
Ramiz Daniz

Ramiz Gasimov

***Christopher Columbus,
Nasiraddin Tusi
and real discovery of
America***

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Though America was discovered by Christopher Columbus 510 years ago, that discovery has a lot of obscurities, which make people to think. According to most scientific works, Ch. Columbus thought that, he had discovered East Asia. I tried to prove that, the Genoese seaman had got acquainted with the map of Nasiraddin Tusi when he was in Spain before his travel to the western part of the Atlantic Ocean and was aware of the existence of unknown territory there. Yes, N. Tusi had described America in his map together with its coordinates 220 years before Ch. Columbus’s transatlantic travel. It is one of the most phenomenal discoveries of the world and Ch. Columbus is the author of this discovery.

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***Christopher Columbus,
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America***

Though the structure of the Earth, which is full of contrasts, was enigmatic for people of the middle ages, they sought to organize geographical discoveries in order to understand reality. Columbus could open the firm door consisting of ocean for discovery of the forth continent. But the key of the door was made by the Azerbaijani scientist Nasiraddin Tusi.

Author

Preface

The book is about obscurities of the history of scientific investigations and geographical discoveries including actual issues, which haven't been discovered and analyzed enough.

The author of the book Ramiz Gasimov Ali is a veteran of Karabakh war and works in the Oil Refining Factory of SOCAR as a worker. He has graduated from secondary school only. He has started his literary activity owing to his passion and diligence. R. Gasimov's life and activity is very interesting. His trilogy consisting of **“Tragic death of conquistadors on coasts of the Central Chile”**, **“Sacred mission”** and **“People going to heaven go to hell”** was published during last two years. Those historical adventure books could attract attention of Chingiz Abdullayev, Nusret Kesemenli, Natig Resulzadeh and other remarkable writers and poets. The secretary of the Union of Azerbaijani Writers Chingiz Abdullayev called Ramiz Gasimov a writer-innovator.

Though America was discovered 500 years ago, that discovery is still interesting for most experts as it is very enigmatic. Ramiz Gasimov could explain most details about discovery of America. This book includes answers of most questions, which were enigmatic during centuries.

Following questions are interesting for every student, historian, geographer and other experts:

- Why coasts of the New World were named America in honor of Amerigo Vespucci, but not in honor of the well-known sea traveler Christopher Columbus?

- How could the professional navigator and sea traveler Columbus write 40^0 instead of 22^0 when determined geographic latitude, where Cuba was situated.

- Why Columbus sailed at 20^0 - 25^0 northern latitude towards the south-west, instead of 35^0 - 40^0 northern latitude towards the west in order to reach Japan, China and India.

The author answered these questions in this book. Investigation of results of Columbus's travels towards coasts of the New World was very interesting for scientists of Azerbaijan besides experts of America and Europe. One of such experts is Ramiz Gasimov. He has proved that, the well-known sea traveler Ch. Columbus hadn't discovered America by accident. Besides it, the author wrote that, Columbus had discovered America according to the map made by the remarkable Azerbaijani scientist Nasiraddin Tusi in Maragha observatory. R. Gasimov proved this truth by means of several facts. He solved this problem, which was urgent for a lot of scientists, independently.

The world community should know that, besides Italy and Spain (Columbus was an Italian, but his expedition was organized by Spain), Azerbaijan also had a great role in discovery of America made in 1492 owing to Nasiraddin Tusi. Everyone, who doesn't believe it, should read the book written by Ramiz Gasimov.

I want to note that, the author has made a lot of investigations and researches in order to find answers of above mentioned questions in spite of difficulties of the transitional period.

The author has analyzed a lot of materials about Columbus's travels including trade and economic relations of the corresponding period. He came to the conclusion in accordance with gathered facts, information, made comparisons and logical judgments.

R. Gasimov wrote that, Ch. Columbus had analyzed N. Tusi's scientific heritage and he deceived Spanish monarchs Ferdinand and Isabella when declared that, wants to find ways to Chine, Japan and Chine and so, could make them to organize an expedition. The well-known sea traveler knew that, he should sail towards unknown territories located in the west of Europe. He kept it secret for his own purposes. Organizers of the expedition – Spanish monarchs also thought that, they had deceived Columbus. They planned not to give him corresponding privileges after the expedition would be completed successfully.

Columbus started his travel very decidedly and it didn't happen by the accident. He had learned a lot of things after analyzing scientific works of Nasiraddin Tusi including his map. N. Tusi wrote that, there was a very large land area in

the west of the Old World, on the other side of the ocean. The scientist's map included outlines of that territory, the distance between it and Europe and directions of currents, which could be used in order to sail there. So, Columbus knew when he would reach unknown territory. The rebellion of seamen occurred near coasts of the New World proved it as the commander of the expedition asked for only there days in addition. Guanahani Island of Bahamas was discovered twenty six hours after added period, on October 12, 1492.

Ramiz Gasimov Ali has written very interesting work about history of science in Azerbaijan and activity of the founder of Maragha observatory Nasiraddin Tusi. This work may be considered fundamental historical and geographical research work. Injustices of the world have been analyzed in the work by describing activities of Columbus and Tusi. The author wants to correct mistakes made many years ago.

The work written with great troubles and senses of patriotism may be used by pupils, students, statesmen, scientists, experts of history of science, history and geography. The book includes main problems of that time, activities of Columbus and Tusi, political situation of Spain and Portugal, names of the most well-known scientists, sea travelers, researchers, religious figures and monarchs, most

Ramiz Daniz

interesting travels and Columbus's real purpose during his travel. The work, which was written in the first year of XXI century, is a great present for people, who are interested in Columbus's activity, in Spain, Italy and USA and I'm sure that, it'll cause great resonance in the world and bring great fame to his author and our motherland.

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Christopher Columbus born in Genoa and his travel to Portugal

People tried to appropriate territories situated on the other side of the ocean since ancient times. But it was necessary to produce durable vessels in order to achieve it.

Though Christopher Columbus was a genius sea traveler, his life was full of mysteries. It isn't difficult to understand his purposes, but nobody knows which secrets he took to the other world. I think, I could find out most of his secrets. I'll explain all of those secrets gradually. But first of all, I want to describe the traveler's childhood and youth.

Birthplaces of most genius people are usually arguable as there is different information about them. Columbus is also among such persons. As it is known, the well-known sea traveler was born in 1451 in Genoa located on the coast of Liguria, in the north-west of Italy. But 26 candidates (14 Italian cities and 12 nations) pretended to be native for Columbus.

Genoa was accepted as Columbus's motherland fifty years ago. But still false assumptions occur about motherland and nationality of Columbus. There wasn't any doubt about his birthplace before 1571. He had repeatedly mentioned that he was from Genoa. For the first time Ferdinand Colon wrote that Columbus wasn't from Genoa. He wanted to keep the traveler's social situation secret by doing it. Genoa wasn't convenient for it, as the traveler's surname wasn't even in the list of plebe families of this city. That's why the author wrote that, Columbus's grandparents were from Piacenza and well-known representatives of his

family lived there in XIV and XV centuries. This action of Ferdinand Colon made other historians to write similar assumptions too. They described other Italian cities as Columbus's motherland. Of course, those assumptions were groundless.

Christopher's grandfather worked as a weaver in Macanese located near Chiavara (at 30 km east of Genoa). Columbus's father Domenico learned that profession with the help of the weaver, who was from Brabant, but lived in Quinto. He lived near Porta-del-Olivella, in the east of Genoa after 1440 and married the weaver by name Susanna Fontanarozze five years later. Christopher was born in 1451 in Porta-del-Olivella. According to most historians, Christopher's elder brothers and sisters died when they were little at the result of different sicknesses. Christopher was considered the eldest child of the family. Bartolommeo was two years and Diego was seventeen years younger than Christopher.

Christopher's father moved to Savona when he was 19 (1470) and sold wine besides working as a weaver.



Christopher Columbus (1451-1506)

I want to describe one event which proves that, Domenico Colombo was rich and honest. Columbus's brother-in-law asked Domenico to give dowry which he promised in the wedding of Christopher's sister Biankinetta. He said that, he would keep his promise as soon as it would be possible. Notary documents prove that, really, welfare of Columbus's family wasn't good then. They had problems with creditors for their house four years after Columbus's

birth. So, Columbus's father was obliged to sell the house in 1473 and Columbus also participated in that process.

But Columbus had his own world. Ports, where representatives of different nations and different vessels gathered, were very interesting for them. He was a controller at first. But as soon as he was 14, he began to sail to Portofino and Corsica. Barter of different goods had spread widely on coasts of Liguria then. Domenico also participated in that business and his son helped him besides working in the small vessel. They took clothes to trade centers and brought cheese and wine.

According to most sources, Columbus worked in the wool factory as his father before 1472. There isn't any exact information about the traveler's education level. But it is known that, he could read in four languages – Italian, Portugal, Spanish and Latin. He read every book attentively. Besides it, according to documents, he had participated in commercial expeditions of Genoese seamen and sailed to Khios Island located on the Aegean Sea. He worked for rich merchants' families – Spinolas and di Negros in Genoa and sailed to Khios Island in their vessels. Though Columbus was a weaver, he had learned navigation during travels. He understood that, one had to have a large vessel in order to be

rich merchant. Spinolas, di Chenturionis and di Negros were such people.

Spinolas and di Negros sent their vessels full of mastix from Khios Island to Flandreau in 1476. One of seamen was Columbus. Vessels started their travel from the port of Noli located near Genoa on May 31 and one of them sailed with the flag of the Herzog from Bourgogne and Graf from Flandreau, who were enemies of the French Kingdom. The French squadron attacked them near Luz on the western coast of Portugal on August 13. As seamen had weapons, they began to fight. Columbus was wounded and he could go on the shore with only one pole. He was treated in Luz and returned to Lisbon. After this accident, islands located on coasts of the Iberian Peninsula entered the Genoese weaver's life.

But Columbus didn't plan to stay in Pyrenean Peninsula. He wanted to leave coasts of Portugal as soon as possible. He could get such opportunity soon. The small navy, which sailed from Genoa to England on first days of 1477, was obliged to stop in Lisbon. Probably, Columbus worked in that navy and went to England. He went from Bristol to the port of Holuey of Ireland. After it, he went to coasts of Island. Columbus had described these travels in his diary.

Thus, the future admiral could visit important geographic places located in the north-western part of Europe. He became professional seaman. When Columbus reached coasts of Island, he learned that, seamen used to sail from England to Island by means of fishermen's ships. He couldn't see large vessels in England, Ireland and Island. But large vessels were important for great travels. Commercial activities of England and Portugal were different. Portugal, which desired to sail to coasts of India, broadened its borders by occupying western coasts of Africa. Vessels of Portugal carried pepper, ivories, gold and black slaves from coasts of Guinea. Heinrich, who preferred geographical discoveries, was dead twenty years ago, but other kings continued his works.

Columbus came to Portugal in spring of 1478 and decided to stay there. His brother Bartolommeo waited him in Lisbon. Bartolommeo was one of educated men of that time. He had got education near talented cartographers in Genoa and worked on preparation of maps. The school of cartography of Genoa was one of the most advanced schools of Portugal. They fixed every discovery made by Portuguese sea travelers on their maps and sold those maps to geographers, navigators and captains very expensively. Columbus wanted to take part in a travel and Bartolommeo

had to give him a map for it. I think Columbus planned to organize very important travel as he trusted his brother. He had to get acquainted with families of well-known sea travelers of Portugal and gather necessary information. Though Columbus was very young, he had become professional seaman and Paolo di Negro trusted him. That Genoese merchant asked him to buy sugar in Madeira and bring it to Lisbon.

Columbus met with his future wife Felipa de Perestrella there and married her in 1479. This marriage was windfall for Columbus. Owners of home where he had entered had been participants of expeditions organized by Enrique and other kings. Father of Felipa was from Lombardy and died twenty years ago. He had become nobleman of Enrique for his services in sea travels of Portugal and had been appointed governor of Porto Santo Island. According to information given by the merchant and sea traveler of Venice Alvise Cadamosto, father-in-law of Columbus was well-known colonialist. Columbus could find several documents about different travels of Portuguese in the Atlantic Ocean. Those documents helped him in preparation of the project about the discovery of the western part of the mentioned ocean.

As Columbus's brother-in-law was a governor of Porto Santo, he and his wife lived there after being married and their only child – future vice-king of Spaniards' America Diego was born there. After it, they moved to the capital of Madeira – Funchal.

Columbus started to learn practical navigation in Porto Santo and after travelling to Azores enlarged knowledge in expeditions to Guinea realized in 1482 and 1483.

According to sources, Columbus was appointed commander of two vessels in accordance with representation sent by his brother-in-law to the king of Portugal when sailed towards Guinea and he could reach San Jorge da Mina port built by Diego Azanbuj on coasts of Guinea.

Great geographical discoveries have successfully been used in ship building, navigation and improvement of geographical knowledge. Portuguese and Spaniards learned to make improved vessels, which could sail against the wind. Use of compass and development of cartography allowed sailing on an open ocean. As the Earth was

considered spherical, people hoped that they would find eastern countries by sailing towards the west.¹

Columbus learned geography, mathematics and astronomy in order to realize his purposes. He didn't keep this fact secret.

According to most scientific sources, Columbus had got acquainted with “**Book**” of Marco Polo, who was one of the most well-known travelers of the world, in Portugal and this book had a great role in his life. This book included a lot of historical facts, coordinates of geographic points, information about traditions of people, who lived around Chine and a lot of fantastic thoughts. Information about golden decorations of palaces in Japan, grandiose palace of Khubilay khan and motherland of spices – India impressed Columbus very much. As if, after reading this book, he decided to visit those countries.

As ways of India and Chine were under the control of the Ottoman Empire, he had to go there by the sea. The traveler had to go round Africa. Portuguese sea travelers tried to do it, but failed. According to most scientists, Columbus was sure that the Earth was spherical, but he thought that it was

¹ М. Л. Абрамсон, А. А. Кириллова, Н. Ф. Колесницкий и др.; Под ред. Н. Ф. Колесницкого. История средних веков: 2-е изд. испр. и доп. Москва, «Просвещение», 1986. стр. 391

smaller. So, he thought that, Japan wasn't far from Azores. So, it should be possible to go to those countries by sailing in the west of the Atlantic Ocean and going round Africa.

I can disprove this thought, but let's look through the chronology first.

Columbus prepared his project for travelling to India through the western way when he was in Portugal and presented it to the king of Portugal Juan II in 1484. His idea was very simple and consisted of true and false parts. First (true): the earth is round. Second (false): the largest part of the Earth is land – Europe, Africa and Asia. So, the distance between the western coast of Europe and eastern coast of Asia is small: it is possible to reach India, China and Japan in the shortest time by passing the Atlantic Ocean through the west. But, seamen had to sail about 10000 km (to Japan) between Europe and Asia.¹ It was very difficult without having any stopping-place.

The Italian scientist, cosmographer and astronomer Paolo dal Pozzo Toscanelli (1397 Florentine – 1482), who lived in XV century, and humanist Pietro Martire also thought like this. Genius scientists as Aristotle, Eudoxus of Cnidus, Posidoni, Eratosthenes, Pifey, Pliny the Elder, Pompony

¹ И. П. Магидович, В. И. Магидович. Очерки по истории географических открытий. II том. Москва, «Просвещение», 1982. стр.14

Mela, Strabo and Plutarch also thought that, such travel was possible. The idea of Common Ocean was accepted by the church in the middle ages. Such theory was affirmed by the Islamic world including well-known Muslim scientists – Ali Al-Masudi, Muhammad Al-Khwarizmi, Battani, Abu Raihan Al-Biruni, Mahmud Al-Khojandi, Idrisi and Nasiraddin Tusi.

Columbus could be considered lucky person. He presented his transatlantic project to the king Juan II at the beginning of 1484 when lived in Portugal. But that time wasn't convenient for the monarch of Portugal. Then the king was busy with suppressing revolt raised in the country by magnates. Besides it, he was interested in expeditions towards western coasts of Africa. It is known that, Columbus had asked the king to give him many privileges for his services after the expedition completed successfully. To ask such privileges was insolence. Nobody, even well-known noblemen hadn't asked such privileges before Columbus. What were demands of the Genoese seaman? He had demanded to be admiral of the Atlantic Ocean, title of nobleman, to be vise-king of lands, which had to be discovered, one tenth of incomes of those lands, eight percent of money, which would be earned at the result of the trade, which would be carried out in new lands and gold

spurs. Juan II, who kept his noblemen under the strict surveillance, couldn't give mentioned privileges to anybody.



King of Portugal Juan II (1455-1495)

Afterwards Columbus asked Spanish monarch Isabella to give him same privileges as well. But a question appears: If Juan II was very strict and harsh monarch, why he didn't reject Columbus directly? Before, Genoese seamen had made a lot of geographical discoveries. Manuel Pessanha and other travelers were admirals of Portugal. Navies of the

kingdom had played an important role in discovery of Madeira Island, Canaries and Azores under their leadership.

The admiral Niccoloso da Recco, who leded the expedition towards Canaries in 1341 and admiral Antonio da Noli, who had discovered Green Cape Islands, had great roles in conquest of Portugal. The king Juan II was a wise ruler and didn't want to make a mistake. He couldn't make decision by himself.

The project was presented to "*Mathematical Union*" of Lisbon where the most talented and skilful scientists and mathematicians of Portugal worked under the leadership of the archbishop of Ceuta Diego Ortiz de Villegas. Some of members of that organization were Jewish scientists. Rodrigo, who had improved astrolabe and sextant, and expert of the navigation astronomy Hose Vitsingo were among those scientists. Mentioned persons thought that, measures and distances hadn't been fixed correctly in the project. Though those scientists also didn't know exact sizes of the Earth, they were sure that, calculations of Columbus were wrong.

It is not known which decision was made by that council, but it is known that, decision made in 1485 wasn't in favour of Columbus. The Genoese seaman's wife died in the same year and he decided to go to Spain.

Christopher Columbus's travel to Spain

As Columbus lost his hopes in Portugal, he decided to go to Castilia in 1485. He took his seven-years-old son Diego to Palos and wanted to leave him in Huelva, near relatives of his wife. Besides it, he sent his brother Bartolomeo to England and asked him to take plan of the western way to India to Heinrich VII. Columbus hoped that, the king of England will be interested in the plan.

As Columbus was very tired, he entered Rabid monastery in order to rest. He talked to the owner of the monastery Antonio de Marchena (he was interested in geography and cosmography) about his secret. Antonio got excited when heard Columbus's thoughts. As he had relations with the kingdom palace, he sent traveler to authoritative persons and introduced him to the Herzog Medina Sidonia. Herzog promised Columbus to support his plan, but didn't keep his promise.

Columbus was very happy as was met sincerely in the monastery. He went to Cordova afterwards. Then Ferdinand from Aragon and Isabella from Castilia lived in Cordova.

But Cristobal Colon (Christopher Columbus was called Cristobal Colon in Spain) was disappointed in Spain. Consultants of the king declared his plan unreal.



Columbus discusses his transatlantic project

Of course, there wasn't any need to explain the reason. Monarchs were busy with the war against Granada – the small country of Arabs located in Spain. Columbus knew that rulers of Spain wouldn't be interested in his plan until Arabs would be defeated. So, he took his project to England and Portugal. But both of these countries rejected his project.

Antonio de Marchena introduced Columbus to Herzog von Medinaceli, who was respected by Spanish monarchs and had several vessels in the port Puerto-Santa-Maria and don Luis de la Cerda. Herzog was interested in the project. He promised to help the traveler. But such presentations were harmful for Columbus's plan. Herzog asked Isabella to allow organization of corresponding expedition. The queen hesitated. The expedition's success may help large feudalists – her enemies to be stronger. She had to spend a lot of money for organization of the expedition. And there wasn't any guarantee for success of the expedition. If it would fail, the queen would lose a lot of money, but if it would succeed, the kingdom would become richer and stronger. So, the queen invited Columbus to her palace in Cordova on May 1, 1486 and after a short discussion, presented his project to the commission.

The queen Isabella was clever, haughty and decisive ruler. She liked Columbus's presentation and promised that, would help him. Columbus was sure that, he would travel to the west of the ocean soon.

The commission consisting of monarchs and noblemen made negative decision after four years under the leadership of Isabella's godfather Fernando Talavera. The commission gathered twice in Cordova and Salamanca. One of meetings

was led by Diego de Deza, who was future archbishop of Seville and owner of the Dominican Order. Diego de Deza tried to prove that, Columbus's calculations were wrong.



Spanish monarchs Isabella from Castilia and Ferdinand from Aragon

Original copy of the commission's decision hasn't remained until today. But it is known that, members of the commission explained their decisions by means of different reasons. They didn't mention that, the Earth wasn't spherical. Though their decision was negative, they couldn't

explain their thoughts completely. Though the commission's decision was negative, Columbus got salary of the kingdom in 1487-1488. But he couldn't achieve any success during this time.

Columbus went to the kingdom camp located in Malaga with the invitation of Spanish monarchs in August and September of 1487. Malaga had been occupied on August 18, 1487 after a long blockade. Columbus thought that, Isabella will agree to organize an expedition. But the queen mentioned that, any expedition couldn't be organized until the Iberian Peninsula would be freed of Arabs.

So, Columbus readdressed to Portugal in 1488, but was rejected. As you know, Bartolommeo Columbus was sent to London, to Heinrich VII by his brother. He asked the king to support Columbus's ideas and organize an expedition. But the king's consultants didn't accept his idea. They appealed to France too, but couldn't succeed. Then Bartolommeo stayed in Fontainebleau and worked as a cartographer.

Herzog Medinaceli wanted to organize Columbus's expedition, but rulers' permission was necessary for it. Herzog respected the Genoese sea traveler and Columbus stayed in Medinaceli's house until the commission's decision was made. But sometimes he visited Cordova and

Ramiz Daniz

there he got acquainted with the young girl by name Beatriz de Arana, who was for 15 years younger than he. Their son Ferdinand (future biographer of the traveler) was born there. Ferdinand was traveler's illegitimate child, as Columbus and his mother weren't married. Their marriage could prevent Columbus's success. But he respected his family.



Columbus presents his project to Isabella from Castilia

According to historical sources, Columbus had ordered his son Diego to send 10000 maravedis rente to Beatriz

annually since 1502. Diego had to support welfare of Beatriz after 1506 too. The traveler was very kind to Beatriz and her family. Her brother Pedro de Arana leaded one of caravels of the expedition during the traveler's third travel and cousin participated in the first travel.

The vice-king of America Diego always sent Beatrice's annual rente and fixed it in his will. After his death, his wife continued sending that rente (Diego's wife was the daughter of the Spanish nobleman) to the family of Arana.

Columbus was a sagacious person and understood that, Spanish rulers wouldn't help him until they would achieve their goals. He waited for the end of the war between Arabs and Spain. He began to be close to Spanish financiers and it helped him on his way to the victory. Columbus returned to Rabid monastery in 1491 and got acquainted with the well-known shipbuilder Martin Alonso Pinson with the help of Antonio de Marchena. Besides it, he developed relations with the king's financial counselor, merchants and bankers of Seville.

Some skeptics and scientists mention that, Columbus discovered America by accident. So, that discovery could be made by any captain. Of course, I don't agree with this assumption.

