

# The True Story of Columbus: The Apollo Project of the Renaissance

by Timothy Rush

*The following has been adapted by the author for publication in EIR from his October 10, 2020 presentation to the weekly LPAC Manhattan Town Hall Meeting. He had contributed to the Schiller Institute symposium on the 500th anniversary of the rediscovery of America, and of the advances in technology that made it possible. The video of his October 10 presentation is available [here](#). And the video of the full three-hour meeting is also [available](#).*

I want to provide some substance to the depth of collaboration, the extraordinary connections, particularly between the Florentine Renaissance, and the Iberian countries, largely Portugal, which is where Columbus was trained. This collaboration is one of the hidden gems of history that people must relive. It launches the core ideas of particularly the Florentine Renaissance, but also reaches broader circles—for instance, the invention of a nation-state devoted to the idea of the general welfare in the case of Cardinal Nicolas of Cusa, when he said you have to have a government that operates with the “consent of the governed.” These fundamental principles are joined to the science of building Brunelleschi’s Dome of Florence and the science of astronomy that Paolo dal Pozzo Toscanelli, the greatest astronomer and mathematician of that entire century, represented—a very close circle of people.

How would that become transferred? How does that become universal? And what I want to convey to you in just a few minutes is that the Florentine Renaissance

gave birth to the *means* to carry these great inventions and this great rebuilding of the image of man, all around the world.

There were all kinds of fits and starts in how that actually took hold, and at the end I’ll have a couple of words on that, but the forging of that instrument was a three-generation systematic program we identify with

Henry the Navigator in Portugal, in one way, and absolutely with this core of the Florentine Renaissance at the same time. This is the Apollo Project of almost the entirety of the 15th century. And people should recognize that it’s a density of development, in the science, in the statecraft, in the conception of mankind, that made it possible.

Lyndon LaRouche, in an October 14, 1996 [piece](#) called, “Why We Must Colonize Mars” (republished in the August 21, 2020 issue of *EIR*), beautifully captures the effect:

*What is the economic principle which defines a science-driver, space-exploration program as key to a successful near-term recovery from the presently deepening, global economic depression? Let us*

*name this topic, “The Christopher Columbus Principle of Economic Science.” [emphasis in original]*

## First Voyages

Prince Henry the Navigator, third son of King João I of Portugal, started voyaging—not himself personally, but recruiting crews and sponsoring voyages—around



Photo by Jiuguang Wang

*The dome of the Basilica di Santa Maria del Fiore in Florence, an engineering marvel, designed and built by Filippo Brunelleschi, a crowning glory of the spirit of the Renaissance.*

1416. At the time, people have to realize, even though there were efforts to go on deep sea voyages, sailing capabilities didn't have the logistical depth to be sustained or be successful. The closest was the remarkable fleet of the Chinese admiral Zheng He in the early 1400's. But his fleet did not venture far from coasts, and an insular cultural reflex in China aborted further exploration. In Europe, it was solely coast-wise travel by sea: You had galleys. You had wide-bottomed trading vessels that were unmaneuverable in tough weather or adverse winds. There was really no way to go out into the high seas, far from land.

Henry sent one mission per year, starting down the Atlantic coast of Africa. And he was pulling together efforts around the island of Madeira, which he recolonized. His captains went out, and about 10 years later they got to the Azores, which are 850 miles out in the middle of the Atlantic—that's not a small, little hop. So there was a good deal that they were probing to get around the part of northwest Africa where the Sahara Desert reaches the ocean; it's a very inhospitable, 1,200- to 1,500-mile stretch. And for about 15 years they were barely making any great advances, but the *intention* was to master deep-sea sailing.

## To Florence

Now, where it really takes its full dimension is with Henry's brother, Pedro. The older brother, Duarte, is being groomed to succeed his father as king, which he does in 1432. Pedro goes on a trip throughout Europe from 1425 to 1428, and the high point was when he goes to Florence in April-May 1428. In Florence Pedro for two months has nonstop meetings with a circle of Florentine notables headed by Paolo dal Pozzo Toscanelli



Photo by Rodw

*Statue of Prince Henry the Navigator, map in hand, pointing westward across the sea, in Sagres, Portugal.*

and another leading light of the Florentine Renaissance, Ambrogio Traversari.

