

Special Article

A FORGOTTEN WORTHY, DR. DIEGO ALVAREZ CHANCA, OF SEVILLE, SPAIN.

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With Christopher Columbus, on his second voyage of discovery to America, in the year 1493, there came Dr. Diego Alvarez Chanca, a distinguished practitioner of much learning and professional skill, who held the position of physician-in-ordinary to the King and Queen of Castile and Aragon, and had attended their first-born child, Princess Isabella (who afterward became Queen of Portugal) during a serious illness the year before. He was a native of the city of Seville, and had been especially appointed by the Spanish monarch to accompany that expedition, not only on account of its great political and commercial importance, but also because among the 1,500 persons who came over from Europe to America in that fleet were several distinguished personages and a large number of aristocratic young gentlemen, restless and daring warriors who had done excellent service in the war just ended against the Moors. As an able practitioner, he saved the life of Christopher Columbus, who suffered a very dangerous attack of typhus fever on one occasion and pernicious malarial fever on another occasion, as well as the lives of many Spanish hidalgos who were at the point of death as victims of disease during their stay at the island of Hispaniola or Haiti, as the aborigines called it.

The second expedition was altogether different from the one sent out the previous year in quest of a new passage to the Indies. Instead of the three small caravels, carrying only 120 persons, which accomplished the most transcendent event in the history of humanity—the discovery of the western hemisphere—this flotilla was composed of three great galleons or carracks and fourteen caravels of different sizes. It was well provided with all the requisites for the establishment of a permanent settlement in the land that had been discovered the year before. Even 20 horses for as many lancers (which played a most terrorizing influence among the American Indians) were also on board those vessels.

On their arrival at the island of Hispaniola or Santo Domingo—where the year before Columbus had left 38 men in an improvised fortress, constructed with the remains of the caravel *Santa Maria*, wrecked on the reefs of the shore—Dr. Chanca wrote in the Spanish language of the fifteenth century his famous letter to the Municipal Council or *Cabildo* of his native city, which manuscript is unquestionably the first written document about the flora, the fauna, the ethnology and the anthropology of America.

Dr. Chanca's letter was written at the port of Isabella, during the last days of January, 1494; it left that port February 2, in care of Don Antonio de Torres, commander of the twelve vessels sent back by Columbus to Spain with the news of the discoveries, and arrived there April 8, 1494.

On his return to Spain Dr. Chanca published, in the year 1506, a treatise entitled "*Para curar el mal de costado*," (The Treatment of Pleurisy) and a commentatorial work in Latin, criticising the book entitled "*De Conservanda Juventute et Retardanda Senectute*," whose author was another celebrated Spanish physician named Dr. Arnaldo de Villanova. The title of the second work of Dr. Chanca is "*Commentum novum in Parabolis divi Arnaldi de Villanova*," which was printed in Seville, the year 1514.

Here now follow some scattered paragraphs, translated by me from the original Spanish letter of Dr. Diego Alvarez Chanca, addressed to the municipal authorities of the city of Seville, considered by competent judges to be a most remarkable document, and the best description of the first part of the second voyage of Christopher Columbus to America. I have added a few explanatory notes:

"Since the occurrences which I relate in private letters to other persons are not of such general interest as those which are contained in this epistle, I have resolved to give you a com-

plete narrative of the events of our voyage, as well as to treat of other matters which form the subject of my petition to you. The news I have to communicate is as follows:

The expedition which their Catholic Majesties sent, by divine permission, from Spain to the Indies, under the command of Christopher Columbus, admiral of the ocean, left Cadiz on the twenty-fifth day of September, in the year 1493, with wind and weather favorable for the voyage. This wind lasted two days, during which time we managed to make nearly fifty leagues. The weather then changing, we made little or no progress for the next two days; it pleased God, after this, to restore us fine weather, so that in two days more we reached the island of Great Canary. Here we put into harbor, which we were obliged to do to repair one of the ships that made a great deal of water. We remained all that day, and on the following set sail again, but were several times becalmed, so that four or five days more passed before we reached the island of Gomera. We had to remain at Gomera one day to lay in our stores of meat, wood, and as much water to drink as we could stow, preparatory for the long voyage that we expected to make without seeing land.¹ Thus it happened that through the delay at these two ports, and being calmed the day after leaving Gomera, we spent nineteen or twenty days before we arrived at the island of Ferro.²

After this we had, by the goodness of God, a return to fine weather, more continuous than any fleet ever enjoyed during so long a voyage: so that leaving Ferro on the thirteenth day of October, within twenty days we came in sight of land, but we should have seen it in fourteen or fifteen days if the ship *Capitana*³ had been as good a sailer as the other vessels, for many times the others had to shorten sail because they were leaving us much behind. During all this time we had great fortune, for throughout the voyage we encountered no storm, with the exception of one on St. Simon's eve, which for four hours put us in considerable danger.⁴

