

The discovery of the Americas and the Renaissance scientific project

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The discovery of America in 1492 was not a “happy accident,” a mere stroke of luck of an audacious and ambitious sailor, nor was it a “looting operation,” as claimed by the partisans of Aztec barbarism. On the contrary, it was *the* great scientific and military project of the Golden Renaissance, around which was generated a technological and industrial revolution which rescued mankind from ecological holocaust.

In the face of the devastation and the profound religious and political division into which Europe was plunged after the Black Death of the fourteenth century, a product of the politics of International Monetary Fund-style looting, and in the face of the growing threat of the barbaric invasions from the East, the “Apollo Project” of the Renaissance permitted the breaking of the “limits to growth,” the straitjacket that the Mediterranean had become for commerce and industrial development, and to open to civilization a virtually unlimited field of action.

At the Council of Florence, held in 1439 with the participation of the highest political and religious representatives of Christianity from Orient and Occident, the basic strategic question discussed was the urgency of establishing a military alliance of all the Christian nations to hold back the Turks, who were a constant threat to Constantinople (Byzantium). The basis of the alliance is established when the Orthodox delegation, headed by the Patriarch and the Emperor of Constantinople accepts the dogma of the *Filioque*, from which the Orthodox Church had become renegade in 1054, when it separated itself from the Holy See of Rome.

What this dogma means, in essence, is that divine love (the Holy Spirit) comes from not only the Father, but also the Son. The human individual, to the extent that he perfects his creative qualities in the imitation of Christ—God and true man—to take upon himself the task of continuing creation, himself responsible for creation, has the Holy Spirit imparted

to him and becomes its agent. Upon this concept was founded the Augustinian world order, realized by the Golden Renaissance in Italy and the rest of Western Europe, beginning with the reunification of Christianity, achieved at the Council of Florence.

Yet in 1453 Constantinople fell into the hands of the Turks, thanks to the treason of Venice, which allied herself with the Turks to crush the Renaissance.

In the face of this grave defeat, which closed the principal port of European commerce toward the Orient, and left half of Christendom in a dark age, the humanists who had organized the Council—among them Nicolaus of Cusa, Aeneas Silvius Piccolomini, and the scientist who would later become the mastermind of the discovery of the Americas, Paolo dal Pozzo Toscanelli—launched two great counter-operations:

- 1) The organization of a great Crusade of Christian countries to reconquer Constantinople; and
- 2) The most brilliant military flanking move in history: reaching the east by going west, by the rear, crossing the feared “Ocean Sea.”

In both enterprises, the guiding role was taken by Spain.

Mediterranean, a ‘Turkish Sea’

With the fall of Constantinople, the military and commercial situation for the yet-incipient new order of the Renaissance becomes unsustainable. Venice, the main enemy of Florence and the Renaissance, thanks to her *de facto* alliance with the Turks, imposes her monopoly upon the vital trade with the East. The Turks, spurred by Khomeini-like fanatical Islam, and well supplied by Venetian arms traffickers, begin to expand further toward the West. Already by 1480, they dominate much of Eastern Europe and reach the German ports and Italy herself. On the other flank, there were the Muslim Arabs, the Turks’ natural allies, who had already long dominated all of North Africa, and a part of the Iberian Peninsula (Granada), including the strategic Straits of Gibraltar. The Mediterranean, axis of the commercial and economic life of the civilized world, was a virtual Turkish sea.

After 1453, when the humanists got news of the catastrophe of Constantinople, they began to try to organize a crusade to liberate that city. Aeneas Silvius Piccolomini, the future Pope Pius II, writes to Pope Nicholas V in the following terms:

“What more can I say about the terrible news which I just received about Constantinople? In writing my hand trembles, my soul is horrified; indignation does not permit me to keep silent, the pain does not let me speak. Poor Christendom. I am ashamed to be alive. . . . We have permitted the illustrious city of Constantinople to fall, taken by the effeminate Turks. . . . They put to the edge of the sword the entire population; they subjected the priests to all kinds of tortures; they did not respect anyone, neither sex or age: It is said that there were 40,000 persons assassinated . . . and that the Paleologue Emperor was beheaded. . . . This is a second death for Homer, a second death for Plato: Now where will we be able to find the works of genius of the Greek poets and philosophers?”

He concluded with an emergency appeal:

“It is your duty to mobilize yourselves, to write to the kings, to send legates and to warn them, exhorting the princes and the communities to come themselves or to send their representatives to an agreed-upon place. Now that the wound is still fresh, that they should hasten to come to the aid of the Christian community and, in name of the faith, that they should make peace and establish truces among the allies, in order that, uniting our forces, we might mobilize ourselves against the enemies of the cross of the Savior.”