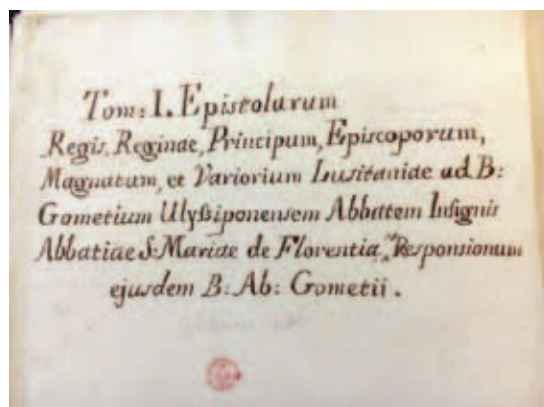
Traversari, together with Cusa, is the father of the great Council of Florence (1438-1441). Traversari is the most renowned Greek scholar of the age, and is general of the Camaldolese Order, a suborder of the Benedictines. His study group, meeting in Traversari's rooms in the Santa Maria degli Angeli religious house, interacts with the Medici family, with Filippo Brunelleschi, architect of the Florence cathedral Dome, and so forth. The group hosts Pedro for these two months; they have deep discussions.

The money for this is provided by a special fund that had been set up by Henry's father, King João I, just to foster the connections of Florence with Portugal. The key figure making the arrangements was Abbot Gomes Eanes, who administered the fund. He was number two to Ambrogio Traversari in the Camaldolese Order in creating the Council of Florence. He was transmitting all of the learned material from the Council back to Portugal, and when Traversari died in the year of the signing of the pact that brought the Eastern and Western Churches together in 1439 (his signature joins Traversari's on the Decree of Union), the person who replaced Traversari as head of the Camaldolese Order, was Abbot Gomes Eanes of Portugal.

When Nicolas of Cusa travels to Constantinople in 1437 to recruit the Eastern Orthodox delegation to the Council of Florence, with him is Antão Martins of Portugal.

On a visit to Florence three years ago, I had the great fortune of being given access to the Laurentian Library founded by Lorenzo the Mag-

FIGURE 1



EIRNS/Tim Rush

*Title page of a volume of correspondence of Abbot Gomes Eanes, a principal figure in the Florentine-Portuguese cultural and scientific collaboration.*

nificent, where all the documents and relevant correspondence between the Portuguese and Florentine Renaissance figures are archived. Very little of it has actually been studied systematically. In **Figure 1** you see the title page of just one of the manuscript volumes. You can see “*Tom: I. Epistolarum*”—Volume I of the Letters—of the King, the Queen, the officials, bishops, magnates, and various others from Lusitania—that is, Portugal—to and from Abbot Gomes of Santa Maria Abbey, Florence.

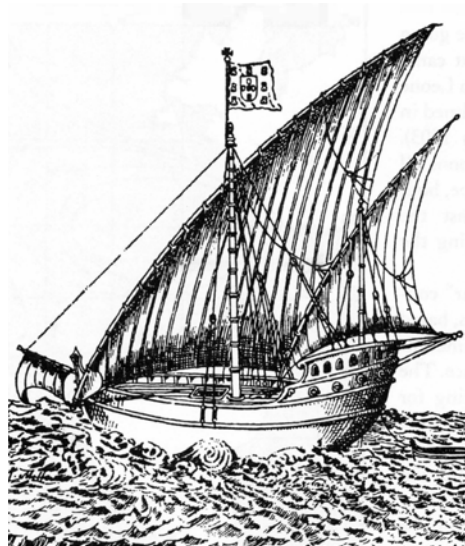
So when Pedro gets back to Portugal after this, and he summons Abbot Gomes Eanes to come also a little after 1440, there was a tremendous expansion of the exploration project, the Atlantic Enterprise. Where there had been one voyage per year before, it was now three or four voyages per year. Around 1434, Henry’s navigators get around what’s called Cape Bojador, which was a little promontory on the Mauritanian coast. It is insignificant on the maps today, but it’s where winds from the Sahara Desert drive so much sand out into the Atlantic Ocean that it was thought to be the end of the world. And psychologically, the sailors simply refused to go beyond that.

### Three Fundamental Breakthroughs

Finally, they get around that, they get past the desert; they get to the verdant lands of the Senegal River, and then they get to the Bight of Benin.