On the first Sunday after All Saints' day, namely, the third of November, about dawn, a pilot of the *Capitana* cried out: "The reward, I see land!"⁵ The joy of the people was so great, that it was wonderful to hear their cries and exclamations of pleasure; and they had good reason to be delighted, for they had become so wearied of bad living, and of working the water out of the leaky ships, that all sighed most anxiously for land. The pilots of the fleet reckoned on that day that between the time of leaving the island of Ferro and first reaching land, we had made 800 leagues;⁶ others said 780, so that the difference was not great, and 300 more between Ferro and Cadiz, made in all 1,100 leagues.⁷ I do not, therefore, feel now as one who had not seen enough water.

On the morning of the aforesaid Sunday we saw lying before us an island, and soon on the right hand another appeared. The first was high and mountainous on the side nearest to us: the other was flat and very thickly wooded. As soon as the

1. From that island of Gomera Columbus embarked eight pigs, bulls, cows and calves, sheep and goats, fowls and pigeons, seeds of oranges, lemons, bergamots, citrons, pomegranates, dates, grapes, olives, melons and other European fruits, as well as all kinds of orchard and garden vegetables. All these were the origin of their species in the New World. The expedition likewise carried implements of husbandry, shipped before leaving Spain.

2. This is the southwesternmost of the group of the Canary Islands, formerly called the Fortunate Islands, and is named in Spanish *Hierro*.

3. That vessel was a galleon of 400 tons' burden, that carried the admiral's flag, and in which Dr. Chanca made the trip.

4. They believed themselves in much peril, as they certainly were in such a sudden and fierce storm, accompanied by heavy rain, rapid lightning and great peals of thunder, which are so frequent in the tropics, until they beheld several of those lambent flames called by sailors "St. Elmo's tapers," playing about the tops of the masts and gliding along the rigging, which are occasionally seen about tempest-tossed vessels during a highly electric state of the atmosphere. The sailors consider that phenomenon as of good omen.

5. The Spanish government had offered a reward in money to the first person who would see land in this voyage.

6. That is to say, 2,400 Spanish miles, or about 2,057 English miles.

7. Three thousand three hundred Spanish miles, equivalent to about 2,829 English miles.

light of day became brighter other islands began to appear on the right and on the left of us, so that that day there were six of them to be seen lying in different directions, and most of them of considerable size. . . .

This island of Marigalante is filled with an astonishing thick growth of wood; that variety of trees being unknown to us, some bearing fruit and some others flowers. It was surprising to see that, and, indeed, every spot was covered with verdure.

We found there a tree whose leaf had the finest smell of cloves that I have ever met with. It was in shape like a laurel leaf, but not so large; I think it was really a species of laurel.⁸ There were wild fruits of various kinds, some of which our men, not very prudently, tasted; and on only touching them with their tongues, their mouths and cheeks became swollen, and they suffered such a great heat and pain that they seemed by their actions as if they were crazy, and felt obliged to resort to cooling applications to ease the pain and discomfort.⁹ . . .

These islanders appear to us to be more civilized than those those who had hitherto been seen before, for although all Indians have houses made of straw, yet the dwellings of these people are constructed in a much superior fashion, better stocked with provisions, and exhibit more evidence of industry, both on the part of the men and of the women. They had a considerable quantity of cotton, already spun and prepared for spinning, and many cotton blankets, so well woven as to be in no way inferior to similar ones made in our country.¹⁰ . . .

We were able to distinguish which of the women were natives of these islands and which captives, by the distinction that a Caribbee woman wore on each leg two bands of rings of woven cotton, one fastened around the knee and the other around the ankle, by this means making the calves of their legs look big and the above-mentioned parts small, which I imagine they do because they believe this sort of adornment makes them pretty and graceful; by that peculiarity we distinguish them.

The captive women told us that the Caribbee men use them with such cruelty as would scarcely be believed; and that they eat the children which they bear to them, only bringing up those which they have by their native wives. Such of their male enemies as they can take away alive, they bring here to their homes to make a feast of them, and those who are killed in battle they eat up after the fighting is over. They claim the flesh of man is so good to eat that nothing like it can be compared to it in the world; and this is very evident, for of the human bones we found in their houses everything that could be gnawed had already been gnawed, so that nothing else remained of them but what was too hard to be eaten. In one of the houses we went in we found the neck of a man undergoing the process of cooking in a pot, preparatory for eating it.¹¹

The habits of these Caribbees are beastly.