Piccolomini, who became Pope Pius II in 1458, names as Vicar-General the person who had been the key organizer of the Council of Florence, Cardinal Nicolaus of Cusa. Yet despite the great advances achieved by the Renaissance in the West, Pius II and Nicolaus of Cusa both die in 1464 before the military counteroffensive could begin. It only got under way in 1474 with the Catholic monarchs, Ferdinand and Isabella in Spain, who reconquered Granada in 1492, and later recovered North Africa, freeing the western gate of the Mediterranean.

Christopher Columbus was there in the royal encampment before the “most fortified city of the world” (Granada), awaiting the decision of the king and queen on his projected expedition. The day the last bastion of the Moors in Spain fell, on January 2, 1492, the great resolution was made: The “Ocean Sea” would be crossed, to carry evangelization to the ends of the Earth. It was not enough to gain key positions in the known world; it was necessary to radically redefine and widen the battlefield—to shift the economic and political center of gravity of the Mediterranean and the Atlantic to outside the Muslim-Venetian domain.

Why Spain?

This strategic objective gave rise to what is now known as the Iberian or Atlantic period, which began with the cele-

brated nautical school founded by Prince Henry the Navigator of Portugal. In 1454, Henry obtained from Pope Nicholas V a bull which banned any Christian from interfering with Portuguese navigation along the coast of Africa “as far as India.”

It was in this school that the navigators’ elite was educated—including Christopher Columbus. Lisbon became a maritime cosmopolitan city, where one could find the most advanced instruments of navigation and astronomical observation, the best nautical charts, and a shipbuilding industry which in 1490 introduced the modern caravel, fit for transatlantic exploration. The other Iberian kingdom that looked toward the Atlantic was Castille, which came into fierce competition with Portugal for the dominion of the coasts of North Africa from the first decades of the century.

Even though Portugal was the first to develop the technical means for setting up the great transatlantic enterprise, they did not achieve the political will to realize it. When Toscanelli first, and then Columbus, proposed it to them, Portugal preferred to take the less risky and “more income-producing” path to India, sailing along the coast of Africa “*por la orillita*.” As for Spain, her decision to cross the Atlantic was based on the same missionary zeal, which earlier had uplifted her to become the leader of the crusade against the Turks.

The Toscanelli issue

One of the most controversial matters relating to the discovery of the Americas relates to the Italian Renaissance. In the scientific seminars held during the Council of Florence, Paolo dal Pozzo Toscanelli presented his idea of the project. Based upon the scientific information brought by cosmographers, geographers, and experts in the science of navigation there gathered together, the general lines were traced of what would, 53 years later, become the “greatest event after Creation,” according to one Spanish writer.

The direct connection between the Italian Renaissance and the Spanish exploit is established by the correspondence between Paolo dal Pozzo Toscanelli and Christopher Columbus. In Toscanelli’s letter to Columbus in 1480, and in the ones he wrote six years before to Fernando Martines, agent of the Portuguese King Alfonso V, the Florentine scholar urges the Iberian powers—Portugal and Spain—to realize the transatlantic project discussed in Florence, and he lays out for them the map and the scientific information required for its success.

According to Fernando Columbus, Christopher’s son, in his *Life of the Admiral*, the basis upon which his father founded his project was:

“A Master Paolo, physician of Master Domenico, a Florentine contemporary to the same Admiral, was the cause in great measure of his undertaking this voyage with greater spirit. The fact that the cited Paolo was a friend of Fernando Martines, canon of Lisbon, and that the two were writing

letters to each other about the sea voyages made to the country of Guinea during the time of King Alfonso of Portugal and about what could be done in the westward direction came to the ears of the Admiral who was most curious about these things, and he hastened to write, by way of one Lorenzo Girardi, a Florentine who was in Lisbon, to the said Master Paolo, about this, and sent to him an armillary sphere, uncovering to him his intent. Master Paolo sent him a reply in Latin, which translated into the vernacular says thus."

Later Fernando Columbus transcribes the first letter from Toscanelli to Christopher Columbus:

"To Christopher Columbus, Paolo, physician, greetings.

"I see the magnificent and grand desire of thine for seeing how to get to [the regions] where the spices are born, and in reply to thy letter I send thee a copy of another letter which some time ago I wrote to a friend and familiar of the most serene King of Portugal, before the Castillian war, in reply to another letter which by commission of his Highness was written to me about the said matter, and I send thee another such map of sailing, like the one I wrote to him, by the which thou wilt be satisfied in thy questions. Which copy is the following."