They make three fundamental breakthroughs to be able to extend their explorations, and these are crucial, as

FIGURE 2



One of the three great breakthroughs of the Portuguese Atlantic enterprise, the 15th century caravel.

you will see, for Columbus.

Number 1, they develop the caravel (see **Figure 2**). The caravel—before this, as I mentioned, you had galleys and you had sort of a wallowing type of merchant ship. The caravel was slim, it had a beam-to-length ratio of 1:3 or 1:4, instead of 1:2; it had lateen sails which were on an angle, and therefore they could be maneuvered to sail much closer to the wind when they had to tack. This was a fundamental invention that was indispensable for high seas exploration at that time.

The second great breakthrough that Henry the Navigator and his people put together is what we can call the “Long Ocean Tack.” The point is, the prevailing winds and

the currents, which are mirrors of each other, in the northern hemisphere move clockwise; on the left-hand side of the map you see that, the Northeast Trades; in

the southern hemisphere, they’re counter-clockwise (see **Figure 3**). It’s called the Coriolis Effect, for both the currents and the winds. It means that if you leave Portugal and head down along the coast of Africa, until you get to about Senegal or what today is Sierra Leone, you have the winds behind you, and you can go very efficiently. Coming back is hell. It could be 20 days out and 3 months back.

The tacking and so forth is very difficult. They started what they called a “long ocean tack” where, for the return trip, they would go all the way out to the Azores, which is 850 miles west of Portugal, and hitch a ride back to Portugal on the return of these clockwise wind and

FIGURE 3

### Currents and Winds in the North and South Atlantic



current patterns. Even though it was twice the distance, it was much less the time, so you have a least-action principle embedded in this, which is really quite a discovery.

Later on, this is reproduced on an even larger scale. As the Portuguese get much farther south along the African coast, they go out—and this is what Vasco da Gama does in 1498 when he goes all the way around Africa to India—they leave Portugal (see **Figure 4** for the routes), he goes down along Africa, and then he shoots across the Atlantic on the clockwise winds to basically the coast of Brazil. Then he hitches the counter-clockwise flow of the *Southeast Trades* all the way across the South Atlantic and reaches the Cape of Good Hope.

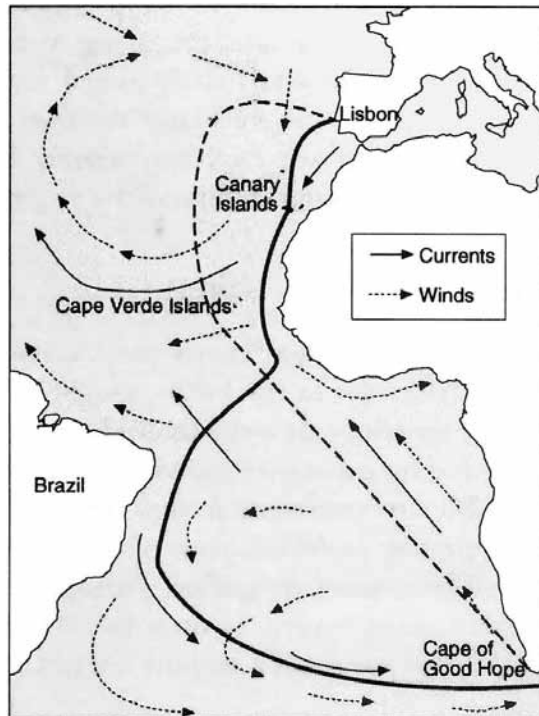
This is a voyage in open seas, almost three times longer in time than Columbus's, and two times longer in distance; and yet, it got him to the Cape of Good Hope much faster than if he had tried to go down along the African coast. When he comes back, he takes the inverted long ocean tack, out to the Azores and then heads east to Portugal.

So these are the long ocean tack ways of harnessing the vast assembly of currents and winds. And you can imagine the amount of research and the amount of work that Henry had to pull together at his headquarters in an Atlantic promontory called Sagres, to be able to integrate all this.

### Navigation

The third element of Portugal's Atlantic breakout is advances in celestial navigation, involving the quadrant, the astrolabe, the ways to be able to take

FIGURE 4  
The 'Long Ocean Tack'



Solid line: Portugal to the Cape of Good Hope.  
Dashed line: From the Cape to Portugal.

part of the Dome of Florence complex. They were actually done by the Pisano brothers in the 1330s. It's a beautiful evocation of the genius of the Florentine Renaissance; this is 100 years before it flowered, but it was already there in germ form.