There are three islands: this one on which we are is called by the natives Turuqueira;¹² the other, which was the first we

saw, is named Cayre,¹³ and the third Ayay.¹⁴ There is a general resemblance among the natives of these three islands, as if they were of the same lineage. They do no harm to one another, but each and all of them wage war against the inhabitants of other neighboring islands, and for this purpose sometimes they go as far as 150 leagues in their canoes,¹⁵ which are a narrow kind of boats, each made out of a single trunk of a tree. Their arms are arrows, in place of iron weapons, and as they have no iron, some of them point their arrows with a sharpened piece of tortoise-shell, and others make their arrow heads of fish spines, which are naturally barbed like coarse saws. These arms are dangerous weapons only to naked people like the Indians, causing death or severe injury, but to men of our nation they are not much to be feared.¹⁶ . . .

When the Caribbees take any boys as prisoners of war, they cut off their male organs, fatten them until they grow up to manhood and then, when they wish to make a great feast, they kill and eat them up, for they say the flesh of boys and women is not good to eat. Three of those boys thus mutilated came fleeing to us when they visited the houses.¹⁷

The difference between these Caribbees and the other Indians, with respect to dress, consists in wearing the hair very long, while the others have it clipped irregularly; also because they engrave in their heads innumerable cross-like marks and different devices, each according to his fancy; and they make those marks with sharpened bamboo sticks. All of them, both the Caribbee and the other Indians, are beardless, so that it is a marvellous thing to find one of these men with a beard. The Caribbees whom we have taken prisoners, have their eyes and eyebrows stained circularly around, which I think they do for ostentation, and also because it gives them a ferocious appearance. . . .

Here almost terminate the group of islands, which on the side toward Spain had not been seen before by the Admiral,¹⁸

12. This was the island of Guadeloupe, named by Columbus *Nuestra Señora de la Guadalupe*, in remembrance of the famous sanctuary of Our Lady of Guadalupe, in the province of Extremadura, Spain.

13. This was the island of Dominica, so called by Columbus from having been discovered on a Sunday (*Dies Dominica*). It is 29 miles long and 13 miles in its greatest breadth, situated at 15 degrees 25 minutes north latitude and 61 degrees 15 minutes west from Greenwich Observatory. It has an area of 291 square miles and belongs to England.

14. This must have been the island now known as Martinique, though Dr. Chanca does not mention in his letter having been there. It is situated 30 miles south by west of the island of Dominica and 20 miles north of the island of St. Lucia.

15. That is to say, 450 Spanish miles, or about 376 English miles, which means as far as Porto Rico, Santo Domingo and Cuba to the North, and Trinidad, Curaçao and the coast of South America to the South.

16. Dr. Chanca did not know at that date that the arrow points of the Caribbees were poisoned with the juice of a plant, probably the insipidated sap of the manchineel tree.

17. Herr Alexander von Humboldt, in his "Personal Narrative of Travels to the Equinoctial Regions of America," speaking about the Caribbees, makes the following instructive observations: "Reproaches addressed to the natives on the abominable practice which we here discuss, produce no effect; it is as if a Brahmin, travelling in Europe, were to reproach us with the habit of feeding on the flesh of animals. In the eyes of the Indian of the Guaisia, the Chernivchana was a being entirely different from himself, and one whom he thought it was no more unjust to kill, than the jaguars of the forest. It was merely from a sense of propriety that, while he remained in the mission, he would eat only the same food as the fathers. The natives, if they return to their tribe (*irse al monte*), or find themselves pressed by hunger, soon resume their old habits of anthropophagy. And why should we be so much astonished at this inconstancy in the tribes of the Orinoco, when we are reminded, by terrible and well-ascertained examples, of what has passed among civilized nations in times of great scarcity? In Egypt, in the thirteenth century, the habit of eating human flesh pervaded all classes of society; extraordinary snares were spread for physicians in particular. They were called to attend persons who pretended to be sick, but who were only hungry; and it was not in order to be consulted, but devoured. An historian of great veracity, Abd-allatif, has related how a practice, which at first inspired dread and horror, soon occasioned not the slightest surprise."

18. Dr. Chanca refers here to the island called by the aborigines Borinquen, which is the island we know to-day as Porto Rico, and named by Columbus San Juan Bautista (St. John the Baptist). The date of its discovery was Saturday, Nov. 16, 1493. There ended the Caribbee islands, the first account of whose fierce and savage inhabitants was received with eager curiosity by the learned of Europe.

8. Probably it was the *Kalmia angustifolia* or "Laurier des Montagnes," as it is called in the French West India Islands.

9. I believe those poisonous fruits were a species of small apple called in Spanish *manzanillo*, or in English manchineel tree (*Hippomane mancinella*), which is still to be found in the West India Islands. The fruit of the manchineel tree produces similar effects to those here described by Dr. Chanca, also vomiting and purging. The shadow cast by the foliage of this wild tree raises a blister on the skin, the same as the guao (*Rhus metopium*), which is a wild shrub, very abundant in the Antilles.