Subsequently, Toscanelli adds at the foot of the letter to Columbus, the letter which he had earlier sent to Fernando Martines, the canon who operated as a secret intermediary between the republican networks of Florence, and those republicans which were trying to convince the king of Portugal to put the navigating capacity of that country in service to the great project.

The letter was directed at awakening the commercial interest of the powerful, painting with vivid colors the fantastic riches of the far East (or near West); and had attached to it the *carta de marear* or "navigational map," which Columbus never let out of his sight for even a moment, during his first voyage.

Did Toscanelli really believe that following his navigational plan, the coasts that would rise on the horizon would be those of the Orient, and not those of a new continent? One fact makes us suspect the contrary: The distance at which Columbus encountered America, and likewise the principal geographic and nautical characteristics of the route, were precisely those of Toscanelli's navigational map. Instead of fantastic palaces covered in gold and the refined civilization of the Orient, he encountered an almost savage continent, in which everything was still to be done. The prevailing mentality of the courts of Europe at the time would have made it very difficult to find support for a project involving so much nature and so little art.

Be that as it may, Toscanelli and the strategists of the Renaissance succeeded in their plan to mobilize the maritime-commercial powers to an enterprise which the "experts" of the age deemed "not income-producing" (just as today the cost accountants consider as "not income-producing" the project to colonize the Moon and Mars), and, despite such

experts, there was opened up for humanity the most stunning era of development in human memory.

Are Toscanelli's letters genuine?

At the congress of Americanists held in Paris in 1900, Henry Vignaud, then first secretary of the American embassy in France, denied for the first time the authenticity of the correspondence between Toscanelli, Martines, and Columbus, in a document which was immediately widely diffused by the press of the day. In the ensuing two years, the prevailing historiographic authorities published 35 reviews and 96 articles in various journals about Mr. Vignaud's book, *Toscanelli and Columbus*—the great majority supporting his thesis.

In essence, Vignaud says that the discovery of the Americas was not the result of any scientific project, but of chance. That Christopher Columbus never had any intention of reaching Asia, nor much the less the New World, but only one of the islands to the west of the Canaries, whose existence and location were revealed to him by an unknown pilot, who had been washed ashore on these islands by a storm. If by chance Columbus had had any scientific theory, he would not in any way have gotten this from Toscanelli nor from any of the cosmographers of the Renaissance but from Ptolemy, Aristotle, and other "authorities" of medieval geography and cosmography.

Vignaud bases this on his "demonstration" that the letters of Toscanelli to Christopher Columbus, and above all from Toscanelli to Fernando Martines, are apocryphal.

His main arguments are:

1) Nowhere among the documents of Toscanelli nor in the State Archives of Portugal, can any trace be found of the letter to Fernando Martines, even though, Vignaud says, an exhaustive search "with Benedictine patience" was mounted by the prestigious historian Manuel Gonzales de la Rosa and a Benedictine monk.

2) Among Toscanelli's Italian contemporaries there is neither any reference to the cited letter, nor to any other thing which might suggest the interest of the Florentine scientist in the transatlantic enterprise. This demonstrates, according to Vignaud, that Toscanelli never interested himself in the project.

3) In 1474, the year in which Toscanelli allegedly wrote to Martines proposing to reach the Orient by way of the Atlantic, in Portugal there was no interest in reaching such latitudes by that or by any other way, since the Portuguese had no interest in trade or spices, in gold, in precious stones, or any other article from the East. And that in any case, if Alfonso V, king of Portugal, might have had some interest in the project, "he would not have asked information from a man such as Toscanelli, who had never left Florence [sic], when his own Portuguese, which at the time were the best sailors in the world, and the only ones familiar with the Atlantic, could assess this better than anyone."

4) And finally, Vignaud argues, the original of the famous map was never able to be found anywhere.

As one can see, the arguments of Vignaud are reduced to mere suppositions, suspicions, and negative deductions (starting from what one could *not* find), without anything resembling what he himself so much demands: documents and positive proofs.

Archive ransacked

In fact, the archive of Paolo dal Pozzo Toscanelli is one of the most ransacked by the enemies of the Renaissance, and it is known, by references in works and documents of the period, that most of his work was simply eliminated. Further, the fact that neither Toscanelli nor Columbus nor the people close to them left much written documentation about their project, and that the plans and methods of the government of Portugal or others to reach the Indies were not then a matter of public discussion as Mr. Vignaud would wish, is explained by a very simple reason: state secrets. At issue, as we said, was a fundamental strategic matter.