Museum of the History of Science, Oxford, England  
*The astrolabe, a key navigational device deployed on Henry's ships.*

your readings from the heavens. This was not only finding latitude by measuring the Pole Star in the northern hemisphere. As the Portuguese were going down the coast of Africa, they began to lose the Pole Star, and by the Equator, you didn't have it at all. The southern skies didn't have any Pole Star. They had to take readings of their latitude by the Sun, and they completed a fantastic compendium of all the knowledge of the altitude of the Sun at different times of the year in different latitudes, in a 1480 work called the *Regimento do Astrolabio e do Quadrante*, the *Astrolabe Manual*. This set the pattern for 400 years of sailing guides.

The breakthrough involved is illustrated in two medallions embedded in the base of the Campanile di Giotto which is

part of the Dome of Florence complex. They were actually done by the Pisano brothers in the 1330s. It's a beautiful evocation of the genius of the Florentine Renaissance; this is 100 years before it flowered, but it was already there in germ form. These medallions are set almost at eye level, and they illustrate in 26 of these hexagonal reliefs all the spheres of the applications of man's creative powers to economy, the arts, the sciences. That says something about the idea of man and the image of God that the Florentine Renaissance represented. **Figure 5** shows the panel illustrating Navigation; the fellow in the back is using a compass, and the other two are rowing. **Figure 6** illustrates Astronomy, and the fellow is using a quadrant; he's taking a sighting of the stars.

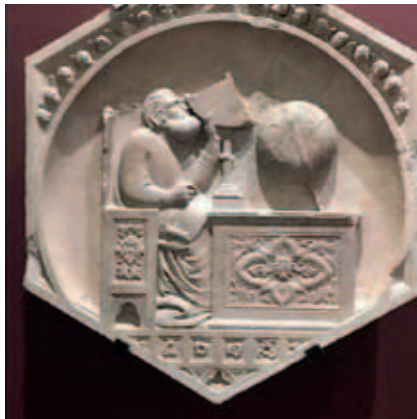
Notice what was going on in the courts, in the various ways

FIGURE 5



Two of 26 relief medallions by Andrea Pisano from Giotto's Campanile, depicting Man's creative powers. These two are Navigation and Astronomy.

FIGURE 6



photos by EIRNS/Tim Rush

that astrology as well as astronomy were practiced—where they needed people who could take fixings of the stars and all kinds of predictions of occultations and so forth, positions of planets—that was done in the courts, and then you had the seafarers who were going by very rudimentary charts and compasses. The two worlds did not intersect.

What Henry did is, he put it all together, so ordinary seamen and great captains like Columbus took the quadrants and a redesigned astrolabe out to sea and were able to get a much, much better quality of navigation than before. And if you think of Brunelleschi training the bricklayers of the Dome of Florence in techniques that had never existed before—training ordinary bricklayers to become part of the set of breakthroughs embedded in the Dome of Florence—well, this is the equivalent in terms of the navigation of the seas.

### ‘Prove Devotion to God by Making the Seas Navigable’

Now, take another snapshot, 1455: Nicholas V, who was the first of three great Renaissance Popes of that time, very intimate with Cusa and Toscanelli (they were even closer to a later one, Aeneas Silvius Piccolomini, Pius II). Nicholas issues a papal bull stating that the Christian world is looking to the Portuguese and to Henry particularly—he calls Henry the Navigator “my dear son, apostle and soldier of Christ.” He says, I want to particularly cite your “efforts to prove devotion to God by making the seas navigable.” Now, this is two years after the cataclysmic event of that period, the fall of Constantinople to the Ottoman Turks in 1453, with

Venetian connivance.

Therefore, you have the Renaissance popes, the figures coming out of the Renaissance in Florence, directly addressing Portugal, saying, we are in effect deputizing you, to carry out flanking actions to take our ideas out to the world, now that we find the Eastern Mediterranean closed off, and we’re bottled up.