Columbus didn't lose his courage and read a lot of scientific books in order to prepare for the expedition. He mainly read books on geography and cosmography. Especially, he read Marco Polo's books and made a lot of notes about them. He was sure that, his considerations were correct. Besides it, he had Pliny's "**Natural history**" in an Italian translation published in 1489, works of Plutarch and Ptolemy. He made notes on several books as Pierre de Ailly's "**Imaço Mundi**" ("**World Map**") and Enea Silvia Piccolomini's (is known as the Pope Pius II) "**Historia rerum ubique Mundi**" besides Marco Polo's book written in Latin, which is still kept in the Columbia Library of Seville. There are about 2125 notes made by him.¹

Pierre de Ailly wrote a tractate on general geography in 1410. He supported ideas of Marinus of Tyre, who thought that, Asia extended towards the east and there was only a narrow ocean between Asia and Europe. The French cosmographer even wrote that, it was possible to pass that ocean in several days when the weather was fine. The Genoese seaman underlined this sentence and made detailed note about it. He made notes about the sentence, where the author of "**Imaço Mundi**" wrote that, Spain isn't very far

¹ Ч. Верлинден. Покорители Америки. Ростов-на-Дону, «Феникс», 1997. стр. 32

from India and the east starts near the west. Chapters about India and Asia are full of notes. It seems that, pictures of valuable stones and metals, elephants and different terrible animals amazed Columbus. He fixed places, which were full of pearls. Besides it, he described narrow places of the ocean with different color in his map.

He underlined one of paragraphs in Enea Silvia Piccolomini's "**Historia rerum**", where the author wrote that, Asia extended towards the latitude of Spain. He noted on other paragraph, where the author described Chinese as peaceful creatures, that, Chine is situated near India, on the other side of Spain and Ireland.

J. Baker wrote that, Columbus's cosmographical ideas were founded in the middle ages. He used the book of Pierre de Ailli – "*Tractatus de imagine mundi*" (*Tractate about the description of the Earth*), which included thoughts of Roger Bacon described in "*Opus Magus*" at the end of XIII century. So, Columbus hadn't any new ideas.¹

Columbus was interested in the Mongol emperor of Chine, who was the leader in 18 places, but Enea Silvio described Khubilay khan in his work. All these facts prove that, the traveler was interested in the western way to Asia.

¹ Дж. Бейкер. История географических открытий и исследований. Пер. с англ. М., «Иностранной литература», 1950. IV глава.

Thus, it is obvious that, Columbus spent his free time in reading scientific books and tried to learn different science branches. Even captains and navigators couldn't overcome the work carried out by Columbus. He was a passionate researcher, could plan the future, learn navigation, use Passats, learn climate changes in the east of the Atlantic Ocean, use the Sun, Moon and Venus for determination of geographic coordinates, treat people kindly and lead dialogues. Probably, coasts of the New World could be discovered in 100-150 years. It's a reality. Several seamen tried to cross the ocean in the west before Columbus. But their expeditions failed. These facts can be proved.

After Columbus's project was rejected by the "***Mathematical Union***" under the leadership of Diego Ortiz de Villegas, the king Juan II decided to send an expedition to the west of the Atlantic Ocean in order to check his project. The king and his advisers made this decision by common consent. At that time the "*Island of Seven Cities*", Haldat and Anthelia Islands located in the west of the Atlantic Ocean were discussed in the Pyrenean peninsula and most countries of Europe. The king Juan II entrusted the Frenchman by name Ferdinand van Olmen known in Portugal as Fernando de Ulmo with realization of this work, he didn't choose Columbus for this purpose. Ferdinand van

Olmen's fellow-countrymen had worked as governor in one of Azores. He also was governor of one island before the travel. At that time, most seamen, financiers and merchants serving Portugal used to organize expeditions with their own capitals, for example, Corte-real brothers had organized such expeditions in 1500, 1502 and 1506. S. Morison, Ch. Verlaine, Vadim Magidovich and Iosif Magidovich noted in their works: "Van Olmen united with a colonialist by name Estreito from Madeira when he organized his expedition. According to words of van Olmen, he wanted to discover several islands located in the west of the Atlantic Ocean or coast of the continent. He called the country he had to discover the "*Island of Seven Cities*" as didn't know its name".

Ruling committees of Portugal didn't pay enough attention to unknown western part of the Atlantic Ocean before Paolo Toscanelli's well-known map was made. Everybody wondered if there were unknown islands in the west of Canaries, Madeira Islands, Azores and Green Cape Islands. Portuguese organized travels towards the west of mentioned islands in the middle of XV century. In 1462, the king Alfonso V gave great privileges to the person by name Vogado for appropriating about two islands located in the west. The seaman by name Telles searched for Anthelia and

the “*Island of Seven Cities*”. Many seamen travelled after him, but nobody achieved any success. At that time following rumour had spread in Portugal: Islands, which can’t be discovered, are seen from a distance. Of course, it is impossible to believe in such unserious thought. If islands were seen in the ocean, then the king Alfonso V could send there at least one expedition in order to explore those islands. There wasn’t any doubt that, there were islands in the western part of the Atlantic Ocean (near mentioned islands). Columbus also agreed with this thought. But he believed that, there were mythic Anthelia and other islands on the middle of the ocean. The Genoese seaman thought like that because of the letter of Toscanelli. It was possible to use those islands as stopping-places in the ocean passage on the way to Asia.

Van Olmen knew results of travels of Vogado and Telles and knew that, it was impossible to use any island as the stopping-place on his way to India through the west, so his expedition would meet with great difficulties. That’s why though Juan II gave permission for organization of the expedition he had doubts about its success. Otherwise he could organize the expedition with his own capital.

The king would give many privileges to van Olmen in 1486 if the expedition completed successfully as he had

organized the travel on his own account. *“Mathematical Union”* told the king that, Columbus had prepared his project owing to Paolo Toscanelli’s calculations. That’s why Olmen had to explore the Atlantic Ocean in accordance with those calculations. May be, the project of the Genoese seaman had been copied when it was in *“Mathematical Union”* and that copy had been given to van Olmen.

Van Olmen started his travel with two caravels in spring of 1487. He planned to pass the Atlantic Ocean in 40 days. I want to mention that, in 1492, Columbus had overcome the distance between Canaries and Bahamas in 36 days. When the Professor Charles Verlinden read the declaration of the French seaman, he noted with surprise that, Portuguese seamen had sent secret expeditions to the west of the Atlantic Ocean before 1486, they knew which islands were on the other side of the ocean and where the unknown continent was situated.¹

I don’t agree with this thought of Ch. Verlinden. If van Olmen knew the place where unknown islands and large land area were situated, he could easily discover those territories. Besides it, if Portuguese seamen knew the east coast line of the New World, Portuguese could choose the

¹ Ч. Верлинден, *Покорители Америки: Христофор Колумб. “Феникс”*, Ростов-на-Дону. 1997 г., стр.23.

meridian, through which the demarcation line had to pass, when the Pope divided the Earth between two kingdoms in accordance his bull in 1493. But it didn't happen. As it is known, Portuguese achieved their goals only when Tordesillas was concluded in 1494. If above mentioned assumptions were true, representatives of Juan II might demand to move the demarcation line for 470 liq towards Anthill Mountains discovered by Columbus, but not for 370 liq towards the west from Green Cape Islands. Thus, Portuguese didn't know that, there was any other island or large land area in the Atlantic Ocean in the west of Canaries, Madeira Islands, Azores and Green Cape Islands. Then how could van Olmen pass the ocean in 40 days? It is obvious that, he reason is different from above mentioned factors.

In Portugal Columbus said that, he will pass the Atlantic Ocean in about 30 days in order to reach the eastern coast of Asia. Van Olmen shared this thought with Juan II after he looked through the Genoese seaman's project. It means that, the French seaman's expedition travelled in accordance with the transatlantic project prepared by Columbus besides the map made by Paolo Toscanelli. May be, most experts will not agree with my assumption. But all investigations prove that, van Olmen could trust Columbus's calculations more

than Toscanelli's. The Florentine cosmographer had made his calculations and well-known map in 1474. But Columbus had participated in a lot of expeditions, gathered great experiences and he knew directions of currents and secrets of navigation. So, it means that, van Olmen travelled to the west of the Atlantic Ocean in accordance with the project presented by Columbus to the king Juan II.

The French sea traveler, who had seriously prepared for mentioned travel, planned to return to coasts of Portugal after six months. But he couldn't achieve any success. The reason of the failure of van Olmen and Estreito may be as following: they started their travel in inconvenient period of the year and didn't use Passats properly. Bartolome de las Casas – one of annalists, who had described in his writings occupation of New World coasts by conquistadors, – wrote about the travel of Ernan de Olmos (Probably he considered Ferdinand van Olmen) in one of his stories. He wrote: "That travel took him to the western coasts of Ireland, to the north of the route determined by Columbus".

Unfortunately, van Olmen couldn't return from that travel. Ch. Verlinden wrote: "In spite of all these, the French seaman, who worked for Portugal, might discover America before the Genoese seaman, who worked for Castilia. Then, history of the west would be different. If

Olmen could achieve his goal, language of Brazil and other 17 countries of Latin America might be Portuguese. Sometimes fortune of the history depends on the fortune of one person!” If Juan II accepted Columbus’s offer, language of former colonies located in the western part of the Atlantic Ocean might be Portuguese.¹

After analyzing both expeditions, I can decisively note that, Columbus had prepared for the travel more seriously than the French seaman and could achieve his goal owing to his efforts. Members of the *“Mathematical Union”* couldn’t forgive themselves for their mistake after Columbus’s expedition achieved success.

In spite of occurred discontents, there were good relations between the king of Portugal and Columbus. In ten years after van Olmen’s travel, the Genoese traveler again asked Juan II to support his project. He was ready to return to Lisbon. He asked king’s guaranty for preparation of expedition. It seems that, he was afraid of something. Maybe, he thought that, his project might be stolen, or he had debts. The king answered that, Columbus was his friend and he was very talented person. And he promised that, the traveler wouldn’t be arrested in Lisbon.

¹ Ч. Верлинден, *Покорители Америки: Христофор Колумб. “Феникс”*, Ростов-на-Дону. 1997. стр.24.

Why did Columbus write this letter in 1488 – while he negotiated with monarchs of Spain? Van Olmen hadn't returned from the travel though ten year had passed. The Genoese knew it when he was in Seville as there were relations between Lisbon and Seville. So, Columbus decided to recheck the king's opinion. He presented his project to Spain and Portugal at the same time. Columbus thought that, in that case he would get opportunity for realization of his project.

Why did the king of Portugal invited Columbus to his country though had rejected him before? II Juan thought that, he had caused annihilation of the first expedition and was obliged to do it. He thought that, Columbus knew something important for the success of the expedition. Spain could appropriate territories located on the other side of the Atlantic Ocean, if its rulers would accept Columbus's project and he would succeed.

But Columbus went to Portugal in December of 1488. Then, Bartolommeo Dias had returned to Lisbon after discovery of the Cape of Good Hope. So, Columbus lost his chance. As the eastern way to India was open already, Juan II thought that, there was no need for the western way and he rejected Columbus. When the western way became

necessary for Portugal, Columbus discovered coasts of the New World under the flag of Spain.

Rich financiers, who defended Columbus's project

Columbus's project was presented to the commission again at the end of the 1491. Besides confessors and cosmographers, well-known lawyers also participated in the commission. Columbus didn't change his demands. As he wanted very great privileges, he was rejected again and Isabella and Ferdinand also accepted this decision. So, the Genoese seaman decided to go to France.¹

But a great change happened in Columbus's life on that day. Herzog Luis de Santangel, who was the financial counselor of Ferdinand from Aragon, convinced everybody that, Spain would repent for allowing Columbus to go. He mentioned that, other monarchs, especially their enemies would use Columbus's project and it was very dangerous for Spain. The financial counselor knew that Isabella was

¹ Ф. Дж. Купер. Мерседес из Кастилии или путешествие в Китай. Одесса, «Маяк», 1985. стр. 91

fanatical catholic and said that, the queen will be cursed as she didn't try to spread her religion in new territories.¹

Besides it, he promised to finance the expedition with his own capital. After this proposal, Isabella sent herald in order to stop the traveler.

The kingdom's herald came up with the seaman at 6 km away from Granada and made him to return back to monarchs' camp near the Santa-Fe tower.

Isabella began to discuss the project with him. They say that, Columbus may be considered lucky person. His project couldn't be realized if Luis Santangel wasn't there.

Besides it, there is another "skeptical" conception too (since the middle of XVI century). According to this conception, Columbus knew that there was a land area in the west of the Atlantic Ocean before he started his travel on August 3, 1492. A. Vinio of America, Romulo Carbia of Argentine, M. Endre of France and R. Ballester Escalas of Spain supported this conception in XX century.²

But why did the financier support Columbus's project? C. Verlinden wrote in his work **"Christopher Columbus"**: "Santangel wanted to realize Columbus's project as he

¹ Ф. Дж. Купер. Мерседес из Кастилии или путешествие в Китай. Одесса, «Маяк», 1985. стр. 91

² В. Л. Афанасьев. Текст воспроизведен по изданию: Бартоломе де Лас Касас. История Индии. Ленинград, «Наука», 1968. стр. 18

believed that, it was important for his own future. Besides it, he believed that, new territories would be discovered and he would get a lot of wealth... Santangel had close relations with businessmen of Genoa. One of them was Francesco Pinelli, who was in the palace administration. Pinelli and Santangel controlled treasure of saint Ermanda. They decided to spend 1400000 maravedis for realization of Columbus's project. Other Genoese men, who were informed by Pinelli, provided 150000 maravedis for the traveler. But as he needed 2000000 maravedis, 350000 maravedis had to be gained too. Santangel took this money as an advance for the future admiral. Of course, financiers would get profits after the expedition would be completed successfully in accordance with the agreement made between them and Columbus... Pinelli could get enough profits at the result of Columbus's expeditions and he was one of the first organizers of the Chamber of Commerce ("Casa de Contratacion") of Spain managing India in 1503".¹

But Santangel and Pinelli didn't help Columbus only for their own interests. They organized his expedition as wanted Columbus to discover seaway between Portugal and India.

¹ Ч. Верлинден. Покорители Америки. Ростов-на-Дону, «Феникс», 1997. стр. 38

Really, Santangel was sagacious and liked risks very much. Portugal could discover the seaway to India and take monopoly on spices brought from East Asia as Bartolommeo Dias had discovered the Cape of Good Hope. Rulers and financiers of Spain had to prevent it and to establish relations with India first of all. But there was difference of opinions between them:

1. The queen Isabella promised to support organization of the expedition, but mentioned that, it could be done after the Reconquista would end in Spain. Columbus understood it after Malaga was occupied.

2. The king Ferdinand also mentioned that, he would do his best for organization of the expedition, but said that, it could be done after the Reconquista would end in Spain. Besides it, some of noblemen didn't trust Columbus and tried to convince the ruler of the possibility of failure by taking van Olmen's travel as an example.

3. Both rulers mentioned that, as they needed a lot of money for the war against Arabs, they could spend their wealth for any expedition. So, individuals could get an opportunity to finance expeditions in Spain as well as in Portugal. But monarchs of Spain tried to finance the project partly unlike Juan II. Columbus got the salary determined by Isabella during several years.

4. Santangel and Pinelli mentioned that, they would pay main part of the money needed for the expedition and asked their permission for its organization. They had a great impact in the commission's decision.

Monarchs of Spain Isabella and Ferdinand signed written consent for realization of Christopher Columbus's project on April 17, 1492. Columbus got the title of "don" on April 30 and this title would be passed to his children and grandchildren. Most noblemen were dissatisfied as Columbus was a foreigner. Columbus could pass ahead of most noblemen if his expedition would be complemented successfully. But Isabella and Ferdinand were sure that, he wouldn't get other titles. They knew that, the traveler wouldn't appropriate territories of independent countries. Columbus also understood it.

Most materials about discovery of coasts of the New World are kept in archives of Spain and Portugal as secret materials and so, people can't learn the truth. But some scientists try to find out the truth by means of investigations. I have also investigated activity of Christopher Columbus. His discovery was as enigmatic as his personality and purposes. Of course, my information will be surprising for most people. This information is enough sensational.

Columbus had found the map made by the Florentine scientist and humanist Paolo dal Pozzo Toscanelli when he prepared his project. The original copy of the map hasn't remained until today. The map made in 1474 has been reconstructed. Today's map is an identical copy of the map made in 1474. Columbus, Juan II, Isabella and Ferdinand had got acquainted with that map and knew where Cipango and Chine were situated and they knew the distance between the western coasts of Europe and eastern coasts of Asia. But there is a very important detail, which shouldn't be forgotten. Columbus had been in Guinea, Azores, Madeira Island, Iceland, Ireland and British Isles and knew currents existing in the eastern part of the Atlantic Ocean. He had a great experience in this field and knew speeds and directions of currents. Columbus had a diary about all these facts. So, the traveler was ready for passing the Atlantic Ocean. Only Columbus could overcome an expedition sent to India through the western way. Spanish monarchs could understand it unlike Juan II and Heinrich VII and they didn't want to let him to leave their country. Spain wanted to use Christopher Columbus in a right moment.

**Calculations of the Florentine cosmographer
Paolo Toscanelli brought about a fundamental
change in Columbus's life**

There were experienced captains, cosmographers, navigators, boatswain and seamen in Portugal and seamen became skilful experts in expeditions. But there was a great need for professional seamen in Spain and so, most navigation leaders didn't want to lose skilful travelers as Columbus. And the traveler mentioned that, Spain would use his skill and experience one day.

Columbus corresponded with the Florentine scientist Paolo Toscanelli before traveling to coasts of Guinea. Two letters sent by the scientist to the Genoese seaman were very important for him.

According to most historical sources, Ch. Columbus asked Paolo Toscanelli's advice in 1474. This advice was about the short seaway to India. The Florentine scientist was known as a great expert of cosmography in Italy and Portugal then. He corresponded with most colleagues, who lived in other cities, about his works.

Every innovation made in the middle ages was investigated by progressive minded people. Especially, geographical discoveries were very interesting for people.

After the Venetian merchant Marco Polo traveled to China, sea travelers of Portugal began to investigate unknown places located in the east of the Atlantic Ocean and some changes of the Earth began to be discovered. Most cartographers began to describe new territories on their maps and presented it to the world community. It was very profitable business. Such experts had relations with sea travelers and geographers. Changes of the Earth's structure were interesting for churchmen too. The canonic of a temple located in Lisbon by name Fernan Martins was a plenipotentiary agent of the king of Portugal Alfonso V in Rome and there he had got acquainted with Paolo Toscanelli. He asked questions about the Earth's measurements and distance between the western coast of Europe and eastern coast of Asia.

P. Toscanelli used measurements of Marco Polo rather than measurements of the well-known Greek scientist Claudio Ptolemy when he prepared the project about the Earth's measurement. But other scientists – most geographers and cosmographers used measurements of the well-known Greek scientist. Marco Polo had described coasts of Asia at 30° towards the east unlike the Greek scientist.



Paolo dal Pozzo Toscanelli (1397-1482)

Measurements determined by Toscanelli were interesting for the king of Portugal Alfonso V too. Fernan Martins corresponded with the Florentine scientist after he returned to Lisbon in accordance with the king's order. Columbus also corresponded with his fellow countryman. The Florentine cosmographer had sent the copy of the letter written to F. Martins to Columbus either. He wrote that, there was a shorter way by passing the Atlantic Ocean in the

west besides the way to Spice Islands (Moluccas). *“I know that it is possible to prove existence of this way if the Earth will be considered spherical. I send my map in order to simplify your work. Route of sailing to the west, necessary islands and coasts and point of destination have been described on that map. Distances from equator and pole have also been written. I have described countries of spices and valuable stones in the west though they are usually described in the east. Those places can be reached in the east by going on the land...”*

Columbus was interested in navigation since his early years. He thought a lot before working on important issues. He always desired to participate in great expeditions. Probably Columbus informed Toscanelli about his project. He wrote to the Genoese sea traveler: *“I congratulate you for your decision to sail to the east from the west. I am glad that, you have understood me”*.

I think that, Ch. Columbus couldn't agree with thoughts of the Florentine cosmographer. First of all, well-known sea traveler couldn't agree with length of the Earth's outline. It means that, Asia isn't situated in the Atlantic Ocean at 10000-12000 km away from Canaries in the west as Paolo Toscanelli thought. Columbus had determined that, land area located in the west of the Atlantic Ocean was at 4500-

5000 km away from Europe. It means that, the mentioned land was other land, which was unknown for the Old World.

I think, he agreed with ideas of the Azerbaijani scientist after getting acquainted with N. Tusi's "*Zij-i Ilkhani*" and his map and was sure that, the land area located in the west of the Atlantic Ocean was at 5000-5500 km away from Europe. That distance could be overcome in 30-35 days.

Toscanelli was a defender and leader of the public library founded by the humanist Niccolo Niccolini. He defended ideas mentioning that, the Earth is spherical and planned to go to India through the western way. The astronomer had edited "*Table of Alfonso*" (XIII century). Though Toscanelli had read scientific works of most scientists, he had lessened measurements of the Earth for unknown results.

Experts can't justify Toscanelli for such rude mistake. He had made elementary mistakes when made his map in 1474. But he had opportunities for preventing those mistakes. The Greek scientist Eratosthenes lived in Alexandria. According to his calculations, the length of the Earth's outline was 43625 km and its radius was 6943 km.¹ There is no doubt that, Columbus knew this fact. As he was interested in

¹ R. Qasımov. Konkistadorların Mərkəzi Çili sahillərində faciəli ölümü. Bakı, "Çaşıoğlu", 1999. səh 247

astronomy, he had taken into account calculations of Eratosthenes, Poseidon, Al-Khwarizmi, Al-Biruni, Tusi and Toscanelli before starting his travel.



Eratosthenes (276-194 BC)

Usually cupolas of temples were used as part of sun watches. The most popular example is the cupola of Santa Maria del Fiore located in Florentine. P. Toscanelli installed his popular gnomon in the temple in 1474 and could determine afternoon moment by means of it with exactness of half a second.

He attached a bronze plate with a hole in the middle of it on the window located on 90 m and made a ruler on the floor in the left of the main church. Rays of the Sun passed through the hole of the disk and reached the floor in two months – between the end of May and end of June. The device had remained until the end of XIX century and then was destroyed by restorers by mistake.

At the result of inexactness of measurements, Toscanelli lessened measurements of the Earth and determined that, the distance between Spain and India was 6 thousand miles – this measurement was two times less than the real measurement.

The French physician Jan Ferrell (1497-1558), who was interested in astronomy, wrote that, the length of the Earth's outline was 39816 km and its radius was 6337 km.¹ It means that, Toscanelli had made a mistake. According to his calculations, the length of the Earth's outline was 29000 km. So, Columbus didn't accept report of the Florentine scientist and took into account measurements determined by the Greek scientist Eratosthenes and geographic coordinates determined by N. Tusi.