10. The Caribbee Indians possessed also the art of making household utensils of clay, which they baked in kilns like the potters of Europe.

11. Mr. Justin Winsor, the accomplished librarian of Harvard College, in his "Christopher Columbus," referring to the Caribbee Indians, makes the following interesting remarks: "The contiguity of these two races, the fierce Carib and the timid tribes of the more northern islands (the Lucayans) has long puzzled the ethnologist. Irving indulged in some rambling notions of the origin of the Carib, derived from observations of the early students of the obscure relations of the American peoples. Larger inquiries and more scientific observations since Irving's time have been given to the subject, still without bringing the question to recognizable bearings. The craniology of the Caribs is scantily known, and there is much yet to be divulged. The race in its purity has long been extinct. Lucien de Rosny in an anthropologic study of the Antilles published by the French Society of Ethnology in 1886, has amassed considerable data for future deductions."

although we regard, as a matter of certainty, that there is land more than forty leagues beyond the southernmost of these newly-discovered islands.¹⁹ We believe this to be the case, because two days before we saw the first island²⁰ we had observed some birds called "rabiorecados," which are marine birds of prey that do not sit nor sleep on the water, making circumnavigations high up in the air at the close of evening, with the object of taking their reckoning of where they are and flying after that in a straight line towards land to sleep.²¹ These birds could not have been going to spend the night at more than twelve or fifteen leagues' distance from where they were, because it was already late in the evening, and the direction they took in their flight was toward the south. From all this we concluded there was land in that direction still undiscovered; but we did not go in search of it because it would have taken us out of our intended route. I hope that in a few more voyages it will be discovered.²²

The country is very remarkable, and contains a vast number of large rivers and extensive chains of mountains, with broad, open valleys, and the mountains are very high. It does not look as if the grass is ever cut throughout the whole year. I do not think that they have any winter here, for at Christmas we found many bird-nests, some containing the young birds and the others the egg. No four-footed animal has ever been seen in this, nor in any of the other islands, except some dogs of various colors, as in our country, but in shape and size like lap-dogs. Of wild, ferocious beasts, there are none.²³

I came near forgetting to mention another four-footed little animal, in the color of its hair, size, and fur, like a rabbit, but with long tail and feet similar to those of a rat.²⁴ These animals climb up the trees,²⁵ and many of our men who have eaten them say their taste is very good. There are many snakes, small in size, also lizards, but not so many, for the Indians consider them as great a luxury as we do pheasants. These lizards are of the same size as ours, but different in shape. In a small adjacent island, close by a harbor, which we named Monte Cristo, where we stayed several days,²⁶ our men saw an enormous kind of lizard, which they said was as large around the body as a calf, and the tail shaped like a lance.²⁷ They often went out to kill it, but bulky as it was it disappeared in the thicket and got into the sea, so that they could not catch it.

There are, both in this and in the other islands, an infinite number of birds like those we have in our country, and many others, such as we had never seen. No kind of domestic fowl has been found here, with the exception of some ducks in the houses of the island Turruqueira. Those ducks were in size larger than the ones we have in Spain, though smaller than geese, very pretty, with flat crest, and most of them as white as snow, but some also black.

19. It is truly admirable how nearly exact was this calculation of Dr. Chanca, for the comparatively large island of Trinidad, and the north coast of Venezuela, are about that distance from Martinique, the southernmost of those just discovered islands.

20. The island of Dominica.

21. They were frigate or man-o'-war birds (*Tachypetes aquila*), a peculiarity of which is that they persecute and compel the much larger marine birds, common pelicans (*Pelicanus onocrotalus*), to throw up what they have swallowed, and eat it themselves.

22. And that land was in fact discovered, as predicted by the learned author of this important historical document, in the very next voyage of Columbus. On July 31, 1498, he discovered the island of Trinidad and caught a glimpse of *terra firma* at the delta of the Orinoco river.

23. The cayman and the crocodile are the most dangerous animals found.

24. This little animal is the *hutia* or *jutia*, as it is called in Spanish after its Indian name, a sort of mountain rat still plentiful in those islands. There are two distinct varieties: one, large in size, called *jutia conga* (*Capromys Fournieri*), and the other, small in size, named *jutia carabali* (*Capromys Poeyi*).

25. The present poor country people of those islands roast and eat them the same as little pigs, and their taste is really good. During the recent struggle for independence in Cuba, the patriot soldiers were compelled, on account of the scarcity and poor quality of their armament, together with lack of ammunitions of war, to live in the woods, and there they killed almost all the jutias to provide themselves with food.

26. This small island is called now Cabras or Goat Island.

27. This big kind of lizard was nothing else but an alligator, which is the corrupted English word from the Spanish *el lagarto* (*Alligator lucius*).