Over the following nine years, Cusa, Toscanelli, and a canon and physician from Portugal named Fernão Martins were intimate friends. Fernão Martins was the cousin of the Antão Martins who accompanied Cusa to Constantinople

in 1437. In these years Cusa became the Vicar General of the Catholic Church, the right-hand man to Pope Pius II in Rome. They’re such intimate collaborators in philosophy, in science, in these exploration projects, that Cusa writes Fernão Martins into one of his greatest late dialogues, *On the Non-Other*. Toscanelli and Martins are the executors of Cusa’s will when Cusa dies in 1464. And there are tantalizing indications that Toscanelli was already writing friends in the 1450s about the idea of going west as well as east, to try to deal with the post-1453 crisis after the Fall of Constantinople.

The next snapshot is 1474: There’s a crushing shock, which is that the Portuguese have been successfully going along the coast—if you look at those maps again. After the Portuguese get around Senegal and the area around what today is Ghana and over toward what’s now Nigeria, the Bight of Benin, they think they’ve made it; they’re heading straight east and think they are about to circumnavigate Africa, emerge into the Indian Ocean. And then suddenly, the coast begins to tail south and south—people should realize it’s 8,000 miles to go from Portugal down to the Cape of Good Hope!

It’s precisely in that year that Fernão Martins, the canon of Lisbon—the intimate of Toscanelli, the intimate of Cusa—back in Portugal, writes to Toscanelli and says, we need to bring you in on devising another stage of what we’re going to do. And so Toscanelli sends the famous map that was later passed on to Columbus (see **Figure 7**), sends letters back and forth to Martins, exploring the idea of “sailing West to reach the East.”

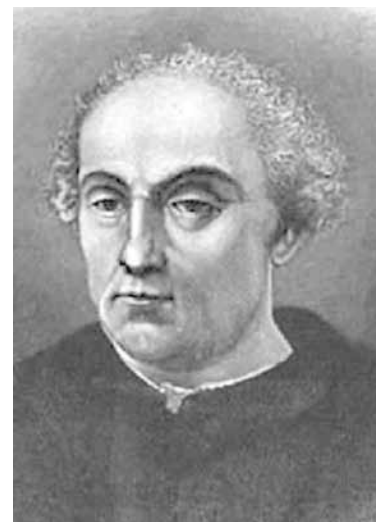
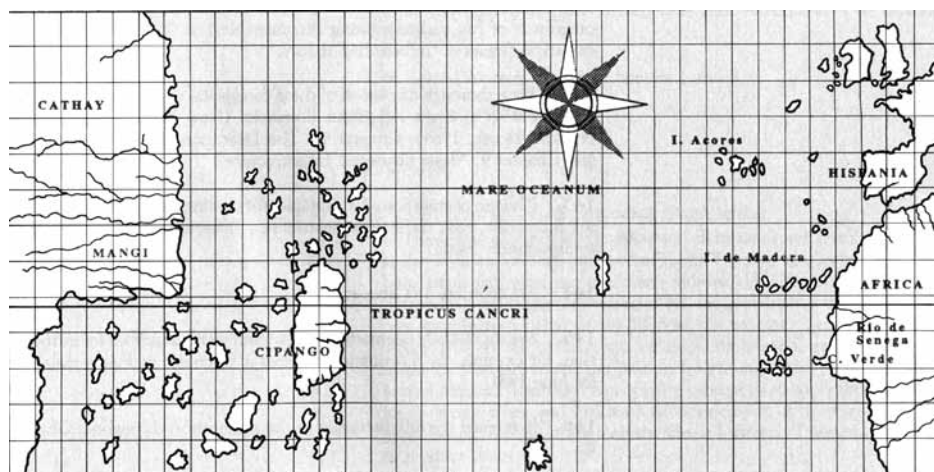
## Enter Columbus

Enter Columbus in 1476. He's shipwrecked. He's a Genoese sailor, he's shipwrecked off the coast of Portugal, and he walks ashore in 1476, into the middle of an unbelievable hotbed of the expansion of the Atlantic Project of the Luso-Florentine collaboration. He travels down to Guinea, south of Senegal, on a Portuguese voyage; he goes north on some Portuguese voyages; he marries the daughter of Bartolomeo Perestrello, the first governor-general of the island of Madeira when Henry ordered it re-colonized in 1420, in the initial phase of Henry's expansion. And he gets an archive of materials from that liaison.

lumbus later actually did. They clearly were not rejecting it. But what happened is, in 1488, Bartolomeo Dias, one of the great Portuguese captains, comes back to Lisbon with the news that he's reached the Cape of Good Hope. He's rounded Africa! And so, for the Portuguese, they've got a certain way to reach the Indies by going all the way around Africa; so even though they never discounted the option to go west, they decided to stick with what they now had in their hands.