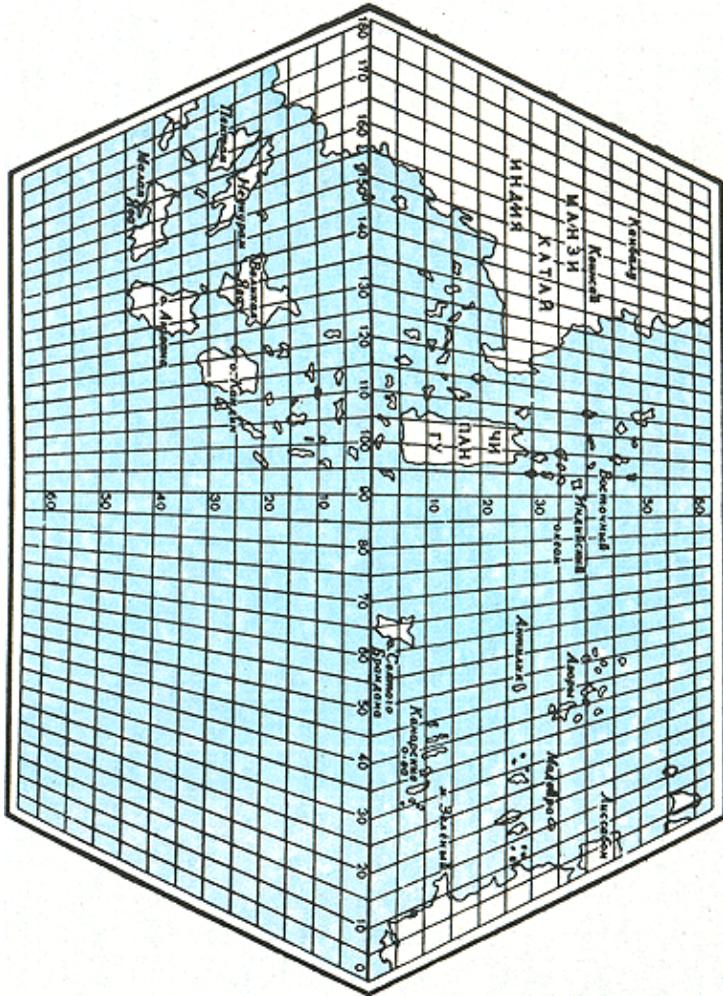
¹ О. Коротцев. Глобус, как измеряли землю. Ленинград, «Д.Л», 1980. стр. 312

Of course, my hypothesis is serious enough. As N. Tusi's map was kept in the library of Florentine, "*Zij-i Ilkhani*" also might be kept there. How could Columbus find that work then?

It means that, Columbus got acquainted with Paolo Toscanelli when he was in Portugal. But he knew the Florentine scientist when he was in Italy. They say that, Columbus met Toscanelli in Italy and discussed interesting issues with him... The Genoese traveler was interested in the scientist's works and liked to look through his maps.

Toscanelli liked to share his ideas with his friends unlike other scientists. But he kept his sources secret as didn't want other scientists to steal his discoveries. I want to look through a brief historical chronology before analyzing this issue. It concerns Toscanelli's activity.

Nobody knew how lands and oceans joined each-others in the Earth. Though Toscanelli was a scientist, he described Asia for two times larger and ocean between South Europe and Chine narrower. According to his calculations, the distance between Europe and Chine was 2000 liq (12000 km). Cipango (Japan) was situated at about 333 liq (1998-2000) in the east of Chine. Azores, Canaries and Anthelia could be used as stopping places during the passage. Columbus made his calculations in accordance with books



*The world map made by Paolo Toscanelli in 1474
(reconstruction)*

of astronomy and geography. He thought that, it was necessary to travel for 800 liq (4.5-5 thousand km) in the west from Canaries to East Asia in order to go to Cipango. This was a phenomenal idea. The French geographer of XVIII century Jan Anvil wrote about it: *“This was a mistake and it resulted in great discovery”*.

Did Columbus make the greatest discovery of the world owing to this mistake? Isn't it a miracle? It may mean that: America was discovered in 1492 by the expedition of Christopher Columbus by accident. But this assumption can't be accepted. The discovery of the global importance can't be made by accident.

According to books of history and geography, Christopher Columbus thought until the end of his life that, he had discovered East Asia. It was mentioned in our textbooks too. Only pessimist people can believe it. Most people don't believe this assumption. But they don't investigate facts and only mention that it is an arguable problem. I also can't accept this assumption and so, began to investigate corresponding events. Of course, it is difficult to believe that, the experienced admiral and professional traveler as Christopher Columbus didn't understand that, he had discover coasts of the New World though he had

traveled there for four times. But most experts write that it is a truth.

Columbus got acquainted with the map made by the Florentine scientist Toscanelli in 1474 when he was in Italy. I want to mention that, the distance between Canaries and Bahamas is about 950 liq. According to Columbus's calculations, the most convenient way to Cipango (Japan) was 800 liq towards East Asia in the west of Canaries. It seems that, Columbus didn't take Toscanelli's map into consideration after he made his own calculations. He didn't need the Florentine scientist's calculations.

There was another unknown map besides Toscanelli's map. I think, the Genoese admiral made his own map by means of most scientists' calculations and that unknown map and used it during his travel. He had enough information when reached coasts of the New World by means of the Canary current and Passats, so, he couldn't think that, those lands were Asia. As it was mentioned above, he had prepared seriously for the expedition towards Spain and hadn't shared his ideas with anybody besides his brother. He knew that, there weren't unknown eastern coasts of Asia on the other side of the Atlantic Ocean.

The well-known astronomer of Azerbaijan Nasiraddin Tusi and his scientific services

After some investigations, Columbus had made his own map. He had used the map made by the genius Azerbaijani astronomer and mathematician of XIII century Nasiraddin Tusi for preparation of that map. But some Azerbaijani scientists mention that, Paolo Toscanelli had made his map in 1474 in accordance with Nasiraddin Tusi's map made in XIII century. Let's look through Nasiraddin Tusi's life and activity first of all.

Azerbaijani scientist, Muhammad ibn Muhammad ibn Hasan Nasiraddin Tusi (1201-1274), who was remarkable philosopher, astronomer, mathematician, historian, geographer, financier and lawyer of XIII century, founded an observatory in accordance with his own project in Maragha located at the center of Azerbaijan. His first teacher was his father, but then he got lessons of teachers of Bahmanyar's and Abu Ali ibn Sina's schools. The scientist could become popular owing to his comprehensive and broad knowledge in a very short time.

According to historical sources, he could attract attention of most rulers even when he was young. The leader of Kuhistan Nasiraddin Mohtasham invited him to his palace

as the honorary guest and asked to write a book about ethics. So, N. Tusi wrote “**Akhlagi Nasiri**”, which became very popular in the world and was translated into several languages. But the ruler didn’t approve the book and Tusi was sent to the Alamut (“*The eagle’s nest*”) castle after being arrested. N. Tusi was in prison at the Alamut castle. Though the scientist’s moral situation was unbearable during more than 20 years spent in prison, he could write several scientific works there. N. Tusi wrote following thoughts at the end of “**Sherhul-Isharet**” (Commentaries on the philosophical treatise of Abu Ali ibn Sina “**Isharet**”), which was completed by him in 1242: “I have written most chapters of this book under very hard conditions. I was in a very difficult situation. I have written this book in front of the hell”.

It should be noted that, if N. Tusi could achieve fame in the world owing to “*Zij-i Ilkhani*” and Maragha observatory, he was famous among eastern nations after “**Akhlagi Nasiri**” was written. This work was significant for its content’s public, economical, political, moral, philosophical and educational essence. So the work became popular as the textbook of moral in schools of the Middle and Near East during more than 700 years. Many copies of the work were spread among people. “**Akhlagi Nasiri**” is a



Muhammad Nasiraddin Tusi (1201-1274)

summary of moral, philosophical and pedagogical thoughts existing in the Near and Middle East. According to researches, any other work as “*Akhlagi Nasiri*” hasn’t been written in Persian during recent 700 years.

The scientist had proved himself as a skilful teacher and remarkable educator with this work. He had described talents of people, influence of the environment and conditions on people and emphasized role of the education in human life.¹

In 1253, the grandson of Genghis khan – Hulegu khan began his march towards the Near East. He could conquer the Alamut castle and N. Tusi was freed together with other scientists. After it, the ruler appointed the genius scientist N. Tusi his advisor. Hulegu khan had to occupy the capital of Abbasids – Baghdad. His attack on Baghdad could bring him either success or defeat. Tusi’s advices helped him in this business. The ruler, who couldn’t dare to attack the holy city of Muslims – Baghdad, could do it after Tusi’s advices.

Hulegu khan founded his mighty state in Azerbaijan in 1260 after Baghdad was occupied. Elkhans were rulers of the new state called Ilkhanids.

¹ Azərbaycan Beynəlxalq Universiteti. Nəsirəddin Tusinin 800 illik yubileyinə həsr edilmiş Respublika konfransının materialları. Bakı, 2001. Professor H.M. Əhmədovun məruzəsi, səh. 3

The scientist had made very interesting discoveries, which bewildered everybody. He is the author of hundreds of scientific works on astronomy, mathematics, physics, geography, history, philosophy, medicine, ethics, logic, musicology, geology and other fields of the science. But astronomy and mathematics are especially significant in N. Tusi's activity. He is the author of more than twenty investigations carried out in this field. Scientific researches and investigations carried out by the scientist were very large-scale and passed ahead of all previous scientists' works. His works on mathematics were in Arabic, but investigations on astronomy were in Arabic and Persian. N. Tusi could become famous in the Near East as his works were in several languages.

The most well-known works of the scientist are **“Shaklul-qita”** (**“Treaties about the perfect four-side”**), **“Jame ul-hesab”** (**“Collection of Counts”**), **“Measure of Circle”**, **“Tahriru Uglidis”** (**“Recension of Euclid's Elements”**).

“Zij-i Ilkhani” (**“Astronomical tables of Ilkhanids”**), which consists of four parts, made the scientist popular all over the world. Nasiraddin Tusi completed most of his scientific works after the observatory was built. It proves that, the scientist hadn't wasted his time in vain when

learned several branches. N. Tusi distinguished himself for his reasonable advises. The ruler trusted him even in the hardest situations.

I want to emphasize two paragraphs of the chapter “*Muhammad Nasiraddin Tusi*” of the book “**Remarkable personalities of Azerbaijan**” written by Chingiz Gajar: “Most modern researchers think that, Nasiraddin Tusi was only a mathematician. His works have played a significant role in development of geometry and trigonometry in the East and Europe. Euclid’s “**Tahriru Uglidis**” published in Rome in 1594 in Arabic and Latin had an important role in spreading Tusi’s ideas in Europe. “Treatise on complete quadrilateral”, which consists of five books, is known for its significance in development of trigonometry in Europe. Trigonometry is analyzed as an independent science branch in this work. The treatise has been translated into English, Russian and French. The method of finding root of all degrees and Binomial formula are the most known discoveries of Nasiraddin Tusi made in the field of algebra. Besides it, scientist’s works on history, mineralogy, physics, music and astronomy are also noteworthy. Among them are “**History of Baghdad**”, “**Treatise on reflection and refraction of the light**”, “**Euclid’s optics**”, “**Treatise on investigation of the rainbow**”, “**Book about precious**

stones”, “Treatise on public finance”, “Selection of lucky days” (astrology) and others.

Most works of Nasiraddin Tusi are still waiting their researchers. They may be met in museums and libraries of Baku, Paris, Florence, Cairo, Istanbul, Moscow, St. Petersburg and Kazan.¹

A number of the scientist’s works haven’t been discovered yet and are kept in state and personal libraries and manuscripts funds of the world.

Nasiraddin Tusi used to think about development of astronomy in Azerbaijan and building of the observatory since his early years. He got Hulegu khan’s permission and started works on the observatory as soon as Baghdad was occupied. He found place for the building, prepared astronomical equipments, brought valuable books for the library of the observatory from different cities and invited scientists from different countries of the world for carrying out investigations in the observatory for a period of less than a year. Nasiraddin Tusi wrote about it in “**Zij-i Ilkhani**”: “*Hulegu khan demanded to invite scientists for carrying out astronomical observations: Muayyidaddin Ordy from Damascus, Fakhraddin Maraghai from Mosul,*

¹ Ç. Qacar. Qədim və orta əsrlər Azərbaycanın görkəmli şəxsiyyətləri. Bakı, “Nicat”, 1997. səh. 124

Fakhraddin Ikhlatini from Tiflis and Najmaddin Dabirani from Qazvin".

According to other sources, well-known scientists Gutbaddin Shirazi, Shamsaddin Shirvani, Jamaluddin iz-Zeydi Bukhari, Fao Mun-Chi and others also worked in Maragha observatory. They improved their knowledge by means of N. Tusi besides working in Maragha observatory. Every employee of the observatory could work independently as the most skilful and experienced scientist after leaving the observatory, which resembled an education center, and returning their countries.

According to the remarkable politician and historian of Azerbaijan Rashidaddin, Jamaluddin also had to found an observatory in Peking. But he wasn't able to fulfil this task. He could complete the task after coming to Maragha together with the Chinese scientist Fao Mun-Chi, taking Tusi's advises and obtaining sketches of equipments, which were necessary for the observatory.

Chingiz Gajar wrote about it: "One of the most remarkable scientists of Azerbaijan Nasiraddin Tusi was appointed advisor of Hulegu khan. Nasiraddin's fame had reached Peking even before this event and he was invited to the capital of the empire for construction of the observatory, which was planned as a perfect education center. But Tusi

had rejected that invitation and convinced Hulegu khan of the importance of construction of the observatory in the capital of Ilkhanids – Maragha”¹.

N. Tusi played a role of professional diplomatist in this business. Though the ruler of the great empire (Yuan) – Khubilay khan wanted to found an observatory in Chine, it was built in Azerbaijan.

Khubilay khan knew that, skilful experts would be prepared in Maragha observatory for development of astronomy, mathematics, geometry and geography. So, experts invited from Azerbaijan would carry out main part of works, which had to be carried out in the observatory of Chine. Surely, graduators of Nasiraddin Tusi’s school were able to work in any part of the world. The observatory of Azerbaijan was considered an institute for preparation of experts of astronomy, geography and mathematics.

Several valuable works were written about different science branches under the leadership of N. Tusi. Main elements of geocentric orbits of planets and their daily movements were described in “**Zij-i Ilkhani**”. “**Zij-i Ilkhani**” was considered unique work in the field of astronomy for several centuries. Unfortunately, the work

¹ Ç. Qacar. Qədim və orta əslər Azərbaycanın görkəmli şəxsiyyətləri. Bakı, “Nicat”, 1997. səh. 129

wasn't translated and spread in the world then. But some scientists, who were interested in the book, could read it with the help of translators. Persian and Arabian scientists analyzed Tusi's works and explained them to their students after the scientist's death.

Calculations of Nasiraddin Tusi and Paolo Toscanelli's popular map

As it was mentioned above, some scientists write that, Paolo Toscanelli had used N. Tusi's table of geographic coordinates and his map when he made his well-known map in 1474. The Florentine cosmographer had noted on his map that, it was possible to go to India from Europe by crossing the Atlantic Ocean in the West. It proves that, progressive-minded people of that time believed that, the Earth was spherical and they noted this fact in their materials, maps and investigation works though there were a lot of people, who tried to impede them.

N. Tusi could prepare broad and pithy reports on stars. The scientist mentioned in those reports that, the prime meridian was situated at 34^0 west of today's Greenwich

Meridian. It is a proof of existence of unknown territory. I think that, Christopher Columbus had seen Tusi's reports and maps, but kept it secret.

But how could Paolo Toscanelli or Christopher Columbus see reports and maps of the Azerbaijani scientist? It's known that, Nasiraddin Tusi was in Azerbaijan or Iraq, Toscanelli was in Italy and Columbus was in Italy, Portugal and Spain.

It is known that, Iran and Transcaucasia began to be free of Arabs since 20th years of XIII century by means of Mongols and Tatars. Hulegu khan occupied all regions of Azerbaijan in 1253 and declared himself the ruler of the state.

Azerbaijan was famous for its remarkable personalities known in the Near East as Muhammad Babakuhi Bakuvi, Shahabuddin Abu Hafs Suhrawardi, Qatran Tabrizi, Ali Khatib Tabrizi, Afzaladdin Khagani Shirvani, Omar ibn Osman Kafiaddin Shirvani, Ajami Nakhchivani, Mahmud Zanjani, Sheikh Nizami Ganjavi, Mahsati Ganjavi etc. during the age of Nasiraddin Tusi. Hulegu khan had also heard about these people as the science and culture were important for him. Nasiraddin Tusi was the most comprehensively developed representative of Azerbaijan

and could amaze everybody with his knowledge. Hulegu khan trusted him even in the hardest situations.

Maragha observatory was considered the greatest academy of the world in XIII century

A lot of money was needed for construction of the observatory. At first this business didn't seem expedient for Hulegu khan. But afterwards he spent 20 thousand dinars for construction of the observatory.

Hulegu khan had taken possession of great trophy when he occupied Baghdad. N. Tusi didn't waste the opportunity and could make the ruler to pay salaries to all scientists, who had participated in construction of the observatory and worked there. Those salaries were paid with money collected by means of taxes according to the initiative of the scientist. N. Tusi made great efforts in order to improve welfare of all scientists in Azerbaijan.

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Ramiz Daniz

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*Model of Maragha observatory was made by the
Academician M. J. Bulatov (1907-2004)*

Construction of Maragha observatory was started in 1259 on the slope of the hill located in the west of the town. N. Tusi also participated in projection of the building and installation of astronomical equipments. Skilful architects were invited to Maragha for construction of the observatory. N. Tusi trusted Muayyidaddin Ordy, who was invited from Damascus, very much. N. Tusi installed five new and five old astronomical equipments in the observatory together with the remarkable astronomer and constructor M. Ordy.

This observatory was considered one of the most important science centers. It hadn't analogue in any region of the East until the middle of XIII century. Foreign representatives, especially Mongol representatives of Chine and Middle Asia were amazed when they saw the observatory.

“Maragha observatory established by Nasiraddin Tusi in 1259 was very popular in the East in the middle ages. It was the best equipped observatory of the world. There were sun and water watches, sky globes, armillary spheres, quadrants, devices for determination of horizontal coordinates of celestial bodies, device for determination of the Sun's height on the meridian in Maragha observatory”.¹

¹ В. Н. Пипуныров. История часов с древнейших времен до наших дней. Издательство «Наука», Москва, 1982, стр. 91

The observation was built in 12 years and began to be used in 1271. There were all necessary facilities for scientists' works in Maragha. There were a lot of equipments in the observatory. N. Tusi – the founder of the observation allowed to use those equipments in foreign countries too. The ruler of Azerbaijan Abaga khan was satisfied with works carried out in the observatory and tried to help experts, who worked there. The ruler's kindness and benevolence pleased everybody.

N. Tusi could establish medieval academy in the observatory. If Mongols didn't cause a scare in European countries, students of those countries would come to Azerbaijan in order to get education.

The observatory established by N. Tusi had passed ahead of all well-known observatories of the East for its scale. Employees of Maragha observatory observed movements of the Moon, Sun and stars and **“Astronomical tables of Ilkhanids”** (**“Zij-i Ilkhani”**) was prepared in accordance with those astronomical observations. The last of those tables was made 10 years after Tusi's death in 1284. Such tables were made 400 years later in Europe.

Tables consist of four books. Bases of Chinese, Uyghur, Jew and Arabic calendars and ways of passing from one calendar to another are explained in the first book, the

second book includes descriptions of the Sun and planets, ecliptic length of the Sun disc center on Maragha meridian in afternoons of certain days, exact values of average daily movements of planets, determination of time has been described in the third book and fourth book includes different information about astronomy. The most important tables are tables of sinuses and tangents in sexagesimal numeral system and tables of geographic coordinates of 256 cities, which were known in XIII century. The prime meridian was described at 34-35⁰ west of today's Greenwich Meridian, in the east of South America. So, H. Mammadbayli mentioned that, astronomers and geographers were aware of existence of America even before Ch. Columbus.

I think that, Christopher Columbus used Tusi's tables when he discovered America. The most skilful and experienced scientists were invited to Maragha observatory in order to get necessary information about structures of the Earth and Sky. Columbus travelled to coasts of the New World and discovered the forth continent in accordance with that map.

As I mentioned above, sky globe was made in Maragha. One of sky globes made by the son of Muayidaddin Ordy – Muhammad (1279) is kept in the hall "Physics-

Ramiz Daniz

mathematics” of the museum *“Picture Gallery”* in Dresden. It is considered the most ancient sky globe of the world.



*The sky globe of scientists of Maragha.
Museum of Dresden*

Tusi’s third son Sadraddin Ali Tusi became the leader of Maragha observatory after the scientist’s death (1274). The son of Muayidaddin Ordı – Muhammad also worked in the observatory then. He was one of well-known experts, who

made astronomical equipments, as his father. The year of preparation of his globe was determined according to positions of stars described on it – 1279. Some scientists of Europe investigated that unique globe. The globe made of bronze and decorated with gold and silver is considered one of decorative artworks of XIII century.

According to the well-known researcher of Maragha observatory H. Mammadbayli, equipments and devices made by Ordy had a significant role in development of equipments in Ulugbek's observatory of Samarqand, Tycho Brahe's observatory of Denmark and Jaipur observatory of India. Further made astronomical equipments also were improved by using Ordy's equipments.

N. Tusi created a rich library for scientists of Maragha observatory using authority of Hulegu khan. There were 400 thousand manuscripts at the library. Most of manuscripts had been written in Azerbaijan. Maragha library was considered one of the greatest libraries of the Near East and most of manuscripts, which were kept there, had their own histories. Authors of those works were genius and wise people. About 76 works of N. Tusi were kept there. Most of scientists, who worked in the observatory, used his works as the scientific source. Scientists of Chine, India, Arab countries, Mongolia and Europe carried out intensive

scientific works in Maragha. The founder of the observatory considered the young Chinese scientist Fao Mun-Chi talented scientist and taught him all secrets of astronomy and mathematics.

N. Tusi was comprehensively developed person. He is the author of different scientific works written in Turkish, Arabian and Persian on different science fields.

Alonso Sanchez de Huelva and Christopher Columbus

Theoretically, half of Floridian peninsula, Anthills, Mexico and South America became properties of Portugal. After “**Aeterna Regis**” came into force, historians began to note that, America had been discovered by Portuguese seamen before 1481 and this fact had been kept secret till the convenient time. This thought was defended by all annalists of XVI century – Bartolome de las Casas, Francisco Lopez de Gomara and Gonzalo Fernandez de Oviedo y Valdes, even Peruvian annalist Garcilaso de la Vega (son of the Ink prince and the hidalgo of Estremadura) mentioned name of Alonso Sanchez de Huelva as the

seaman, who discovered the continent. Besides it, Jorje Blon, Francisco de Gomara Alonso and others noted that Huelva had met Columbus.

According to historical sources, Columbus travelled to Portugal for the next time in 1478 and settled in Madeira Islands for several years.

According to information given by the merchant and sea traveler of Venice Alvise Cadamosto, father-in-law of Columbus was well-known colonialist. Columbus could find several documents about different travels of Portuguese in the Atlantic Ocean. Those documents helped him in preparation of the project about the discovery of the western part of the mentioned ocean.

In 1484 Alonso Sanchez de Huelva, who was from the settlement of Niebla (Huelva), used to carry some goods from Spain to Canaries with his vessel. He carried fruits from Canaries to Madeira, then brought sugar and jam from Madeira to Spain. One Alonso Sanchez met with heavy hurricane when sailed from Canaries to Madeira. He sailed for about 28 or 29 days under the influence of that hurricane and approached an unknown island in the ocean. It is supposed that, that island was today's Santo Domingo.

People came to that conclusion as the hurricane (east wind) blew in the direction from Canaries to Solano.¹

Once a wrecked vessel approached the coast of Porto Santo. Columbus noticed one weakened navigator among survived seamen. One of seamen raved about songs of motley birds, unknown animals and colored people. The vessel had been sailing from the west and struck the coast. Christopher Columbus took half-dead navigator home.