Fish is abundant here, an article of food of which we were in great need, for our provision of meat was running short, and it is a singular kind of fish, more wholesome than those we have in Spain. The climate does not allow the fish to be kept from one day to another, for all animal food speedily becomes unwholesome on account of the great heat and dampness.

Large quantities of vegetables have been planted, and they certainly attain a more luxuriant growth in eight days here than they would in Spain in twenty.

We are frequently visited here by a great number of Indians, accompanied by their caciques, who are their captains or chiefs, and many women. They all come loaded with *ages*, a sort of turnip, very excellent food, which they cook and prepare in various ways. This food is very nutritious, and has proved of the greatest benefit to us all after the privations we endured when at sea, which in truth were more severe than man ever suffered.

The little time that we have spent on land has been so much occupied in seeking a place to establish the settlement,²⁸ and in providing ourselves with things we needed,²⁹ that we have had little opportunity of becoming acquainted with the natural productions of the soil. In spite of this drawback, we have already seen many marvellous things. For instance: trees bearing wool, of a sufficiently fine quality (according to those who are acquainted with that industrial art) to be woven into good cloth.³⁰ And of this kind of tree there are so many, that we might load our vessels with wool, though it is somewhat difficult to gather it because these trees are very thorny, but some means can easily be found to overcome that difficulty.

There are also cotton trees as large as peach trees, which all the year round produce cotton, and in abundance.³¹ We found trees which produce wax, as good both in color and smell as bees-wax, and equally useful for burning; indeed, with very little difference between the one and the other.³² There is a vast number of trees which yield surprisingly fine turpentine.³³ Tar is found in abundance, of very good quality, too.³⁴ We discovered trees which, in my opinion, bear nutmegs, but at present without fruit on them, and I say so because the bark tastes and smells like nutmegs.³⁵ I saw one root of ginger,

28. They found at last a convenient place, in the selection of which the professional advice of Dr. Chanca was duly consulted. It was on the shore of a good bay on the north coast, on high ground, with two rivers of potable water near by, and the back part well closed by the thick growth of an impassible forest that protected it from being set on fire by the Indians on a night attack. There in that spot was immediately commenced the building up of the very first Christian town of the New World, to which Columbus gave the appropriate name of Isabella, his great protectress. The ruins of the stone buildings in a solitary waste constitute to-day the melancholy relic of that historical locality.

29. The principal of those things needed were fresh vegetables and fish, and the expeditionists soon got them. The vegetable gardens planted were speedily clothed in green, producing plentifully onions and pumpkins, radishes and beets. Sugar-cane, the first ever planted in American soil, and brought by those colonizers from the Canary Islands, had also been sown, and came up splendidly.

30. The tree to which reference is made here is called *ceiba* in Spanish, *pojot* in the French West India islands, and "five-leaved silk-cotton-tree" in English (*Bombax ceiba*, Lin.). It grows to an immense size, is beautiful in appearance, and has its seeds enveloped in a cottony substance, light as feather, which fly in the air to a great distance.

31. Probably the species known now as Sea Island cotton, still to be found wild in some localities in Cuba, Porto Rico and Santo Domingo. All varieties of *Gossypium* require a dry and sandy soil, and generally the plant flourishes most luxuriantly near the sea-coast.

32. This tree is the wax-palm (*Ceroxylon andicola*), the stem of which is covered with a secretion consisting of two-thirds resin and one-third wax.

33. One of those trees, besides the many varieties of pine-trees (genus *Pinus*), was called by the native Indians *hóbo* or *jóbo* (*Spondias lutea* or *Déandrie pentagynie*), which is the "mombain" with yellow fruit of the French botanists, a bulky tree belonging to the *Terebinthaceæ* family, very abundant in the Antilles and resembling somewhat the cedar.

34. More correctly asphalt or mineral pitch, of which there are several lakes in the Antilles, notably the one in the island of Trinidad, about three miles in circumference.

35. A species of *Myristica*, but certainly not the *Myristica moschata* of the Molucca islands. Probably it was the tree called by the aborigines *caumaná*, whose leaves have a smell like that of fennel, the bark a sweet taste, and in general appearance resembles the nutmeg tree.

which an Indian was carrying around his neck.³⁶ There is aloes too, though not of the same kind as the one we are acquainted with in Spain, but, nevertheless, a species of aloes that we doctors use.³⁷ A sort of cinnamon has likewise been found, but, to speak truthfully, it is not of such a fine quality as the one we have in Spain; or, perhaps, this is so because now it is not the proper season to gather it, or the soil in which it was found growing in this vicinity is not well adapted.³⁸ We have also seen here some yellow mirabolans.³⁹ At this season they are lying under the trees, and as the ground is very damp they are all rotten, and have a very bitter taste, due, in my opinion, to their state of decomposition; but the flavor of those parts which in spite of that have remained sound, is the same as that of the genuine mirabolan. There is, besides, very good kind of mastic.⁴⁰ . . .