And that's the point at which Columbus springs into action. Since the Portuguese will not now sponsor westward voyages of his daring and imagination, he goes to Spain.

FIGURE 7



*A reconstruction of the map prepared by Paolo dal Pozzo Toscanelli (right), passed to Columbus during his time in Portugal.*

So he's thrown into the middle of this ferment, with the Portuguese very seriously considering going west as well as continuing around Africa. Whether on his own initiative or being selected by the Portuguese for the task, Columbus is shown the Toscanelli map, and there are indications that Columbus entered into direct correspondence with Toscanelli. (What a blessing for the future that Toscanelli, born in 1397, lived until 1482—outliving Henry the Navigator, Cusa, and Pope Pius II, by almost 20 years, and being able to directly shape a whole new generation that, besides Columbus, included Amerigo Vespucci and Leonardo da Vinci.)

The Portuguese didn't know which way they were going to go. They had, actually, in the 1480s licensed about eight small efforts to do the kind of thing that Co-

But one of the key secrets of this time—and I've got to thank my colleague, Robert Ingraham, for writing this up in a beautiful [article](#) four years ago, called "The Agony of Confrontation of Old and New: The New World Imperative," in *EIR* of August 5, 2016—is that in Seville, it isn't the Spanish Crown that bears the largest part of the financing of his voyages—it gave the political approval—but it is the branches of the Florentine banks, particularly the Medici bank in Seville, and in particular, Amerigo Vespucci, who was the resident manager of the Medici bank for a number of years, leading into and after Columbus's voyages—they were the ones that put up the money.

So you have a total continuity of the role of these Florentine Renaissance giants in intimate, hands-on sponsorship, with the brilliant, three-generation mis-

sion assignment that the Portuguese had adopted.

### The 1492 Voyage

Now the Columbus voyage used all of the three big breakthroughs that had occurred in these previous 75 years: Two of the three ships were caravels. He used a variant on the long ocean tack: He went down the coast of Africa, past the Canary Islands, then caught the winds on the southern part—and you should look at the map again, Figure 3—so he takes the Northeast Trades on the southern side, takes them out to the Caribbean. For the return trip, he shoots north—he doesn't just retrace his steps—shoots north and picks up the corresponding winds and currents that lead him back to Portugal through the Azores at the higher latitudes. And he uses the astrolabe and the quadrant, and he makes some extraordinary discoveries in terms of the difference between the magnetic north and geographic north.

Bringing this forerunner of the Apollo project into focus, the former deputy director of NASA, Hans Mark, in February 1992, the year of the 500th anniversary of Columbus's landing, spoke to a meeting of the American Association for the Advancement of Science (AAAS) on the topic of Henry the Navigator and the early days of exploration:

For someone who has been involved in space exploration for 20 years, as I have, Prince Henry of Portugal has always occupied a special place. Henry was the instigator and sponsor of the first long overseas voyages by Europeans that resulted in sustained and systematic exploration of the world. ...

I have to confess that I always felt that the ghost of Prince Henry was standing behind successive NASA administrators in Washington as I worked for them. I'm sure that he guided their



*Christopher Columbus, aboard La Santa Maria.*

thinking, consciously or unconsciously.

Those of us who carried out NASA's work in the field were like the captains, who 500 years ago, sailed down the coast of Africa and in doing so, opened the most important vista that European culture has provided for the world.

Many of you are probably wondering, because of all the muck thrown at Columbus, how this Apollo Project of the 15th Century squares with later exploitation and slavery. This is a large subject, and I can only give a few sightlines. It's a very messy history of how you could really get vehicles in the Americas for expressing the intention that the

Florentine Renaissance figures like Cusa had. The Church by and large opposed efforts to enslave the Indians. There were notable efforts such as that of Bishop Vasco de Quiroga in Michoacan, Mexico, and the valiant 70-year effort by a humanist Portuguese administration in the Kongo, to impart the best of European agricultural and craft knowledge to the Kingdom of the Kongo.