He looked after his guest and it became clear that, navigator's name was Alonso Sanchez de Huelva. After getting better, Alonso Sanchez explained everything that happened to them. It became clear that, they had lost their way in the dark sea (then Atlantic Ocean was called like that) and reached very charming island. Sanchez informed his liberator about the place where the island was situated.² After it he died as other survived seamen of the wrecked vessel.³

According to Peruvian annalist Garcilaso de la Vega, historian Francisco Lopez de Gomara had written about the adventure of Alonso Sanchez de Huelva in his work

¹ Горсиласо де ла Вега. Текст воспроизведен по изданию, История государства Инков. Л. «Наука». 1974. стр. 16-17.

² Жорж Блон, «Атлантический океан», стр. 15.

³ Франциско-де-Гомара. «Общая история Индий», 1552 г., XIII глава, «Первая открытия Индии».

Ramiz Daniz

“General history of India”. Son of the Ink prince caviled at that work as following: “De Gomara heard this information from ordinary persons – seamen and civil people, his father and father’s authoritative friends, including people, who were close to the palace”.



Alonso Sanchez de Huelva

This adventure was told by the bishop Joseph Acosta for the first time. When he was in Peru, he heard that, one seaman had discovered coasts of the New World at the

result of heavy hurricane and showed the way to Columbus as the Genoese seaman helped him after the catastrophe happened on the way to Madeira. Columbus told this story to some acquaintances including courtiers, and they helped him in organization of the expedition.¹

Spanish monarchs had to keep promises if Columbus could discover coasts of the New World. Obstacles began to be put in the way of the Genoese seaman, who had demanded great concessions. Columbus could get those concessions partly. People, who were close to the palace, prepared intrigues against the seaman who had become admiral after the first travel.

Conquistadors noted that, America had been discovered by Alonso Sanchez (de Huelva – R.D.). It was said because there was an inheritance conflict between heirs of Columbus and leadership of Castilia at that time (1510-1550). That's why courtiers tried to prove that, lands located on the other side of the ocean hadn't been discovered by Christopher Columbus.²

¹ Горсиласо де ла Вега. Текст воспроизведен по изданию, История государства Инков. Л. «Наука». 1974. стр. 17-18.

² Путешествие Христофора Колумба. Свет Я. М., 1956. Колумб. 1973

Historians, who were against Columbus, noted that, II Juan wanted to entrust Sanchez with discovering those lands as he was in the west after surviving in the catastrophe. Columbus rendered the navigator harmless as he had prepared his own project for the discovery of places located in the west of the Atlantic Ocean and didn't want any competitor in this work.

This thought is so preconceived because when seamen of the wrecked vessel approached the coast, there were a lot of people besides Christopher Columbus and explanations were made with participation of them. Peruvian annalist Garcilaso de la Vega, Francisco Lopez de Gomara and Jorje Blon didn't want to deny services of Columbus when mentioned name of Huelva and noted that he had met the famous traveler. They only wanted to emphasize that, the Genoese seaman had got necessary information for realization of his transatlantic travel from Huelva. But as Columbus was very experienced navigator, he couldn't believe in such unserious, inexact information. He was sure that, America was far from Madeira Islands and it was impossible to reach there without knowing coordinates. Alonso de Huelva might meet with any island – even with Green Cape Islands.

This strange thought can't cast a shadow on the authority of Columbus. It was written in Garcilaso de la Vega's book that, Alonso Sanchez sailed in an unknown direction for 28-29 days under the influence of the hurricane and approached Santo Domingo Island. How it was possible? It means that, the vessel, which was pushed towards the west, met with Gulfstream current and could run away from it easily. It isn't convincing as in that case Portuguese could discover unknown lands located in the west of the Atlantic Ocean before the first travel of Columbus. Portuguese had sent there expeditions under the leadership of Vogado, Telles and Van Olmen, but none of those expeditions resulted in success.

Gulfstream current, which played the role of barrier in front of Big Anthill islands and Small Anthill islands, could take any vessel to Europe in the east of the Atlantic Ocean. It means that, the captain using North Passat blowing from east to west in the northern hemisphere wasn't able to take his vessel to the Caribbean aquatory as the North Passat rises towards the north and unites with Gulfstream at that latitude of the Atlantic Ocean.

If information of Huelva had positive influence on the project of Christopher Columbus, the Genoese seaman could follow the North Passat current during his first travel

as soon as he left European coasts, directly reach South American coasts and discover Brazil. As Columbus had sailed near coasts of Guinea before, he was aware of existence of that current.

Development of shipbuilding, navigation and geography resulted in achievement of great successes in the field of great geographical discoveries. There was need for experienced and skilful seamen for realization of long-distance travels. Columbus owned all those characteristics. He (Columbus – R.D.) had got systematical education and learned geography, cartography and navigation as the person, who was interested in everything... He had married with the daughter of the Portuguese seaman in Porto Santo Island, so could get sea maps and diaries of his father-in-law.¹

Columbus had prepared for the transatlantic travel seriously unlike most candidates and could realize it successfully. He didn't need Alonso de Huelva's help. He had begun to work on his project before 1484 and didn't want to change it. I had given detailed information about it in my work **“The scientist passed ahead of centuries –**

¹Абрамсон М. Л., Кириллова А. А., Колесницкий Н. Ф. и другие. Под редакцией Колесницкого Н. Ф. История средних веков: 2-е издан. исп. и доп. – М., «Просвещение». 1986.стр. 393

Nasiraddin Tusi” and decidedly noted that, Columbus had used the astronomic catalogue “**Zij-i Ilkhani**” prepared by Nasiraddin Tusi in Maraga observatory. ¹

Christopher Columbus’s first travel

As it was mentioned above, Columbus had prepared for the travel more seriously than other travelers. Even vessels and staff of the expedition were chosen by him. I’ll use works of S. Morison, J. Backless and Ch. Verlinden, who had found historical documents about organization of the expedition, as necessary sources.

Two of vessels were given by Spanish monarchs and one of them was rented by Columbus. Two vessels – “*Pinta*” and “*Ninia*” were caravels and one of them was nao by name “*Santa Maria*”. After the agreement was signed with monarchs, Columbus rented “*Santa Maria*” of Juan de la Cosa, who lived in the Port San Antonio. “*Pinta*” and “*Ninia*” were made in the dockyard by name Rio-Tinto near the Port Palos. According to historical documents, the

¹ R. Qasimov. Əsrləri qabaqlamış alim – Nəsirəddin Tusi. Bakı, “Yurd”, 2003. səh. 267

owner of “*Pinta*” was Cristobal Cintero from Palos and owner of “*Ninia*” was Juan Ninio. Fortunes of seamen depended on the captain during the expedition. Besides being the navy’s commander, Columbus was the captain of “*Santa Maria*” either. His assistants were Juan de la Cosa and navigator Pedro Alonso Nino. The captain of “*Pinta*” was Martin Alonso Pinson, his assistant was Francesco Martin Pinson and navigator was Cristobal Garcia Sarmiento. The captain of “*Ninia*” was Vicente Janez Pinson, his assistant was Juan Ninio and navigator was Sancho Ruiz de Gama. As you see, several representatives of Pinsons and Ninios participated in Columbus’s expedition. Though Pinsons thought only about their own benefits, Ninios did their best for the expedition’s success. Martin Alonso Pinson always desired to participate in great expeditions and to return with victory. He wanted to discover large territories and to become well-known traveler as Marco Polo, Bartolommeo Dias and Diego Can. Martin Alonso wanted to be respected by Spanish monarchs and to have a high position in the navy of Spain.

Alonso Pinson also had read Marco Polo’s “**Travel book**” as the most professional seamen and wanted to reach Cipango first of all. That’s why he agreed to participate in Columbus’s expedition and invited his brothers too. During

the travel, he didn't agree with most decisions made by Columbus and intervened in everything. After the expedition discovered Bahamas, Alonso Pinson tried to continue the travel by himself and reach Spain first of all.

Though the younger brother of Pinson Vicente Janez Pinson was 30, he showed himself as a professional seaman and model employee during Columbus's first travel. Afterwards – in 1499 and 1500, he travelled to coasts of the New World and discovered Amazon by himself.

Most historians and geographers were interested in sizes of Columbus's vessels. Experts had different opinions about it. According to S. E. Morison, the tonnage of "*Santa Maria*" was 100 t, "*Pinta*" – 60 t and "*Ninia*" – 50 t. Columbus was sure that, he would be able to participate in any expedition with his vessels. He trusted in "*Ninia*" most of all. The commander knew that he would meet the group of islands after passing the ocean. He needed "*Ninia*" in order to sail speedily in such situation as it was very small. That's why Columbus replaced triangular sails of caravellas with quadrangular sails as soon as he reached Canaries. After that reconstruction, "*Ninia*" became the speediest vessel of the expedition.

Alisa Bache Gould could determine names of 87 of 90 employees of Columbus's expedition. 40 of them were in

“*Santa Maria*” and other 25 persons were in other two vessels. Four of them weren’t Spaniards: one of them was Portugal from Tavira, others were Italians from Venetia, Calabria and Genoese. The rest of them were from Seville, Cadis, Jerez, Puerto-Santa-Maria, Cordova, Palos and Mogera.

As the expedition was organized officially, it was accompanied by “escribano” (secretary) and “veedor” (inspector). The secretary would register discovered islands and lead negotiations with foreign rulers and inspector would defend monarchs’ rights when gold and valuable stones would be found. Besides it, there was one “alguacil” (policeman) in each vessel. The policeman of “*Santa Maria*” was Diego de Arana – brother of Columbus’s lover Beatriz.

Negotiations would be carried out with discovered foreign countries by the Jewish converted to Christianity by name Luis de Torres, who knew Arabian. Why did Columbus need a translator, who knew Arabian, if he wanted to discover Chine, Japan and India? It was known owing to Marco Polo’s book that, Arabian was used in eastern coasts of Africa and Arabian Peninsula.

Though there was a doctor in every vessel, their help wasn't needed during the expedition. It's interesting that, there wasn't any churchman in vessels.

The navy left the port of Palos on August 3, 1492 and reached Canaries soon. Then it became clear that, "*Pinta*" leaked and its rudder was out of order. As the vessel had to be repaired, the expedition could leave the island of Homer of Canaries in September 6. Then, seamen lost the Hierro Island at the result of strong wind.

Seamen saw long grasses on the ocean on September 16. They couldn't determine bottom of the sea. The expedition discovered the Sargasso Sea – the only sea having no borders with land after sailing for three weeks.

In spite of it, Columbus continued sailing towards the west. The vessels' speeds increased a lot in the first week of October and became 142 miles in a day. Then, vessels began to sail towards the south-west. It was in favor of seamen. There were a lot of birds between North America and Bermudas on October 7. But the land couldn't be seen. As if, there wasn't any land area there. The discovery of the Sargasso Sea and appearance of birds proved existence of land area. But it couldn't be seen. After birds were seen, Columbus changed the direction towards the south-west and made an important step for the expedition's future.

As the land wasn't seen, seamen asked commander to return to Spain. Even some of them wanted to kill Columbus. They mentioned that, as the commander was a foreigner, he didn't care of Spanish seamen.

Columbus used his oratorical skill and explained to everybody that, they would be obliged to sail same distance towards Spain. He said that, if participants of the expedition would kill him, they would be executed by Spanish monarchs. The commander mentioned that, they had to return to Spain together. Columbus asked for three-day delay for discovery of the land area at the end of his speech and promised that, he would return back if the land area wouldn't be seen after three days.

Really, Columbus was very lucky. After a day – on October 11 the wind strengthened and vessels became speedier. New signs of the land area began to be seen in the ocean. Branches and sticks sailed near vessels. It showed that, there were people around. Columbus became sure that, the land area wasn't far away. The Moon lightened the Earth in the night between the 12th and 13th October and simplified seamen's works.

The well-known American historian J. Backless described discovery of America by Columbus in **“America in front of its discoverers' eyes”**:

“It was midnight on October 11 of 1492. The event of the global importance would happen in two hours. Nobody knew it in the expedition, everybody was very excited. The man, who would see the land first of all, would get 10000 maravedis reward and it had become clear that, the expedition would be completed soon... It was the end of the day and three vessels sailed speedily by means of the strong wind...”¹

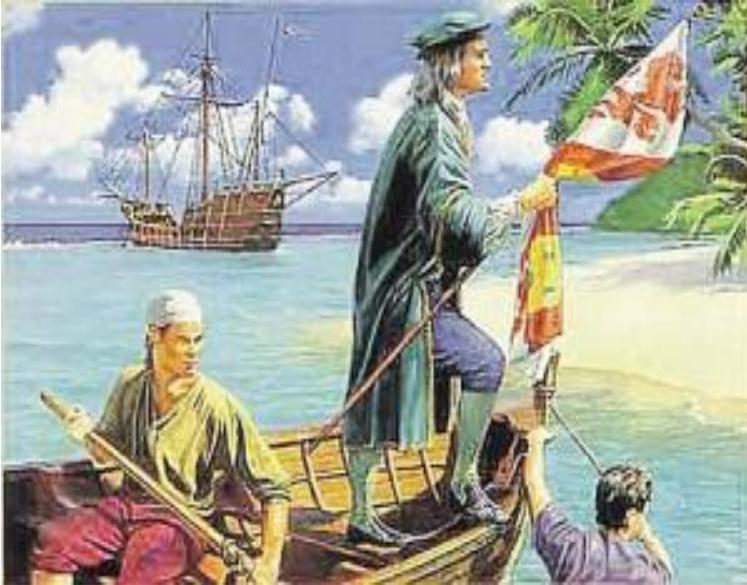
At last Columbus achieved his purpose on October 12, 1492 – 33 days after he left Canaries. The fourth continent was first seen by the seaman of “*Pinta*” Rodrigo de Triana. America was at 6 miles away from America.

Columbus, who took the security of the expedition into account, ordered to drop all sails in vessels. The Guanahani Island of Bahamas having 20 km length and 10 km width appeared in front of seamen in the morning. It has been proved that, it was today’s Watling Island located at 24⁰ north latitude and 74.30⁰ east longitude – Columbus called that island “*San Salvador*”.

The well-known sea traveler wrote following sentences on his diary when he was in the island: “The Island is very large and plain. There are a lot of trees and waters here and

¹ Бейклесс Дж. Америка глазами первооткрывателей. Москва, 1969. стр. 17.

a large lake in front of the island. But there isn't any mountain here”.



Columbus's expedition leaves coasts of the New World

It became clear that, there were people in the island and their skins were red unlike Europeans. The commander wrote following sentences about them: *“All of them were naked... I saw people, who were about 30, looked beautiful and had thick hairs... Faces were straight and had nice smiles... Their skins weren't black, they were red...”*

The commander of the expedition went ashore and declared the island property of catholic kings with the participation of the secretary Rodrigo de Escobedo and inspector Sanchez Segovia. So, Christopher Columbus got all privileges, which were promised him by Spanish monarchs, and became admiral of Spain and vice-king of discovered lands. After that event, new era began for the territory located in the Western Hemisphere. It meant new life for the population of that territory. They would be obliged to live in accordance with laws brought by missionaries of the East.

Columbus sailed towards south-west in order to find Cipango on October 14, after he discovered San-Salvador. He approached Santa Maria de la Concepcion Island – today's Ram-Ki Island until the evening.

Spaniards conquered the island in the morning and discovered the Fernandina Island – today's Long Island after it. Spaniards were met everywhere with great pleasure. Hindus took on vessels and drank juices given by their guests delightfully. There weren't sugar-beets in America then. Europeans found hamac in the Long Island.

Columbus conquered every island he discovered. The admiral saw a mountainous coast on October 27 and entered rank of the wide river, which was full of flowers, on the



Columbus declares discovered lands property of Spain

next day. He thought that, it was Cipango. Then, there should be grandiose temples and palaces. But there weren't such buildings in that island. Columbus sent several seamen to the island under the leadership of the translator Luis de Torres in order to investigate the island. Torres was accompanied by Rodrigo de Jerez, who had enough experience in this field. As investigation of islands was important, Columbus sent different groups to different part of them. He wanted to learn which settlements were located in islands and which people lived there. But some historians write that, admiral's purpose was to find the Great Khan of Chine.

Those researches tired seamen. Martin Alonso Pinson used the opportunity and disappeared with "*Pinta*" on November 22 in order to start his own researches, which created great danger for his team. He wanted to find gold and valuable stones located in Cipango and Chine.

Columbus was obliged to continue his travel with Vicente Janez Pinson and two vessels. He passed the remote eastern part of the northern coast of Cuba and found coasts of Haiti Islands on December 8. On the next day, the admiral called that island Espanola.

Spaniards could find gold in Espanola when they talked to one of aboriginals on December 16. It was a golden board

resembling hand. Another aboriginal brought some gold to “*Santa Maria*” and bartered for Spaniard’s things. Columbus noted every trade and prepared detailed report for his supporters. The admiral mentioned that, Hindus trusted Europeans and it was easy to occupy discovered territories. Hindus met Columbus and seamen as ambassadors, but they thought of Hindus as their future slaves.

“*Santa Maria*” was wrecked in front of Espanola in midnight on December 24 at the result of Juan de la Cosa’s mistake. Early in the morning, foods, construction materials and weapons of the vessel were taken to the island. The fort La Navidad was established by means of remainders of that vessel in accordance with Columbus’s order. La Navidad was the first settlement of Spaniards established on coasts of the New World.

A lot of seamen stayed in the fort. They wanted to stay there until the second expedition would come and find a lot of gold. 39 seamen stayed there. The commander of the fort was Diego de Arana. The translator Luis de Torres and secretary Escobedo, who had already completed his mission, (participants of the expedition wouldn’t discover new islands, they would return to Spain) also were among seamen, who stayed in the fort.

Columbus left the fort and sailed to Spain on January 4, 1493. Monarchs and all Spaniards had to hear of his discovery. Columbus could justify confidence of monarchs and his supporters.

The admiral sailed with “*Ninia*”. It met “*Pinta*” in front of the La Cobra Island on January 6. Alonso Pinson approached Columbus and apologized as if nothing had happened. He mentioned that, he had found gold. Pinson and Columbus were very happy as they had met each others. They needed companion on the way to motherland.

The admiral changed the route towards north-east on January 16 - Wednesday three hours before the morning. According to the diary of Columbus, a strong wind started in the night between the 2nd and 3rd February and speeds of vessels became 598 miles in a day in the night between the 4th and 7th February. It was considered the greatest speed during the expedition.

The weather aggravated on February 12 and the wind changed direction of “*Pinta*” after two days. Vessels were separated. It turns out in accordance with Columbus’s notes that, he thought that he was dead. One of Azores – Santa Maria Island was seen on February 15. The admiral went asleep in the night of February 16 as he was sleepless for four days.



“*Ninia*” could stop in Nossa Senhora dos Anjos located in the north-east of the Santa Maria Island on February 18. Though that island belonged to Portuguese, Spaniards found shelter there.

After a short conflict with Portuguese, Columbus continued his travel on February 24. But another storm started after sailing for 250 miles towards the east. That

Ramiz Daniz

calamity impeded seamen to complete the expedition. The storm annihilated all sails of “*Ninia*” in the night between the 2nd and 3rd March. At last, Columbus entered rank of the Tagus River on March 4. So, he escaped of the strongest storm of recent years.



The “Ninia” returns from the first travel

The king of Portugal Juan II invited Columbus to his temporary residence located at 45 km away from Lisbon when the expedition returned back. As plague had spread in

Lisbon then, the king was in the monastery of Saint Maria. Though he had rejected Columbus before, was obliged to meet him after the expedition. After getting information about results of the expedition, the Portuguese monarch explained that, the territory discovered by Columbus should belong to Portugal in accordance with the treaty concluded between Portugal and Castilia in Alcasovas in 1479.

The well-known traveler mentioned that, he hadn't participated in mentioned negotiations. He said that as Juan II didn't allow him to travel to coasts of Guinea, he was obliged to go to Spain. As he said these sentences ironically, noblemen advised the king to kill Columbus. Juan II, who was friend with Spanish monarchs, let the traveler go. He was invited to the king's residence again when he was going to return to Spain. After talking to the traveler, the king asked Hindus how many islands had been discovered. One of Hindus put several beans on the table in response to him. After it, Portuguese forgot negotiations about Antheia and the "*Island of Seven Cities*".

The king of Portugal organized farewell meeting for Columbus on March 11. On the next day, the traveler was offered to return to Spain on the land road. As Columbus considered this offer dangerous, he left the bank of Tagus River with "*Ninia*" on March 13 and went to Spain. The

traveler entered rank of the Rio-Tonto River (the Port Palos is situated there) after thirty-three-weeks travel on March 15.

Martin Alonso Pinson approached Palos with “*Pinta*” on the same day. He had reached coasts of Spain – the Port of Bayonne at the end of February. Pinson wanted to go to the palace of monarch in order to give information about the discovery before Columbus. But he couldn’t get permission for certain reasons. Disappointed Pinson died in a month.



Columbus is received by Spanish monarchs after the first travel

The discovery of the global importance was made at the result of 32-days hard travel. The discovery, which was very important for most geographers, cartographers, cosmographers, historians and progressive-minded people, was made during a very short time and the Earth's secret was brought to light. The approximate width of the Atlantic Ocean was determined and it became clear that, there was a large land area in the west of the ocean. Christopher Columbus also could realize importance of his discovery and he had completed his diary with following sentences: *“Majesties, I was severely criticized for the idea of this expedition when I was in your palace. But, thanks to God, I could overcome all pressures and achieved success for Spain. I'm sure that, my travel will bring great fame to the Christian World”*.

Discovery of America and secrets brought to light during that travel

I want to mention some facts in order to analyze that discovery. There are different assumptions about the purpose of Columbus's expedition. Some literatures even

say that, Columbus didn't aim to reach coasts of Asia in 1492. The agreement signed by Columbus and two monarchs should be analyzed in order to understand it. He could get all privileges and titles, which he wanted, only in accordance with the order of Spanish monarchs after the discovery would be made. There wasn't name of any place in the agreement. But it had other reason. After the Pope divided the Earth between Castilia and Portugal in 1479, Portuguese seamen could travel towards south and east of Canaries and seamen of Castilia could travel towards the west and north. So, monarchs of Castilia couldn't speak about any part of Asia. That territory was under Portuguese's control. It should be mentioned that, mentioned agreement could be about Asia only. Then, people all over the world thought that there was Asia on the other side of the Atlantic Ocean. That is, Asia was situated in east and west of Europe. That's why Columbus sailed towards the west as soon as he left the Hierro Island. Besides it, the expedition had to bring pearls, valuable stones, gold, silver and spices from discovered land in accordance with concluded agreement. India was considered motherland of such goods then.

I. P. Magidovich and V. I. Magidovich write in II volume of **“Historical essays on geographical discoveries”**: “The

expedition wasn't organized for occupation of territories, it was organized for creation of commercial relations with discovered countries. Columbus's expedition had to establish commercial relations with discovered non-Christian countries (Muslim) and try to appropriate discovered islands. There weren't professional fighters and enough weapons in the expedition and it proved that, the expedition wouldn't realize serious military operations. Besides it, the expedition didn't plan to spread Christianity in discovered lands, though Columbus had tried to achieve it. There wasn't any churchman and monarch in the expedition, there was only the Jewish converted to Christianity, who knew Arabian".¹

It should be mentioned that, Arabian wasn't needed in Brazil or Anthelia Islands. It could be needed in East Asia as it was Muslims' common language. It means that, the expedition planned to reach India and its neighbours in accordance with the agreement concluded between Columbus and monarchs. Monarchs' main purpose was to establish commercial relations with India.