In our present position, we are in the neighborhood of many mines of gold, not any one of which, we are told, is more than twenty or twenty-five leagues off. The Indians say that some of them are in Niti, a place in the possession of Caomabó, that Indian king who killed the Christians;⁴¹ other mines are located in another place called Cibao, which, if it please God, we shall see with our own eyes before many days have passed; indeed, we should go there at once were it not because we have so many things to attend to that there are not enough men among us to do it at present. And this is in consequence of one-third of our people having fallen sick within four or five days after we landed here, which misfortune, I think, has happened principally on account of the toil and privations of the journey, to which must be added the variability of the climate;⁴² but I trust in our Lord to be able to restore all the sick to health.⁴³

None of the natives of all these islands we have visited possess any iron. They have many implements, also hatchets and axes, all made of stone, which are so handsome and well finished that it is a wonder how they can contrive to make them without employing iron. . . .

Their principal food consists of a sort of bread made of the root of a herb, half way between a tree and grass,⁴⁴ and the *age*, which I have already described as being a kind of turnip, and a very good food certainly it is.⁴⁵ They use, to season it, a vegetable called *agi*,⁴⁶ which they also employ to give a sharp taste to the fish and such birds as they can manage to catch, of the

infinite variety there are in this island, dishes, all of them, that they prepare in different ways. They have, besides, a kind of grain, in appearance like hazelnuts, very good to eat.⁴⁷ They eat all the snakes, lizards, spiders, and worms that they find on the ground, so that, according to my judgment, their bestiality is greater than that of any beast on the face of the earth. . . .

The admiral had, at one time, determined to leave the search for the mines until he had first dispatched the ships that were to return to Spain, on account of the great sickness which had prevailed among our men;⁴⁸ but afterward he resolved to send two detachments under the command of two captains, one to Cibao,⁴⁹ and the other to Niti,⁵⁰ places where, as I have already stated, Caomabó lived and ruled. These two detachments in effect departed, and one of them returned on the twentieth of the month, while the other did so on the following day. The party that went to Cibao saw gold in so many places that one scarcely dares to state the fact, for, in truth, they found it in more than fifty brooks and rivers, as well as on their banks; so that the captain said that anybody who wished to seek for gold throughout that province, would be sure to find as much as he wanted. He brought with him specimens from the different localities, that is to say, from the sand of the rivers and their banks.⁵¹

It is generally believed that by digging as we know how, the gold will be found in greater compact masses, for the Indians neither know how to dig nor have they any means of digging the ground more than to a hand's depth. The other captain who went to the place called Niti, returned likewise with news of a great quantity of gold found in three or four localities, of which he also brought some specimens with him.⁵² Thus, surely, the King and Queen may henceforth regard themselves as the most prosperous and wealthy sovereigns on earth, because never yet, since the creation of this world, has such a thing been seen or read of. On the return of the ships on the next voyage, they certainly will be able to carry back such a quantity of gold as will fill with amazement all who hear of it.

Here I think I shall do well to break off my narrative. And I believe that those who do not know me, and hear of these things that I relate to you, may consider me prolix and somewhat an exaggerator, but God is witness that I have not exceeded by one iota the bounds of truth."

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EDITOR'S NOTE: Dr. Carl H. von Klein, Chicago, gives us the following additional information:

Dr. Chanca was appointed physician to Columbus' fleet on his second expedition by a dispatch of May 23, 1493. And on May 24 the chief accountants were instructed to pay him

36. Truly, this must have been the dry, wrinkled rhizome of the ginger-plant (*Zingiber officinalis*), so well known in Jamaica.

37. The species called Barbadoes aloes (*Aloes hepatica*), which is still considered of an inferior quality to *Aloes socotrina*.

38. That was probably the wild American cinnamon (*Neotandra cinnamoides*), or perhaps the white cinnamon of Winter (*Cunella alba*).

39. They most likely were the fruit of the *Myrabolanus citrino* of Gartner.

40. A valuable resin exuding from the mastic-tree (*Pistacia lentiscus*).

41. This Indian chief was a Caribbee by birth and ruled over the province of Hispaniola, called by the natives *Mangana*, in which were the mountains named Cibao. He was the cacique who killed the 38 men left by Columbus in that island on his return to Spain from his first voyage of discovery to America.

42. The climate suddenly changes in those West India islands from being very hot and dry to comparatively cool and very damp, due to long-continued and heavy rain.

