the solar system, and the earth and other planets move around it.

This position conflicted with the doctrine of the Catholic Church; Galileo was denounced in 1614, tried by the Inquisition in 1616, and warned against publicly advocating Copernicanism. Still, he persisted. Various powerful people, including the Pope, tried to arrange a compromise in which Galileo would be protected so long as he was relatively quiet in his support of heliocentrism; Galileo, however, continued to publish. In 1632 he was tried and convicted of heresy, and spent the rest of his life under house arrest.

In the letter excerpted below, Galileo addresses Cristina di Lorena (1565–1636), Grand Duchess of Tuscany—a descendant of French royalty who married into the Medici family, which had patronized Galileo. Although Galileo had not yet been condemned by the Inquisition, and this letter was not made public until much later, it represents a forceful statement of views on the relationship between science and religious authority that the Catholic Church of his time was unwilling to accept. The Catholic Church stopped prohibiting books advocating heliocentrism in 1758, but it did not formally absolve Galileo until 1992.

Some years ago, as your Serene Highness well knows, I discovered many things in the heavens that had remained unseen until our own era. Perhaps because of their novelty, perhaps because of certain consequences which followed from them, these discoveries conflicted with certain propositions concerning nature which were commonly accepted by the philosophical schools. Hence no small number of professors became stirred up against me—almost as though I, with my own hand, had placed these things in heaven in order to disturb and obscure nature and the sciences. Displaying greater affection for

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their own opinions than for true ones, and, at the same time, forgetting that the multitude of truths contribute to inquiry by augmenting and establishing science, and not by diminishing and destroying it, these professors set about trying to deny and abolish these new discoveries. Although their very senses, had they seen fit to heed them attentively, would have rendered these things as certain, they nonetheless alleged various things and published various writings full of empty reasoning and containing—a still graver error—scattered testimonies from Holy Scripture. The latter were not only cited out of context, but had little to do with the matter at hand. * * *

Thus it is that these men persist in their primary objective, which is to try, by every means imaginable, to destroy me and all that is mine. They know that, in my astronomical and philosophical studies concerning the structure of the world, I maintain that the Sun, without moving, remains stationary in the center of the revolution of celestial orbs; and that the Earth, turning about its own axis, revolves around the Sun as well. They are aware, moreover, that I proceed to confirm the above hypothesis (*posizione*), not simply by condemning the account of Ptolemy and Aristotle, but by bringing forward much conflicting evidence—in particular, certain natural effects, the causes of which cannot be explained in any other manner, and certain celestial effects, determined by the concordance of many new astronomical discoveries, which clearly confute the Ptolemaic system, and which admirably agree with and support the other hypothesis. Now, perhaps they are confused by the fact that certain other propositions, contrary to common opinion but affirmed by me, have been recognized as true. And thus unsure of their defenses on the battlefield of philosophy, they have sought to make a shield for their fallacious arguments out of the mantle of simulated piety and the authority of Scripture, applied by them with little intelligence to combat arguments which they have neither thought about nor understood. * * *

But who could with all certainty insist that the Scripture has chosen rigorously to confine itself to the strict and literal meaning of words when it speaks incidentally of the Earth, water, the Sun, and other creatures? And above all when it asserts something about

these creatures which in no way touches upon the primary purpose of Holy Writ, which has to do with the service of God, the salvation of souls, and things far removed indeed from vulgar apprehension? Considering this, then, it seems to me that, when discussing natural problems, we ought to begin with sensory experience and logical demonstrations, and not with the authority of passages in Scripture. For both Nature and the Holy Scripture proceed alike from the Word of God, the latter being the dictate of the Holy Spirit, and the former being the utterly obedient executrix of Divine Law. Now, it is the case that Scripture finds it convenient, in order to accommodate itself to the understanding of everyone, to say many things which, from the bare meaning of the words it employs, differ in aspect from the absolute truth. But in just the opposite way, Nature is inexorable and immutable, never transcending the limits imposed upon her by law; and it is as though she feels no concern whether her deep reasons and hidden modes of operation shall ever be revealed to the understanding of humankind or not. From this it would seem that natural effects, either those which sensory experience sets before our eyes or those which are established by logical demonstration, ought never on any account to be called into question, much less condemned, on the basis of Scriptural passages whose words may appear to support a conflicting opinion. For not every Scriptural dictum is connected to conditions as severe as those which hold with respect to effects of Nature; nor does God reveal Himself less excellently to us in the effects of Nature than He does in the sacred utterances of Scripture. It is this, perchance, that Tertullian meant when he wrote: *We conclude that God is first cognized in Nature, then recognized in Doctrine: in Nature through His works; in Doctrine through His word preached.* * * *