According to official chronics, after the first travel (1493), Columbus declared that, he had discovered India in

¹ И. П. Магидович, В. И. Магидович. Очерки по истории географических открытий, II том. Москва, "Просвещение", 1982. стр. 25

the west of Europe and brought several Hindus from there. Columbus believed that he had reached the place where he wanted to go. Organizers of the first expedition also thought so. That's why they began to organize a great expedition. There weren't skeptics then, and they appeared afterwards.



Columbus's route and discoveries between Anthill Islands during the first travel

Portuguese didn't believe that, Columbus could reach East Asia. Some scientists analyzed the route of Columbus's expedition and didn't believe that the Earth's outline was so

short. There were skeptics in Spain then. The Italian humanist Pietro Martire (Poignant Peter), who lived in Barcelona and were close to the kingdom palace, corresponded with his fellow-countrymen. He had written in the letter written on November 1, 1493: *“One person by name Colon (Columbus) says that, he could reach India, the place of antipodes of the west. He discovered many islands located on the other side of the East Ocean near India as cosmographers thought... I don’t want to write anything about it, nevertheless size of the Earth made me to think otherwise”*.

That is, before the travel of Christopher Columbus, Pietro Martire thought otherwise about calculations of Paolo Toscanelli. So, Columbus also might think as Pietro Martire, but not as Paolo Toscanelli.

I think that, Ch. Columbus couldn’t agree with thoughts of the Florentine cosmographer. First of all, well-known sea traveler couldn’t agree with length of the Earth’s outline. It means that, Asia isn’t situated in the Atlantic Ocean at 10000-12000 km away from Canaries in the west as Paolo Toscanelli thought. Columbus had determined that, land area located in the west of the Atlantic Ocean was at 4500-5000 km away from Europe. It means that, the mentioned land was other land, which was unknown for the Old World.

I think, he agreed with ideas of the Azerbaijani scientist after getting acquainted with N. Tusi's "**Zij-i Ilkhani**" and his map and was sure that, the land area located in the west of the Atlantic Ocean was at 4500-5000 km away from Europe. That distance could be overcome in 30-35 days. The Italian scientist and humanist, cosmographer and astronomer Toscanelli (1397 – Florentine – May 10, 1482) was the defender and leader of the public library founded by the humanist Niccolò Nicolini. He defended ideas mentioning that, the Earth is spherical and planned to go to India through the western way. The astronomer had edited "**Table of Alfonso**" (XIII century). Though Toscanelli had read scientific works of most scientists, he had lessened measurements of the Earth for unknown results. The Florentine scientist could make a mistake. It was difficult to find the length of the Earth's outline then. The French physician Jan Ferrell (1497-1558), who was interested in astronomy, could determine exact length of the Earth's outline. It means that, Toscanelli had made a mistake.

I can't justify Toscanelli for such rude mistake. He had made elementary mistakes when made his map in 1474. But he had opportunities for preventing those mistakes. The Greek scientist Eratosthenes lived in Alexandria founded by

Macedonian Isgandar in 332 BC. That city attracted scientists and travelers of the world then.

According to his calculations, the length of the Earth's outline was 43625 km and its radius was 6943 km. There is no doubt that, Columbus knew this fact. As he was interested in astronomy, he had taken into account calculations of Eratosthenes, Poseidon, Al-Khwarizmi, Al-Biruni, Tusi and Toscanelli before starting his travel. He planned to achieve success and to go down in history unlike other travelers who tried to find land in the west of the Atlantic Ocean.

The French physician Jan Ferrell wrote that, the length of the Earth's outline was 39816 km and its radius was 6337 km.¹ It means that, Toscanelli had made a mistake. According to his calculations, the length of the Earth's outline was 29000 km. I think that, Columbus had read at least part of “**Zij-i Ilkhani**” written by Nasiraddin Tusi before his travel. Then, important scientific works, especially works on astronomy and the Earth's measurements were translated and sold to scientists with very high prices. Columbus, who was preparing for the important expedition, had got acquainted with Nasiraddin

¹ О. Коротцев. Глобус, как измеряли землю. Ленинград, «Д.Л», 1980. стр. 312

Tusi's map besides "Zij-i Ilkhani" and protected that map with all his forces. Measurements and outlines described in mentioned map could influence on the result of the expedition. That's why the traveler didn't agree with the Florentine scientist's report and used measurements and outlines determined by Eratosthenes and Tusi.



Look, I kidnapped some people for you!

Of course, my hypothesis is serious enough. N. Tusi's map was kept in the library of Florentine and Paolo Toscanelli leaded that library. I think, Toscanelli couldn't

give that material to Columbus. Though they knew each others, the scientist didn't show that material to anybody. But it is obvious that, Columbus had used that map when passed the ocean. How could Columbus find that map then?

Probably, Columbus began to be interested in the Azerbaijani scientist's life and activity after he got acquainted with his map. He was interested in works of merchants and ambassadors visiting the Near East, Iran and Azerbaijan, in goods and materials brought by them. There is another hypothesis too. He could order scientific works on astronomy and geography by means of merchants and ambassadors and could get acquainted with "**Zij-i Ilkhani**" in this way. He investigated Tusi's activity not only in Florence and other cities of Italy. He continued this work in Portugal and Spain too. Everybody knows that there are large libraries and administrative buildings in big cities of Portugal and Spain, where archival documents were kept. Columbus spent his free times in reading scientific and interesting books. But it is not known whether "**Zij-i Ilkhani**" was in libraries of Portugal and Spain or not.

**Scientific activity of Nasiraddin Tusi
and the map made in Maraga
observatory**

N. Tusi thought that, the science should help people. He said following sentences to his son before his death: “I can die in peace as I spent my life for people’s welfare and science... The life, which wasn’t spent for good deeds, is the life spent in vain”.

The scientist, who had devoted his life, knowledge and skills to the mankind and science, died on June 25, 127 in Baghdad. Nasiraddin Tusi was buried in the Jame Mosque, which is situated at 10 km away from the capital of Abbasids – Baghdad. They say that, almost all of the population of Baghdad participated at the scientist’s funeral. People couldn’t believe that, Tusi had left them.

Tusi’s comprehensive scientific activity amazed people of all time. The Syrian historian Abul Faraj Bar Hebraeus worked in Maragha observatory in XIII century. He wrote about the observatory in his **“General history”**: “I got an opportunity to work in Maragha library, which was full of books written in Syrian, Arabic and Persian. The library wasn’t smaller than the library of Alexandria of Egypt and was the greatest library of the world for number of scientific

works kept there”. Bar Hebraeus could get acquainted with very significant historical materials there. The Syrian historian wrote about Tusi in his **“General history”**: “The Turkish philosopher, well-known scientist, mathematician Nasiraddin Tusi was introduced to me (in 1264). He had invented equipments (astronomical) for observations and created bigger (in comparison with Ptolemy’s circles) copper circles. He had visited Alexandria in order to observe and record planets’ movements. Scientists of different countries gathered around him in Maragha. He got salaries and grants of scientists and students for them. He had a lot of works – translation of **“Logic”**, researches on theology and natural sciences... Besides it, he is the author of **“Ethics”** (**“Akhlagi Nasiri”** – R. D.) written in Persian. He collected thoughts of Platoon and Aristotle about applied philosophy there. He had got acquainted with works of ancient philosophers either and didn’t deny them”.

The well-known Azerbaijani scientist Tusi was called Persian philosopher then. During those years, people, who lived in the Near East, though that, people, who lived in Azerbaijan, were Persians or Arabs. Nizami Ganjavi, Qatran Tabrizi, Afzaladdin Khagani Shirvani and other personalities of Azerbaijan were known as Persians.

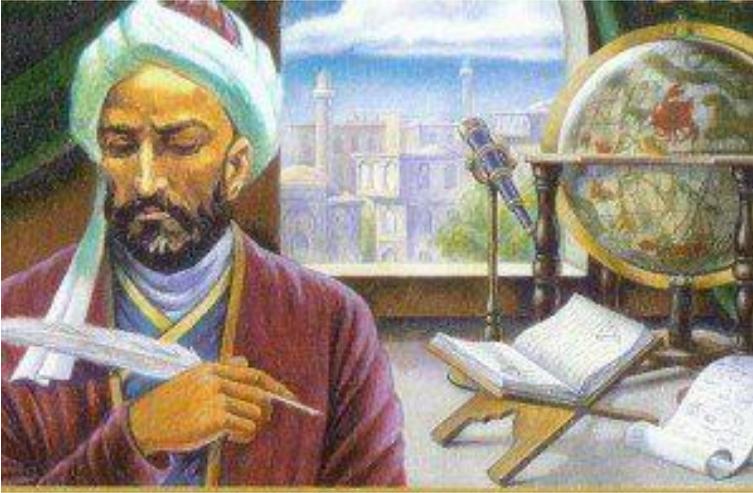
As Niccolo Niccolini's library was popular in whole Italy, Tusi's works might be kept there.

After investigating Columbus's activity, I came to the conclusion that, Columbus had got acquainted with "**Zij-i Ilkhani**" besides Nasiraddin Tusi's map. Tusi had proved existence of unknown territory on the other side of the Atlantic Ocean by describing the prime meridian at 34^0 west of today's Greenwich Meridian.

The value of the annual precession of the Earth's rotation axis was determined as $51''/4$ in Maragha observatory under the leadership of N. Tusi (modern value is $51''/2$). There are a lot of mathematical, astronomical and geographical tables in "**Zij-i Ilkhani**". The most important tables are tables of sinuses and tangents in sexagesimal numeral system and tables of geographic coordinates of 256 cities, which were known in XIII century.

Tusi's discoveries amazed most scientists of the world. I want to quote the article written about N. Tusi by the journalist-researcher Oqtay Eldegez on August 31, 2000, in the newspaper "**168 saat**": "N. Tusi could determine phases of the Moon 400 years before I. Newton, find the distance between the Moon and our planet with a small error (386.781 km) first of all, determine the Earth's movement and find out that, the Earth wasn't perfect spherical but

depressed in poles. He found out that, the gravity power was six times weaker in the Moon than the Earth. Exactness of all these calculations amazes even modern astronomers”.



Nasiraddin Tusi works on “Zij-i Ilkhani”

The Azerbaijani scientist, who had passed ahead of I. Newton and other well-known astronomers for 400 years, proved that, ebb and flows didn't happen by accident, they were results of gravity pressure, which occurred for 24 times in a year at the result of the Moon's movements and depressions in poles.

Every employee of Maragha observatory had a copy of N. Tusi's map. That is, the map had several copies. It proves that, N. Tusi didn't want to lose discoveries made in Maragha observatory. He wanted to spread them all over the world.

As everybody wonders how Tusi's map was used in Apennine Peninsula, I'll give some information about it.

The venetian traveler Marco Polo and well-known map of Nasiraddin Tusi

Fao Mun-Chi returned to his motherland Nanking before the death of N. Tusi. Fao Mun-Chi, who shared scientific investigations carried out in Azerbaijan with his colleagues, could become very popular in Nanking and in the Emperor's Palace in a very short time. The emperor of Chine Khubilay khan (1256-1295), who paid special attention to all branches of the science, got acquainted with works of the young scientist and created good opportunities for him. Most works of Fao Mun-Chi were kept in large libraries as exponents after his death. The well-known Italian traveler Marco Polo, who had visited Chine in 1272,

had worked as the ambassador of Khubilay khan in accordance with the offer of the Italian Aysen. Marco Polo could see the map brought from Azerbaijan in Nanking. He knew that, it was brought by Fao Mun-Chi. There is no doubt that, the Venetian traveler knew Fao Mun-Chi and learned something about scientific works carried out in Maragha. People were aware of discoveries made by N. Tusi in Chine. The Azerbaijani scientist was well-known among scientists and noblemen of Chine. Marco Polo bought mentioned map and took it to Venetia as soon as got an opportunity.

I came to the conclusion that, mentioned map could be kept in the public library founded by the Italian humanist Niccolo Niccolini in Florentine. The map, which was considered property of Polos, could be presented to the library in order to be preserved. They say that, Polos did their best in order to save Marco's documents and didn't give them to everybody without serious reason. Otherwise, they could be lost.

Marco Polo presented a copy of his book to the Frenchman Tibo de Sepua, who was the ambassador in Venice, in 1307 – 8 years after leaving Genoa prison. The French ambassador returned to his motherland after completing his work in Venice. So, mentioned work began

to be copied and spread in France and “**Travel book**” began to be discussed again. But afterwards it turned out that, the book was full of mistakes. In spite of it, materials of Marco Polo’s book were used by other authors either. For example, there were some citations from that book in the novel of Bodue.

After a while the traveler’s book was found by geographers. Traveler’s biography was written by the Venetian geographer Ramuzino 200 years after his death. He translated Marco Polo’s work from French into Italian and included it in the second volume of “**Travels by land and sea**”.

The map considered for start of cross marches was included in “**Book of Christians**” written by Marino Sanudo the Elder in 1320. That map included descriptions of Europe, Syria, Small Asia and Arabia. Probably, the author had used Marco Polo’s map. Besides it, the Venetian traveler had described territories of Georgia, Darband and Chine on the map correctly.

The map made by Portuolono Medichini was published in 1375. That map was made in accordance with countries visited by Marco Polo and information given by him about those countries. Though names of countries were taken from the Venetian traveler’s book, their places were described

incorrectly. Only Sumatra, Small Java, Bengali, Ceylon etc. were described on the map.

The prince of Portugal Pedro also looked for Marco Polo's book in Venetia in 1426.

Marco Polo's book was very popular in XV century, when vessels of Portugal and Spain began to conquer the Atlantic Ocean, so, it was published with the title **“Novel about Great Khan”**.

Victor Shklovsky wrote in his historical narrative **“Land explorer”**: “There was Marco Polo's **“Travel book”** in the vessel when Christopher Columbus left Spain during his first travel and that book substituted for the compass and map”. It is obvious that, Columbus was interested in the Venetian traveler's book. Probably, he had got acquainted with all materials brought from Chine by Polo. Columbus accidentally found Tusi's map when looked through materials brought by the Venetian traveler.

Unlike V. Shklovsky, my hypothesis is as following: There was the map of America besides other materials in the vessel when Columbus started his travel towards the New World and that book substituted for the compass. The location of the continent located on the other side of the Atlantic Ocean was approximately described on the map. Columbus had realized this fact very well.

I want to mention another significant detail. Marco Polo learned the role of China in development of culture and science of the world when he was in that country and worked in the palace of Kubilai Khan. He was especially interested in countries located far from the eastern and southern coasts of China. Though Europe wasn't aware of those countries, China sent there expeditions and established relations.

Probably Chinese travelers traveled to Ceylon, Taiwan, Philippines, Indonesian Islands, Malacca Islands, India, Burma, Thailand, Kampuchea, coasts of the Arabian Sea and eastern coast of Africa in the middle ages. As compass was invented by Chinese, they could easily travel to different islands by using it.

According to historical sources, the greatest travel of the middle ages was realized by the expedition led by the plenipotentiary representative of the emperor of China Chei Khe (or Chen Kho). He completed that travel successfully by leading the navy, which consisted of 317 vessels and 27 thousand employees - seamen, soldiers, navigators, cartographers.

Vessels of China were larger and more developed than vessels produced in European countries. Chinese navigators and cartographers were professional. Chei Khe's expedition

had investigated South-Eastern Asia, Indochina and Malay Islands. Some historians mention that, several vessels of the expedition had traveled to the north-western coast of Australia either.

Rudolf Balandin wrote in the chapter “The longest travel of the middle ages” of the book “**100 greatest geographical discoveries**”: “The navy passed India, Persian Gulf, Arabian Peninsula and eastern coast of Africa as soon as it entered the Indian Ocean. Probably, they passed the Cape of Good Hope too... The south-western coast of Africa was described exactly on the map of Chine made in 1420.

Chei Khe had realized seven great expeditions between 1405 and 1433”.¹

Owing to Chei Khe, Europeans knew locations of main places of Asia since the ancient times. Arabian seamen used maps made by him in the Indian Ocean. There is no doubt that, some of those maps were brought to the Apennine Peninsula by Marco Polo and used there by experts.

Tusi had described the place of the continent located on the other side of the Atlantic Ocean approximately. According to his map, the land area located in the west of the Atlantic Ocean was at 4500-5000 km west of Europe.

¹ Баландин Р. К. Маркин В. А. Сто великих географических открытий. Москва, «Вече», 2000. стр. 56

But Toscanelli wrote that, mentioned territory was the eastern part of Asia and situated at 10000-12000 km west of coasts of the Old World.¹

Toscanelli wrote as most scientists of XV century that, there couldn't be another continent in the Earth besides existing three continents. The Florentine cosmographer thought that, if the fourth continent existed, it could be discovered before. So, only the eastern part of Asia could be situated in the west of Europe, on the Atlantic Ocean. Besides it, the Florentine cosmographer wrote that, huge land area could be reached after about 10000-12000 km.

Columbus took all these facts and reports made in Maragha into account and decided that, mentioned land area could be reached after 4500-5000-6000 km. But Columbus didn't write that, the land area located on the ocean was unknown in the Old World. Thus, he falsely defended Toscanelli's idea, which mentioned that, the land located in the west of the Atlantic Ocean was part of Asia.

According to most scientists, mentioned distance confused the well-known traveler. The Florentine scientist mentioned that, it was possible to reach Asia by overcoming that distance. That's why after the first travel, Columbus

¹ R. Qasımov. Əsrləri qabaqlamış alim – Nəsirəddin Tusi. “Yurd” NPB, Bakı, 2003. səh. 282

declared that, he had met Asia on the other side of the Atlantic Ocean. According to official documents, Christopher Columbus traveled to coasts of the New World for four times – in 1492-1493, 1493-1496, 1498-1500 and 1502-1504 – and thought that he had discovered Asia during all travels. These assumptions may be met in all sources.

I don't believe it. Now I'll try to prove it. Columbus knew that he had found unknown land even during the first travel.

It is known that, participants of the first expedition tried to rise in rebel before reaching coasts of the New World. Columbus used his oratorical skill and explained to everybody that, they would be obliged to sail same distance towards Spain. He said that, if participants of the expedition would kill him, they would be executed by Spanish monarchs. The commander mentioned that, they had to return to Spain together. Columbus asked for three-day delay for discovery of the land area at the end of his speech and promised that, he would return back if the land area wouldn't be seen after three days.

I don't believe that, any seaman can surely mention that, land area will be seen in three days in such situation. Besides it, nobody had sailed on those parts of the ocean before Columbus. 26 hours after the delay – on October 12,

1492, at 2 o'clock the seaman of "*Pinta*" Rodrigo de Triana saw Guanahani Island of Bahamas (today's Watling Island) and informed everybody. Thus, the fourth continent – America was discovered.

Columbus proved existence of the fourth continent owing to his courage, fearlessness, skills and knowledge. But though the discovery was made by the admiral, the fourth continent was named in favor of the adventurer Amerigo Vespucci. Nevertheless, progressive-minded people, geographers, cartographers and historians of Spain, Portugal and other countries of Europe had to name the fourth continent "*Columbia*" in favor of its discoverer.

Scientists, who were against Columbus, wrote that, he discovered coasts of the New World by accident and thought that, it was Asia. It is impossible to accept this assumption. Columbus could ask for five days, a week, two weeks or three weeks instead of three days during the rebellion. But he asked for three days only. It means that, Columbus knew where he was going. The well-known sea traveler had overcome about 6000 km when he reached Bahamas. According to Toscanelli's map, the expedition had overcome 10000 km as minimum - Cipango and 12000 km as maximum - Chine. It means that, he couldn't think that, was going to Asia. But other participants of the

expedition thought that, the island discovered on October 12 was part of Cipango.

One detail also should be mentioned. I could reveal several secrets after investigation of the rebellion raised in Columbus's expedition. It is known that, the rebellion was raised on October 10. Of course, it was led by one person. He was Martin Alonso Pinson. Birds flew towards the south on October 7. Every experienced seaman could understand that, there was a land area in front of the expedition. Pinson also knew it and understood that, the land would be seen soon. Then, the discoverer of that land area would be the Genoese seaman. Alonso Pinson's purpose was obvious. He wanted to appropriate fame of the expedition. The captain of "*Pinta*" had learned coordinates of that part of the ocean and could discover the territory located there afterwards.

That's why he tried to rise in rebel before completion of the travel. But he couldn't imagine that the foreign traveler would calm seamen and ask for three-day delay. When participants of the expedition agreed with Columbus, Alonso Pinson understood that, he was defeated.

Columbus went ashore when Guanahani Island was discovered and met with half-naked people. He wrote in his diary that, aborigines colored their faces and bodies. They

hadn't metal weapons and didn't know anything about metal. When Columbus showed his sword to aborigines, Hindus confused and wounded their fingers. They were far from civil life. Everybody knew that, Cipango was popular for its Samurai swords. Besides it, aborigines' skin colors differed from skin colors of population of Cipango. Columbus realized all these differences and couldn't mix Guanahani with Cipango. He continued the travel and discovered Espanola and Cuba afterwards. Then, he became sure that, discovered islands weren't Cipango, Chine or India.

If Columbus discovered mentioned territory, he should have rights on it. This condition was fixed in the agreement concluded between the traveler and Spanish king. Nobody could appropriate the territory discovered by him. Then, why did the admiral keep his discovery secret? May be, Columbus thought that, he had discovered Asia? Otherwise, he had to demand everything he had earned. I'll answer this question below.

Christopher Columbus's second travel

Besides having monopoly on expeditions organized towards the New World, Columbus got new subsidies of Spain. Monarchs wanted him to bring spices and gold. But he had brought less gold when returned to motherland. Spanish monarchs couldn't accept such result. Columbus was against shedding blood during his first travel. Otherwise, he could kill Hindus and got a lot of gold.

But he let to kill aborigines during his second travel. Other hidalgos also benefited by this decision. Seamen, who came to this territory after Columbus, also killed Hindus. Most travelers could get a lot of wealth at the result of plundering.

Everybody knew that, Columbus was a ruler of discovered territories and owner of this position had as great authorities as the Spanish king. Local noblemen were dissatisfied as such important position belonged to the foreigner. Moreover, this position was heritable.

This progress damaged the traveler's authority. That's why everybody tried to prove that, his discovery was made by accident owing to the mistake. But that mistake was made by the traveler intentionally – he mixed coasts of the New World with Asia deliberately.

Columbus's expeditions differed from each-other. Main sources include only information about the first expedition. I'll describe some moments of the second expedition.

After the first travel, Isabel and Ferdinand organized banquet for the Genoese traveler in Barcelona. After that banquet, Columbus began to live in the palace of monarchs. Monarchs affirmed all privileges and rights given to the traveler in 1492. Don Cristobal Colon (Columbus) was described as admiral, vice-king and ruler of discovered territories in the instruction written on May 29, 1493. Columbus's fame spread in Spain. The archbishop of Toledo, who was the most influential person in the palace, invited the traveler to the dinner.

Monarchs gave Columbus an emblem with pictures of castle, lion, islands and anchor. The traveler's brothers Bartolommeo and Diego became caballeros and began to be called as "Don". Bartolommeo was in France, but Diego was in Genoa.