43. Columbus himself was also sick with malarial fever for a few days, and seven months later suffered a dangerous malady, which I have ventured to diagnose as typhus or "ship fever" in my monograph on "The Medical History of Christopher Columbus," (which is the first and only one existing), read before the First Pan-American Medical Congress, held at Washington, D. C., in 1893, and published in the English language in THE JOURNAL A. M. A., May 5, 1894, and in the Dublin Jour. Med. Sci., August and September, 1894. It has also been published in other languages.

44. I think Dr. Chanca alludes here to the maize or Indian corn (*Zea mays*), of which the aborigines of Hayti made a kind of bread.

45. This farinaceous root is the *yuca*, called in English yucca or Adam's needle, also known as Barbadoes nut, a fibrous tuber, very esculent, of which there are in the West Indies two well-known kinds, the sweet (*Yucca gloriosa*) and the sour (*Yucca filamentosa*), this last one being cathartic and somewhat poisonous. It contains a large quantity of starch, which is obtained from the juice of the grated yucca, and from the fibrous residue is prepared the *casabe* or cassava (a corruption of the Spanish word) in the shape of very large, round and thin sort of crackers, called in Spanish *tortas de casabe*. This old kind of Indian bread is still made in Cuba, Porto Rico, Santo Domingo, etc., and is very much relished.

46. Red pepper, called *chilli* in Mexico (*Capiscum frutescens*).

47. It was not a grain at all, but the palmiche (in Spanish), which is the small nut of the royal palm-tree, growing in bunches like the fruit of the date-palm. It is very much used in Cuba, Porto Rico, Santo Domingo and the other West India islands to fatten pigs with. Very likely the Indians ate it as food, and from that fact Dr. Chanca got his notion of its being a grain. Really, that nut looks like a small, green hazel-nut.

48. The expeditionists in great number were suffering from malarial fevers, about one-third of them, as Dr. Chanca states. That disease was in those days very little known, and much less its prevention and treatment. The miraculous *pulvis febrifugus orbis americanus*, also called then with the names of "Jesuits' powders" and "Countess's powders" (*los polvos de la condesa*), were not yet known to Europeans. The existence, and the wonderfully curative virtue of the mysterious "quinquina" (a corruption of the indigenous Peruvian word *kina-kina*, which signifies "the bark" *par excellence*, and was the remedy that saved the lives of Charles II of England, Louis XIV of France, and Friedrich the Great of Germany, was then only known to the aborigines of the undiscovered kingdom of Peru.

49. In the Lucayan language that word meant "stone mountain."

50. The fertile valley later called by the Spaniards *La vega real*.

51. One of those specimens of gold was a nugget that weighed 9 ounces.

52. Those specimens of gold from the valley called Niti were fewer in number and of less value than the ones brought out from the mountains of Cibao. The captains of those two small detachments of Spanish soldiers were two brave young hidalgos, one named Alonso de Ojeda, who started with only fifteen soldiers, and the other, Ginés de Gorbálan, who was sent back to Spain by Columbus right after his return from this expedition to Niti, as a witness of the marvelous richness of Hispaniola. He took away with him to Spain the large nugget of gold weighing 9 ounces.

salary and rations as scrivener in the Indies. He became the physician of the colonies, for which Columbus credited him in his memorial to the monarchs as doing good service in his profession at a sacrifice of a large emolument which his practice brought to him in Seville. It is principally through Dr. Chanca that we have any history of Columbus' second voyage. He wrote a letter on the history of the voyage, which was sent by him to the Cathedral Chapter of Seville. The original is thought to be lost, but Navarrete in his "Historia de la Reyes Catolicos," in 1825, copied a transcript which belonged to a collection formed by Father Antonio de Aspa, a monk at the monastery of the Mejorada, where Columbus is known to have deposited some of his papers. The transcript is now in the Royal Academy of History, Madrid. Navarrete quotes a letter from Columbus to the king in reference to Dr. Chanca as it appears in a work entitled "Commentum in parabolis divi Arnoldi de Villanova ad illustris-simum, etc.," Sevilla, 1514, in fol. It read as follows:

"You will inform their Highnesses of the continual labor that Doctor Chanca has undergone, from the prodigious number of sick and the scarcity of provisions, and that, in spite of all this, he exhibits the greatest zeal and kindness in everything that relates to his profession. As their Highnesses have entrusted me with the charge of fixing the salary that is to be paid to him while out here (although it is certain that he neither receives, nor can receive anything from anyone, and does not receive anything from his position equal to what he did and could still do in Spain, where he lived peaceably and at ease, in a very different style from what he does here; and, although he declares that he earned more in Spain, exclusive of the pay which he received from their Highnesses), I have, nevertheless, not ventured to place to the credit of his account more than 50,000 maravedis per annum, as the sum which he is to receive for his yearly labor during the time of his stay in this country. I beg their Highnesses to give their sanction to this salary, exclusive of his maintenance while here; and I do so, because he asserts that all the medical men who attend their Highnesses in the royal yachts, or in any of their expeditions, are accustomed to receive by right the day's pay out of the annual salary of each individual. Let this be as it may, I am informed for certain, that on whatever service they are engaged, it is the custom to give them a certain fixed sum, settled at the will and by order of their Highnesses, as compensation for the said day's pay. You will, therefore, beg their Highnesses to decide this matter, as well with respect to the annual pay as to the above-mentioned usage, so that the said doctor may be reasonably satisfied."