On the other side, according to Clement Markham, one of the historians who refuted Vignaud:

“Few documents of this period are so well certified [as this letter]. Las Casas . . . not only furnishes us with a Spanish translation, but informs us that one part of the original, it seems, the navigational map adjoined, was in fact in his possession at the moment of writing. In the *Life of the Admiral*, by Fernando Columbus, is included an Italian translation. And one copy of the original version in Latin was found in the Columbus Library in Seville, in 1860, in the frontispiece of a book by Pius II which had belonged to Christopher Columbus, written in the Admiral’s own hand.”

In his reply to Markham, Vignaud insists that the whole matter of the map/letter of Toscanelli is a fraud, perpetrated by Bartolomeo Columbus, Christopher’s brother, with the complicity of Fernando Columbus and Father Bartolomé de las Casas, with the purpose of giving the Admiral’s enterprise a scientific content it never had, and eliminating the embarrassing story of the unknown sailor. And since it is difficult for Mr. Vignaud to demonstrate the nonexistence of Christopher Columbus, he seizes upon demonstrating that Fernando Martines never existed, and that *it was a mere invention* of the cited counterfeiters, who with this fraud pretended to explain the inexplicable: the tie between Columbus and Toscanelli, impossible, according to Vignaud, given that neither Columbus was ever in Florence, nor did Toscanelli leave Italy in his entire life.

Did Fernando Martines Exist?

The work of Cardinal Nicolaus of Cusa entitled *Tetralogus de Non Aliud*, which deals with the method for reaching the truth, unfolds in a Socratic dialogue form between “Nicolaus” and three interlocutors, of whom the main one is *Ferdinando Martin Portugaliensi natione*, canon of Lisbon, whose

full name is Fernando Martines de Roritz (from the town of Roritz in Portugal). The other two are Oanes Andrea Vigerius, or Gian Andrea, from Vigevano in northern Italy; and Petrus Balbus Pisanus, or Pietro Balbi, born in Pisa, a former schoolmate of Cusa and Toscanelli in Padua. This same Fernando (Martines) of Roritz, relative and private counselor to Alfonso V, together with Toscanelli, will sign, on Aug. 6, 1464, the last will and testament of Cusa, as a witness and as his personal doctor, and a few days later will attend his funeral.

A relative of Fernando Martines also enjoyed the confidence of Cardinal Cusa: Antonio Martines, the bishop of Oporto, born in Chavez, a town near Roritz. It is this Antonio Martines who had accompanied the cardinal’s delegation to Constantinople in 1437, sent by Pope Eugene IV to convince the Emperor and the Patriarch of Constantinople of the need to be present at the council of reunification. These are the modest credentials of the “nonexistent” Fernando Martines, who as a man in the confidence of Cusa and Toscanelli in Portugal, participated in selecting and preparing Christopher Columbus for carrying out the great expedition.

Toscanelli also played a role of interlocutor in one of Nicolaus of Cusa’s dialogues, on the squaring of the circle, entitled *De Arithmetica Complementis*. Born in 1397, one of the most outstanding participants in the Council of Florence, Paolo dal Pozzo Toscanelli died at 88, in 1482, a decade before the realization of his great project. He was Cusa’s fellow student in Padua, and Cusa dedicated to him, besides the cited book, another one entitled *De Geometricis Transmutationibus*.

Moreover, Leon Battista Alberti, who deems Toscanelli the greatest mathematician in Italy, dedicates his collection of moral writings entitled *Intercoenalli* to him. Paolo the physician heads the commission that decided on the projects presented for the construction of the east end of S. Maria del Fiore, the cathedral of Florence, where the final sessions of the great Council in 1439 were held, the celebrated cupola of which was built by a mathematics student of Toscanelli’s, Filippo Brunelleschi. The cupola was not only beautiful but also functioned as the most advanced astronomical instrument of its kind in the world at that time.

One of the indications of the educative labor which the leaders of the Renaissance undertook among the “best mariners of the world” to gain them to their cause, is the fact that Columbus’s most treasured book, which he carried with him in his voyages of discovery, was the *Historia rerum ubique gestarum* of Pope Pius II, in whose frontispiece Columbus himself had copied in his own hand Toscanelli’s map.

Pope Pius II died on Aug. 14, 1464, three days after Cardinal Cusa, and the chances of an immediate Crusade were sharply reduced; the scientist Toscanelli returned to Florence “to continue his studies, turning his face not to the East, but to the West, thinking about a new route for commerce and for civilization.”