So, monarchs allowed to organize the second expedition without hesitating. The archdeacon of Seville Juan de Fonseca leaded preparation works. He created a miracle – organized 17 vessels with 1400-1500 employees. It resembled real armada. The armada consisted of 3 naos and 14 caravellas (some of them were Cantabria barkas).

Before the first travel, Columbus had overcome resistance of Spanish seamen as he was a foreigner. But during the second travel, hundreds of Spanish hidalgos accompanied him and it would be difficult for the admiral to overcome them. It meant that, he would meet with great difficulties in discovered territories. This travel had a political purpose for Spanish monarchs. After the Reconquista was ended in Spain (1492), hidalgos, who were distinguished for their courage in the war, were very influential. If they would be met with injustice in Spain, they could easily unite. Monarchs had to solve this problem in order to strengthen their authority. Columbus's discovery solved the problem. Fearless hidalgos left Spain in order to occupy new territories.

Columbus left the Port Cadis with the greatest vessel "*Maria-Gallant*" (tonnage - 200 ton) on September 25, 1493 with the great armada. As Bartolommeo hadn't returned from France, Columbus started travel with his younger brother Diego. He trusted him most of all.

Afterwards, other participants of the expedition – future travelers Alonso de Okheda, Ponce de Leon, cartographer Juan de la Cosa, annalists Diego Alvarez Chanca and Michael Cuneo became more popular for their activities. Ramon Pane became the first ethnographer of Hindus.

Besides it, there were about two hundred noblemen in the expedition.

They took sugar-beets and big dogs in Canaries and left the last island of Canaries – Hierro on October 13.

Inhabitants of Espanola (Haiti) mentioned that, there were territories by name “lands of cannibal Caribbean people” and “islands of unmarried women” full of gold in the south-east. Vessels began to sail at 10⁰ towards the south. That route was convenient for the expedition: Columbus could pass the ocean in 20 days by means of the north-eastern Passat. That way began to be used as the way from Europe to *“Western India”* afterwards.¹

According to historical sources, the island covered with mountains and forests began to be seen on November 3. As the discovery was made in Sunday (*“Dominica”* – in Spanish), Columbus named the island Dominica. As there wasn't any convenient port, the admiral turned the route towards the north and saw a small island (Maria-Gallant). The greatest island - Guadeloupe was discovered on November 4. Spaniards stayed on that island for eight days and controlled its settlements.

¹ И. П. Магидович, В. И. Магидович. Очерки по истории географических открытий, II том. Москва, “Просвещение”, 1982. стр. 25



Columbus goes ashore in Espanola for the second time

The doctor of the expedition Diego Alvarez Chanca described interesting events in his letters. He wrote: *“A lot of human skulls and bones were hanged on walls of houses as kitchen utensils. There were few men in that village. Women said that, men had gone to other islands for plundering. Those people looked more developed than inhabitants of other islands... Though houses were built of chaff, they were orderly and there were a lot of household*

things in houses... There were a lot of cotton and cotton clothes. They weren't worse than our clothes".

According to women's words, population of all three islands consisted of Caribbean people. They attacked their neighbors, who lived peacefully and hadn't any weapons. Their weapons were bows and arrows made of pelvises of tortoises and fish bones. D. Chanca wrote: "Caribbean people captivated a lot of girls in order to use them as wives and maids. There were too many women – we saw only women in 50 houses... Indigenous women said that, Caribbean people ate prisoner women's children. They brought up only children of their women. They ate prisoner men as well". Columbus and his colleagues couldn't be indifferent to this barbarism. Localization of such negative situations is the debt of every honest person. Nobody could approve such behaviors.

According to historians and ethnographers of XIX century, inhabitants of Anthill Islands had said that, Spaniards had introduced them as cannibals and wild people. They said that, they weren't cannibals. Conquistadors simply tried to get permission for using Hindus as slaves. The main reason of mass annihilation of aborigines, who lived in Small and Big Anthill Islands, was their presentation as cannibals. Christopher Columbus was

considered main instigator of this event. I can't agree with this assumption. Columbus was against annihilation of guiltless people. He wanted to found civil society in discovered territories. The vice-king planned to use aborigines for this purpose.

Everybody knows that, a lot of money was required for organization of great expeditions. Some officials had offered to compensate part of spent money by selling Hindus as slaves. They put pressure upon Columbus and asked him to send monarchs documents introducing aborigines as cannibals. Those officials thought that, the best way of overcoming Hindus is to sell them. Permissions of monarchs (Isabel and Ferdinand) were needed for it. Columbus sent mentioned presentation because of those pressures. After that presentation, all Hindu kin began to be known as cannibals in Spain and most other countries.

The Genoese traveler's opponents didn't miss this opportunity. They began to accuse Columbus of making Hindus slaves. Especially when court sessions concerning the heritage started, "**Memories**" sent by the traveler to Spain, began to be used against him. Mass annihilation of aborigines of the New World was started after that "**Memories**". Opponents called Columbus blood-sucker, cruel and merciless. But the traveler, who was enough

restrained, was obliged to write “**Memories**” because of the situation existing in Espanola. It has very short history.



Christopher Columbus approached Guanahani Island

As it was mentioned above, Columbus had established the fort La Navidad in Espanola in December of 1492 at the

end of his first travel and 39 seamen had stayed there. When the expedition approached the fort during the second travel, seamen went shore in order to take fresh water and saw four rotting corpses. Their necks and feet were tied with cord. One of them was bearded. It proved that, he was European.

The navy approached the fort in the night of November 27 and used gunfire as a signal. But any response wasn't heard. Columbus went ashore on the next day and could only see burned poles of the fort and corpses there. It wasn't possible to learn how Spaniards died. But it was obvious that, they were accused of plundering. Hindus said that colonists had appropriated women and it caused confusion. It turned out that, there was a conflict between young seaman and secretary of the expedition Escobedo for a Hindu woman. Both of them entered the territory of one kasic by name Caonabo in order to find women and gold. So, Caonabo killed both of them. After it, Hindus attacked the fort La Navidad. There was Diego de Arana and five fighters in the fort (each Spaniard lived with five Hindu women) and they couldn't meet Hindu with strong resistance. Three fighters were killed in the fort, two of them drowned in the water when tried to escape. Other Spaniards run to mountains and were killed there.

The tragedy of Espanola caused Spaniards to grieve. Noblemen wanted to take vengeance on Hindus and said it to Columbus. But Columbus said that, it was untimely. Of course, hidalgos couldn't accept this decision and began to look for opportunity for taking vengeance.

Columbus founded a city near the burned fort in January of 1494 and named it Isabella in favor of the Spanish queen. Spaniards' foods began to go bad as the weather was hot and damp. Starvation was inevitable for colonists. So, the admiral decided to send participants of the expedition back to Spain with 12 vessels under the leadership of Antonio Torres on February 2 besides 500 men, should stay in Espanola with him. He sent his "**Memories**" written in Espanola to Spain by means of Torres.

I want to mention several sentences written there. Columbus wrote: *"I think, it is better for cannibals and Hindus being sent to Castilia... Majesty, I want a lot of livestock and goods to be brought here in order to develop these lands... In return for it, we may send powerful cannibals to Spain. We are sure that, if they'll live as slaves, it will be possible to teach them to live as civilized people"*.

After it, a lot of slaves began to be brought to Spain from coasts of the New World and people accused Columbus for it. But I think that, the genius traveler wanted to clean Small

and Big Anthill Islands of cannibals. He defended Hindus, who lived peacefully.

Soviet ethnographers wrote that, cannibalism existed among Caribbean people as well as other nations after passage from matriarchy to patriarchy. They thought that, it was possible to get courage, promptness and other characteristics of enemies by eating their hearts and muscles.

Most of Hindu kins weren't cannibals, unlike Caribbean people. But Columbus's colleagues introduced all of them as cannibals. According to memories of the admiral, aborigines weren't backward of Europeans for their mercies. The participant of the second travel Bartolommeo de las Casas wrote when the expedition reached Jamaica: *"When the expedition was in Cuba, indigenous Hindus told us that, there was Jamaica Island full of gold in the south... We saw that island on May 5. Columbus named it Santiago. Half-naked Hindus, who had colored their faces and had feathers on their heads, approached our vessels and tried to resist us. Columbus ordered to shoot arrows. Hindus stopped resistance after six or seven of them were wounded.... After it, goodwill Hindus approached us. Aborigines brought foods and other goods and began to barter with us. They treated us as guests"*.



The map of the Caribbean Sea

Hindus tried to meet Europeans hospitably. But Spaniards tried to annihilate inhabitants of discovered lands for simple reasons. Columbus hadn't any guilt in this business. I. P. Magidovich and V. I. Magidovich wrote in II volume of **“Historical essays on geographical**

discoveries”: “When the admiral investigated Cuba and discovered Jamaica, his brother Bartolommeo Columbus brought a lot of soldiers and foods from Spain to Espanola with three vessels. Those soldiers began to plunder the island and raped women. Some of them were killed by Hindus”. Ch. Columbus started occupation of Espanola in March of 1495.

The vice-king of discovered lands attacked the island with his soldiers. Soon Spaniards reached a rich valley. Beauty of the valley admired Columbus and he named it Vega-Real (Valley of King). Spaniards built the fort Saint Foma around the valley – between mountains. They established a castle near the fort. That place is called Fortaleza and it is in Dominican Republic at present. The fort Saint Foma became center of the trade of gold.

Military operations were continued against resisting Hindus. Espanola was occupied by Spaniards in spite of Hindus’ resistances. Aborigines had to bear charges with gold and cotton. People, who didn’t want to do it, were obliged to hide in mountains. Otherwise, they became slaves of Spaniards. Most of Hindus, who hid in mountains, died of the unknown illness brought by Spaniards. Of course, it’s not just to accuse Columbus of mass annihilation of Hindus. First, Espanola became colony because of being discovered

by Europeans. Second, aborigines had to fulfil conditions of Spaniards according to colonial laws. Otherwise, they would be punished. Columbus wanted to declare Espanola capital of discovered territories and so, he established the city Santo-Diego on that island in 1496.¹

Columbus appointed his brother Diego ruler of the city Isabella and continued the travel with three vessels (admiral's vessel was "*Ninia*") on April 24, 1494 in order to investigate Cuba.

The admiral sent 400 people, who committed tyranny, to the Fort Saint Foma under the leadership of Alonso Okheda in order to simplify his brother's work and could create stability in Isabella.

Columbus drove a cross into the ground as soon as he reached the eastern coast of Cuba. He discovered Jamaica either. Spaniards were met sincerely by aborigines when they approached most islands. Columbus could approach discovered islands with great difficulties and sometimes bottoms of vessels touched bottom of the ocean. Smaller vessels were needed in order to sail between those islands. So, the admiral was obliged to return to Espanola on September 29.

¹ И. П. Магидович, В. И. Магидович. Очерки по истории географических открытий, II том. Москва, "Просвещение", 1982. стр. 31-32

Columbus's brother Bartolommeo came to Isabella from Spain. He was greeted by Ferdinand and Isabella and monarchs appointed him and Christopher's sons as pajs of don Juan. Don Bartolommeo didn't want to stay in Europe for a long time and travelled to Espanola with three caravels. Colonists looked forward his navy in Espanola.



Meeting of Spaniards with Hindus

It should be noted that, Bartolommeo should be known as the leader of the third expedition organized towards coasts of the New World. Christopher gave the title “Adelanto” to Bartolommeo as soon as met him in Isabella. So,

Bartolommeo became plenipotentiary representative of the island. He became active assistant of Christopher. The admiral knew that, his brother was a great stayer and decisive person, and could overcome difficult situations easily.

It was difficult for the admiral's younger brother Diego to overcome works in Espanola. He was a gentle man and couldn't cope with impudent hidalgos. So, a lot of robberies, plundering, threats, raping and battles occurred in the island. The commander of the tower Margaret committed slaughters there. He and abbot Buil treated people as animals. None of Hindus had accepted Christianity until Columbus returned to Espanola. Besides it, Buil and Margaret returned to Spain with Bartolommeo's vessels. They tried to blot Columbus brothers out in Spain by means of slanders.

According to historical sources, Columbus was met with chaos when returned to Espanola. Hidalgos didn't obey leaders appointed by the admiral. They rose in rebel against Bartolommeo. They shoot arrows on Hindus for pleasure, made them to work in plantations, to fish and hunt, to carry them on hammocks and used girls for household works. Each hidalgo used about ten girls as their wives.

As Columbus couldn't overcome that situation, he came to an agreement with hidalgos. He gave large land area and several Hindus to each rebel. Thus, the vice-king of discovered lands created serfdom on coasts of the New World. People attached to land might be killed or sold as slaves if they would try to escape. It is obvious that, the admiral can't be accused of bad treatment against Hindus. Columbus simply couldn't overcome hidalgos, who had traveled to the New World.

It was necessary to end anarchy in Espanola. Columbus allowed to execute Hindus, who killed their owners, in order to calm everybody. After it, colonists became more active and cruel treatments against Hindus began to expand. Hindus, who lived in Haiti, Cuba and Bahamas, were also treated badly in spite of their kindnesses. Hindus were killed and turned to slaves by colonists when they rise in rebel in order to defend their rights. 200 of 400 slaves sent to Europe on February 24, 1494 under the leadership of Antonio de Torres died on the way between Madeira Islands and Cadis and the rest of them were sold as slaves in Seville. Those slaves died at the result of unknown illness after a short time.

Besides it, Spaniards tried to take vengeance on Hindus for their colleagues killed in the fort La Navidad and began

to look for Caonabo in order to kill him. Alonso de Okheda came to Hindus' camp and told Caonabo that, they'll give him bronze bell considered for Isabella. But Caonabo had to help Spaniards. Caonabo get excited when heard of the bell, which was considered miracle for Hindus, and decided to join Spaniards together with his fighters. It wasn't easy to caught Caonabo as he had a lot of fighters. That's why Alonso de Okheda decided to play a trick. He said that, in Spain, the king sits on his throne after his hands and feet are chained up. Then, Okheda offered Caonabo to be the king. The Hindu agreed immediately. Okheda chained up Caonabo's hands and feet, put him on his horse and tied himself to him. The Spanish commander went to the camp of Spaniards located in Isabella and ten Spaniards attacked on Caonabo's fighters. Caonabo would be sent to Spain and executed there for his crimes.

Columbus tried to develop coasts of the New World and create civilization there. Planted grains and plants had abundant fruits. A lot of workshops were established in the city and professional masters were prepared there. Women brought from Europe also learned those professions. The shipbuilding also was developed there. But most vessels, which were in the Caribbean Sea, were damaged at the result of storms and they needed to be repaired. The

caravella by name “*India*” was made in the dockyard of Espanola and put into use.

But it wasn’t possible to liquidate anarchy occurred in Espanola though the territory was developing. Columbus couldn’t overcome all hidalgos.

In October of 1495, Columbus understood that, Spanish monarchs didn’t trust him. Hidalgos, which had returned to Spain, had achieved their goals. The plenipotentiary representative of catholic Christians by name Aguado came to Espanola and began to investigate the situation when Columbus was busy with stabilization of the situation in the center of the island. It became clear that, everybody, who lived in the island, was dissatisfied, most of them hated Columbus and suffered of unknown illness. But the reality was different: colonists’ conditions were very good: they found gold and exploited Hindus.

Columbus had to return to Spain in order to justify himself. He asked his brother to leave Isabella and to found new city in the south of Espanola (the capital of Dominican Republic – Santo-Domingo). There was a convenient bay, rich land and gold in that place.

The well-known traveler, who had come to coasts of the New World with 17 vessels, returned to Spain with two

caravels – “*Ninia*” and the first vessel made in Espanola – “*India*”.

There were 225 Christians, Caonabo and 25 Hindus in two small vessels.

The way to Spain wasn’t convenient unlike the first travel. After four weeks – on April 6, 1496, the admiral was still in Small Antheia Islands. Almost all foods had been used. Everybody thought that, Columbus wasn’t as skilful as before.

The expedition found some foods in Anthill Islands and began to sail towards the west in the Atlantic Ocean on April 20.

Spaniards moved very slowly and undecidedly. After a month, they didn’t know where they were.

They ate 150 g bread each day. According to Columbus’s diary, they starved very much and even some seamen offered to eat cannibals or drawn them in order to eat their shares. On June 8, Columbus declared that, they would reach the Cape Vincent on the next day (it was his prognosis made as a prophet) in order to stop such offers. Really, they reached Odemir located at 35 miles away from the Cape Vincent on the next day. Columbus’s mysterious prognosis amazed everybody. When the traveler was near Azores, he determined the time when they would reach Pyrenean

Peninsula approximately. It proves that, Columbus knew astronomy very well and was able to carry out exact calculations.

He approached Cadis with two small caravellas on June 11. All flags of vessels were hanged. Seamen, who were very tired and weakened, went ashore.

Columbus began to live in the house of the abbot and historian of Catholic kings from Los-Palazzos by name Andres Bernaldes. He stayed there until monarchs invited him to the palace and gave his diary to Bernaldes.

Columbus received invitation of Spanish kings after a month. The vice-king sent gold and parrot with his brother Don Diego (he was called as Caonabos in Espanola). Don Diego took six hundred “castellarios” (ancient golden monetary unit) gold and necklace to Spain. Besides them, he had a crown decorated with feathers, mask decorated with valuable stones and interesting jewelleryes.

Monarchs greeted the well-known sea traveler with respect, but this meeting differed from the first one. The traveler understood that, organization of the next expedition wouldn't be achieved easily. Really, he could get vessels for the third travel only after two years. Then, 130 vessels accompanied Juan, who would marry in Burgundy, to

Flandreau. Another armada was taking his future wife Margarita to Spain.

Columbus spent his free times in reading scientific books and carrying out calculations concerning navigation when he was in Spain. Columbus, who amazed everybody with his prognosis, again gave sensational information to monarchs. He prognosticated the date when Margarita would come to Spain exactly. The admiral's prognosis was correct and he became more influential in Spain.

Columbus's rights were restored and his financial condition was improved.

The admiral was obliged to solve problems concerning his family before starting his third travel. He could legalize his authorities and properties. They should be passed to Columbus's son Diego and to Ferdinand after Diego's death. After death of the traveler's both sons, Christopher's brothers Bartolommeo and Diego would be the traveler's heirs. The corresponding heir should get the admiral title either. Columbus hadn't forgotten the tradition of Genoa. His heir should put money in the bank San-Georgia located in the admiral's native town to make taxes to decrease. Besides it, that person had to provide representatives of his kin, who lived in their house in Genoa, with money.

Monarchs tried to make some changes in Columbus's rights before each travel. He was an admiral and all captains and travelers had to report to him. But he could rule only islands discovered by him. His rights didn't concern large territories or continents discovered afterwards. Lands had to be discovered by the admiral and he had to report about them. That's why he tried to go to coasts of the New World as soon as possible.

Christopher Columbus's third travel

I want to reassume that, Columbus should look for Japan or China by sailing towards the west on 25^o-30^o north latitudes if he thought that, he had discovered Asia. But it didn't happen during his third travel.

I will use historical sources in order to describe Columbus's third travel. There were some difficulties in organization of the third expedition. Even criminals were offered to be freed of penalties. But atheists, killers and rapers weren't invited to the expedition.

The bishop of Badajoz Fonceca tried to prevent Columbus's third travel. So, the admiral spent four months for buying vessels. But Columbus could buy six vessels – five caravels and a nao in spite of all difficulties.

The well-known traveler started his third expedition on May 30, 1498 and left the rank of the Guadalquivir River. He came to the Port Porto-Santo located in the Madeira Island. His father-in-law was governor of this island and his wife Felipe lived there. The Madeira Island was at 40 miles away and admiral could overcome that distance in three days. Columbus spent six days together with his friends and remembered past. Nobody envied him for his fame.

The admiral began to sail towards Homera of Canaries located at 290 miles away after taking water and wood. He sent three vessels to the Dominica Island. Then those vessels had to sail to Santo-Domingo.

The admiral sailed to the Green Cape Islands with three vessels on June 21. As the weather was fine, the expedition could overcome 750 miles in six days. Seamen casted in the Boavista Gulf and were obliged to leave it because of infectious illness. They went to the Portuguese's colony Santiago Island on July 1 in order to find meat. But they left there without meat after 8 days.

The expedition overcame 380 miles in 9 days. The weather was very hot. Water barrels cracked of hot and foods went bad. The wind began to blow on June 22 and vessels' speeds were increased.

The admiral changed direction towards the south-west in order to reach the equator and sail to coasts of the New World. As the weather was very hot, the expedition was obliged to sail on 10⁰ north latitude.

The expedition discovered three hills on July 31 owing to the seaman by name Alonso Peres and Columbus named that place Trinidad. Seamen reached the Cape of Sand (the Cape Icacos located in the south-west of Trinidad) on August 1. There was a land area in the west – it was rank of the Orinoco River. Columbus named that territory Garcia. The Trinidad Island was at two liq (12 km) away from that territory.

Vessels came to the Boca de la Sierpe (“Mouth of the snake”) by means of the wind. The water was fresh there. The admiral sailed towards the north and discovered the second strait between the continent and Trinidad and named it Bocas Del Dragon (Mouths of the dragon). After a while, a lot of boats of Hindus approached the vessel. Columbus described it in his diary: *“Aborigines approached our vessels and tried to talk to us. Big gold accessories were*

hanged on their necks. Some of them had pearls on their wrists. They said that, pearls are found in the north”.

Spaniards were greeted by Hindus sincerely. The admiral sent the smallest caravel “*Corres*” to the western coast of the Gulf of Paria in order to learn whether the land was a continent or not. But they were obliged to return from there.

After it, vessels passed ranks of Amana, San-Juan and Rio-Grande and reached the fourth bay. The water was very fresh there.

After Columbus entered the Gulf of Paria, he found a lot of fresh water there. Such water can't be in the island. It proved that he had discovered a continent. The admiral wrote following sentences on August 15 in his diary: “*Is this a continent? Is this a new world?*

I think it is an unknown island and there is a lot of fresh water here. I think the river comes from unknown territory located in the south”.

Columbus continued sailing towards the west. Then he continued travel towards Espanola. He met his brother Bartolommeo on the way to Espanola. They entered the port of the new capital located in the rank of the Osalia River.

Columbus made his greatest discovery during his third travel. He discovered a huge land area. As the admiral didn't want to attract attention of people to that territory, he

described it as an archipelago in his diary. I'm sure that, the well-known traveler made this mistake deliberately. The professional seaman Columbus knew that the Orinoco River couldn't be in any large island.

The hard situation occurred in Espanola waited Columbus brothers. Colonists had risen in rebel under the leadership of Francisco Roldan. Number of rebels was enough large. Francisco Roldan had occupied center of the island together with Hindus kasic by name Guariones. Bartolommeo attacked rebels with his soldiers.

Columbus's vessels were taken by Roldan. They were obliged to give food stocks to rebels. The admiral prepared report about results of the third travel, send it to Spanish monarchs and asked help for suppression of rebel. But that report wasn't taken into consideration. Noblemen wanted to use that rebel against Columbus.

The admiral's indecisiveness caused great problems for him. He asked Spanish monarchs to send someone to Espanola for stabilization of the situation. So, he introduced himself as an incapable person.

Monarchs decided to send the inspector by name Francisco Bobadilla to coasts of the New World. He reached Santo-Domingo on August 25, 1500. Then, Columbus

fought against one of Roldan's supporters Adrian de Moxica.