I should judge that the authority of Scripture was intended principally to persuade men of certain articles and propositions which transcend the powers of human reason, and which could be made credible by no other science and by no means other than the very voice of the Holy Spirit. * * * But I do not feel it necessary to believe that God, Who gave us senses, reason, and intellect, should have wished us to postpone using these gifts; that He has somehow given us, by other means, the information which we can obtain with

our own senses, reason, and intellect; nor that He should want us to deny the senses and reason when sensory experience and logical demonstration have revealed something to our eyes and minds! And above all I do not feel it necessary to believe this where a science [like astronomy] is concerned, only a tiny part of which is written about (and then in contradictory ways) in Scripture. * * *

Experience plainly indicated that, concerning the rest and motion of Sun and Earth, it was necessary for Scripture to assert what it did, in order that the popular capacity [for understanding] should be satisfied. For even in our own day, individuals far less rude still persist in the same opinion for reasons which, if they were well weighed and examined, would be found to be completely specious, and which experiment would show to be wholly false or altogether beside the point. Nor can we attempt to remove their ignorance, for they are incapable of grasping the contrary reasons, which depend upon the most delicate observations and the most subtle demonstrations, involving abstractions the comprehension of which demands a more vigorous imagination than they possess. And though the stability of the Sun and the motion of the Earth are more than certain and demonstrated to the wise, it is nonetheless necessary, in order to maintain belief amongst the innumerable vulgar, to assert the contrary. If a thousand ordinary men were interrogated on this matter, perhaps not a single one would be found who would not respond by saying that he thinks, and firmly believes, that the Sun moves and the Earth stands still. But such common popular assent must in no way be taken as an argument for the truth of what is being affirmed. For if we were to question the same men about the causes and motives which provide the basis for their belief, and then to contrast what they say with the experiments and reasons which lead a few to believe otherwise, we would find the former to have been persuaded by simple appearances and the shallowest and silliest objections, and the latter to have been persuaded by the most substantial reasons. It is obvious, then, how necessary it was [for Scripture] to attribute motion to the Sun and stability to the Earth. It was necessary in order not to confuse the limited understanding of the vulgar, and in order not to render them obstinate and antagonistic, and in order that they should have faith in the principal doctrines which have

altogether to do with Faith. And if this had to be done, it is not at all to be wondered at that it was done with such consummate wisdom in divine Scripture.

Questions

1. What does Galileo suggest people should do when their reading of the Bible appears to conflict with evidence observed in nature? How does Galileo attempt to resolve any inconsistencies between his positions and those of church authorities?
2. What do you think Galileo was trying to accomplish with this letter?
3. What is significant about Galileo writing this letter to a woman, the Grand Duchess of Tuscany? What assumptions is Galileo making about his audience?

Chapter 12

Contact, Commerce, and Colonization, 1450s–1600

Christopher Columbus, On World Geography (late fifteenth century)

Christopher Columbus (c. 1451–1506) was born in Genoa, Italy, but achieved his fame sailing for Spain after several other kingdoms declined to back his venture. By the late fifteenth century, the spice routes eastward to Asia were dominated by Muslims and by Genoa's rival, Venice. Columbus was convinced that one could also reach Asia by sailing west across the uncharted Atlantic, thus bypassing these hostile powers. Contrary to a common belief today, Columbus was not unusual—at least among educated people—in realizing that the earth was round; note in the following excerpt that he takes this as obvious. While he failed to find a westward sea route to Asia, the bringing of the Americas into contact with Europe was one of the most consequential events in recorded history.

In all, Columbus made four voyages in search of a passage to Asia. He also served as a colonial governor in Hispaniola but was removed and arrested for committing various abuses. He was returned to Spain as a prisoner but freed after about six weeks.

I have always read that the world, land and water, was spherical, and authoritative accounts and the experiments which Ptolemy [ancient Greek geographer] and all the others have recorded