That these efforts were exceptions rather than the rule for many years, illuminates a crucial truth: The problem wasn't exploration, it was oligarchism—oligarchism besetting Europe in the form of 160 years of religious war that crippled consolidation of the Renaissance breakthroughs, and reached into factions settling the Americas. That, and new pillars of trade such as sugar, which tilted internal battles toward slave interests in the courts of Spain and Portugal.

It is in the Plymouth landing and then the Massachusetts Bay Colony that the path leading into the eventual founding of a republic representing the Renaissance aspirations is taken up again. Look at the beautiful, 12-minute [video](#) called simply "1620," which La-Rouche PAC produced on that subject, and from there it's such a rich history that we must celebrate. Colum-



John Vanderlyn, 1847

*Culminating three generations of scientific advances and explorations, Columbus's voyage was the Apollo Project of the 15th Century. Shown: The Landing of Columbus on the island of Guanahani (San Salvador), October 14, 1492.*

bus is an entry point to celebrate it.

In that same paper, "Why We Must Colonize Mars," LaRouche summarized the lessons for today:

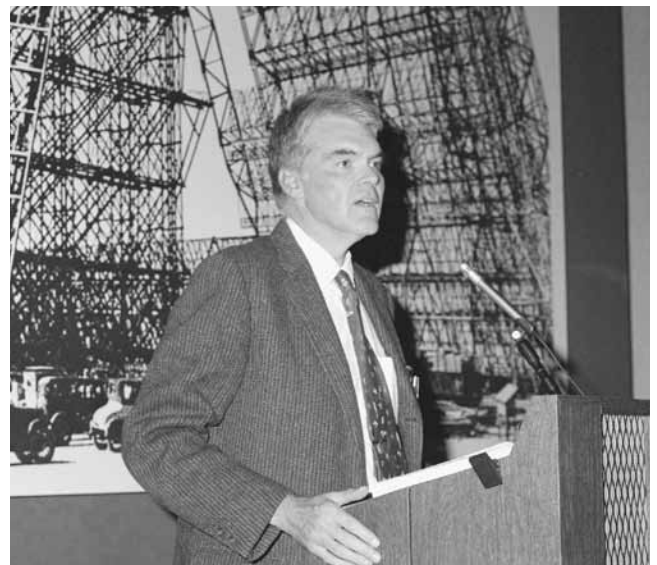
Drive the rate of realization of scientific discoveries of principle to the limit, and mobilize the material, educational, and health resources needed, to enable modern "Christopher Colum-buses" to succeed in their voyages of discovery beyond new frontiers.

As a coda, just a personal anecdote that I think is quite ironic, given the current assault on the legacy of the 75-year "Apollo project" that led to these explorations and discoveries: In the late '60s and early '70s, I spent a number of summers as an anthropology student in southern Mexico, among a modern Mayan Indian group called the Zinacantecos. On July 20th, 1969, the Moon landing afternoon, my cohort of anthropology students, already infected by distrust of science, and alienated from a sense of national purpose by the combination of the Vietnam war and the surging rock-drug-sex counterculture—well, many of us, myself included—didn't pay any attention, and I say it with shame. But a number of the Indians from these villages in the highlands of Chiapas traveled to the nearby market town, San Cristóbal de la Casas, crowded in front of the display window of the only television store

in town, which had its set tuned to the Moon landing, and marveled at this accomplishment of mankind.

I say this because we really have to recognize the arc of the cultural erosion of the United States. But we have a magnificent moment, now, to bring back a culturally optimistic outlook, with the Artemis program of returning to the Moon and going on to Mars, and the prospect of a new surge in fundamental scientific upshifts led by the development of nuclear fusion. What I hope I was able to present here—this question of celebrating what Columbus represented—is a template of the tasks before us now.

Columbus brought forward a "proof of principle"—that the joint mission of Toscanelli's Florence and Henry the Navigator's Portugal, of "showing devotion to God by making the seas navigable," had succeeded. From that time on, implicitly, the whole world could become a field for the application of the science, principles of statecraft, and image of Man embedded in the Renaissance, and its inhabitants could emerge as one Humanity.



NASA

*Hans Mark, former NASA Deputy Administrator, at a 500th Anniversary celebration of Columbus's voyage: "I have always felt the ghost of Prince Henry the Navigator was standing behind successive NASA administrators, guiding their thinking."*