When Bobadilla reached the New World he saw that, seven rebels were hanged. It proved that, Columbus treated Spaniards' cruelly. The younger brother of Columbus Diego didn't agree to give five rebels, who would be murdered, to Bobadilla. So, Ch. Columbus and his brothers were arrested by the representative of Spanish monarchs.

Columbus was sent to Spain at the beginning of October of 1500 in order to be judged. He reached the port Cadis at the end of the month. People, who respected the traveler, tried to help him. The admiral could pass this "exam" successfully.

Columbus was set free as his supporters mentioned that he was guiltless and monarchs were obliged to restore his rights and privileges. He introduced written and verbal explanations about the anarchy occurred on coasts of the New World. His guiltlessness was almost proved. But monarchs were dissatisfied with Columbus's activity in Espanola especially for financial reasons.

Monarchs earned less at the result of the expedition. Then, the Portuguese traveler Vasco da Gama discovered the seaway to India (1498). He could establish commercial relations with India and brought valuable spices to his

motherland. Thus, Spaniards began to understand that Columbus had discovered unknown territory.

When monarchs thought that, Columbus hadn't discovered India, they liquidated his monopoly on discovered lands in 1499. Most colleagues of the admiral used this opportunity and began to organize expeditions to those territories.

Surely, such expeditions should be led by experienced travelers. Alonso de Okheda and Juan de la Cosa were chosen for this purpose. They were sent to the south of the Caribbean Sea, discovered Curacao, Aruba and Bonaire (these islands belong to Holland at present) in 1499 and found plenty of pearls there. Okheda didn't give any information to the admiral about those discoveries.

After a while, the participant of Columbus's three travels Pedro Alonso Nino (Peralonso) could get permission to organize expedition to coasts of the New World. He discovered the Margarita Island, Araya Peninsula and Cariaco Basin located in the north of Venezuela and brought 38 kg pearls. After it, Vicente Janez Pinson discovered the San Roka Cape of Brazil (5^0 south latitude) on January 26, 1500 and Amazon River after several days. Reports on those discoveries were given to monarchs and Columbus knew nothing about them.

After Bobadilla's report, Nicolas de Ovando was appointed ruler of Espanola. Though according to Bobadilla's laws, Hindus working in mines got salaries, gold and pearls were brought from Espanola and Coast of Pearl to Spain. Hundreds of migrants went to Anthill Islands in order to gain easy profits. 30 vessels took 25 thousand people to Santo-Domingo under the leadership of Ovando in April of 1502. Mass annihilation of aborigines was started after mass migrations were organized to the New World.

Christopher Columbus's fourth travel

It became more difficult for Columbus to organize new expedition after the third travel. Other expeditions were organized under leadership of different sea travelers. Nicolas Ovando was appointed a governor of India on September 3, 1502. He wasn't a vice-king, but Columbus also hadn't that title, though the Spanish king hadn't repealed it.

When Columbus was obliged to stay in Spain, Rodrigo de Bastidas discovered the north-western coast of South America and lands between Venezuela and Darien.

Portuguese sea travelers Cortereal and Pedro Cabral discovered the Newfoundland Island of North America and Brazil (April 22, 1500).

Though Columbus couldn't find vessels for the fourth travel, he knew that, 30 vessels - 24 caravels, 5 naos and a bark - had been sent to the New World on February 13, 1502.

Columbus made new plans in order to deceive monarchs. As it was mentioned above, Rodrigo de Bastidas had discovered Darien. Columbus told monarchs that, lands discovered by Bastidas might be part of Indochina and there should be a strait for going to India. He offered to find that strait and to bring a lot of spices from India to Spain. That idea looked persuasive. Monarchs could appoint other captain for his mission, but they needed Columbus's navigation experience, knowledge and skills of carrying out calculations. This mission could be overcome only by Columbus.

It was prohibited for Columbus to travel to Espanola before the fourth travel. He could visit it only on his way back to Spain in case of necessity.

At last the traveler could get four vessels with 140 seamen for the next expedition. The expedition left Cadis on May 11, 1502. Seamen reached the Port Artsil in two days

and sailed towards Gran Canaria. They came to Anthills from Canaries on May 25 and approached the Martinique Island on June 15. It was the shortest passage of Columbus. Then, Columbus passed Small Anthill Islands and approached Santo-Domingo on June 23. But the governor of the island Ovando didn't allow him to enter the port.

Columbus didn't leave the port. He mentioned that, tornado would break out soon, so, the governor should keep vessels in a safe place. But Ovando didn't listen to the well-known traveler and sent 30 vessels to the Spain with a lot of goods. Columbus's enemy Bobadilla was in the main vessel. Tornado broke out as soon as vessels left Espanola. 20 vessels and 500 people went down. Bobadilla also died at the result of that tragedy. Escaped vessels returned to Santo-Domingo. Only the smallest vessel carrying 4000 golden peso hadn't damaged at the result of tornado.

The governor of Espanola was guilty as he didn't listen to Columbus. But he accused Columbus of bewitching. The well-known traveler took damaged vessels to the safe place and rescued seamen. He approached Puerto-Escondido secretly in order to restore vessels. Columbus reached Honduras on July 27. The expedition continued travel towards the east without having a rest.

Ramiz Daniz

Columbus declared discovery of Honduras on August 14. The expedition reached the La Huerta Island of today's Costa-Rica on September 25. Aborigines called that place Kvirekvetana. There Columbus could get a lot of gold by means of copper.



Columbus is in Honduras

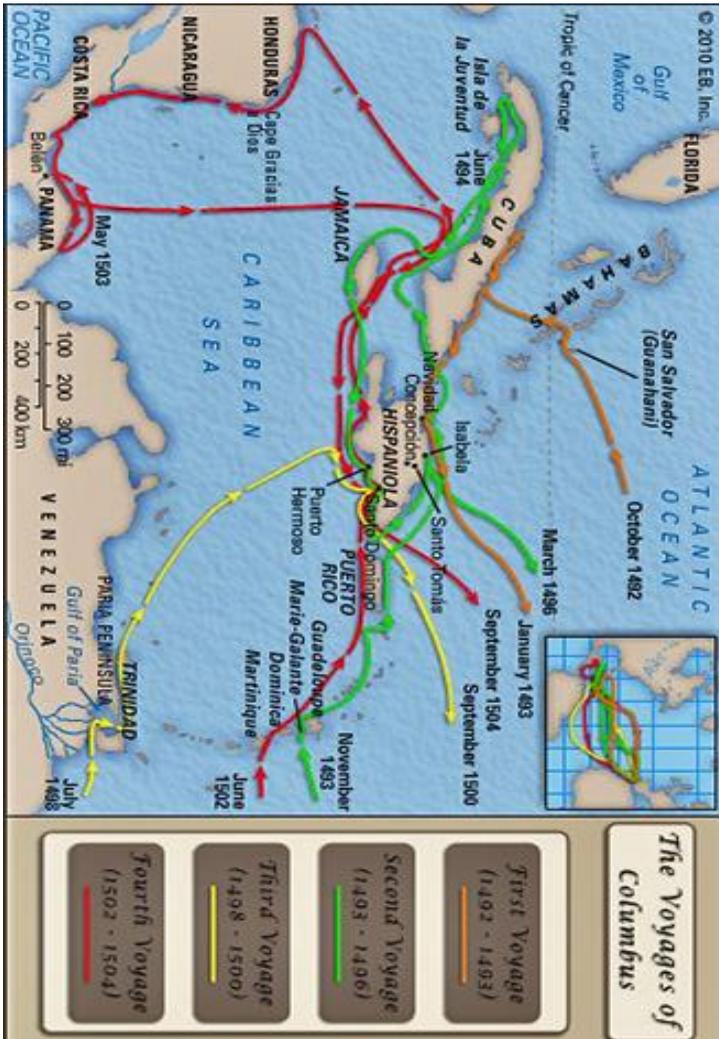
Columbus reached the coast of Viroqua on October 17. His grandson got the title Herzog of Viroqua in 1536 and

Columbus's kin still has this title. As the weather was bad, Spaniards spent three months in Viroqua. Columbus reached to Puerto-Belo with great difficulties on November 2.

Seamen continued travel on November 9 as soon as the weather became milder and casted in the Bay Retreat on November 26.

The Columbus brought vessels to the narrowest part of Panama. They needed to overcome several kilometres in order to reach the Pacific Ocean, but seamen hadn't forces to continue the travel. According to some scientists, Columbus thought that, there was Chine and India on the other side of Panama. But to my mind, Columbus knew that, there was a large water basin separating new continent and Asia on the other side of the isthmus. Perhaps, he planned to discover that water basin during his fifth travel.

Spaniards casted in the rank of a river on January 6 and admiral named that place Belen. He founded a settlement and castle there. His purpose was to find a lot of gold. But seamen could find very little gold. Columbus knew that, he wouldn't be able to overcome that mission without additional assistance of Spain. He wanted to leave Bartolommeo in Belen and to go to Spain. But Columbus had weakened during the last travel.



Route scheme of Columbus's four travels on the Caribbean Sea

Bartolommeo didn't give up looking for money. He did his best for finding more valuable metals. Spaniards founded the settlement Santa Maria de Belen besides looking for gold.

They left Belen on April 16, 1503 with three caravels. They burned the fourth caravel as it had rotted. Another caravel was burned on April 23 in Porto-Belo. Other two caravels also had damaged. Spaniards had only one boat for approaching the coast.

Two vessels began to sail towards the north on May 1 and approached coasts of Cuba on May 12. Vessels leaked and it was impossible to go to Espanola with them. So, Columbus began to sail towards Jamaica and reached the Bay Puerto Santa Gloria on June 25.

That port was convenient for Spaniards. There was fresh water and village of Hindus and climate was mild. The expedition consisted of 116 people and they had to be provided with food. Brave Diego Mendes went to the village of Hindus and wanted food for his friends. Besides it, he went to Ovando and informed him about the admiral's situation. But the governor kept Mendes in his camp for seven months instead of helping the expedition.

After three vessels came to Santo-Domingo from Spain, Mendes could send one of them to the admiral. Then, he

went to Spain in order to take Columbus's letter to monarchs.

Columbus's expedition left Jamaica on July 29 after staying there for a year and a day and reached Santo-Domingo on August 13. Columbus, his son Ferdinand and his brother Bartolommeo and 22 seamen began to sail towards Spain. They could reach the Port San-lucar de Barrameda after 56 days – on November 7.

State officials didn't greet Columbus after the fourth travel and he wasn't invited to the palace.

**Historical achievements of Christopher
Columbus weren't appreciated by monarchs
as necessary**

As the situation was hard in the palace, the admiral wasn't invited there. Columbus's supporter Isabella was dying. She died on November 26 - 19 days after Columbus returned from the travel. So, the independent activity of the well-known traveler came to the end.

I described the chronology of Columbus's four travels in order to show that, coasts of the New World weren't discovered easily.

Columbus discovered many islands as Montserrat, Antigua, Nevis, Saint-Kitts, Sint Eustatius, Saba and Santa-Cruz between November 11 and 13 after the Guadeloupe Island was discovered. There were sowing areas in Santa-Cruz. Columbus decided to find a guide in this island in order to reach Espanola and discover other important islands and so, sent the boat full of people and weapons to the island. Spaniards could take several women and boys. But they met with Caribbean people's canoe when returned back. Caribbean people were surprised as saw the great vessel of seamen. They couldn't imagine such great vessel. Columbus could see their surprises. The admiral knew that it wasn't strange for Asians to see sailing vessels.

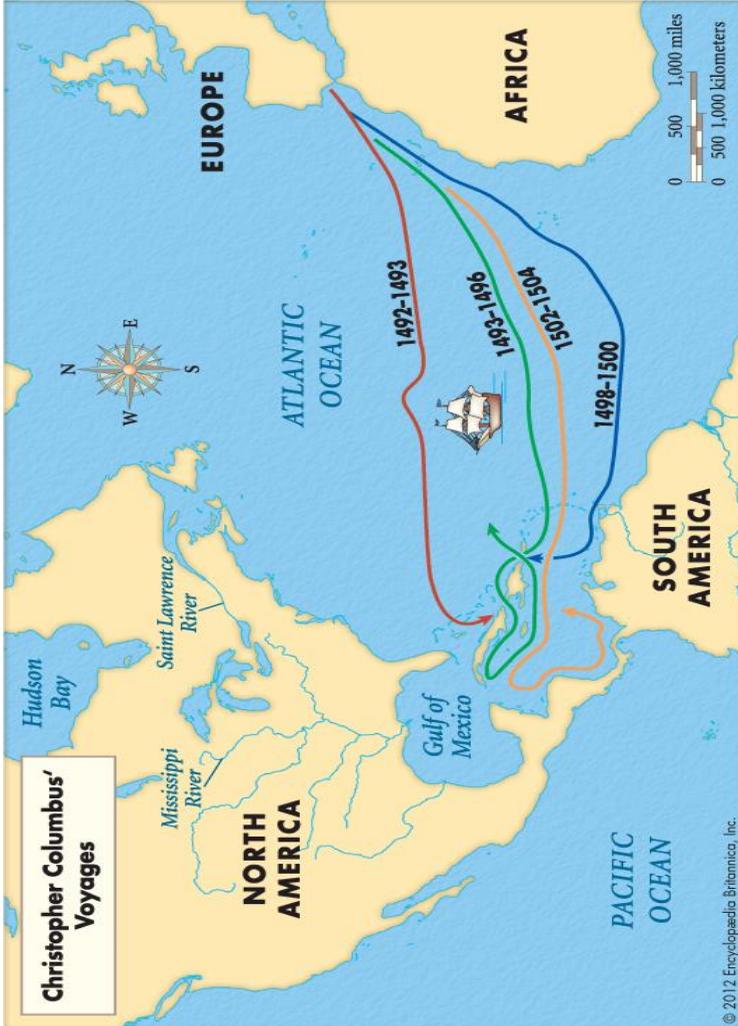
Besides being surprised, aborigines were frightened and thought that, Europeans had come from the other world. The doctor of the expedition Diego Alvarez Chanca described meeting of aborigines of Santa-Cruz and Spaniards: *“As Hindus were surrounded by the boat and vessel, they decided to resist. There were four men and two women in Hindus' boat. We were 25 people. Hindus began to shoot arrows. Women weren't worse than men. They wounded two*

of us. If we should try to drown them, our losses would be more than theirs. Aborigines lied down and continued shooting... We could take prison only one of them after wounding him by means of spear”.

It proves that, Hindus did their best for their freedom. Columbus understood that, it wouldn't be easy to occupy their lands. Really, Caribbean people were very brave. But Spanish hidalgos could overcome them afterwards. Hindus, who first respected Spaniards, were annihilated. Number of aborigines of Anthill Islands began to decrease. Only 500 of 100000 people survived between 1492 and 1548 in Espanola. It isn't just to accuse Columbus of these tragedies. The well-known traveler wanted to civilize the Old World.

The continent located on the other side of the ocean was discovered in 1492 owing to the skills of Columbus. The admiral could use Passats as the experienced navigator. If another seaman could discover coasts of the New World, he couldn't return back safe and sound. It was very difficult to find Passats and return to Spain after discovery of Haiti and Anthill Islands. So, expeditions could die in the ocean.

America couldn't be discovered either in 1492, or in 50-60 years after that time without Columbus. Improvement of



Route scheme of Columbus's four travels on the Atlantic Ocean

navigation equipments, development of the navigation system and determination of geographical coordinates on the open ocean were necessary for discovery of the new continent. If he couldn't return from the first travel safe and sound, coasts of the New World wouldn't be discovered in time. Then, number of travelers traveling to the west of the Atlantic Ocean - Vogado, Thelles, Estreita, Ferdinand van Olmen and Christopher Columbus - would increase and number of travelers traveling to dangerous places would decrease significantly.

It is interesting that, 1492 - the year when Columbus started his travel - was successful in the history of geographical discoveries of the global importance. The sea traveler of Portugal Bartolommeo Dias discovered the Cape of Good Hope in 1488. Though the way to India was open, the seaway hadn't been discovered yet. If Vasco da Gama would discover the way to India before 1492, but not in 1488, Spanish monarchs wouldn't allow Columbus to start his travel. It means that, Columbus could accelerate discovery of the New World for 100 years by passing ahead of Vasco da Gama for 6 years. So, the great traveler could create a mystery in the field of geographic discoveries by making that discovery.



Old Columbus

We wouldn't have chance to know Francisco Pissarro, Hernan Cortez, Vasco de Balboa, Alonso de Okheda, Pedro Alonso (Peralonso) Nino, Vicente Janez Pinson, Juan Dias Solis, Francisco Hernandez Cordova, Alvaro Nunez Cabeza de Vaca, Martin Hernandez Enciso, Andres Urdaneta, Diego Lepe, Alonso Velez de Mendoza, Rodrigo de Bastidas, Sebastian Ocampo, Juan Ponce da Leon, Francisco de

Orellana, Juan de Grijalva, Gaspar Espinosa and other travelers without Christopher Columbus.

Columbus travelled to coasts of the New World for four times and investigated different places of the Caribbean Sea each time. The admiral discovered Haiti, Cuba and Bahamas during his first travel (1492-1493), Puerto-Rico and Jamaica located in the north-east of Small Anthill Islands during the second travel (1493-1496). Besides it, the admiral investigated the southern coasts of Espanola and Cuba. Columbus discovered the southern part of Small Anthill Islands, northern coast of the continent and rank of the Orinoco River during his third travel (1498-1500). He discovered Dominica and Martinique islands and eastern coasts of the Golden Castilia during the fourth travel (1502-1504). Thus, Columbus completed discovery of important places of the Caribbean Sea.

When he returned to Spain in 1504 after his last voyage, Columbus was fifty-three and in poor health. Inflammation of the eyes sometimes made it impossible for him to read and he suffered agonies from what was once diagnosed as gout or arthritis, but is now suspected to have been something called Reiter's syndrome. He went to Seville and waited in vain for a summons to court. His patrons King Ferdinand and Queen Isabella had doubts about his mental

condition and had no intention of giving him any official position, and Isabella was in any case only three weeks away from her death.

Columbus lived most of his last eighteen months unhappily in Valladolid, comfortably off and cared for by his family, but in an increasingly disturbed state of mind and ceaselessly agitating for the official recognition, money and prerogatives that had been promised him. He managed a brief word with the king at Segovia in 1505, struggling there on mule-back, but Ferdinand was noncommittal and Columbus was mainly represented at court by his elder son Diego, a member of the royal guard.

On May 20th Christopher Columbus took a sudden turn for the worse. His sons Diego and Ferdinand, his brother Diego and a few old shipmates were at the bedside when a priest said Mass and the great explorer was heard to say that into God's hands he commended his spirit. After the funeral at Valladolid, Columbus was buried in the Carthusian monastery of Santa Maria de las Cuevas in Seville. The body was exhumed in 1542 and taken to Santo Domingo in the Caribbean, where it remained until the island was ceded to the French in the 1790s, when it was moved again, to Havana. After the Spanish-American war of 1898 and

Ramiz Daniz

Spain's loss of Cuba, Christopher Columbus's remains were at last returned to Spain and buried in Seville Cathedral.



The death of Columbus. Lithograph by L. Prang & Co., 1893.

The traveler could realize his fifth travel to the New World if didn't die. Columbus had rights on lands discovered by him. But he had deceived his supporters Isabella and Ferdinand. So, lands discovered by him were

named in favour of other traveler at the result of it. Coasts of the New World had to be named “*Columbia*” in favour of the Genoese seamen instead of “*America*”. Columbus noted results of his travels in the diary, which was prepared for being given to the financier Luis de Santangel, and described discovered lands as parts of Japan, Chine and India. That report was published for thirty times and accelerated organization of the next expedition. But it helped Amerigo Vespucci in appropriation of Columbus’s success. Vespucci could achieve naming discovered continent “*America*” with helps of Columbus’s opponents and the king Ferdinand.

Discovery of America by Normans and indifference concerning that discovery

Toscanelli and Columbus were aware of Tusi’s scientific achievements. But did they know anything about expeditions of Normans (Vikings) organized towards the north-eastern coasts of America?

Columbus had read a lot of books on history and geography when he prepared his project. He wanted to

know how long he had to sail towards the west in order to see a huge land area in the west of the Atlantic Ocean. Did anybody tried to sail to the west of the Atlantic Ocean besides Vogado and van Olmen? The professional navigator had read annals of Scandinavian historians besides works of Marco Polo and other travelers. Surely, he was aware of Vikings' travels towards the north-western part of the Atlantic. But Vikings' expeditions weren't interesting for most travelers. The reason was the map made by the Dane cartographer Claus in 1427. Claus had described Greenland and "*Vinland*" united with the north-western part of Europe on his map. Thus, land areas were obstacles for seamen in the northern part of the Atlantic Ocean. Besides it, great parts of those lands were described in Poles. It means that, it was impossible to sail to those lands.

It should be noted that, Normans had traveled to costs of America 500 years before Columbus. I'll use historical sources in order to lighten this issue.

The sensational article was published in the newspaper "*New-York times*" of the USA on October 10, 1965: "*Scientists of the Yale University made a great discovery in the field of cartography – the map of coasts of the New World made by Leif Ericson in XI century was found*".

The map was also published in the newspaper. Experts determined that, the map had been made in 1440 – 50 years before Columbus’s first travel.¹

The Irish annalist of the middle ages Dicuil wrote: “A group of Irish monarchs went to Spain at the end of VIII century and some of them stayed there”.

One of Viking leaders Naddod was lost at the result of storm in 867 when he traveled from Norway to Faroe Islands. He approached an island covered with snow by accident and named it Iceland.

Another group of Vikings went round Iceland under the leadership of Gardarin and learned that, it was located on the island. Erik Blonde left Iceland in 981 or 982 and discovered Greenland.

Normans established settlements in lands discovered in the north-eastern part of the Atlantic Ocean and informed the Pope about it. As welfares of new colonies were improved, the Pope included Greenland in his eparchy in 1112 and appointed Erik Gnuffson the first bishop of the largest island of the world. Several churches were established in the island. The last bishop of Greenland Alf

¹ Гуляев В. И. Доколумбовы плавания в Америку: Мифы и реальность. «Международные отношения», Москва, 1991. стр. 10

died in 1377. So, colonial possessions began to decline there.

According to the source of Iceland of 1347, Vikings often visited America 347 years after its discovery.

But there wasn't any information in countries located in the south of Europe about lands located in the west of Greenland. Thus, results of mentioned discoveries were known only in the northern countries.

The historian R. Henning wrote: "Discoveries of Normans made in the western part of the ocean were known in the north of Europe only. Other countries knew nothing about them. Even there weren't exact proofs about existence of countries in the west of Greenland".¹

That's why Christopher Columbus didn't know anything about Normans' expeditions organized towards the north-west of the Atlantic Ocean. Otherwise, he could take Vikings' routes into account during preparation of his transatlantic project. But it wasn't real to use those routes for Columbus. They were very cold and dangerous for Spaniards.

¹ Хенниг Р. Неведомые земли. Том II. Москва, 1961. стр. 353

**Achievements of Columbus in fields of
geography and history aren't appreciated
by the humanity**

New ship constructions were made, navigation equipments were improved and new maps of coastlines were made. There was a convenient ground for great geographic discoveries.