The following reply was made to Columbus' letter: "Their Highnesses acknowledge the justice of Doctor Chanca's observations, and it is their wish that the Admiral shall pay him the sum which he has allowed him, exclusive of his fixed annual salary. With respect to the day's pay allowed to medical men it is not the custom to authorize them to receive it, except when they are in personal attendance on our Lord, the King." Nothing is known of the previous life of Dr. Chanca. The contribution of Dr. Ybarra will add a valuable page to the medical history of America.

Clinical Notes

INTRASACULAR SUTURE OF ANEURISMS.

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It is now four years since Matas, of New Orleans, gave to the profession the result of his reasoning and experience in the treatment of aneurisms. Proceeding on well-known grounds that serous surfaces, when brought together and held together will form adhesions, and that these adhesions in time become firm and unyielding, the intima of all vascular structures being made up of endothelium or rather lined with it, it was thought and subsequently proved by him that this membrane would

behave in the same way as does the peritoneum, the adhesive properties of which enable the surgeon to perform many operations on the abdominal viscera which would otherwise be impossible. The chief question to be settled before the principle could be generally adopted was: Are the adhesions so formed strong enough to resist the blood pressure behind them? This point can only be settled by the combined experience of surgeons, and this is my reason for making this report.

My own experience with the operation of suture within the sac of the aneurism now includes four cases, three of which have already been made public.¹ A fourth case more fully reported herein completes my list. Before taking up the last one of my series, however, I shall review briefly my previously reported cases.

HISTORIES OF PREVIOUS CASES.

CASE 1.—Traumatic fusiform aneurism of femoral artery.

Patient.—E. C., colored, aged 35.

History.—A wagon passed over the thigh in September, 1902, and symptoms began shortly afterward.

Operation.—The patient was operated on Feb. 23, 1903. A large aneurism of the femoral artery the size of a cocoanut was found. There were two openings in the bottom of the sac, separated by about an inch. The operation of intrasaccular occlusion was carried out step by step according to the original directions of the author of the method. No. 2 chromic gut sutures were used to close the vessels and for reinforcing sutures. There was a mild infection of the skin incision.

Postoperative History.—The leg and foot were warm and painless; there were no symptoms of impaired circulation. The patient was well fourteen months after operation.

CASE 2.—Pathologic fusiform aneurism, popliteal artery.

Patient.—B. B., colored, aged 50, was a porter in a stove store and was accustomed to lift heavy weights.

History.—There was no definite history of injury. The first symptoms appeared eighteen months before operation.

Operation.—On June 4 the patient was operated on. The sac held about a quart of blood; the sac wall was thick and friable. There were two openings within the sac, separated by about an inch. The tourniquet broke during the operation and an extemporized tourniquet was made of the irrigator tube. The openings in the sac were closed by suture. The openings were on the outer wall of the sac nearer the superficial than the deep surface. A slight variation was necessary in the subsequent technic, due to the eccentric location of the vascular orifices.

Postoperative History.—The wound was dressed on the third day. Temperature was 104 and suppuration was profuse, coming from within the sac. Drainage was instituted and this gradually subsided. The wound healed in four weeks. There was no swelling or coldness or other symptom of impaired circulation in the leg or foot. This man is well to-day, never having had any trouble with his leg since leaving the hospital. Infection in this case was due to faulty sterilization after using the unsterilized irrigator tube.

CASE 3.—Traumatico-pathologico-fusiform aneurism of the popliteal artery.

Patient.—W. B., colored, aged 34, a laborer, gave a history of syphilis. There was no distinct history of trauma. Tumor and pulsation were noticed three or four months before admission to the hospital.

Operation.—The Matas operation was performed July 29, 1904. The tumor was small, about the size of a goose egg. There were two openings on the inner wall of the sac, and these were sutured with No. 1 chromic catgut. The same variation as in Case 2 was used in this case. The sac wall was thick and friable in this case also.

Postoperative History.—The case ran an afebrile course. The wound healed by primary union. Some swelling of the leg persisted for two months after leaving the hospital. This patient is well to-day.

1. Amer. Med., Aug. 29, 1903; Trans. Amer. Surg. Assoc., 1905, in a report by Dr. Matas.