Seamen were interested in ways to India, China and Japan, merchants and European monarchs were interested in spices, valuable metals and silk clothes. There were two ways towards mentioned countries: the land way extending towards the east and seaway around Africa. The first way was dangerous for merchants and supporters of expeditions at the end of XV century. That way, which was called as "*Silk way*", was under the control of the Ottoman Empire. The second way hadn't been discovered completely. Navigation experts of Portugal tried to discover that way and organized preparation of maps, which included outlines of Africa and Arabian Sea.

The Great Venetian map was especially important for seamen and scientists. The eastern way to India had been described on that map clearly. But P. Toscanelli had described India in the west of Europe and mentioned that, it

was possible to go to Japan, India and China by using the western way. The spherical form of the Earth was described on the globe made by the astronomer and traveler of Nurnberg Martin Behaim in 1492. But Columbus hadn't seen that globe before his first travel.

Even scientists of the ancient time mentioned that the Earth was spherical. But travelers didn't try to apply this idea.

Rudolf Balandin wrote in the book **“100 greatest geographical discoveries”**: *“Columbus had a great role in discovery of the Earth's form, existence of settled lands in Atlantic (Plato's Atlantic) and possibility of going to the east by sailing towards the west. It was mentioned by Eratosthenes and Strabo accepted his ideas.*

*Columbus described the Earth as a pear unlike Ptolemy and Kosma Indopoklov. The traveler called upper part of the pear “Protuberance of Heaven” and had discovered that part during his third travel. It was considered the rank of the Orinoco River”.*¹

Columbus discovered mentioned place (rank of the Orinoco River) during his third travel (1498-1500) and called that place “heaven” of the Earth.

¹ Баландин Р. К., Маркин В. А. Сто великих географических открытий. Москва, «Вече», 2000 стр. 68-69

Columbus became very popular in Spain and other countries. His enemies tried to disgrace the traveler. Even they accepted Amerigo Vespucci as the discoverer of coasts of the New World.

Valery Gulyayev, who was known as the author of a lot of scientific works, wrote in his book **“Travels to America before Columbus, myths and realities”**: *“Columbus had never been on coasts of North America. He could discover islands of the Caribbean Sea and part of the eastern coastline of Central America (Honduras, Nicaragua, Costa-Rika and Panama) during his fourth travel in 1502. North America was discovered by the English traveler John Cabot.*

*Columbus thought that, he had discovered India. So, he is considered one of main figures of the age of great geographic discoveries. The genius Genoese traveler established intensive relations between Old and New Worlds”.*¹

If Columbus couldn't organize travels towards the west of the Atlantic Ocean, there wouldn't be any relation between the Eastern and Western Hemispheres. The only

¹ Гуляев В. И. Доколумбовы плавания в Америку: Мифы и реальность. «Международные отношения», Москва, 1991. стр. 10-11

mistake of Columbus was declaring discovered lands as the eastern part of Asia.

I want reemphasize relations between Nasiraddin Tusi, Paolo Toscanelli and Christopher Columbus. As it is known, Columbus lived in Portugal and its colonies temporarily and was interested in navigation. His brother Bartolommeo was a cartographer wherever he lived. The most educated merchants learned that profession as it had become popular in the Apennine Peninsula.

Cartography and map trade were considered profitable occupations in European countries then. Bartolommeo Columbus used to buy and sell modern and ancient maps. Probably, he had found copies of maps made during the age of Macedonian Isgandar.

Knowing navigation and coastlines was very important for seamen sailing across the Mediterranean Sea. There was strong competition between Catalan and Italian experts in the field of cartography. Bartolommeo got acquainted with cartographers, geographers, archivists and library directors in several cities of Italy when looked for maps. He got acquainted with Toscanelli in Florentine. As it was mentioned above, the well-known scientist leaded N. Niccolini's library besides carrying out other works. Of

course, there were a lot of materials about geography and astronomy.

In general, Toscanelli was known as well-known expert of geography and everybody tried to be his friend. Besides Christopher Columbus, Bartolommeo Columbus also visited the library leaded by Toscanelli when he was in Florentine and analyzed necessary materials kept there. He could be indifferent to strange maps kept in the library as exponents. Bartolommeo was especially interested in the map, which described outlines of the land located in the west of the Atlantic Ocean and wanted to get the map made in Maragha observatory. I think Bartolommeo informed Christopher about mentioned map and he copied it. I have proved that, Columbus had discovered coasts of the New World by means of the map made by the well-known Azerbaijani astronomer and mathematician Nasiraddin Tusi.

Though Columbus could do Spanish monarchs' biddings, he wasn't rewarded by them and the world community as necessary.

But the traveler's services were appreciated afterwards. There is a country, river, state etc. named in favour of Columbus.

The Norwegian archaeologist Kh. Ingstad found settlements, where Normans lived in X-XI centuries, in 60th

years in the north of the island of Newfoundland and it proved that, Europeans had traveled to the New World 500 years before Columbus and settled there. So, the president of the USA Lyndon Johnson accepted a law about celebrating the 9th of October as the day of Leif Ericson in 1964. And Leif Ericson began to be known as the discoverer of coasts of the New World.

Of course, the day of Columbus is also celebrated. But the day of Leif Ericson is celebrated three days before it. Even supporters of Columbus held demonstrations on October 12, 1965 in order to protest it.

I can't accept the decision of Lyndon Johnson. America was discovered by Columbus on October 12, 1492. But the date of Vikings' discovery is unknown. I think only one day may be celebrated as the day of discovery of America and it should be the 12th of October!

Solution of most problems concerning Columbus

1. Most authors thought that, Columbus had listened Toscanelli's advices when he was in Italy. He didn't apply those advices only in several principles. But he didn't agree with some ideas. According to Toscanelli's calculations, measurements of the Earth were smaller than real measurements (according to calculations of the Greek scientist Eratosthenes, the length of the Earth's outline was 43625 km). If Columbus believed in Toscanelli, he would sail towards Eastern Asia through the Atlantic Ocean. Columbus declared that, he had discovered Eastern Asia though knew that, discovered territory was the land, which was unknown in the Old World according to Tusi's calculations. But he deceived himself when tried to deceive Spanish monarchs.

He kept it secret until his death and thought that, his defenders will lay bare the truth after his death and the world community would be aware of Columbus's discoveries.

2. I think that, the well-known Azerbaijani astronomer and mathematician Nasiraddin Tusi had a great role in discovery of coasts of the New World. He had drawn

outlines of America and calculated its coordinates with the help of stars and celestial bodies. Columbus had determined according to his calculations that, there was a huge territory, which was unknown in Europe, in the other side of the Atlantic Ocean at about 5500-6000 km and he organized expedition towards that territory. Really, Tusi had described the huge territory located in the west on the map made in Maragha observatory. It shouldn't be forgotten that, all geographic measurements were determined with the help of the Moon, Sun and stars during ocean passages. It wasn't difficult for Columbus to find mentioned territory as he was an experienced seaman and professional astronomer.

3. Why did Columbus describe the territory he discovered as Eastern Asia? May be, he didn't want people to move to coasts of the New World. Otherwise, Spaniards could appropriate discovered territories gradually. It contradicted Columbus's plans. But what was the difference between Eastern Asia and New World? Why wouldn't Eastern Asia be appropriated? Columbus could be considered the heir of territories he discovered, according to the contract signed with rulers of Spain Isabella of Castilia and Ferdinand of Aragon. Discovered territories were known as eastern coasts of Asia. It means that, if the expedition would discover another unknown territory,

Columbus would lose monopoly of organization of expeditions towards those territories. Then, other sea travelers would organize expeditions towards mentioned part of the Atlantic Ocean.

4. Columbus knew that, the territory he looked for was unknown for Europeans and besides it, he knew the distance between that territory and Pyrenean peninsula. The rebellion of seamen occurred near coasts of the New World proved it as the commander of the expedition asked for only there days in addition. As it was mentioned above, Guanahani Island of Bahamas was discovered twenty six hours after added period. Thus, Columbus knew that, huge territory of the Western Hemisphere wasn't far away. The unknown territory should be located in the east of the expedition's location according to Tusi's map. May be, Columbus thought that, the route of the expedition hadn't been determined precisely. So, he thought that, the unknown territory described on Tusi's map wasn't in the east. Every day after October came, Columbus was sure that, he would meet with the land.

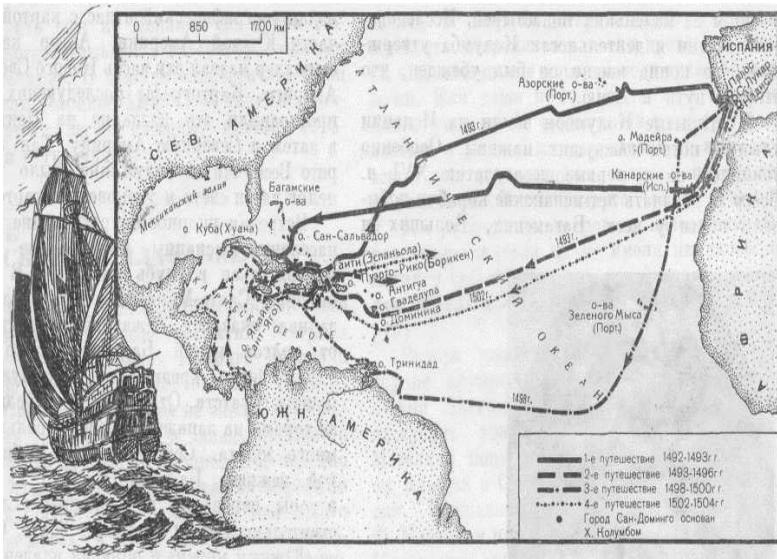
5. According to the Professor H. Mammadbayli, who investigated Tusi's activity, astronomers and geographers of that time were aware of existence of America in the Western Hemisphere. It means that, the map made by Tusi in

Maragha wasn't kept as the personal property of Polos for a long time after being brought from China to the Apennine Peninsula. The map was taken out of Venetia after a short time and was found by people interested in astronomy and geography. People, who analyzed the map, thought that, the coastline described in the western coast of the Atlantic Ocean was Far Eastern Asia. Why did they think so?

Progressive-minded people of that time believed that, the Earth was spherical. Before Columbus's travel people thought that, the Old World consisted of three continents. It was difficult to imagine existence of another continent. So, only the eastern part of Asia could be situated in the west of the Atlantic Ocean. Any huge territory located in the east of the Pacific Ocean was considered western part of Europe. Thus, if Tusi's map was known by experts before being in the library of Florentine, that territory was considered Asia. P. Toscanelli thought that, mentioned territory was remote eastern part of Asia. So, the Earth's measurements were considered very small.

6. Columbus believed that, the territory located in the west of the Atlantic Ocean, which was described on Tusi's map, was unknown territory. But he kept it secret for some reasons. If he would base on the map made by the Florentine scientist, he had to sail towards the west through

35-40° north latitudes and he would reach Cipango then. According to maps of that time, Japan and Chine were situated at 35-40° north latitudes. But Columbus changed his route towards south-west when he passed the Atlantic Ocean and preferred 20-25° north latitudes. So, the expedition met with Bahamas (Guanahani Island).



7. Columbus usually thought about the future of geographical points he discovered. But he didn't use to explain essences of most discoveries to members of expeditions and its supporters.

The admiral knew that, there was a huge water basin at several miles towards the west and it separated the continent he would discover from Asia when he was in Belen. So, the well-known sea traveler understood that, calculations of the Greek scientist Eratosthenes concerning the Earth's measurements were right.

Besides it, Columbus used to talk to indigenous population when he approached shores and asked where large gold deposits were. Probably aborigines of Panama had explained him that, gold was mostly brought from Biru. So, it should attract the admiral's attention and surely, he would plan to visit that country. According to the history, Martin Enciso Hernandez, Diego de Nicuesa, Vasco Nunez de Balboa, Pedro Arias Avila (Pedrarias) and Francisco Pissarro heard a lot about Biru when they were in Panama. Columbus had to save his authority over Spanish monarchs. Surely, he had shared his ideas with his brother Bartolommeo.

Columbus knew that, the coastline located in the west of the Caribbean Sea would help him to realize his future plans and his children would be the richest people of Spain. The admiral declared his son Ferdinand heir of Belen and entrusted his heirs with the discovery of Biru. But

Columbus's family lost their monopoly on the Caribbean Sea and Biru was discovered by Francisco Pissarro in 1532.

8. It is possible to prove that, scientists, who wrote that, Columbus had discovered part of Asia, were wrong. As it was mentioned above, Columbus had enough information about clothes, traditions and races of population of Japan, Chine and India when he started his travel. He had discovered Haiti, Cuba and Bahamas but hadn't met with those populations.

If geographers were right, the Genoese admiral would return to Spain after he discovered Bahamas. But, Columbus travelled to coasts of Central America and investigated very large territory. That territory didn't resemble Asia. As Columbus was a skilful geographer, he couldn't mix Asia and coasts of the New World up. If the admiral did it, he couldn't overcome the expedition towards the west of the Atlantic Ocean. It was impossible for a seaman, who had made such mistake.

9. Amerigo Vespucci tried to appropriate Columbus's victory. The Florentine cosmographer had prepared for this purpose for many years.

Alonso Okheda had seen the map of the Gulf of Paria and coasts of Pearl (the north-eastern coast of South America) sent by Ch. Columbus to Spanish monarchs before the

Ramiz Daniz

travel to the Caribbean Sea. Probably, Vespucci also could look through that map. He was eager to see materials concerning any part of the New World. Though there weren't any coordinates on the map, it was enough to see coastlines for professional navigators.



Columbus's expedition passes the Atlantic Ocean

After getting acquainted with Columbus's map, Vespucci began to spread news about his false "first" travel (1497-1498) in Europe. He mentioned that, he had investigated north-western coasts of the Caribbean Sea. Vespucci used admiral's mistake. Columbus had declared after his third travel that, he had discovered eastern coastline of Asia. But Vespucci declared that, he had discovered unknown continent in "1497". Nevertheless, nobody had heard anything about the expedition mentioned by the Florentine cosmographer.

10. Columbus discovered Cuba after Espanola during his first travel and determined that it was at 42^0 north latitude. The error made by the well-known sea traveler was 20^0 . After Anthill islands were discovered, it turned out that their geographic coordinates had been determined correctly. Then, why did he make error of 20^0 when determined geographic coordinates of Cuba? The well-known sea traveler had described territories he discovered during his first travel with wrong coordinates in order to keep them secret. Otherwise, Spanish monarchs could organize expeditions towards the Caribbean Sea independently. That's why Columbus leaded great navy during his second expedition and could easily reach Haiti. Geographic coordinates of other geographical points discovered during

expeditions were fixed correctly. Alonso de Ojeda, Pedro Alonso (Peralonso) Nino and Vicente Yanez Pinson led different expeditions and travelled towards the huge territory located on the southern coast of the Caribbean Sea without admiral's assistance and investigated those territories.

11. Columbus risked his life and revealed an important secret out – he proved that, the huge territory located in the west of the Atlantic Ocean wasn't eastern part of Asia, it was the fourth continent of the Earth. He proved that, the territory described on Nasiraddin Tusi's map made in XIII century on the other side of the Atlantic Ocean was unknown territory. So, investigations carried out by the Azerbaijani scientist in Maragha observatory resulted in real discovery.

Columbus should be grateful to Tusi for his success and probably, the seaman had kept the scientist's map until the end of his life. Because Tusi had described the territory located on the other side of the Atlantic Ocean together with its coordinates, divided the Earth into 24 meridians and mentioned that the first meridian was near the Atlantic Ocean, determined that, storms, cyclones and tsunamis weren't caused by winds, they were caused mostly by the

Moon circulation. Those investigations were very important for geographers and navigators.

Columbus could prognosticate the weather in accordance with those results. He asked to stop the navy, which should be sent to Spain, for several days though the weather was fine when it reached Espanola in 1498, as he had prognosticated that, the weather would be stormy on that part of the Caribbean Sea. But owing to the stubborn governor, most vessels of the expedition were destroyed by the storm.

12. After the world community learned existence of the unknown continent on the other side of the Atlantic Ocean, it became necessary to name that continent. Vespucci was very prompt from this point of view. He tried to name that continent "*America*".

The main reason of it was as following – Columbus's children tried to get rights on discovered territories. Ferdinand of Aragon also wanted new continent to be named as "*America*". He had organized negotiations with Amerigo Vespucci about it. Usage of Columbus's name wasn't convenient for the Spanish king. If the continent would be named "*Columbia*", the admiral's children could get rights on discovered territories. It would result in the Spanish king's defeat.

13. The Florentine cosmographer could use the conflict between Columbus and Ferdinand.

The real career of Vespucci, who wanted to have fame, began when he participated in the expedition of A. Okheda. He used the opportunity as knew that routes and discovered coastlines of the travel would be kept secret. He introduced most discoveries made during the travel as his own successes. I described this event in “Coasts of the New World and ruse of Amerigo Vespucci”.

A. Vespucci began to be friend with well-known cartographers, astronomers, navigators and noblemen in Pyrenean Peninsula after his last travel (1503-1504). The German scientist Martin Waldsemuller also was among them. Probably, the German scientist defended the idea to name new continent “*America*” in 1507 in the circle of geography held in France in accordance with the “instruction” of Vespucci.

M. Waldsemuller demonstrated the second letter written by the Florentine cosmographer in order to prove the role of Vespucci in discovery of America. After it, people believed that, the new continent was first discovered by Vespucci in 1497. So, it was just to name the continent “*America*”. Everybody knew that, Columbus had reached the new

continent in 1498 and thought that, he had discovered part of Asia.

14. I came to the conclusion that, the second letter, which brought fame to Vespucci, included events happened during Columbus's second travel. He had written that, most of inhabitants of the north-eastern coasts of Brazil were cannibals. Nevertheless, there weren't cannibals in coasts of Brazil. Vespucci tried to popularize his letter by means of this lie.

Vespucci wrote following letter to the bank director of Florentine Laurence di Pierre Francesco after he returned from the "new continent" (1503): *"Those countries should be named "New World"... Most of ancient scientists thought that, there wasn't any territory in the south or there weren't any people there. But my last travel proved that, they were mistaken. I found new continent having milder and finer climate in the south"*.

These sentences became last argument for naming new continent "**America**". The discoverer of the new continent was A. Vespucci according to letters published in most Europeans countries. Thus, nobody remembered Columbus. The reason was as following: Columbus had declared territories discovered by him as East Asia. So, he confused the world community.

15. Vespucci knew what he wanted. Though he knew that, the new land was discovered by Columbus (1498) and Juan de la Cosa, who was a navigator of the expedition organized by Alonso Okheda in 1499-1500, could understand that, discovered land was a continent (1500), he didn't feel shy and introduced that success as his own. La Cosa gave corresponding information to the "Council of India" located in Seville. But Vespucci spread opposite thoughts in his popularized letter.

16. Vespucci was prompt from this point of view unlike Columbus and Okheda. Results of expeditions organized towards the New World were kept secret. The Florentine cosmographer knew it and published his lies in foreign countries. The German scientist Martin Waldsemuller demonstrated his scientific work "Introduction to cosmography" and his map of coasts of the New World in the circle of geography held in France in 1507. He had described new continent in his map as America. After it, scientists of that time began to name discovered continent "*America*".

17. Columbus was the most skilful and experienced sea traveler of his time and he knew how to use winds and flows on the ocean better than any seaman. He sailed to England, Ireland and Guinea and analyzed directions of

flows and winds blowing from the eastern part of the Atlantic Ocean to the west and made a diary about it before starting difficult travels. He could sail to the western part of the Atlantic Ocean by means of the Canary current and return back by means of flows blowing towards Europe on 30th and 40th parallels and near the equator.

Surely, Columbus could use the flow blowing near the equator during his first travel, but he used the northern current by basing on Tordesillas treaty (1494) signed between Portugal and Spain. Thus, Columbus knew all routes, but didn't want to share his knowledge with others. N. Tusi wrote that, there were several strong flows blowing towards the west and east on the Atlantic Ocean. Columbus used this necessary information professionally.

Though Columbus had great services in Spain as a traveler, the Spanish monarch Ferdinand didn't appreciate him as necessary. The traveler went to the king's temporary residence – Segovia in May of 1505, when he was ill. Though the king greeted him with great pleasure, didn't meet any of his wishes. Only the property located in Castilia was offered him. But he rejected that property and said that he wanted his rights to be restored.

The traveler made his will on May 19, 1506 and felt very bad on the next day. He had called the hero of the fourth

travel Diego Mendes and Genoese captain Fieschi to him. Christopher Columbus's sons and brother Diego were near him already.

The well-known sea traveler died in Valladolid on May 20 and none of state officials participated in his funeral. He was buried in the Franciscan monastery of Valladolid. His grave's place was changed afterwards. The traveler's corpse was taken to Seville in 1507 or 1509. He was taken to Santo-Domingo (Haiti) in the middle of XVI century. Columbus's brother Bartolommeo, son Diego and grandson Luis also were buried there.

Spain was obliged to give the eastern part of Espanola (Haiti) to France and so, the commander of the Spanish navy ordered to move the admiral's corpse to Havana. Columbus was buried there for the fourth time. But it wasn't his last place. Spain lost Cuba at the result of the war in 1898 and admiral's corpse was taken to Seville again. His grave is in the cathedral temple of Seville at present. The genius traveler's body could find peace after 390 years. But his soul is troubled yet. Columbus's services hadn't been appreciated as necessary.

Representatives of N. Tusi's and Ch. Columbus's kin live in different parts of the world at present. Columbus's heir is



Christopher Columbus's grave in Seville

the admiral of Spain and does his best for Spain as the well-known traveler. And Tusi's heirs live in Azerbaijan divided into two parts (independent Azerbaijan Republic and Southern Azerbaijan occupied by Iran in 1828). The scientist's grandchildren live in different cities of Azerbaijan and work in fields of science and culture. Most of his heirs have moved to Northern Azerbaijan (Ordubad and Baku) from Southern Azerbaijan and work mainly in the field of medicine. Briefly, native countries and whole world community should be proud of Ch. Columbus and N. Tusi.

Though the structure of the Earth, which is full of contrasts, was enigmatic for people of the middle ages, they sought to organize geographical discoveries in order to understand reality. Columbus could open the firm door consisting of ocean for discovery of the forth continent. But the key of the door was made by the Azerbaijani scientist Nasiraddin Tusi.

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Table of contents

Preface

Christopher Columbus born in Genoa and his travel to Portugal

Christopher Columbus's travel to Spain

Rich financiers, who defended Columbus's Project

Calculations of the Florentine cosmographer Paolo Toscanelli brought about a fundamental change in Columbus's life

The well-known astronomer of Azerbaijan Nasiraddin Tusi and his scientific services

Calculations of Nasiraddin Tusi and Paolo Toscanelli's popular map

Maragha observatory was considered the greatest academy of the world in XIII century

Alonso Sanchez de Huelva and Christopher Columbus

Christopher Columbus's first travel

Discovery of America and secrets brought to light during that travel

Scientific activity of Nasiraddin Tusi and the map made in Maraga observatory

The venetian traveler Marco Polo and well-known map of Nasiraddin Tusi

Christopher Columbus's second travel

Ramiz Daniz

Christopher Columbus's third travel

Christopher Columbus's fourth travel

**Historical achievements of Christopher Columbus
weren't appreciated by monarchs as necessary**

**Discovery of America by Normans and indifference
concerning that discovery**

**Achievements of Columbus in fields of geography and
history aren't appreciated by the humanity**

Solution of most problems concerning Columbus

Ramiz Daniz

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